



Harnessing Strengths

Report to Stakeholders 2015

Harnessing Strengths

The Keppel Group harnesses and synergises the distinctive strengths of its multi businesses to capture opportunities arising from the global demand for energy, sustainable urbanisation and connectivity. Our strong culture and enduring values drive our people to strive for execution excellence and operational efficiency. With financial discipline and sharp focus on optimising returns, we will seize opportunities as well as innovate solutions and services to build a long-term and competitive position and capture sustainable returns for our stakeholders.

Vision

Our vision is to be the provider of choice and partner for solutions in the global offshore and marine industry.

Mission

Keppel Offshore & Marine is a global leader in offshore rig design, construction and repair, ship repair and conversion, and specialised shipbuilding. We harness the synergy of 20 yards worldwide to be near our customers and their markets.

Operating Principles

- 1 Best value propositions to customers.
- 2 Tapping and developing best talents from our global workforce.
- 3 Cultivating a spirit of innovation and enterprise.
- 4 Executing our projects well.
- 5 Being financially disciplined to earn best risk-adjusted returns.
- 6 Clarity of focus and operating within our core competence.
- 7 Being prepared for the future.

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Key Figures for 2015

Net Orderbook

\$9.0b

Strong net orderbook at end-2015, of which non-drilling solutions made up more than a third.

New Orders Secured

\$1.8b

Creditable level of new contracts for the year.

Major Projects Delivered

33

The number of newbuilds, conversions, major repairs/upgrades that Keppel O&M delivered in 2015.

Accident Frequency Rate

0.10

The accident frequency rate in 2015, an improvement from 0.11 in 2014.

Ship Repair Jobs

>400

The number of vessels repaired by Keppel Shipyard during the year.

Training Investment

\$13.2m

The amount spent on training employees worldwide during the year.

Chairman's Statement

Loh Chin Hua
Chairman

Our backlog of orders stretching into 2020, together with our consistent flow of repair and modification work, will tide us through this challenging period while we bolster our capabilities and solution offerings in both existing and new markets.



Net Profit

\$480m

Creditable results for 2015 in the face of strong headwinds.

Dear Shareholders,

2015 was a challenging year for the offshore and marine industry, with oil prices continuing their downward trajectory, plunging to below US\$30 per barrel in early 2016. While oil production around the world continues unabated, growth in oil demand has fallen, driven by the slowing economic growth in emerging markets, especially China. Capital expenditure in Exploration & Production (E&P) has been significantly reduced, and demand for drilling rigs has slowed considerably. The impact on the industry has been severe, with many yards around the world sustaining losses.

Notwithstanding the current market turbulence, we continue to have confidence in the long-term fundamentals of the industry. Global demand for energy is expected to continue to rise, driven by increasing urbanisation especially in developing countries, and a growing middle class. The downturn has resulted in the stacking and scrapping of older, underperforming rigs. With reduced E&P activity and depleting reserves, the supply of oil would eventually fall, bringing oil prices to a new, sustainable equilibrium.

Tenacity to Thrive

Keppel Offshore & Marine (Keppel O&M) has witnessed four downturns since the 1970s, and we understand the cyclical nature of the industry. We have an experienced management team which is judicious in making investments, negotiating contracts and managing costs, ensuring that we do not over-invest in capacity when times are good, and also strategically diversifying our products, solutions and target markets to enhance our resilience.

Keppel O&M's robust portfolio of solutions stretches across the exploration, production and maintenance phases of the oil and gas value chain. Oil producers' budgets for offshore production and maintenance work are expected to be less severely affected by low oil prices as hydrocarbon production generates much needed cash flow while maintenance can also enhance oil recovery and thereby improve returns. Keppel O&M's diversified business has enabled it to capture a fair share of these projects. As at end 2015, non-drilling solutions made up more than a third of Keppel O&M's \$9 billion orderbook. Of this, \$1.8 billion of new orders were won during the year, including the third Floating Liquefaction (FLNG) vessel conversion for Golar LNG.

Keppel O&M's revenue for the year was \$6.24 billion while net profit was \$480 million. These are creditable results in the face of strong headwinds and reflect the company's strong execution in ensuring the delivery of our rigs and effectively managing operational and contractual risks.

These results include provisions of about \$230 million that were made for our projects with Sete Brasil. Brazil, one of our key customer bases, has been rocked by political and economic challenges as well as the ongoing Lava Jato scandal. After Sete Brasil ceased payments over a year ago, we proactively took steps to mitigate our exposure by slowing the construction of their rigs. By end-2015, we stopped construction altogether. While we await further clarity on the situation in Brazil, we have in prudence made a provision for their projects, after assessing the status of the construction progress, payments received, amounts due to vendors and other factors.

During the year, Keppel O&M's global yards delivered seven quality jackup rigs. The Group also delivered several non-drilling solutions, including a Depletion Compression Platform (DCP), three Floating Production Storage and Offloading (FPSO) vessels, an accommodation semisubmersible (semi) and three ice-class vessels.

Besides being the global leader in newbuild rig construction and FPSO conversions, Keppel O&M is also a reliable partner for repair and modification projects, which help provide a good base load of work. Keppel FELS completed 16 repair/upgrade projects for drilling contractors like Ensco, Diamond Offshore and Stena Drilling in 2015. Keppel Shipyard repaired over 400 vessels in 2015, slightly higher than in the previous year. Our overseas yards are also active in executing repair and upgrade projects. BrasFELS completed a number of repair projects, including a semi repair for Ensco and a pipelaying support vessel repair for Technip/Odebrecht, while Keppel AmFELS completed three semi repair jobs during the year.

Our backlog of orders stretching into 2020, together with our consistent flow of repair and modification work, will tide us through this challenging period while we bolster our capabilities and solution offerings in both existing and new markets.

Chairman's Statement

Seizing Opportunities

To deal with the current environment, our operating units have been rightsizing, monitoring their cash flow and reviewing supply chains closely. We are leveraging synergies across our different divisions to streamline processes, reduce costs and share resources, including the allocation of manpower and projects across our different yards worldwide. These efforts will enable Keppel O&M to remain resilient as we navigate through rough waters.

For instance, to service the closed market of Azerbaijan, we tapped on Baku Shipyard's strategic location there and Keppel Singmarine's expertise in the building of a subsea construction vessel for national oil company, SOCAR. In 2015, Keppel Singmarine completed its scope of work, constructing the hull in two separate longitudinal sections to ship it through the narrow Volga-Don Canal to reach Baku Shipyard, where it was

integrated. Besides collaboration within Keppel O&M, we are also looking at opportunities for Keppel O&M to collaborate with the wider Keppel Group.

During the downturn, we are not just hunkering down but also making prudent investments to strengthen our capabilities and offerings in preparation for the upturn. In 2015, Keppel O&M entered into an agreement with Cameron International Corporation to acquire the LETOURNEAU™ jackup rig designs, rig kit business, as well as aftersales and aftermarket services. This opportune acquisition will broaden Keppel O&M's suite of jackup rig design offerings, enable the sale of rig kits as well as expand its ability to provide aftersales services.

Keppel O&M has also established a new design and technology arm, Gas Technology Development (GTD), with the aim of augmenting Keppel O&M's efforts in the gas-related market. GTD has commenced

work on in-house engineering designs and standards for FLNG vessels and Floating Storage Re-gasification Units.

Through its global network of yards, Keppel O&M is well placed to meet the demands for local content in captive markets. For example, Keppel AmFELS in Brownsville, Texas, services vessels working in the Gulf of Mexico while in Qatar, N-KOM signed a fleet agreement with the largest Greek Shipping company, the Angelicoussis Group of Companies, to be their preferred shipyard for ship repairs in the Middle East. Over in the Netherlands, Keppel Verolme is exploring opportunities in the European offshore wind sector. Despite the challenges we are facing in Brazil, we continue to regard Brazil as an important long-term partner and market, given its significant offshore oil and gas reserves, as well as Keppel's experience and track record in Brazil.

01 Keppel O&M's diversified business allows it to capture projects that stretch across the exploration, production and maintenance phases of the oil and gas value chain.

01



We are leveraging synergies across our different divisions to streamline processes, reduce costs and share resources. These efforts will enable Keppel O&M to remain resilient as we navigate through rough waters.

Value-Adding Innovation

Technology and innovation are key drivers that keep Keppel O&M ahead of its competition. To sustain its leading market position, Keppel O&M is continuously investing in R&D while collaborating with oil majors, contractors and business partners to fill market needs and contribute to the reduction of oilfield lifecycle costs.

Keppel Singmarine expanded its suite of product offerings to cater to the emerging Liquefied Natural Gas (LNG) market segment through LNG carriers, bunkers, barges and tugs. Its 65-tonne dual-fuelled LNG Azimuth Stern Drive tug was awarded the Maritime and Port Authority of Singapore's (MPA) Outstanding Maritime Research and Development and Technology Award.

In January 2016, Keppel O&M and the BG Group (now part of Shell) won a joint bid to supply LNG bunker to vessels in the Port of Singapore. As the shipping industry's demand for green solutions continues to rise, we will also be able to help meet the needs for sustainable shipping with our growing LNG solutions.

Leveraging its entrenched jackup rig technologies, Keppel O&M has developed the ORCA series of liftboat designs tailored for well servicing, workover and wind farm installation and services. The first such liftboat was delivered to Gulf Drilling International in January 2016. We also secured a second order for an ORCA liftboat in 2015. There is potential for an increase in demand for offshore maintenance work as there are a large number of ageing offshore platforms in the world requiring dedicated and cost-efficient liftboats for maintenance and upgrading works.

Sustainable Operations

Sustainability is at the heart of everything we do at Keppel. Safety is one of Keppel's core values and we believe firmly that the safety and well-being of our people must always come first. With this mindset, we spare no effort in fostering a safety culture and we take every incident seriously. Despite all our efforts, it truly saddens me that Keppel O&M suffered three fatalities in 2015. We made sure each incident was thoroughly investigated, with the root causes identified and preventive measures put in place to prevent a reoccurrence. We will continue to refine our safety process to ensure everyone goes home safely every day.

We also rigorously engage and grow the competencies of our employees through a variety of structured development programmes

and training opportunities. With a focus on leadership renewal and succession planning, we have taken steps to nurture new generations of leaders at different levels who can grow the company in the years ahead.

Keppel O&M is also focused on environmental sustainability and our yards are constantly looking for ways to improve energy savings, reduce wastage and promote eco-consciousness. For instance, at Keppel shipyard, the introduction of step down transformers in 2015 achieved an average annual savings of 257 tonnes of CO₂ based on diesel oil saved.

As a global citizen, we contribute to the local communities wherever we operate. For example, Keppel Subic Shipyard in the Philippines had 60 yard volunteers participating in a week-long campaign to clean schools and help in repairs, while our Qatar yard held a beach clean-up at Ras Laffan Industrial City's Northern beach to ensure a conducive environment for the annual turtle nesting season.

Acknowledgements

On behalf of the Board of Directors, I would like to thank all our valued customers, business associates, classification societies, vendors, suppliers and contractors for their continuing support. In addition, I would like to acknowledge the assistance and support of all local, state and federal authorities in the host countries where we have operations.

Special appreciation also goes to the contributions of Mr Tong Chong Heong, who has stepped down as Senior Advisor to the Board on 1 February 2016. Chong Heong's guidance and experience sharing have been invaluable.

Keppel O&M is working hard to create value for our stakeholders. The dedication, drive and resilience of our Keppelites around the world have taken Keppel O&M from strength to strength. I thank all Keppelites for their contributions to the company. I am confident that together, we will be able to ride out this challenging period and emerge even stronger than we were before.

Yours sincerely,



Loh Chin Hua
Chairman
31 March 2016

Interview with the CEO

Chow Yew Yuen
CEO

We are looking closely at areas that we can continue to improve in, such as enhancing our core competencies, and building up new strengths to keep ourselves fighting fit.



Q

What is Keppel O&M's outlook for the offshore and marine market in 2016 and beyond given the continuing low oil price?

A

The offshore and marine market remains challenging. The continuing mismatch between a global supply glut and sluggish demand in a fragile world economy is expected to keep oil prices subdued in the near future. Industry reports suggest that global Exploration & Production (E&P) spending could decline by 15% or more in 2016 should oil prices remain at current levels.

Looking ahead, however, we believe there are positive developments that could help the industry evolve to a more sustainable level. Oil companies kicking the can down the road would at some point have to spend to replenish reserves. As natural reservoir production declines, which has historically been around 4 to 5% globally, it means that even without

demand growth, the oil and gas industry needs to produce another 4 MMb/d every year just to keep up with existing demand. This will give upward pressure on pricing, which will in turn encourage oil companies to increase their E&P spending.

On the demand side, while China's growth rate has slowed, the country remains a very large consumer of energy. Asian demand, beyond just China, is also showing continual growth. According to the World Bank, East Asia remains one of the main growth drivers of the world economy, accounting for about two-fifths of global economic growth. At the same time, urbanisation is rising at an unprecedented speed and scale which will also help fuel the demand for energy.

While seizing opportunities to build and grow our businesses, we aim to anchor our position as the trusted and preferred solutions partner in the industry.

By 2050, two thirds of the world's population are expected to live and work in cities, compared to just over half in 2014.

As such, industry analysts believe that the current low oil prices, which plunged below US\$30 a barrel at the start of 2016, are not sustainable in the long run. Oil prices will eventually reach a new equilibrium, though

no one can predict with certainty when that will be. In the meantime, the scrapping and stacking of rigs in the downturn should also contribute to long-term replacement demand. When the market improves, drilling contractors will again want to order new rigs that are more efficient and can fetch higher day rates. Keppel O&M will be ready to seize the upturn when it comes.

Q

What is Keppel O&M doing to ensure it weathers through this challenging environment?

A

We are not unfamiliar with the storms that periodically hit the offshore and marine business. This is the fourth down cycle that I have personally witnessed. With each cycle in the past, we have learnt valuable lessons, improved ourselves and emerged stronger than before. Even during the boom time, we were careful not to over-invest in building capacity and kept a strong balance sheet. Our prudence has served us well, allowing Keppel O&M to remain profitable in 2015 despite the headwinds.

While we will continue to be busy in 2016 with a backlog of deliveries, we are also bracing ourselves for a possibly longer winter. We will ensure that our overheads are well under control by rightsizing our operations accordingly. There is considerable flexibility in our workforce deployment at all our yards, in particular with contract workers, and we will keep operations running at an optimal level. In 2015, with natural attrition, our direct staff strength in our Singapore and overseas yards has come down by about 17% or about 6,000, while our Singapore subcontract workforce has been brought down by 24% or about 7,900 over the same period. We have also redeployed manpower in our global network of yards according to their needs, for example, from the offshore yards to the marine yards where more resources are needed for the steady stream of repair and conversion projects.

Rightsizing does not mean we are just looking at cutting costs – it is also about value

engineering and investing carefully in new solutions that can meet the precise needs of our clients in a robust and cost-effective manner. We are hence looking closely at areas that we can continue to improve in, such as enhancing our core competencies, and building up new strengths to keep ourselves fighting fit. Our focus includes areas such as execution, productivity, supply chain management, safety performance and Research and Development (R&D). These efforts will help to ensure we remain profitable while continuing to provide the best value propositions to our customers.

While seizing opportunities to build and grow our businesses, we aim to anchor our position as the trusted and preferred solutions partner in the industry. We have a number of deliveries to make in the years ahead, and we will continue to keep up our solid track record of completing projects on time or ahead of schedule, within budget and to the highest safety standards.

Even as we hunker down, we recognise the importance of investing in people, our most vital resource, for future growth. This downturn is a good learning opportunity for the younger generation of leaders and managers in Keppel O&M, and we have put them in positions to develop their potential as part of the company's succession planning.

We have never allowed a crisis to go to waste and this time will be no different.

Interview with the CEO

Q

The situation in Brazil continues to prove challenging. How is Keppel O&M managing its operations in the country?

A

The Brazilian oil and gas industry continues to face huge challenges because of political and economic problems as well as the ongoing corruption scandal surrounding Petrobras and its supply chain. These have exacerbated the industry weakness caused by persistent low oil prices. In particular, uncertainty over Sete Brasil's (Sete) fate looms large and Keppel has not been spared from the knock-on effects. After Sete ceased payments in November 2014, we had taken steps to mitigate our exposure by slowing the construction of their rigs.

BrasFELS, our yard in Angra dos Reis, has been monitoring the situation closely and managing its operational costs by rightsizing its resources according to project needs. As we await further clarity on the situation, we have

stopped the construction of Sete's projects by the end of 2015. On average, the construction of the first four semis has progressed by less than 4% each quarter since the start of 2015. Of the six projects for Sete, only the first two semis are in the most advanced stages, while minimal work had been done on the last two units. We have made a provision of \$230 million, and have also come up with strategies to deal with different scenarios that might unfold.

The problems involving Sete do not mean we have no more work in Brazil. BrasFELS' current projects include work for the FPSOs P-66, P-69 and Cidade de Caraguatatuba MV27, and we are fully committed to delivering these projects bearing Keppel's hallmark of excellence.

Q

Do you expect customers to cancel or further reschedule the projects that Keppel O&M's yards are currently executing?

A

We do not think rig cancellations are likely at this point as we have been disciplined in taking on quality contracts with sound terms. At the same time, we understand the challenges faced by our customers and will work with them to seek mutually acceptable solutions. In cases where customers have sought to defer their rig deliveries, we have reviewed their requests and re-allocated our

work schedules and resources to minimise any impact on our operations. We are looking to deliver a few of these projects in 2016.

Already, at the start of 2016, we have delivered four projects – a liftboat and a jackup rig to Gulf Drilling International and two jackup rigs for Grupo R. We are also on track to deliver a semi accommodation to Floatel.

01 Keppel O&M will leverage its years of experience and expertise in servicing and converting vessels including gas carriers to provide strong support to MPA in its goal to develop Singapore into a key LNG bunkering hub in Asia.



Q

In these challenging times, where do you see opportunities in the offshore and marine market?

A

Despite the low oil price environment, countries with the long-term goal to achieve energy self-sufficiency are looking for ways to optimise operations while maintaining their E&P programmes. In the Middle East, new demand for rigs can potentially come from Iran which just had sanctions against them lifted. While this might portend more oil entering the market in the near term, the opening up of the Iranian market could also bring about opportunities for repair and maintenance of Iran's ageing platforms, and also drilling rigs for new fields. We have a strong presence in the Middle East and the Caspian region, and are able to provide a wide range of services and products to Iran and other countries in the region when the opportunity arises. Azerbaijan is also a closed market where we have

established a strong presence and we continue to see projects being commissioned.

The market lull is also a period for us to invest strategically in R&D to enhance our solutions and increase our competitive edge so that we can ready ourselves for the upturn when it comes. Our decision to acquire the LETOURNEAU™ jackup rig designs, rig kit business as well as aftersales and aftermarket services broadens our suite of jackup rig designs and enables us to move further into adjacencies and provide aftersales services. In the current depressed market, many rig owners are looking at repairing and upgrading their current fleet rather than ordering new rigs. LETOURNEAU™ designs account for about 100 of the rigs currently operating around the world.

Q

Beyond Keppel O&M's traditional strengths, what are some of the new growth areas that Keppel O&M is pursuing?

A

We have been strengthening our non-drilling solutions, and are furthering our efforts in gas-related businesses. Despite a weak medium-term outlook for the oil and gas sectors, we believe the Liquefied Natural Gas (LNG) market has significant potential given the trend towards the adoption of greener fuels. We are developing technologies that cater to more links along the LNG value chain. For instance, Keppel Shipyard is currently undertaking the world's first-of-its-type Floating Liquefaction vessel conversion for Golar LNG. We are also able to provide a more integrated solution with our own liquefaction technology, PreNEx. We have further developed proprietary designs for LNG carriers, barges and tugs which can meet the downstream needs of delivering LNG efficiently to end markets.

able to expand our network and clientele base to bring pull-through work such as building LNG vessels or servicing and retrofitting ships at our shipyards.

Apart from the LNG market, we are also increasing our focus on rig maintenance and repair services. The low oil price environment has encouraged field operators to improve their maintenance and repairs of drilling and production platforms to ensure longer and more productive lifespans. Liftboats serve as a key component of this.

Keppel O&M's proprietary ORCA liftboat designs were developed to meet the needs of field operators across a wide array of water depths and environmental conditions. We have already delivered the first such liftboat through Nakilat-Keppel O&M this year.

Leveraging our experience and expertise in servicing vessels including gas carriers, we are working with BG Group (now part of Shell) to provide LNG bunkering services in the Port of Singapore starting in 2017. The move into LNG bunkering is in line with our strategy to provide solutions for the global LNG market. Along with bunkering services, we will also be

We will continue pursuing opportunities in the non-drilling market where there is still demand for solutions such as accommodation semis, Plug & Abandonment jackups, liftboats, offshore wind products and specialised vessels.

Group Financial Highlights

Consolidated Balance Sheet as at 31 December 2015

	2015 S\$'000	2014 S\$'000
Share capital	339,716	339,716
Reserves	1,140,334	2,095,722
Shareholders' funds	1,480,050	2,435,438
Non-Controlling interests	188,185	188,171
Capital employed	1,668,235	2,623,609
Represented by:		
Fixed assets	1,711,499	1,732,937
Associates	568,115	540,347
Loans receivable	114,151	97,085
Goodwill	36,363	36,363
Investments	130,438	124,098
	2,560,566	2,530,830
Current assets		
Stocks	111,142	163,111
Work-in-progress (cost > billings)	3,825,122	3,227,613
Related companies & associates	334,704	451,661
Other assets	167,423	113,333
Debtors	1,997,199	1,420,154
Bank balances, deposits & cash	1,093,151	1,712,563
	7,528,741	7,088,435
Current liabilities		
Creditors	1,874,895	2,201,131
Work-in-progress (billings > cost)	1,751,319	2,332,092
Related companies & associates	2,747,960	1,666,438
Other liabilities	513,542	338,688
Short term loans	116,704	35,201
Taxation	143,448	247,276
	7,147,868	6,820,826
Net current assets	380,873	267,609
Non-current liabilities		
Long term loans	1,156,809	115,749
Deferred taxation	62,832	9,339
Deferred liabilities	1,287	1,386
Accrued expenses	52,276	48,356
	1,273,204	174,830
Net assets	1,668,235	2,623,609

Group Financial Highlights

Consolidated Profit & Loss Account

for the financial year ended 31 December 2015

	2015 S\$'000	2014 S\$'000	Change %
Revenue	6,241,348	8,556,743	-27
Operating profit	607,881	1,220,226	-50
Net Interest / investment income	29,698	84,027	-65
Share of results of associates	72,013	57,346	+26
Profit before tax	709,592	1,361,599	-48
Taxation	(181,986)	(272,706)	-33
Profit after tax	527,606	1,088,893	-52
Non-Controlling interests	(36,021)	(53,116)	-32
Profit before non-recurring items	491,585	1,035,777	-53
Non-Recurring items	(11,097)	3,602	N.A.
Net profit	480,488	1,039,379	-54
Economic Value Added (Before non-recurring items)	186,708	764,076	-76

In a year which saw continuing strong headwinds in the industry due to falling oil prices, Keppel Offshore & Marine achieved a creditable set of results. Revenue decreased by 27% to \$6.2 billion due to lower activity levels. Operating profit of \$607.9 million was 50% below that of 2014 due to lower revenue and a \$230 million provision for Sete Brasil's semisubmersible projects. Net interest income was 66% lower at \$26.4 million, while contributions from associates of \$72.0 million was 26% higher. Profit after tax of \$527.6 million was 52% lower compared to 2014, while net profit of \$480.5 million was 54% lower.

The Group's return on equity (before non-recurring items) was 25%, while Economic Value Added was \$186.7 million.

The Group delivered seven jackup rigs, one accommodation semi, three FPSO conversion/upgrade/integration projects, four FPSO/FSO turrets, one depletion compression platform, one floating sheerleg crane and six specialised vessels in 2015. The total value of contracts secured for the year was \$1.8 billion, and the Group ended the year with a net orderbook of \$9.0 billion.

Group at a Glance

Offshore



Leading designer, builder and repairer of high-performance mobile offshore drilling rigs.

The Offshore Division, helmed by Keppel FELS, is a leading designer, builder and repairer of high-performance mobile offshore drilling rigs.

The Division's portfolio of proprietary designs and floating production solutions meets a broad spectrum of operating requirements including deep waters and harsh environments.

With technology innovation and competent design and engineering capabilities, this Division offers viable, cost-effective and highly adaptable solutions for newbuilds and upgraded offshore units.

Marine Ship Repair and Conversion



Trusted industry name for the repair, conversion and upgrade of a diverse range of vessels.

In the Marine Division, Keppel Shipyard is the trusted industry name for the repair, conversion and upgrade of a diverse range of vessels.

Keppel Shipyard is a leader in the conversion of Floating Production Storage and Offloading, Floating Storage and Offloading, Floating Storage Re-gasification, and Floating Liquefaction units. Its competencies include topside and turret fabrication.

With a strong commitment to Health, Safety and Environment and an established reputation of reliability, flexibility and quality for complex projects with quick turnaround, the Division continues to deliver high value to its customers.

Marine Specialised Shipbuilding



Designer and builder of a wide spectrum of highly specialised ships for a global clientele.

The Specialised Shipbuilding arm in the Marine Division is led by Keppel Singmarine, which has a track record of some 400 newbuild vessels of diverse functions and sophistication.

Its portfolio of customised vessels spans Anchor Handling Tug/Supply vessels, multi-purpose Offshore Support Vessels and tugboats to highly advanced solutions such as ice-capable and subsea construction vessels.

Harnessing its suite of design and engineering solutions, strong logistics and infrastructure support in Singapore, Keppel Singmarine provides customers with one-stop value-added services.

Global Focus For 2016/2017

Fortify Core Competencies

- Build on operational excellence and raise productivity levels to deliver projects safely, on time and within budget.

Leverage Growth Platforms

- Extend expertise to offer a wider range of products, solutions and services for the offshore and marine industry through R&D.

Harness Global Synergies

- Develop and draw on the collective strength of global yards and offices to reinforce our *Near Market, Near Customer* strategy and deliver value to customers.

Increase Business Robustness

- Seek opportunities to strategically acquire or co-invest with partners in new capabilities and facilities, and enter into new markets.

Keppel Offshore & Marine

Global leader in offshore rig design, construction and repair, ship repair and conversion, and specialised shipbuilding.

Headquartered in Singapore, Keppel O&M integrates and harnesses the experience and expertise of 20 yards worldwide to optimise deployment of resources and effectively execute our *Near Market, Near Customer* strategy.

The head office serves two central functions, providing Operational Services including technology, design and development, engineering and procurement, as well as Corporate Services covering finance, legal, human resources, information services and corporate development.

Driven by innovation and a capable people with the *Can Do!* spirit, we strive to become a builder of distinction in every aspect of our business.



Board of Directors



Loh Chin Hua

Chairman

Keppel Offshore & Marine Ltd
Keppel FELS Ltd
Keppel Shipyard Ltd
Keppel Offshore & Marine Technology Centre Pte Ltd
Keppel Land Limited
Keppel Telecommunications & Transportation Ltd
Keppel Infrastructure Holdings Pte. Ltd.
Alpha Investment Partners Limited

Chief Executive Officer

Keppel Corporation Limited



Chow Yew Yuen

Chief Executive Officer

Keppel Offshore & Marine Ltd

Chairman

Keppel AmFELS, LLC
Keppel FELS Brasil S.A.
Keppel Offshore & Marine USA, Inc.
Keppel Singmarine Pte Ltd
Keppel Philippines Holdings Inc
Keppel Sea Scan Pte Ltd
Deepwater Technology Group Pte Ltd
Marine Technology Development Pte Ltd
Offshore Technology Development Pte Ltd



Stephen Pan Yue Kuo
Chairman
World-Wide Shipping Agency Limited, Hong Kong



Prof Minoo Homi Patel
Professor of Mechanical Engineering
Cranfield University



Po'ad Bin Shaik Abu Bakar Mattar
Independent Director
Hong Leong Finance Limited



Dr Malcolm Sharples
President
Offshore Risk & Technology Consulting Inc, USA

Board of Directors



Tan Ek Kia
Chairman

Star Energy Group Holdings Pte Ltd

**Independent and
Non-Executive Director**

Keppel Corporation Limited
Transocean Ltd
KrisEnergy Ltd
PT Chandra Asri Petrochemical Tbk

Non-Executive Director

SMRT Corporation Ltd



Lim Chin Leong
Former Chairman

Asia Schlumberger



Robert D. Somerville
Vice Chairman

Maine Maritime Academy Board of Trustees

Former Chairman and CEO
American Bureau of Shipping



Sit Peng Sang
Director



Chan Hon Chew
Chief Financial Officer
Keppel Corporation Limited

Chairman
Keppel DC REIT Management Pte. Ltd.
(Manager of Keppel DC REIT)

Non-Executive Director
Keppel Land Limited
Keppel Telecommunications & Transportation Ltd
Keppel Infrastructure Holdings Pte Ltd
KrisEnergy Ltd

Key Personnel



Keppel Offshore & Marine

1. **Abu Bakar Bin Mohd Nor**
Managing Director
Keppel Singmarine
2. **Wong Kok Seng**
Managing Director
Offshore
Keppel FELS
3. **Wong Ngiam Jih**
Chief Financial Officer
4. **Chow Yew Yuen**
Chief Executive Officer
5. **Loh Chin Hua**
Chairman
6. **Michael Chia Hock Chye**
Managing Director
Marine and Technology
KOMtech
7. **Chor How Jat**
Managing Director
Keppel Shipyard
8. **Chris Ong Leng Yeow**
Deputy Managing Director
Keppel FELS
9. **Hoe Eng Hock**
Managing Director
Special Projects, Marine

Key Personnel



1. Kenneth Chong Yun Kien

General Manager

Legal, Company Secretary

2. Dr Lee Chay Hoon

Director

Organisation Development and Human Resources

3. Lai Ching Chuan

Director

Corporate Development

4. Yong Chee Min

Director

HSE and Special Projects

5. Jeffery Shiu Chow

Director

Legal

6. Edmund Mah Soot Khiang

General Manager

Finance

7. Phillip Mah Mun Kuen

General Manager

Security

8. Tommy Sam Yuin Sing

Chief Financial Officer

Americas

(Not in photo)

Key Personnel



Keppel FELS

- 1. Jay Singam**
General Manager
Commercial
- 2. Keith Teo Tiong Gee**
General Manager
Marketing
- 3. Wong Fook Seng**
Executive Director
Quality System and Process Excellence
- 4. Mohamed Sahlan Bin Salleh**
Executive Director
Operations
- 5. Wong Kok Seng**
Managing Director
Offshore (Keppel O&M)
- 6. Chris Ong Leng Yeow**
Deputy Managing Director
- 7. Jerald Lee Quan Ti**
Financial Controller
- 8. Tan Leong Peng**
General Manager
Engineering
- 9. Max Goh Han Bin**
General Manager
Operations

Key Personnel



Keppel Shipyard

- | | |
|---|---|
| <p>1. Ivan Lim Shaw Chuan
 General Manager
 Operations</p> <p>2. S. Jayakumar
 General Manager
 Projects</p> <p>3. Louis Chow Wai Laye
 Executive Director
 Commercial</p> <p>4. Jim Lim Jit Pok
 Financial Controller</p> <p>5. Chin Sze Kiun
 General Manager
 Commercial – Repair</p> <p>6. Michael Chia Hock Chye
 Managing Director
 Marine (Keppel O&M)</p> | <p>7. Burt Loh Kok Mun
 General Manager
 Operations</p> <p>8. Chor How Jat
 Managing Director</p> <p>9. Albert Kee Heok Seng
 Executive Director
 Operations</p> <p>10. Charles Sim Paik Huat
 General Manager
 Offshore Production/Gas Technology Development</p> <p>11. Boo Chin Tuan
 General Manager
 Operations Excellence and Talent Management</p> <p>12. Tan Peng Pong
 General Manager
 Engineering and Systems Development</p> <p>13. Jimmy Loh Soon Fah
 General Manager
 Projects and Control</p> |
|---|---|

Key Personnel



Keppel Singmarine

- | | |
|--|---|
| <p>1. Harry Loh Moon Thong
Senior Yard Manager</p> <p>2. Poon Tai Lum
General Manager
Commercial and Marketing</p> <p>3. Diwakar Karri
Yard Manager
Completion and Commissioning</p> <p>4. Edmund Lek Hwee Chong
Executive Director
Operations</p> | <p>5. Abu Bakar Bin Mohd Nor
Managing Director</p> <p>6. Au Yeong Kin Ho
General Manager
Engineering</p> <p>7. Tan Choon Sze
Financial Controller</p> <p>8. Alex Neo Tiong Gee
Yard Manager</p> <p>9. Chin Lik Kiong
Senior Yard Manager
Yard and Facilities Development</p> |
|--|---|

Key Personnel



Research & Development

1. **Dr Matthew Quah Chin Kau**
General Manager, Design
 Offshore Technology Development
Senior Programme Manager
 Offshore Structures and Analysis, KOMtech
2. **Au Yeong Kin Ho**
General Manager
 Engineering, Keppel Singmarine
3. **Dr Foo Kok Seng**
Executive Director
 Offshore Technology Development
 Shallow Water Technology, KOMtech
4. **Charles Foo Chee Lee**
Director/Advisor
 KOMtech
5. **Michael Chia Hock Chye**
Managing Director
 Technology (Keppel O&M)
 KOMtech
6. **Aziz Amirali Hasham Merchant**
Executive Director
 KOMtech
 Deepwater Technology Group
 Marine Technology Development
7. **Charles Sim Paik Huat**
Technical and Projects Director
 FPSO and Offshore Production, KOMtech
8. **Anis Altaf Hussain**
General Manager
 Marine Technology Development
Programme Director
 Deepwater Technology, KOMtech
9. **Lim Ah Cheng**
General Manager
 Offshore Technology Development

Key Personnel

Overseas Heads



Kwok Kai Choong
Keppel FELS Brasil S.A.



Marlin Khiew Huey Kang
Estaleiro BrasFELS Ltda



Harold W.M. Linssen
Keppel Verolme BV



Chandru Sirumal Rajwani
Nakilat-Keppel Offshore & Marine Ltd



Leong Kok Weng
Keppel Subic Shipyard, Inc



Tan Geok Seng
Keppel Batangas Shipyard, Inc

Key Personnel



Simon Lee Kim Foong
Keppel AmFELS, LLC



Lau Kuat Pin
Caspian Shipyard Company, LLC



Edmund Lek Hwee Chong
Keppel Nantong Shipyard Co. Ltd
Keppel Nantong Heavy Industry Co. Ltd



Michael Holcomb
Keppel Marine Agencies
International, LLC



Leong Siew Loon
Arab Heavy Industries PR.J.S.C



Lam Khee Chong
Baku Shipyard, LLC

Key Personnel

Overseas Operational Centres

Arab Heavy Industries PR.J.S.C
Leong Siew Loon
Managing Director

PT Bintan Offshore
Thomson Halim
General Manager

Keppel Philippines Marine, Inc
Chor How Jat
Chairman

Leong Kok Weng
President

Stefan Tong Wai Mun
Executive Vice President

Keppel Batangas Shipyard, Inc
Tan Geok Seng
General Manager

Keppel Subic Shipyard, Inc
Leong Kok Weng
President

Spencer Leong Chee Wah
General Manager

Keppel Offshore & Marine USA, Inc
Lai Ching Chuan
President

Tommy Sam Yuin Sing
Vice President

Cheung Tak On
Vice President
Technology

Keppel AmFELS, LLC
Simon Lee Kim Foong
President

Eric Phua Hwan Khoon
Vice President
Commercial

Tom McCoy
Vice President
Production

Dennis Tan Boon Wei
Vice President
Finance

Keppel FELS Brasil S.A.
Kwok Kai Choong
President and
Chief Executive Officer

Tommy Sam Yuin Sing
Vice President

Samuel Wong Chung Han
Chief Financial Officer

Gilberto Israel
Commercial Director

Karina Stoff Fonseca Mendonca
Legal and HR Director

Alceu Mariano De Melo Souza
Institutional Relations Director

Estaleiro BrasFELS Ltda
Marlin Khiew Huey Kang
President

Luiz Carlos Caetano Dos Santos
Operations Director

Keppel Verolme BV
Harold W.M. Linssen
Managing Director

Gurbanov Elshan
Chief Financial Officer

Caspian Shipyard Company, LLC
Lau Kuat Pin
Chief Executive Officer

Keppel Nantong Shipyard Co. Ltd
Keppel Nantong Heavy Industry Co. Ltd

Edmund Lek Hwee Chong
President

Wong Phuay Cheng
Vice President
Operations

David Lim Kok Hwee
Vice President
Finance

Li Gang
Vice President
Commercial (Keppel Nantong
Shipyard Co. Ltd)

Lewis Liang Kun
Vice President
Commercial (Keppel Nantong Heavy
Industry Co. Ltd)

Nakilat-Keppel Offshore & Marine Ltd
Chandru Sirumal Rajwani
Chief Executive Officer

Felix Allen Jerome
General Manager
Operations

Regency Steel Japan Ltd
Wong Chun Yu
President

Naoya Hachigoh
Chief Operating Officer

Keppel Singmarine Brasil Ltda
Loh Kee Huat
General Manager

Baku Shipyard, LLC
Lam Khee Chong
General Manager

Key Personnel

**Engineering/
Technology Centres**

**Keppel Offshore & Marine
Technology Centre Pte Ltd**
Michael Chia Hock Chye
Managing Director

Aziz Amirali Hasham Merchant
Executive Director

Dr Foo Kok Seng
Executive Director
Shallow Water Technology

Charles Foo Chee Lee
Director/Advisor

Charles Sim Paik Huat
Technical and Projects Director
FPSO and Offshore Production

Anis Altaf Hussain
Programme Director
Deepwater Technology

Dr Matthew Quah Chin Kau
Senior Programme Manager
Offshore Structures and Analysis

**Offshore Technology
Development Pte Ltd**
Dr Foo Kok Seng
Executive Director

Lim Ah Cheng
General Manager

Dr Matthew Quah Chin Kau
General Manager
Design

**Deepwater Technology
Group Pte Ltd**
Aziz Amirali Hasham Merchant
Executive Director

**Gas Technology Development
Pte Ltd**
Charles Sim Paik Huat
General Manager

**Marine Technology Development
Pte Ltd**
Aziz Amirali Hasham Merchant
Executive Director

Anis Altaf Hussain
General Manager

Blue Ocean Solutions Pte Ltd
Dr Jerry Ng Kok Loon
Chief Executive Officer

Bennett Offshore, LLC
Marc Wong
President

Keppel FELS Baltech Ltd
Lyudmil Stoev
General Manager

**Keppel FELS Engineering
Shenzhen Co. Ltd**
Norman Chua Khee Yong
Engineering Manager

**Keppel FELS Engineering
Wuhan Co. Ltd**
Reynard Xiao Peng
Engineering Manager

**Keppel Offshore & Marine
Engineering Services
Mumbai Pte Ltd**
Syed Ahamed Kabeer
General Manager

**Keppel Singmarine Philippines,
Inc**
Au Yeong Kin Ho
President

Representative Offices

**Keppel Marine Agencies
International, LLC**
Michael Holcomb
President/Director

**Keppel Prince Engineering
Pty Ltd**
Charles Chiam Toon Thong
Director

Marine Services

Asian Lift Pte Ltd
John Chua Bee Hin
General Manager

Keppel Smit Towage Pte Ltd
Pieter Van Stein
Managing Director

Jerry Wong Yoke Min
General Manager

Keppel Sea Scan Pte Ltd
Gui Eng Hwee
General Manager

Employee Unions

Keppel Employees' Union
Razali Bin Maulod
President

Mohd Yazam Bin Mahmood
General Secretary

Keppel FELS Employees' Union
Vincent Ho Mun Choong
President

Atyyah Binte Hassan
General Secretary

David Lim Kin Wai
Executive Secretary

**Shipbuilding & Marine
Engineering Employees' Union**
Tommy Goh Hock Wah
President

Eileen Yeo Chor Gek
General Secretary
NTUC Central Committee Member

Mah Cheong Fatt
Executive Secretary

Harnessing Strengths

Leadership

Fortitude

Agility

Delivery

Technology

Synergy

As a global offshore and marine group, we are able to harness the strengths, experience and competencies across our business units to stay fighting fit and remain at the forefront of the industry.

Leadership

A leader in our industry, we are focused on staying ahead by delivering differentiated and superior solutions in a timely and safe manner.

We continuously build a strong bench strength capable of seizing opportunities and growing the company through technological advancement, strategic partnerships and execution excellence.



Fortitude

We have gleaned lessons from our experiences through various economic cycles to become stronger and more resilient.

Guided by our core values and experience in withstanding industry headwinds, we have the *Can Do!* spirit and ability to weather through storms, while looking out for strategic opportunities to grow our strengths.

Agility

We are configured with financial and organisational strengths to navigate challenging terrains and scour new markets.

We stay lean and agile at all times to respond to market and environmental changes in ways that drive performance and build competitive advantage.



Delivery

We have a strong track record of delivering to our customers' satisfaction, on-time, on budget and safely.

Honing our capabilities and innovating continuously, we strive to deliver value-added services to our customers and stay ahead of the competition.

Technology

We have the technology and drive to constantly innovate to adapt and provide solutions in a dynamic market.

By working closely with customers and partners to advance our technological capabilities, we ensure that our solutions always meet specific needs in a robust and cost-effective manner.



Synergy

We harness the various strengths and resources within Keppel Offshore & Marine as well as the wider Keppel Group to enhance and broaden our solution offerings.

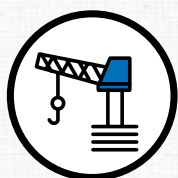
Coupled with our technological solutions, our *Near Market, Near Customer* strategy enables us to better service existing markets while entering new ones.

Tapping New Markets for Growth

With an extensive suite of offshore and marine solutions, we are able to serve a wide spectrum of customers in both the drilling and non-drilling markets.

To grow our businesses and maintain market leadership, we keep a close watch on the market and tap new ones by investing strategically to develop new solutions or enhance core competencies.

We are prudently investing in R&D to grow our suite of solutions to meet customers' needs across various segments, be it for oil and gas production, offshore installation, maintenance and repair, subsea support or offshore liquefaction.



Fixed Platforms Worldwide

8,000

aged 25 years and above in water depth of less than 400 feet.

Offshore Solutions

Expanding Rig Designs as well as Aftersales and Aftermarket Services

Seizing an opportune and strategic acquisition in the down market, Keppel Offshore & Marine (Keppel O&M) entered into an agreement with Cameron International Corporation (Cameron) to acquire Cameron's offshore rigs business, which comprises the LETOURNEAU™ jackup rig designs, rig kit business as well as aftersales and aftermarket services.

Keppel will be able to offer customers the LETOURNEAU™ rig designs through the sale of rig kits to shipyards, or deliver ready-to-drill rig solutions from Keppel yards worldwide. The rig kits include jackup leg components, elevating units/jacking system and cantilever/skidding system. Support equipment such as cranes and anchor winches are also options in the rig kits.

It will not only broaden Keppel O&M's suite of jackup rig design offerings in this highly competitive sector, but also provide us with enhanced capabilities to service customers through the provision of expanded aftersales and aftermarket services.

The LETOURNEAU™ suite of jackup rig designs are established designs that are popular with certain market segments and have a proven track record of operating in a variety of environments.

The designs Keppel is acquiring, which include the LETOURNEAU™ Super 116E, WORKHORSE™, Super Gorilla XL and Jaguar, will add to Keppel's offerings in the jackup rig market.

Another aspect of the business is the provision of aftersales services. With more than 150 LETOURNEAU™ rigs currently operating around the world, many operators require servicing and repair of their rigs. Keppel will be able to leverage its network of yards worldwide to better meet these customers' needs. Besides repairs, upgrades and modifications, jackups are required to undergo five-year class recertification special periodic surveys.

With the current low oil price, rig owners are looking at repairing and upgrading their current fleet. We will be able to leverage the LETOURNEAU™ sales service infrastructure to service rigs of both the LETOURNEAU™ as well as Keppel FELS designs.

Keppel O&M has the expertise to build rigs of the LETOURNEAU™ design, having previously completed 16 such rigs.

Innovative Liftboats

According to research company, IHS Petrodata, there are over 8,000 fixed platforms globally in water depth of less than 400 feet, with an average age of about 25 years. As platforms age, they require frequent and robust inspection, maintenance and repair programmes to ensure longer productive lifespans. The low oil price environment has encouraged field operators to improve productivity in their maintenance regime and liftboats serve as a key component of this.

Liftboats are self-propelled and self-elevating vessels

Special Feature

that are used in a variety of applications. These include construction and installation support, maintenance and intervention of shallow water wells and serving as auxiliary accommodation units.

In response to this need, Keppel O&M launched a series of liftboat designs to meet the needs of operators across water depths and environmental conditions.

Developed by Keppel O&M's design arms, Bennett Offshore and Offshore Technology Development, the newly launched ORCA series of liftboats are economical and highly efficient in a variety of conditions. The ORCA design also features Keppel's patented and proven jacking system.

In coming up with a truly efficient design, the ORCA series was developed with comprehensive feedback from current industry

operators. Features which facilitate operations and emphasise safety were incorporated into the design. This resulted in standard features such as generous freeboard and installed forecastles which not only allow for safer transit in moderate seas, but also lessen the likelihood of deck cargo and equipment getting drenched by deck wash.

ORCA 1500/2500/3500 Series for Benign to Moderate Environments

These small to medium-sized liftboats are designed to be the workhorse of the support vessel market. They can operate in water depths of up to 65 metres and have a variable load capacity ranging from 500 to 2,000 metric tonnes. The scalable nature of the hull systems allows for customisation based on intended use. For example, the ORCA 3500 design may be configured as a 300-man

accommodation tender or alternatively as a 100-man construction and crane vessel.

In addition to its large versatile open deck space for cargo storage, the vessel's accommodation is located above the main deck for greater safety and meets the latest IMO (International Maritime Organisation) and ILO (International Labour Organisation) requirements. It can be equipped with different tonnage cranes on deck, enabling it to undertake the maintenance of most shallow water oil and gas fields and wind farms, as well as various workover drilling operations and well intervention applications.

Keppel O&M's first liftboat of the ORCA design, Al Safliya, was delivered by Nakilat-Keppel O&M in January 2016 to Gulf Drilling International.

01 Keppel O&M has the expertise to build rigs of the LETOURNEAU™ design, having previously completed 16 such rigs.

02 With more than 150 LETOURNEAU™ rigs currently operating around the world, many operators require servicing and repair of their rigs and Keppel will be able to leverage LETOURNEAU™'s aftersales services to meet their needs.

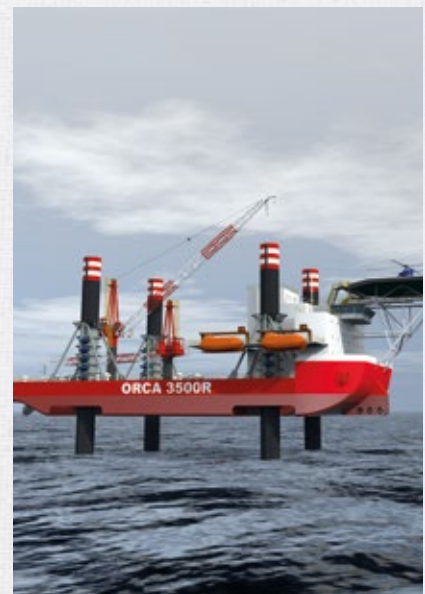
03 The ORCA series of liftboats is economical and highly efficient in a variety of offshore operations such as construction, installation, maintenance and accommodation support.



01



02



03

LNG Solutions

The LNG Market

Capital expenditure on Liquefied Natural Gas (LNG) facilities has risen substantially in the past years. Despite a slowdown in the global economic growth and a weak medium-term outlook for gas, the LNG market continues to have a bright future in the long term.

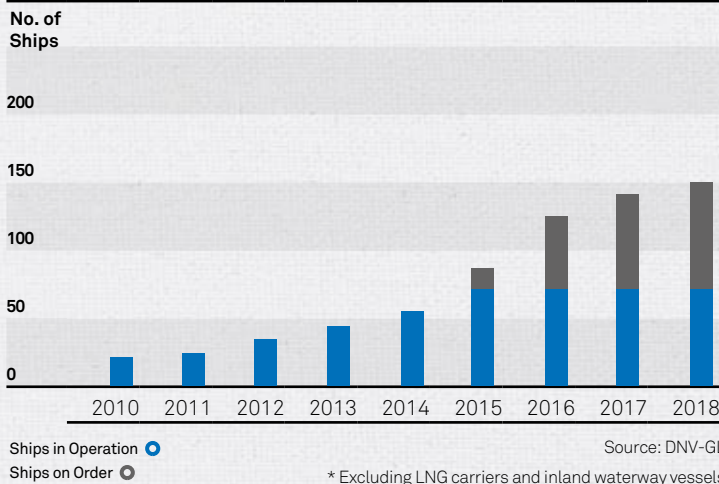
In the shipping industry, the use of LNG as an alternative marine fuel is increasing due to emissions reduction requirements set by the IMO in Emission Control Areas that came into force in January 2015. North America, including most of the US and Canadian coast, and key countries in northwest Europe, the Baltic Sea area, as well as Asia have recognised the impact of shipping emissions on air quality and are encouraging the adoption of LNG through subsidies for LNG-fuelled vessels and the development of LNG bunkering facilities.

The agreement on a low carbon roadmap reached during the 2015 United Nations Climate Change Conference, COP 21, will also help to support the shift towards gas as a cleaner alternative to oil and coal.

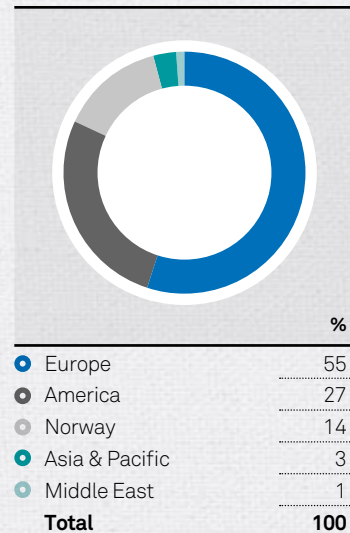
According to Energy Insights, a specialist data and analytics unit within McKinsey, demand for LNG is expected to grow on average between 4-6% p.a. until 2030. Given this long-term demand outlook, it is estimated that the market needs to take final investment decisions on a further 20mtpa of capacity in the next two to three years to bring it to market by 2023, and a further 45mtpa by the end of the decade so it can be ready for demand in 2025.

The use of LNG as an alternative marine fuel is on the rise due to emissions reduction requirements set by the International Maritime Organisation in Emission Control Areas.

Development of LNG-Fuelled Fleet



Worldwide Confirmed Orders for LNG-Fuelled Vessels by Region



Keppel LNG Solutions

To capture opportunities in the growing gas market, we have brought together R&D capabilities of our design and technology units, Keppel Offshore & Marine Technology Centre and Marine Technology Development, and the marine conversion and shipbuilding expertise of our yards to develop a suite of LNG solutions.

By providing robust solutions that can effectively bring Gas to LNG, LNG to Gas, LNG to Users, LNG to Power and utilise LNG as Fuel, we aim to be the provider of choice for solutions to monetise LNG in a fast and cost effective way.

Growth in Demand for LNG

4-6%

Demand for LNG is expected to grow on average between 4-6% p.a until 2030.

Gas to LNG Liquefaction Solutions

Economical, safe and quick to market - our innovative offshore and onshore liquefaction solutions address the growing midstream needs of the LNG industry. It is a result of Keppel's proprietary liquefaction technology, PreNEX, and over 35 years of experience and expertise in conversion and modularisation.



LNG to Gas Re-gasification and Storage Solutions

We have a strong track record in the conversion of Floating Storage and Re-gasification Units (FSRU), which enable our customers to bring their gas to markets in a fast and cost effective manner without relying on land-based terminals.



LNG to Users Transportation and Bunkering Solutions

We have designed a range of robust carriers ranging from 3,000m³ to 30,000m³ capacity with non-propelled or self-propelled designs that can deliver LNG along shallow water rivers, coastal areas and inter-islands. We are also working with BG Group, which is now part of Shell, to provide LNG bunkering services in the Port of Singapore commencing in 2017.



LNG to Power Bringing Power to Users

Our LNG-fuelled power barges are designed with enhanced efficiency and can be installed quickly and economically.



LNG as Fuel Engine Conversion

With the world embracing cleaner emissions, Keppel is well-placed to provide retrofit solutions and newbuild designs for dual-fuel (diesel/LNG) propulsion systems. Our dual-fuel tug design clinched the Outstanding Maritime R&D and Technology Award at the 2015 Singapore International Maritime Awards.



Operations Review & Outlook

Significant Milestones in 2015

- Secured orders for a multi-purpose vessel and a multi-purpose Anchor Handling Tug.
- Delivered the fourth high-specification accommodation semisubmersible to Floatel International on time, on budget and with a perfect safety record.
- Delivered the 100th jackup rig built by Keppel FELS since 1970.
- Delivered a Depletion Compression Platform, the first such platform to be fully constructed in the Philippines.
- Strengthened track record in ice-class vessels with the delivery of three units together.
- Held the world's first triple rig naming ceremony.
- Secured order for a third Floating Liquefaction vessel conversion.
- Awarded the world's first conversion project of a large Roll-on/Roll-off cargo vessel to operate on a dual-fuel diesel LNG propulsion system.
- Signed agreement to acquire the LETOURNEAU™ jackup rig designs, rig design kit business and aftersales services.
- Delivered the world's deepest Floating Production Storage and Offloading vessel, Turritella, with excellent safety record.
- Delivered a total of six KFELS B Class jackup rigs and an ultra harsh environment jackup rig.
- Completed 16 repair/upgrading projects for drilling contractors at Keppel FELS.
- Repaired over 400 vessels at Keppel Shipyard.

Creditable Performance

Against a challenging and volatile environment, Keppel Offshore & Marine (Keppel O&M) continued to perform respectably in 2015, anchored by proven operational capabilities and extensive experience in a wide spectrum of offshore and marine projects.

During the year, Keppel O&M was further entrusted with \$1.8 billion of new orders, bringing the value of its net orderbook to \$9 billion as at year end, of which non-drilling solutions made up more than a third.

Notwithstanding the headwinds, Keppel O&M remains steadfast in delivering its projects safely, on time and within budget to the satisfaction of its customers. During the year, it delivered seven quality jackup rigs and several non-drilling solutions which included a Depletion Compression Platform (DCP) to Shell Philippines Exploration, a Floating Production Storage and Offloading (FPSO) vessel to SBM Offshore, an accommodation semisubmersible (semi) to Floatel International and three ice-class vessels to Bumi Armada.

Enhancing Capabilities

Even as Keppel O&M works at reducing costs and optimising operations, it is constantly positioning itself to capture a bigger slice of the rig market in the long term. Keppel O&M entered into an agreement with Cameron International Corporation (Cameron) to acquire Cameron's offshore rig businesses, which comprise the LETOURNEAU™ jackup rig designs, rig kit business as well as aftersales and aftermarket services. This opportune and strategic acquisition will broaden Keppel O&M's suite of jackup rig design offerings, enable the sale of rig kits as well as enhance its capabilities to

service customers through the provision of expanded aftersales services.

To further focus efforts in gas-related businesses, Keppel O&M established a new unit, Gas Technology Development (GTD), in July 2015. Among the work that GTD has commenced on are in-house engineering specifications and standards for Floating Liquefaction (FLNG) vessels as well as Floating Storage and Re-gasification Units (FSRU).

With an extensive array of offshore and marine solutions bolstered by its *Near Market, Near Customer* strategy, Keppel O&M is well positioned to serve a wide spectrum of customers around the world to meet their drilling and non-drilling needs, be it for oil production, subsea construction, offshore liquefaction or repair and upgrades.

Singapore Yards Keppel FELS

In 2015, Keppel FELS delivered seven rigs either on time or ahead of schedule, safely and on budget to customers including Arabian Drilling Company, Ensco, Maersk Drilling, PEMEX and PV Drilling.

Notably, Keppel FELS delivered its 100th newbuild jackup rig, a KFELS B Class rig, PV Drilling VI, to PV Drilling Overseas, a subsidiary of PV Drilling. The milestone delivery once again affirmed its position as the largest manufacturer of jackup rigs in the world.

Besides being the global leader in the design and construction of offshore rigs, Keppel FELS is also a reputable partner for quality repair and modification projects. During the year, Keppel FELS completed 16 repair and upgrading projects for drilling contractors such as Ensco, Diamond Offshore and Stena Drilling. Among the many projects

that bear testament to Keppel FELS' execution excellence is the post-delivery upgrading job for Ensco's drillship, DS-9, which was completed two days ahead of a compact 45-day schedule. Another repeat customer, Stena Drilling, also showed its confidence in Keppel FELS' execution capability and quality services when it sent the semi, Stena Clyde, for its Special Periodic Survey (SPS) at Keppel FELS for the fourth time. Stena Clyde previously had its surveys conducted at the yard in 2000, 2005 and 2010.

During the year, Keppel FELS intensified its focus on the non-drilling market, such as securing a new liftboat order from Crystal Heights Holdings. The liftboat is designed by Keppel O&M's naval architecture and marine engineering arm, Bennett Offshore, in collaboration with Keppel FELS.

Keppel O&M's agreement with Cameron to acquire the proven LETOURNEAU™ jackup rig designs, rig kit as well as aftersales and aftermarket

Major Orders Secured by Keppel O&M in 2015

Business Unit	Contract	Customer
1Q		
Keppel FELS	Drillship upgrade	Ensco
Keppel Shipyard	FPSO topside fabrication	Bumi Armada Berhad
Keppel Shipyard	FPSO turret fabrication	Bumi Armada Berhad
Keppel Shipyard	Drillship upgrade	Dolphin Drilling
Keppel Singmarine	Multi-purpose vessel	New Orient Marine
Keppel Singmarine	Technical services for liftboat	N-KOM
Keppel Singmarine	Anchor-handling tug	Seaways International
Caspian Shipyard Company	Semisubmersible upgrade	Caspian Drilling Company
2Q		
Keppel FELS	Semisubmersible upgrade	Stena Drilling
Keppel AmFELS	Semisubmersible repair	Transocean
3Q		
Keppel FELS	Liftboat	Crystal Heights
Keppel Shipyard	FLNG conversion	Golar LNG
Keppel Shipyard	FPSO conversion	Bumi Armada Berhad and Shapoorji Pallonji Group
Keppel Shipyard	Conversion of a Roll-on Roll-off vessel to a dual-fuel diesel LNG propulsion system	Totem Ocean Trailer Express
Keppel Shipyard	Field development vessel refurbishment and upgrade	Saipem Offshore
Keppel Verolme	Semisubmersible repair	Stena Drilling
Keppel Verolme	Semisubmersible repair	Transocean
4Q		
Keppel FELS	Semisubmersible upgrade	Japan Drilling Co.
Keppel Shipyard	FPSO conversion	Yinson Production (West Africa)
Keppel Shipyard	FSU conversion	Bumi Armada Berhad
Caspian Shipyard Company	Barge upgrade	BP Exploration
Keppel Verolme	Heavy-lift vessel repair	Seaway Heavy Lift
Keppel FELS Brasil	FPSO integration	MTOPS



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01 Keppel FELS completed 16 repair/upgrading projects in 2015 which included the post-delivery upgrading job for Ensco's drillship DS-9, which was completed two days ahead of schedule.

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service businesses will help to ready itself for the recovery of the rig market.

Besides being focused on execution and sharpening its competitive advantage, Keppel FELS also places utmost emphasis on workplace safety. As a testament to its efforts in promoting work safety, Keppel FELS won 18 awards in the Safety and Health Award Recognition for Projects (SHARP) category at the 2015 Workplace Safety and Health (WSH) Awards organised by Singapore's WSH Council and Ministry of Manpower.

Keppel Shipyard

Keppel Shipyard completed two FPSO conversion/upgrading projects, four turret fabrication projects and one mooring system modification project in 2015.

The shipyard has a solid track record of completing 118 FPSO/Floating Storage and Offloading (FSO)/FSRU/Floating Storage Unit (FSU) projects and 75 turrets/mooring systems to-date.

In ship repair, Keppel Shipyard serviced over 400 vessels in 2015. Tankers and Liquefied Natural Gas (LNG) carriers were the main contributors to Keppel Shipyard's repair business in 2015, taking up 31% and 13% of the repair revenue respectively. With its commitment to customer focus, Keppel Shipyard managed to expand its repeat ship repair customer base to 99 repeat customers, while winning over 35 new customers at the same time.

Maintaining its leading position in complex conversions, Keppel Shipyard secured a

contract from Golar Gandria N.V., a subsidiary of Golar LNG, to perform the conversion of a third Moss-type LNG carrier, the GANDRIA, into a FLNG vessel.

In the conversion market, Keppel Shipyard continues to serve the industry's needs for FPSO units. During the year, Keppel Shipyard secured a contract from Yinson Holdings Bhd to perform the conversion of a tanker to an FPSO. Besides conversions of FPSO and FLNG vessels, Keppel Shipyard also won a contract from Totem Ocean Trailer Express, a subsidiary of TOTE Services, to perform the world's first conversion of a large Roll-on/Roll-off cargo vessel to operate on a dual-fuel diesel LNG propulsion system.

Amongst the yard improvement initiatives implemented during the year was the installation of a new 250-tonne quay crane at Keppel Shipyard's Benoi Yard. The new

crane will help to improve workflow and enhance productivity of the workforce.

In 2015, Keppel Shipyard's commitment to execution and safety excellence continued to set industry benchmarks when it garnered the Shipyard of the Year award from Lloyds List, 10 SHARP Awards by the Singapore WSH Council and the Bronze Award for WSH Innovations in the Marine Industry conferred by the Association of Singapore Marine Industries.

Continuing in its efforts to help subcontractors improve their productivity, Keppel Shipyard renewed its partnership with Spring Singapore as a PACT (Partnerships for Capability Transformation) manager. Keppel Shipyard's role as a PACT manager is to engage and support subcontractors in obtaining government funding for productivity, capability and innovative developments. To date,

01 Management from Keppel Corporation, Keppel O&M and Grupo R celebrating the world's first triple rig naming ceremony with Guest-of-Honour Mr Chan Chun Sing (fifth from the left), Singapore's Minister in Prime Minister's Office and Secretary-General of the National Trades Union Congress.

02 Keppel Shipyard secured its third Floating Liquefaction vessel conversion contract from Golar LNG, whose LNG carrier, the HILLI, is currently undergoing conversion at the shipyard.



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Keppel Shipyard has successfully helped over 90 resident subcontractors and vendors benefit from a collective grant of over \$2 million for productivity improvement projects.

Keppel Singmarine

Keppel Singmarine had a creditable year in 2015 with a number of contract wins. This includes an order from New Orient Marine, a wholly-owned subsidiary of Maritime Construction Services, for a multi-purpose vessel; a contract from repeat and long-time customer Seaways International to build a multi-task Anchor Handling Tug and a contract from Keppel O&M's associated yard, Nakilat-Keppel O&M (N-KOM) to provide detailed and production engineering, technical and commissioning support, project management and procurement support services for the construction of a liftboat.

Keppel Singmarine continued to strengthen its track record in building ice-class vessels when it celebrated the delivery of three ice-class vessels to Bumi Armada – two of which are ice-class supply vessels constructed at sister yard Keppel Nantong Shipyard, and one ice-class multi-purpose duty rescue vessel constructed at Keppel Singmarine in Singapore.

The vessels were delivered on time and with a perfect safety record, bringing the tally of delivered ice-class vessels undertaken by Keppel O&M to 12. Looking ahead, Keppel Singmarine will continue to hone its expertise in the ice-class market and fortify its track record in the design, construction and delivery of ice-class vessels.

01 Keppel Shipyard successfully delivered FPSO vessel, *Turritella*, to SBM Offshore and Shell with a solid safety record.

02 Keppel O&M has the expertise to build rigs of the LETOURNEAU™ design, having previously completed 16 such rigs, including the COATZACOALCOS (pictured), a LETOURNEAU™ Super 116E design which was built by Keppel AmFELS in Brownsville, USA.



Keppel Singmarine also completed its scope of work for the hull construction and outfitting of a subsea construction vessel, a contract it received from Keppel O&M's joint venture yard, Baku Shipyard, in Azerbaijan. The vessel, which will be deployed for the Stage 2 development of the Shah Deniz oil field in the South Caspian Sea, set sail from Keppel Singmarine's yard in Singapore for Baku Shipyard in September 2015. The vessel's hull was constructed as two separate sections to allow for their passage through the narrow Volga-Don Canal to reach Baku.

During the year, Keppel Singmarine identified new opportunities for growth in the LNG market and expanded its suite of technology solutions and ship designs to include LNG carriers, bunkers and barges. The focus on LNG solutions comes at a time when Singapore is pushing to be a LNG hub in Asia. Among the new ship designs is a 65-tonne dual-fuel diesel LNG Azimuth Stern Drive (ASD) tug, for which Keppel Offshore & Marine Technology Centre (KOMtech) was awarded the Outstanding Maritime R&D and Technology Award by the Maritime and Port Authority of Singapore in April 2015.

Keppel Singmarine continued to achieve safety excellence and accolades during the year. It received three SHARP Awards for delivering vessels with a perfect safety record.

Satellite Yards

Keppel Nantong Shipyard

In 2015, Keppel Nantong Shipyard successfully delivered Asian Hercules III, a 5,000-tonne heavy lift sheerleg crane, to Asian Lift, a joint venture of Keppel O&M. Completed with a perfect safety record, the self-propelled floating crane is the largest and most versatile of its kind in the world, being able to perform single lifts of up to 5,000 tonnes and tandem lifts exceeding 5,000 tonnes.



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Strategic Acquisition to Enhance Capabilities

In August 2015, Keppel O&M entered into a Stock and Asset Purchase Agreement with Cameron International Corporation (Cameron) to acquire Cameron's offshore rigs business, which comprises the LETOURNEAU™ jackup rig designs, rig kit business as well as aftersales and aftermarket services.

The LETOURNEAU™ suite of jackup rig designs are established designs that are popular with certain market segments and have a proven track record of operating in a variety of environments. With the acquisition, Keppel will be able to offer customers the LETOURNEAU™ rig designs through the sale of rig kits to shipyards, or deliver ready-to-drill rig solutions from Keppel yards worldwide.

Another aspect of the business is the provision of aftersales and aftermarket services. Keppel will be able to leverage its network of yards worldwide to better meet these customers' needs.

Mr Chow Yew Yuen, CEO of Keppel O&M, said, "With the current low oil price, we have seen a slowdown in newbuild rig orders. Rig owners are instead looking at repairing and upgrading their current fleet. We believe that we can make best use of our aftersales service infrastructure to service rigs of both the LETOURNEAU™ as well as Keppel FELS designs."

Operations Review & Outlook

Leveraging the synergy of Keppel O&M's global yard resources, Keppel Nantong Shipyard supported Keppel Singmarine in building two of the three ice-class vessels that Bumi Armada contracted the latter to construct.

Leveraging the synergy of Keppel O&M's global yard resources, Keppel Nantong Shipyard supported Keppel Singmarine in building two of the three ice-class vessels that Bumi Armada contracted the latter to construct. They are both built to the proprietary design of Keppel O&M's ship design and development arm, Marine Technology Development (MTD).

After delivering Giant 5, a crane barge, to Boskalis on time, on budget and with a perfect safety record in 2014, Keppel Nantong Shipyard leveraged the experience of Giant 5 to deliver crane barge, Giant 6, to Boskalis ahead of schedule, within budget and with a perfect safety record in 2015. The third vessel in the series, Giant 7, was also delivered in the same year. With these deliveries, Keppel Nantong Shipyard has successfully built nine vessels in all for Boskalis.

To increase their capabilities in the construction of larger and heavier vessels, Keppel Nantong Shipyard is planning

to build a new airbag launching slipway and is working with Chinese government agencies to obtain the necessary approvals in 2016.

Keppel Nantong Heavy Industry

Now into its third year of operations, Keppel Nantong Heavy Industry (KNHI) continued to provide strong support for Keppel O&M's offshore projects. The majority of the yard development work has been completed, including the new slipway which was put to good use during the year for launching the pontoons and lower columns of a semi. During the year, KNHI delivered an estimated 21,000 tonnes of jackup and semi rig components.

To strengthen its operations and capabilities, KNHI set up an engineering department in 2015. It also enhanced its project management capabilities by obtaining the Enterprise Management Category A certification from the Chinese Customs, which will facilitate customs clearance of foreign imported equipment and material.

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Keppel Batangas Shipyard

Keppel Batangas Shipyard (Keppel Batangas) repaired 49 vessels comprising 42 domestic vessels and seven foreign vessels in 2015. A number of these projects were high-value repair jobs for tankers, passenger ferries, Roll-on/Roll-off and cargo vessels from repeat customers such as Negros Navigation, Magsaysay and Translift.

During the year, Keppel Batangas enhanced its facilities to achieve a higher level of efficiency, safety and security to better support Keppel Singmarine as a production centre. For instance, the shipyard installed a new 300-tonne gantry crane for newbuilding projects and an additional luffing crane with 50-tonne lifting capacity at the graving dock.

The yard layout has also been modified to improve workflow. The constant review and streamlining of procedures have helped to improve productivity and reduce costs. As a reflection of their commitment to improve work processes and safety, the shipyard recorded 2.7 million safe man-hours without lost time incidents (LTI) for 2015.

Keppel Subic Shipyard

Keppel Subic Shipyard achieved a significant milestone in 2015 when it delivered a Depletion Compression Platform (DCP) to Shell Philippines Exploration (SPEX) for the Malampaya Phase 3 project in February. The DCP is the first such platform to be fully constructed in the Philippines and was delivered to SPEX bearing Keppel's hallmark execution excellence of being on time and with zero LTI.

Since the delivery, Keppel Subic Shipyard continued to engage SPEX on future potential offshore fabrication projects with local content. The strong trust developed saw SPEX subsequently award Keppel Subic Shipyard a repair job for an offshore mooring buoy and a contract for the storage of a calm buoy. The shipyard will capitalise on the upgraded yard facilities, especially the 1,500-tonne gantry crane, that were installed for the DCP project to secure projects that require moving bigger blocks with less integration joints.

01 The management and directors of Bumi Armada, Lukoil and Keppel O&M celebrating the triple naming of ice-class vessels Bumi Uray, Bumi Pokachi and Bumi Naryan-Mar.

02 Management and project teams from Keppel O&M, Keppel Nantong Shipyard and Boskalis celebrating the launch of crane barge Giant 7.

Operations Review & Outlook

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In the ship repair segment, Keppel Subic Shipyard completed three major repair jobs, namely a main engine crankshaft replacement job for a bulk carrier, repair and life extension for a cement carrier and hull bottom renewal and preservation works for a power barge.

Keppel Subic Shipyard repaired a total of 58 vessels in 2015, an improvement from the 36 vessels in 2014. Although the number of repair jobs had increased, profit margins were under pressure as price competition from international ship repairers intensified. Amidst the bustling yard activities, the shipyard achieved over 4.8 million safe man-hours without LTI in 2015.

Looking ahead, Keppel Subic Shipyard will continue to maintain and expand its client base in the ship repair segment. The yard will also collaborate with sister yard, Keppel Shipyard, to secure bigger projects such as FPSO and other marine conversion projects.

Americas Yards Keppel FELS Brasil

Brazil's offshore and marine industry is facing a confluence of challenges, including low oil prices, tightening liquidity as well as corruption allegations against Petrobras and its business partners. As a result, all stakeholders along the supply chain, including Keppel FELS Brasil, have been impacted to varying degrees. Against this backdrop, Keppel FELS Brasil is carefully managing its resources and costs to tide through this difficult period and sustain its operations in Brazil.

The challenges notwithstanding, BrasFELS, Keppel FELS Brasil's yard in Angra dos Reis (Rio de Janeiro), remains committed to executing projects to its customers' satisfaction. One of the major projects completed in 2015 was the integration works for FPSO Cidade de Itaguaí MV26,



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01 Keppel Subic Shipyard successfully delivered Shell's Depletion Compression Platform, which is now installed in the West Philippine Sea off the coast of Palawan, Philippines.

02 BrasFELS delivered FPSO Cidade de Itaguaí MV26 (left) safely and ahead of schedule to MODEC and Toyo Offshore Production Systems (MTOPS).

which is the shipyard's fifth FPSO delivery since 2010. All five projects were completed safely and ahead of schedule.

The shipyard also completed a number of repair projects, which included semi ENSCO 6002 for Ensco, semi ODN Tay IV for Odebrecht, pipelaying support vessel Top Coral do Atlantico for Technip/Odebrecht, and semi Norbe VI for Odebrecht. In December 2015, BrasFELS performed offshore support services for Transocean's rig, Deepwater Navigator. The job was completed in January 2016.

In terms of ongoing projects, BrasFELS is undertaking two FPSO projects, P-66 and P-69, for Petrobras. The shipyard's workscope for both FPSO projects comprises the fabrication and integration of certain modules. Towards the end of 2015, BrasFELS secured another FPSO integration and commissioning project from MODEC and Toyo Offshore Production Systems (MTOPS). To be deployed in the Lapa field of Santos Basin,

Brazil, the FPSO will arrive at BrasFELS in 2Q 2016.

With regards to the Sete Brasil projects, BrasFELS had stopped construction of the semis by the end of 2015 as a result of continued payment delays by the customer. On average, the construction of the first four semis had progressed by less than 4% each quarter since the start of 2015. Of the six projects, which are being constructed modularly in Singapore and Brazil, only the first two rigs are in the most advanced stages.

Notwithstanding the current challenges, in the long term, Brazil remains an important oil and gas market given its significant offshore oil and gas reserves. Some of the world's largest oil discoveries in recent years were made in offshore Brazil. BrasFELS remains committed to differentiating itself by focusing on safe, on time and within budget deliveries, and continues to actively pursue rig and offshore supply vessel repair projects.

Operations Review & Outlook



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Keppel AmFELS is building one of the world's largest land rigs, which is a natural extension of its jackup construction business.

Keppel Singmarine Brasil

Keppel Singmarine Brasil delivered the final harbour tug in a series of six for Rebras-Rebocadores do Brasil (SMIT Rebras) in 1Q 2015. The yard continues to focus on completing two platform supply vessels for Guanabara Navegacao Ltda. The official sea trials for the two vessels were conducted in May and September 2015 respectively.

Keppel AmFELS

Drilling activities in the Gulf of Mexico slowed down in 2015, with rig utilisation dropping to below 50% and the number of rigs that got stacked increasing. Keppel AmFELS remained steadfast in executing its backlog as well as carrying

out yard upgrades prudently to improve its capabilities and productivity.

During the year, Keppel AmFELS was kept busy completing three repair jobs. The first repair job involved the inspection, repair, testing and painting of the semi Q4000 that was previously built by Keppel AmFELS in 2002. The other two jobs were for a longstanding customer, Noble Drilling, to upgrade their semi, Noble Paul Romano, for its future deployment in the Gulf of Mexico. The yard's job scope includes removing equipment such as the bow crane, living quarters, helideck and lifeboat davits from another semi, the Noble Jim Thompson, and installing them on Noble Paul Romano.

01 Keppel AmFELS harnesses the strength of its floating dry dock and floating crane to undertake thruster repairs and replacements for the semi Q4000.

02 Keppel Shipyard is currently performing the conversion of Golar LNG's LNG carrier, the HILLI, into a FLNG vessel, as seen in this artist impression.

As for newbuilds, Keppel AmFELS is currently constructing one of the world's largest land rigs. The project has clocked 1.5 million manhours without LTI as at end 2015. The foray into constructing a land rig is a natural extension of Keppel AmFELS' jackup construction business which enables Keppel AmFELS to glean valuable experience from building land rigs. The yard is also currently constructing its fifth jackup for Perforadora Central. Built to the KFELS B Class design, work on the rig is progressing safely and it is on track for delivery in 2Q 2016.

Facility upgrades during the year included the repair and maintenance of the floating dry dock. To further improve its processes, Keppel AmFELS rolled out various measures to improve productivity and reduce wastage during the year.

The Port of Brownsville is currently looking at plans to deepen the Brownsville Ship Channel which would allow deep draft semis to transit to Keppel AmFELS for yard work. This bodes well for the shipyard as it could potentially secure more repair and upgrade works in the future.

Caspian Yards

Caspian Shipyard Company

Caspian Shipyard Company secured two major upgrade contracts in 2015, including the Istiglal semi upgrade contract awarded by Caspian Drilling Company (CDC) and the STB-1 barge strengthening contract awarded by BP. Both CDC and BP are repeat customers.

The Istiglal upgrade project will be completed in May 2016 while the STB-1 barge strengthening project will be completed in early April 2016. The construction of Azerbaijan's first modern semisubmersible rig is progressing well at Caspian Shipyard Company. The semi, which is being built to Keppel FELS' proprietary DSS™ 38M design, is scheduled for delivery at end 2016.

Third FLNG Conversion for Golar

In July 2015, Keppel Shipyard signed a contract worth approximately US\$684 million with Golar Gandria N.V., a subsidiary of Golar LNG, to perform the conversion of a Moss-type Liquefied Natural Gas (LNG) carrier, the GANDRIA, into a Floating Liquefaction (FLNG) vessel.

The award of the conversion of the GANDRIA marks the exercise of the second of two options, which were part of a contract awarded by Golar to Keppel Shipyard for the conversion of the Moss LNG carrier, the HILLI, into a FLNG vessel.

Mr Michael Chia, MD (Marine & Technology), Keppel O&M, said, "We are extremely pleased to be executing a third FLNG conversion contract. Together with Golar and our partner Black & Veatch, we are confident of delivering these projects within the budgeted time and cost.

"FLNG vessels are set to reduce the cost and time required to monetise and deliver offshore gas to market. This third FLNG contract re-validates our delivery timeframes and price levels, further demonstrating the technical and commercial competitiveness, and lower implementation risks inherent in our solution."

Mr Gary Smith, CEO, Golar LNG, said, "We are happy to deepen our collaboration with Keppel whose impressive track record with innovative and sophisticated conversion projects will help Golar provide a fast-track and cost effective liquefaction solution to our clients looking to develop their natural gas assets. Keppel has successfully performed the conversions of three of our LNG carriers to Floating Storage and Regasification Units in the past. We are now on track to repeat that success in our floating liquefaction efforts as well."

Full construction activities on the GANDRIA will only commence after Keppel Shipyard has received a notice to proceed.

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Baku Shipyard

Baku Shipyard had a busy year in 2015. The shipyard secured and completed 31 repair/upgrade projects, among which was the upgrading of the semi, Dada Gorgud, for CDC.

Baku Shipyard also successfully performed the first-of-its-kind “dry mating” of the hull strips constructed by Keppel Singmarine with the bow block it constructed. The project achieved one million man hours without LTI as at end 2015.

During the year, Baku Shipyard continued to streamline its cost structure and stepped up its marketing efforts to capture opportunities in the region. The shipyard also focused on grooming and training the local workforce, and launched several in-house training programmes in electrical and steel works.

Europe Yard Keppel Verolme

With the biggest drydock in Europe, Keppel Verolme is well equipped and has the competency to execute repair and

upgrade work for a wide array of vessels and offshore structures.

The shipyard delivered several key repair jobs to the satisfaction of clients during the year, including the semi, Stena Don, which underwent its regular SPS as well as thruster overhauls and a repaint. The rig last visited Keppel Verolme for a dry-docking, inspection and maintenance programme in 2010.

Since securing a permit to decommission rigs in 2013, Keppel Verolme has been actively tendering for decommissioning jobs. Given the number of ageing platforms in the North Sea, decommissioning is potentially a new revenue stream for Keppel Verolme.

Middle East Yards Arab Heavy Industries

Providing the entire spectrum of ship repair, conversion, shipbuilding and steel fabrication services to the marine, offshore and engineering industries, Arab Heavy Industries (AHI) in the United Arab Emirates is the preferred partner in the regional ship repair market.

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01 President of Azerbaijan, Mr Ilham Aliyev (extreme left), being briefed on the progress of the country's first modern semi by the heads of Caspian Drilling Company, State Oil Company of Azerbaijan, and Caspian Shipyard Company, at the 22nd Caspian Oil and Gas exhibition.

Major Projects Delivered In 2015

	Quarter	Type	Customer	Shipyard
Offshore				
Newbuilds and Integration				
YUNUEN	1Q	KFELS B Class jackup	PEMEX	Keppel FELS
Maersk Integrator	1Q	Ultra harsh environment jackup	Maersk Drilling	Keppel FELS
PV Drilling VI	1Q	KFELS B Class jackup	PV Drilling	Keppel FELS
ENSCO 110	1Q	KFELS B Class Bigfoot jackup	Ensco	Keppel FELS
KUKULKAN	1Q	KFELS B Class jackup	PEMEX	Keppel FELS
Prime Exerter	1Q	Jackup integration	Primepoint	Caspian Shipyard Company
Floatel Endurance	2Q	Accommodation semisubmersible	Floatel International	Keppel FELS
Depletion Compression Platform	2Q	Depletion compression platform	Shell Philippines Exploration BV	Keppel Subic Shipyard
UMW Naga 8	3Q	KFELS B Class jackup	UMW	Keppel FELS
ARABDRILL 70	4Q	KFELS B Class jackup	Arabian Drilling Co.	Keppel FELS
Upgrading and Repairs				
Hercules Triumph	1Q	Jackup repair	Hercules Offshore	Keppel Verolme
Ensco DS-9	2Q	Drillship upgrade	Ensco	Keppel FELS
Stena Clyde	2Q	Semisubmersible upgrade	Stena Drilling	Keppel FELS
Paragon B391	2Q	Jackup repair	Paragon Offshore	Keppel Verolme
Deepwater Nautilus	3Q	Semisubmersible repair	Transocean	Keppel AmFELS
ENSCO 6002	3Q	Semisubmersible repair	Ensco	Keppel FELS Brasil
Stena Don	4Q	Semisubmersible repair	Stena Drilling	Keppel Verolme
Paul B. Loyd Jr.	4Q	Semisubmersible repair	Transocean	Keppel Verolme
Marine				
Conversions, Repair and Upgrade				
Ningaloo Vision	1Q	FPSO upgrade	Apache Energy	Keppel Shipyard
FSO Gaza	1Q	Turret fabrication	Emas AMC	Keppel Shipyard
Cidade de Itaguai MV26	2Q	Integration of topside modules	MTOPS	Keppel FELS Brasil
Ichthys	2Q	Turret fabrication	SBM Offshore	Keppel Shipyard
Tullow	2Q	Turret fabrication	SOFEC	Keppel Shipyard
Turritella	3Q	FPSO conversion and turret fabrication	SBM Offshore	Keppel Shipyard
Oleg Strashnov	4Q	Heavy vessel repair	Seaway Heavy Lift	Keppel Verolme
Belford Dolphin	4Q	Drillship repair	Dolphin Drilling	Keppel Shipyard
Newbuild Vessels				
Giant 6	1Q	Crane barge	Smit Shipping (Boskalis)	Keppel Nantong Shipyard
SST PARINTINS	1Q	Tug	Smit Rebras	Keppel Singmarine Brasil
Asian Hercules III	2Q	Floating sheerleg crane	Asian Lift	Keppel Nantong Shipyard
Bumi Naryan-Mar	3Q	Ice-class multi-purpose duty rescue vessel	Bumi Armada Berhad	Keppel Singmarine
Bumi Uray	3Q	Ice-class supply vessel	Bumi Armada Berhad	Keppel Singmarine
Bumi Pokachi	3Q	Ice-class supply vessel	Bumi Armada Berhad	Keppel Singmarine
Giant 7	4Q	Crane barge	Smit Shipping (Boskalis)	Keppel Nantong Shipyard

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01 Repeat customer Stena Drilling regularly sends its rigs such as Stena Don to Keppel Verolme for repairs and upgrading.

02 Apart from LNG bunkering, Keppel O&M is able to meet the needs for sustainable shipping with solutions such as tug designs with dual-fuel LNG diesel engines.

In 2015, AHI successfully repaired 138 vessels for a mix of international clients including Boskalis, Smit Lamnalco, Swire Pacific, McDermott International, Hercules Offshore and Van Oord Ship Management, as well as local customers including Middle East Dredging Co. and IRSHAD. AHI also commenced construction for a newbuild Self-Installing Platform for TOA Corporation during the year.

Nakilat-Keppel Offshore & Marine

Versatile and equipped with modern facilities, Nakilat-Keppel Offshore & Marine (N-KOM) has the capability to deliver a diverse range of offshore and marine solutions, which can be seen in the wide array of projects completed during the year.

These projects included the first liftboat unit that was built in Qatar for Gulf Drilling International; two floating jetties for Qatar Primary Materials Company; the world's first MEGI (Main Engine Gas Injection) conversion of a Nakilat Qatar-Max (Q-Max) LNG carrier to run on LNG as an alternative fuel; the construction of jackets, piles and a bridge for Technip; and a second Ballast Water Management System installation on a vessel. Leveraging its expertise in construction, N-KOM also managed to win an order for the fabrication of 16 bitumen storage tanks.

In the repair segment, N-KOM's share of the region's repair market rose from 18% in 2014 to 23% in 2015. N-KOM's marketing efforts for its tanker services also paid off as the shipyard tripled its tanker repair

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business in 2015. Since its inauguration in end 2010, N-KOM has been steadily establishing itself as the leading repair centre in the region, especially for gas carriers. To-date, the shipyard has undertaken more than 500 repair projects for the offshore, marine and onshore industry, with over 100 being repairs of gas carriers.

N-KOM's newly-built floating dock received its first vessel during the year. The floating dock is the largest of its kind in the world, measuring 405 metres in length and 66 metres in width. With a lifting capacity of 120,000 tonnes and the capability of accommodating Q-Max Very Large Crude Carriers, the floating dock helps to strengthen the yard's position as a leading provider of repair and maintenance services in the Persian Gulf region.

N-KOM received a number of awards and accolades during the year, which included an award from Arabian Business in recognition of its contributions to the local industry, the Ship Repair Innovation award at the Seatrade Maritime Awards Middle East, Indian Subcontinent & Africa 2015 and the Ship repair/Shipyard Facility of the Year award at the Maritime Standard Middle East & Indian Subcontinent Awards 2015.

Support Services

Asian Lift

Asian Lift faced a challenging year in 2015 because of the subdued oil and gas market.

Nevertheless, Asian Lift took the opportunity to enhance its capabilities for the upturn when it added Asian Hercules III to its fleet. A naming ceremony for Asian Hercules III, which is the largest and most versatile heavy-lift sheerleg crane of its kind in the world, was held in May 2015. Asian Hercules III took on its first assignment when it was deployed alongside



02

Keppel and BG Group Win Licence to Provide LNG Bunkering Service

At the start of 2016, Keppel O&M and BG Group, which is now part of Shell, secured the licence to supply Liquefied Natural Gas (LNG) bunker to vessels in the Port of Singapore. The joint bid submitted by Keppel O&M and BG Group for the LNG bunker supplier licence is one of the two bids selected by the Maritime and Port Authority of Singapore (MPA). The awarding of the licence is in line with the Port of Singapore's plans to launch the LNG Bunkering Pilot Programme in 2017.

Having secured the licence, Keppel O&M and BG Group will work on forming a 50-50 joint venture to deliver an end-to-end bunkering solution using LNG sourced from BG Group's diversified LNG portfolio and leveraging Keppel O&M's expertise in LNG vessel servicing.

Mr Chow Yew Yuen, Chief Executive Officer, Keppel O&M, said, "The move into LNG bunkering is in line with Keppel's strategy to provide solutions for the global LNG market, and we are happy to partner BG Group in this exciting new venture. As the exclusive gas aggregator for Singapore, BG Group has the experience of importing LNG into Singapore where they already have a ready supply on Jurong Island.

"Together with Keppel's years of experience and expertise in servicing vessels including gas carriers, we will be able to provide strong support to MPA in its goal to develop Singapore into a key LNG bunkering hub in Asia. As the shipping industry's demand for green solutions continues to rise, we will also be able to help meet the needs for sustainable shipping with our growing LNG solutions, such as tug designs with dual-fuel diesel LNG engines and the retrofitting of vessel engines to run on LNG."

Operations Review & Outlook

The addition of the high-capacity Asian Hercules III would broaden Asian Lift's market coverage and enable it to seize opportunities such as offshore installations and decommissioning work.



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Asian Hercules II to carry out a tandem lift for the 5,300-tonne upper hull of an accommodation semi for Keppel FELS.

With Asian Hercules III, Asian Lift's fleet size increased to a total of five sheerleg cranes, including the 400-tonne Asian Helping Hand III, the 1,600-tonne Asian Hercules and the 3,200-tonne Asian Hercules II. The addition of the high-capacity Asian Hercules III will broaden Asian Lift's market coverage and enable it to seize opportunities such as offshore installations and decommissioning work, which are outside its traditional markets.

Keppel Smit Towage/ Maju Maritime

In Singapore, the volume of towage work from offshore yards and the spot market had decreased substantially while pricing had been under pressure. The challenging environment notwithstanding, Keppel Smit Towage continued to retain its existing harbour towage clients while attracting new ones.

Keppel Smit Towage also faced headwinds in Indonesia and Malaysia's time charter markets because of rising competition amidst challenging market conditions. Business in China was also weak amidst a slowing economic environment. On the other hand, business was robust in Taiwan.

Looking ahead, Keppel Smit Towage will continue to focus on maintaining revenue streams while controlling costs. A well-maintained fleet and strong track record will work well to Keppel Smit Towage's advantage.

Regency Steel Japan

Regency Steel Japan (RSJ)'s core competency is in producing high quality racks and chords for jackup rigs. In 2015, it produced eight sets of rig racks and chords for Keppel FELS.

With the rig market facing a downturn, RSJ had stepped up on sales efforts in the domestic market and secured almost twice the amount of domestic orders

Operations Review & Outlook

in 2015 compared to the previous year. It manufactured two convertors for Nippon Steel and Sumitomo Metal Corporation Kimitsu Works, steel blast furnace components for Nippon Steel and Sumitomo Metal Corporation Oita Works and four sets of retort for Titanium Mill.

Industry Review & Outlook

Although the decline in oil prices started almost two years ago in June 2014, there is still no visibility of a steady recovery in sight, especially when a number of key developments in 2015 increased the volatility of market conditions.

China, the world's biggest energy consumer, recorded an economic growth of 6.9% in 2015, its slowest in 25 years. According to the International Energy Agency (IEA), China's economy is undergoing a structural shift that encompasses a transition to a less energy-intensive growth model.

On the supply side, the Organisation of the Petroleum Exporting Countries (OPEC) continued to resist lowering its production

ceiling to defend its market share. The lifting of economic sanctions on Iran, which has capacity to export oil at current oil prices, also added pressure to the already oversupplied oil market. By IEA's estimate, Iran is expected to increase production from 2.8 million barrels per day (bpd) to about 3.5 million bpd within six months of the lifting of sanctions.

On the back of low oil prices and market uncertainty, many oil companies have reduced their capital expenditures and engaged in 'blend and extend' rig contract agreements, in which vessel owners agree to lower dayrates in exchange for a longer charter period.

In turn, several drilling contractors have scaled back their fleet renewal and expansion plans. Major contractors like Transocean and Ensco have delayed their newbuild deliveries, while many shipyards around the world are in discussion with customers over the cancellation or delay of projects. Contractors have also been stacking and scrapping rigs to lower their

01 *Asian Hercules III, the largest heavy-lift sheerleg crane of its kind in the world, can perform single lifts of up to 5,000 tonnes.*

02 *Keppel O&M will continue to look out for potential orders while executing its deliveries in 2016 in a timely manner.*



Operations Review & Outlook



01

01 Keppel O&M delivered the accommodation semi to Floatel on time, on budget and safely, and will continue to work closely with its clients to deliver quality products to their satisfaction.

02 Keppel O&M has the versatility and capabilities to design and build non-drilling products that are in demand, such as the liftboat, Al Safliya, that N-KOM built to the ORCA 2500 design developed by Keppel O&M's design arm, Bennett Offshore.

operating expenditure. Since June 2014, 14 jackups and 42 floaters have been removed from the global rig fleet.

Orders for production units also slowed down in 2015, as operators postponed investment decisions on the back of volatile oil prices. Decommissioning of older floating production systems in ageing fields had, on the other hand, increased.

Offshore Rigs

With the current low oil prices, the replacement cycle for ageing rigs could be accelerated with operators looking to scrap old and unproductive rigs rather than to maintain them. This will hasten a rebalance of demand and supply in the offshore market and should bode well for the rig market in the longer term.

The rig market in the Middle East has been resilient, with the number of employed rigs remaining constant. In addition, the lifting of

sanctions in Iran could bolster rig demand. In Mexico, the award of three shallow-water blocks by the country's Natural Hydrocarbons Commission is an encouraging sign and may stimulate demand for jackups and floaters eventually. Even with the current low oil prices, the long-term fundamentals of Mexico's offshore oil and gas industry remain strong. Keppel O&M is well-positioned to capture opportunities from the opening up of Mexico's oil and gas sector in partnership with national oil company PEMEX.

As rig demand continues to come from these regions and ageing rigs get stacked or scrapped, Keppel O&M will continue to look out for potential orders while executing its deliveries in 2016 in a timely manner. In the first three months of 2016, it has delivered the first two of five Grupo R jackups chartered by PEMEX for the Gulf of Mexico, a jackup rig and liftboat for Gulf Drilling International, and is on track to deliver an accommodation semi for Floatel in April.

With its extensive suite of proprietary solutions and prudent investment in Research & Development, Keppel O&M is able to serve a wide spectrum of customers in both drilling and non-drilling markets. Non-drilling solutions made up more than a third of Keppel O&M's orderbook as at end 2015. With its own series of liftboat and multipurpose vessel designs, Keppel O&M will be able to support its customers in the maintenance of most shallow water oil and gas fields.

Floating Production Units

It is estimated that more than half of the 251 floating production system projects under

planning are FPSO units and liquefaction/ regasification floaters. According to Douglas-Westwood, global LNG capital expenditure could reach as much as US\$259 billion by 2019. This would include spending on baseload onshore and offshore liquefaction equipment, LNG carriers and re-gasification facilities for onshore and offshore terminals.

Building on its experience and track record for complex offshore conversion projects, Keppel O&M is poised to become a total solutions provider for the LNG industry. In 2008, it successfully converted the world's first FSRU, which was closely followed by the

02



Operations Review & Outlook

award of two more FRSU projects. In 2014, it became the first shipyard to undertake the conversion of an FLNG vessel.

In recent years, the company has equipped itself to capture a wider range of opportunities in the gas business, expanding its offerings to include both onshore and offshore liquefaction as well as LNG transportation solutions.

LNG produces considerably lower emissions than conventional marine fuel and can significantly reduce a vessel's environmental impact. With the securing of the licence in February 2016 to supply LNG bunker to vessels in the Port of Singapore, Keppel O&M and BG Group, now part of Shell, will collaborate to deliver an end-to-end bunkering solution combining LNG sourced from BG Group's diversified LNG portfolio

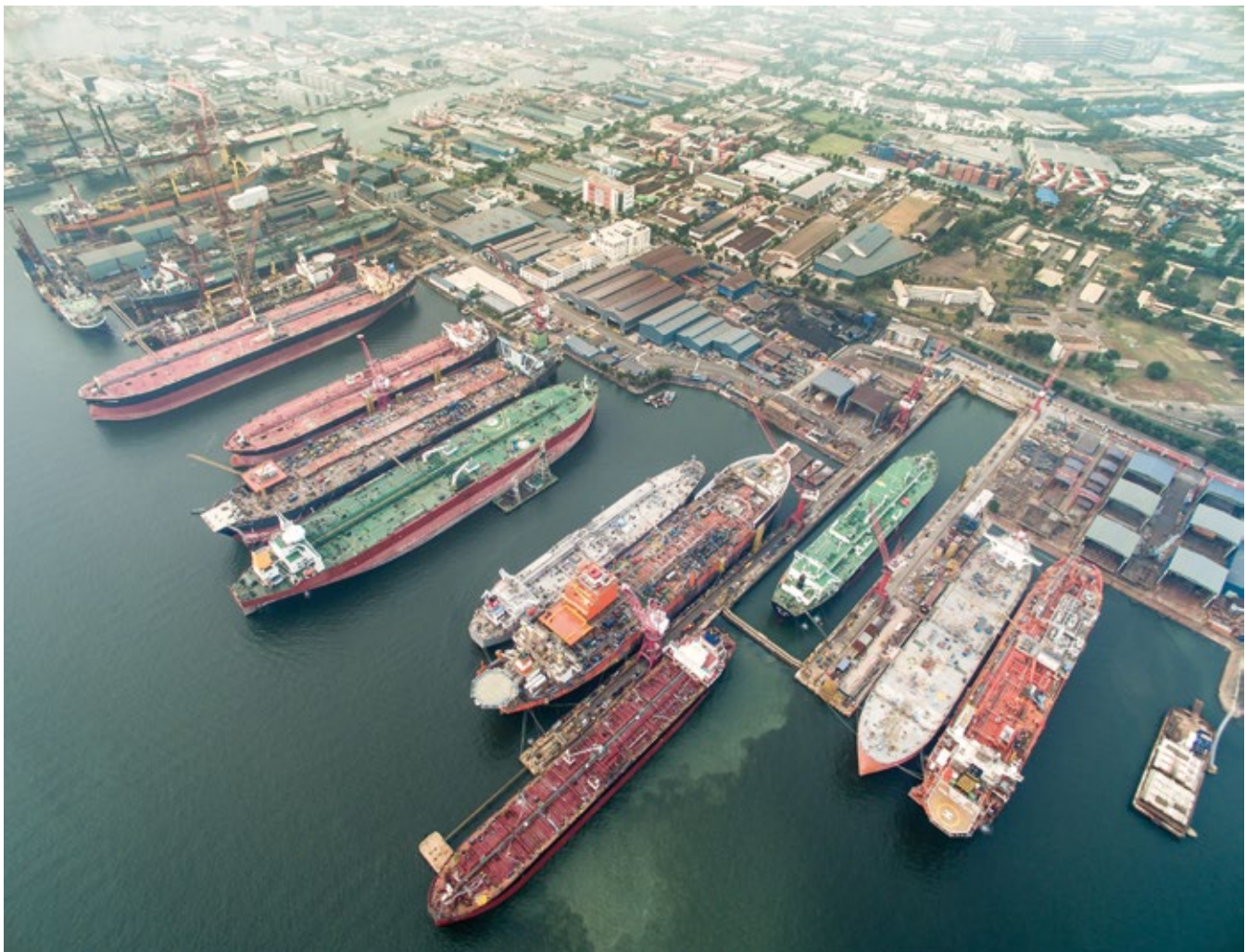
and Keppel O&M's expertise with LNG vessels. The first LNG bunker delivery is slated in 2017.

The prospect of supplying LNG as a fuel for ships in Singapore, one of the world's most strategic ports, is encouraging. As the shipping industry's demand for green solutions continues to rise, Keppel O&M will also be able to help meet the needs for sustainable shipping through offering solutions such as tugs designed with dual-fuel diesel LNG engines, as well as the retrofitting of vessel engines to run on LNG.

Looking ahead, Keppel O&M's concerted gas strategy and its enhanced suite of non-drilling solutions will help to mitigate the impact of weak demand for drilling rigs on the Group.

01 The marine division of Keppel O&M will look out for pocket of opportunities in retrofit work such as re-engining, dual-fuel conversion and installation of ballast water treatment systems.

02 Mr S Iswaran (centre with red tie), Singapore Minister for Trade and Industry (Industry), being briefed on Keppel's LNG solutions at Gastech 2015 Conference & Exhibition.





02

Ship Repair

The ship repair market outlook remains subdued as owners are likely to continue carrying out only essential works for their vessels given the poor market conditions, with the outlook for the merchant shipping market remaining languid.

Nevertheless, there are pockets of opportunity for retrofit work such as re-engining, dual-fuel conversion and installation of ballast water treatment systems. Keppel O&M will continue its efforts in retaining existing clientele while targeting new and non-regular clients to expand its ship repair market base.

Specialised Shipbuilding

The offshore supply vessel (OSV) market continues to be dragged down by the slowdown in drilling and offshore activities. In the North Sea, although spot rates improved in December 2015 as a large number of vessels were laid up, the inflow of OSVs into the region could continue to impact charter rates.

A growth area that Keppel O&M has positioned itself to capture in shipbuilding is the LNG market, which will grow as more vessel owners start to see natural gas as a viable alternative fuel source given its environmental benefits and the fact that an increasing number of countries are pushing for its use. The wide range of designs developed by Keppel O&M, which include barges, carriers and dual-fuel

tugs, will be able to readily meet the growing demand for LNG vessels.

Seizing Opportunities Amidst Challenges

The low oil prices we see today are not sustainable in the long run as oil and gas is expected to remain the key energy source for the world. According to a 2016 ExxonMobil report, the global demand for energy is expected to grow by 25% from 2014 to 2040, driven by population growth and the development of emerging economies. Natural gas is expected to meet about 40% of the growth in energy needs and demand for the fuel could increase by 50% in that period.

Amidst the market challenges, Keppel O&M will continue to look out for new opportunities and develop robust solutions for customers whose key focus is now on efficiency and cost savings. Keppel O&M will also continue to leverage its existing relationships with customers and industry partners to understand and anticipate market needs, and innovate in order to deliver value-added solutions. With a global network of yards, Keppel O&M is well positioned to tap demand in more resilient and often closed markets and regions which are less affected by the current low oil prices.

Technology & Innovation

Overview

Technology is a game changer in the industry and to stay ahead of the curve, Keppel Offshore & Marine constantly adapts and innovates to address the evolving needs and challenges of the market.

As a partner for solutions, Keppel Offshore & Marine (Keppel O&M) is continuously investing in Research & Development (R&D) while collaborating with oil majors, contractors and business partners to advance our technological capabilities and develop market-relevant solutions.

Against depressed market conditions, Keppel O&M has the versatility to leverage our deep industrial know-how to continuously develop better and more innovative solutions. With a slowdown in orders for drilling rigs, Keppel O&M is also actively exploring potential markets beyond drilling, where demand is expected to remain resilient.

Our continuous efforts in technology and R&D have enabled Keppel O&M to expand our suite of solutions and proprietary designs, including the world's first-of-its-kind FLNGV conversion for Golar LNG, the Plug & Abandonment jackup rig with Workfox B.V., the ORCA series of liftboat designs as well as our CAN DO Drillship.

With a strong head-start in innovation and technology, we will continue to pursue quality work and ventures that will grow the company into an even more formidable industry leader.

Areas of Competencies

In our pursuit of new concepts and products, Keppel O&M considers our customers' needs, the commercial viability of new ventures, as well as how we can grow our knowledge pool and achieve process improvements. Our technological innovation efforts are spearheaded by five divisions:

- Keppel Offshore & Marine Technology Centre (KOMtech) focuses on developing offshore and marine competencies and

conducting R&D to develop new technologies and processes

- Offshore Technology Development (OTD) employs the foremost technology in the design of a new generation of jackup rigs and critical rig components, including jacking, fixation, self-positioning and skidding systems, which are all used on Keppel FELS jackup rigs
- Deepwater Technology Group (DTG) focuses on deepwater rig designs, spanning semisubmersibles and various floating structures, such as drilling tenders, accommodation, drilling semisubmersibles and drillships
- Marine Technology Group (MTD) specialises in the design and development of offshore support and maintenance vessels and specialised ships for a variety of operating conditions globally
- Gas Technology Development (GTD) specialises in the development of a suite of gas solutions that can effectively bring Gas to LNG, LNG to Gas, LNG to Users, LNG to Power and also utilise LNG as Fuel.

Advancing Our Technological Capabilities

KOMtech engages in technology foresight to determine the likely technological developments in the near future. Based on the anticipated needs and demands of the market, we conceptualise next-generation solutions, as well as conduct R&D to create prototypes and collaborate with early adopters before the designs are handed over to the Keppel O&M business units for commercialisation.

KOMtech's research focuses on both deepwater technology and shallow water technology. The deepwater technology arm looks

Technology & Innovation

into areas such as seabed nodule harvesting, subsea, deepwater and ultra-deepwater drillships, ultra harsh environment drilling semisubmersibles (semis), tension leg platforms, innovative dry tree semisubmersibles (E-Semi), innovative ship designs and shipyard technology to improve shipyard processes and productivity.

The shallow water technology arm focuses on arctic jackup designs, offshore wind solutions, LNG applications and drilling solutions.

Innovative Designs
Ice-Class Vessel

Through our long-term investment in research and technology, KOMtech filled a gap in the market by developing ice-class designs for supply and multi-purpose duty rescue vessels.

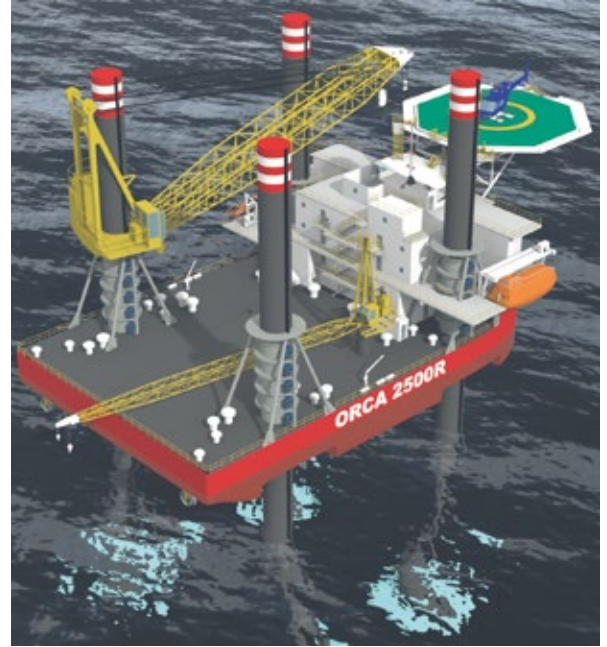
Prior to the development of these designs, there were no off-the-shelf ice-class vessel designs capable of meeting operational requirements in the North Caspian Sea. KOMtech designed

vessels that are equipped with robust ice-breaking capabilities and excellent calm water performance. These vessels are capable of breaking through open floating first-year ice of 600 to 800mm thick and 800 to 1000mm thick in shallow draft conditions.

Besides ice-class vessels, KOMtech also made progress in offshore oil rig designs, including automated high capacity rack and pinion elevating systems, versatile spudcan designs and automated self-positioning and skidding cantilevers.

New Liftboat Design

Through its design arm, Bennett Offshore, Keppel O&M also leveraged its jackup rig technologies and expertise to develop a series of liftboat designs, such as the ORCA 1500, ORCA 2500 and ORCA 3500. The ORCA series of liftboats can undertake a wide range of services, such as well servicing, commissioning, maintenance and decommissioning of offshore platforms.



01

Liftboats have increasingly been shown to be a more efficient alternative to traditional non-self propelled and self-elevating units. Its ability to mobilise without the assistance of support vessels

01 Keppel is currently building a second liftboat to the ORCA design, developed by Keppel O&M's design arm, Bennett Offshore.

KOMTech's Areas of Competencies

Deepwater Technology/Subsea



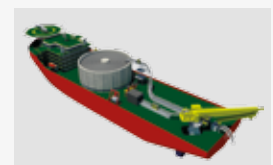
Shallow Water/Arctic/Wind



Drilling & Critical Equipment



Marine Technology



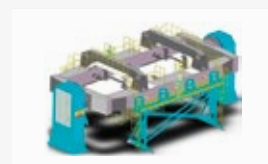
LNG/FPSO



Environmental



Shipyard Technology



Technology & Innovation

KOMtech works closely with key business leaders and academic forerunners in order to develop innovative solutions that are commercially viable and adaptable to the needs of the industry.



01

makes it versatile, cost-effective, and suitable for a wide range of shallow water offshore operations. By customising liftboats with different tonnage cranes on deck, they can undertake the maintenance of most shallow water oil and gas fields and wind farms, as well as various workover drilling operations and well intervention applications. The self-elevating feature of the liftboat also provides a stable, safe and efficient work environment by raising the working areas above the influence of wave action.

Mid-Water Semisubmersible

To provide a robust and cost effective mid-water drilling solution, Keppel O&M developed the mid-water semisubmersible that is designed for harsh environment operations in UK North Sea (West of Shetlands), East Canada and Australia. On top of offering superior motion characteristics and mitigating low frequency roll motions, it also has a higher deck load and capacity, as well as enhanced safety and operational performance.

LNG Value Chain

Reports indicate that capital expenditure is expected to amount to \$65 billion from 2014 to 2020 in the floating Liquefied Natural Gas (LNG) market. We therefore brought together our R&D capabilities and marine conversion expertise to develop a suite of gas solutions that can effectively bring LNG to Gas, Gas to LNG, LNG to Users, and LNG to Power and utilise LNG as Fuel.

Keppel Shipyard is currently leveraging its expertise in conversion to undertake the world's first-of-its-type Floating Liquefaction vessel conversion. Our specialised shipbuilding unit, Keppel Singmarine, and ship design arm, Marine Technology Development, have also developed proprietary designs for LNG carriers, barges and tugs which can meet the downstream needs of delivering LNG efficiently to the end markets.

Through our design and technology units, we have also developed Keppel's proprietary

Technology & Innovation

natural gas liquefaction technology, PreNEX (Pre-cooled Nitrogen Expansion). It offers a simple, safe and reliable alternative to other nitrogen expansion processes, and can be employed for offshore and onshore purposes, such as Floating Liquefaction (FLNG) and land-based liquefaction facilities.

For its design of an Azimuth Stern Drive (ASD) tug with a 65-tonne bollard pull capacity which can run on both LNG and diesel fuel, KOMtech was awarded the Outstanding Maritime R&D and Technology Award in April 2015 by the Maritime and Port Authority of Singapore (MPA).

KOMtech's new tug design project is a wholly in-house R&D effort and the tug uses LNG, a greener and cheaper fuel than the current marine fuel oil. The dual-fuel engine tug design

is developed at a time when natural gas is rising in importance as an energy resource and alternative marine fuel globally. KOMtech's focus on LNG solutions is also in line with MPA's objective of establishing Singapore as an LNG bunkering port by 2020.

Apart from the LNG vaporiser and LNG Fuel Gas Systems (LFGS), KOMtech also incorporates smart designs into its tug to enhance safety and comfort. For instance, the LNG vent and piping are arranged in such a way that the accommodation quarters in the lower deck area are situated away from the potential danger zone.

The LNG fuel is also carried in containerised, type-C ISO-certified tanks on the main deck, and re-fuelling can be as simple as replacing the empty tanks with replenished ones.

01 *The mid-water semisubmersible is a robust and cost effective drilling solution that is suitable for harsh environment operation.*

02 *Keppel Singmarine's delivery of two ice-class supply vessels and one ice-class multi-purpose duty-vessel bears testimony to KOMtech's efforts in furthering ice-class vessel technology.*

02



1 Platform Supply Vessel

3 Specialised Vessels

5 Submersible

7 Semisubmersible Support and Maintenance Unit

9 Semisubmersible Drilling Tender (SSDT)

11 Drillship

13 Floating Production Storage and Offloading Facility (FPSO)

15 Floating Storage and Re-gasification Unit (FSRU)

17 Floating Liquefied Natural Gas Facilities (FLNG)

19 Icebreaker

2 Anchor Handling Tug/Supply Vessel (AHTS)

4 Semisubmersible Accommodation Unit (SSAU)

6 Multi-Purpose Self-Elevating Platform (MPSEP)

8 Jackup Rig

10 Semisubmersible Drilling Rig

12 Extended Tension Leg Platform (ETLP)

14 SPAR

16 Semisubmersible Floating Production Unit (FPU)

18 Ice-class Floating Storage Offloading vessel (FSO)

20 Ice-worthy Mobile Offshore Drilling Unit

1 Platform Supply Vessel
(All waters)
• Specially designed to supply offshore oil platforms
– 4500 Dwt PSV

3 Specialised Vessels
(All waters)
• Pipe Laying Vessel
• Diving Support Vessel

5 Submersible
(Shallow water <30 ft)
• Mobile unit which sits entirely on the seabed during operation

7 Semisubmersible Support and Maintenance Unit
(Deep water)
• A floating platform to support maintenance and upgrading works for FPSOs, with high operation uptime.
– SMART Semi

8 Jackup Rig
(Shallow water – 500 ft)
• Self-elevating mobile drilling unit that stands on its legs on the seabed during operation
– KFELS MOD VI
– KFELS A Class
– KFELS B Class
– KFELS Super A Class
– KFELS Super B Class
– KFELS C Class
– KFELS G Class
– KFELS N Class
– KFELS N Plus
– KFELS J Class
– KFELS E Class

9 Semisubmersible Drilling Tender (SSDT)
(Deep water – 6,000 ft)
• A floater that operates alongside SPARs and Tension Leg Platforms
– SSDT™ 5000NG
– SSDT™ 3600E

10 Semisubmersible Drilling Rig
(Deep water – 10,000 ft)
• A floating unit which can perform deepwater drilling operations
– DSS™ 20
– DSS™ 38
– DSS™ 38M
– DSS™ 51
– DSS™ 38E
– DSS™ 51 HE
– DSS™ 60 HE
– SSDU 5000

11 Drillship
(Ultra-deep water – 12,000 ft)
• Able to undertake ultra-deepwater drilling
– CAN-DO Drillship

12 Extended Tension Leg Platform (ETLP)
(Deep water – 8,000 ft)
• A vertically moored floating structure used for the production of oil or gas

13 Floating Production Storage and Offloading Facility (FPSO)
(Deep water)
• Ship-shaped facility used for the processing of oil or gas, storage and offloading of oil or condensate

14 SPAR
(Deep water – 8,000 ft)
• A large cylindrical unit which supports a rig platform, and anchors it to the seafloor using cables and chains

15 Floating Storage and Re-gasification Unit (FSRU)
(All waters)
• Able to receive LNG from a carrier, re-gasify to natural gas and send out through risers and pipelines

16 Semisubmersible Floating Production Unit (FPU)
(Deep water)
• A floating platform used to produce oil and gas in deepsea
– DeepDraft Semisubmersible

17 Floating Liquefied Natural Gas Facilities (FLNG)
(All waters)
• Able to treat and liquefy Natural Gas as well as store and transfer LNG at sea

18 Ice-class Floating Storage Offloading vessel (FSO)
(All waters)
• Ice-resistant vessel that receives crude oil from a fixed platform and offloads it to shuttle tankers

19 Icebreaker
(All waters)
• A support vessel that forges passages through icy waters

20 Ice-worthy Mobile Offshore Drilling Unit
(Shallow water – 180 ft)
• Able to operate in the harsh Arctic region
– Gemini

Technology & Innovation

To stay updated on the latest industry offerings, Keppel O&M continually engages forerunners in the fields of business and academia.

Strengthening Industry Partnerships

Since its establishment in 2007, KOMtech has been actively engaging and collaborating with many industry partners and academic institutes. Keppel and the National University of Singapore (NUS) set up the Keppel-NUS Corporate Laboratory in 2013 to create a synergistic industry-university partnership to pursue three major research thrusts to address future challenges of the offshore industry: Future Systems, Future Yards and Future Resources.

Future Systems

The research focus under the Future Systems thrust looks at two main themes: deepwater technology and arctic technology.

Under deepwater technology, the Corporate Laboratory is conducting research on semisubmersible hull optimisation. This project studies methods to enhance the design and construction of the next-generation deepwater platforms, with an optimised plan for minimised motions and wave drift force in waves, reducing wind and current loads. The results have then been introduced in Keppel O&M's semisubmersible designs.

Future Yards

This research thrust focuses on productivity enhancements for yard operations to reduce reliance on manual labour in the yards.

With the shortage of highly-skilled welders who are willing to work in a shipyard environment, another research focus is the study of high-value steel work fabrication in the offshore industry, such as brace-to-chord joints of jackup leg structures commonly used in offshore rigs.

Future Resources

The research thrust under Future Resources focuses on Deepsea Nodule Collection to develop core competencies in environmentally-benign exploration and exploitation of mineral resources in the deep ocean.

Researchers from the Tropical Marine Science Institute (TMSI), Keppel-NUS Corp Lab and Ocean Mineral Singapore (OMS) were onboard the US vessel R/V Thomas G. Thompson to participate in a 43-day joint expedition environmental survey cruise in 2015.



Technology & Innovation

01 The Keppel-NUS Corporate Laboratory pursues three major research thrusts: (clockwise from left) Future Systems (Deepwater Technology and Arctic Technology), Future Resources, (Deepsea Mining, including research on polymetallic nodules) and Future Yards (Robotics and Automation).

02 Professor Stefan Thomke (standing), a member of the Keppel Technology Advisory Panel, shared on innovation management during the two-day workshop with Keppel O&M's senior management and employees.



02

The expedition saw researchers surveying the polymetallic-nodule claim areas in the Clarion-Clipperton Fracture Zone in the tropical East Pacific Ocean. Biological, geological and oceanographic data were obtained and biological samples, nodules, sediment and photographs of the seabed were collected.

Deepening Industry Knowledge

To keep up to date with the latest industry offerings, Keppel O&M continually engages forerunners in the fields of business and academia with the Keppel Technology Advisory Panel (KTAP). During these meetings, KTAP members bring to the table the latest in their respective fields, which have contributed to Keppel's innovation and technology over the years.

In conjunction with the 18th KTAP meeting in Singapore on 17 November 2015, KTAP member, Professor Stefan Thomke, conducted a two-day workshop on the dynamics and processes of innovation. His sharing centred on three main topics, namely innovation systems, leadership and sustainable growth. Participants, including Keppel O&M's senior management, brainstormed action plans, including creative ideas for reusing materials at the shipyard.

Separately, Keppel O&M hosted a delegation from the ISO Technical Committee for Offshore Structures on 20 January 2016 to exchange ideas on how technological innovations can improve work processes in the offshore and marine industry. Following a robust discussion on production and engineering automation, the delegates toured the yard to better understand operations within the facility.

Sustainability Report

Keppel Offshore & Marine believes that what is good for the community is good for our business. We are committed to conducting our operations in a sustainable and socially responsible manner which positively impacts society, the community, the environment, employees and all other stakeholders.

Sustaining Growth



The success of our business is underpinned by an unwavering focus on Health, Safety and Environment, meticulous project management as well as prudent risk management.

Through an ongoing process of optimising resources and increasing productivity, we continue to deliver innovative projects with strong value offerings and hallmark quality to create value for customers worldwide.

➔ Page 64 –75

Empowering Lives



People are the heart of our business. As an employer of choice, we are committed to grow and nurture our talent pool through continuous training and development to help our people reach their full potential.

We seek to develop a formidable and results-driven workforce with strong leaders imbued with our core values to take the company into the future.

➔ Page 76 –83

Nurturing Communities



As a global citizen, we aim to give back to communities wherever we operate in a variety of areas spanning knowledge building and education, social development and environmental protection.

We encourage employees to contribute actively as change agents to effect improvement in their surroundings and in the lives of those around them.

➔ Page 84 –89

Managing Sustainability

As an industry leader operating in 15 countries, we have developed guidelines in being a responsible corporate citizen, positively impacting all our stakeholders, in health and safety, risk management, productivity, people and community development.

			
<p>Can Do Passion and Vigour</p>	<p>Integrity Act with Ethics and Honesty</p>	<p>Customer Focus Forge Value-Added Partnerships</p>	<p>People-Centredness Value and Nurture People</p>
			
<p>Safety Zero Accident, Zero Loss</p>	<p>Agility & Innovation Adapt to Change and Innovate for Growth</p>	<p>Collective Strength Global Mindset and Teamwork</p>	<p>Accountability Responsible to all Stakeholders</p>

Management Structure

Keppel Offshore & Marine's (Keppel O&M) sustainability issues are rigorously managed and communicated across all levels of our business units. We are guided by the Sustainability Steering Committee of our parent company, Keppel Corporation.

The Committee comprises senior management from across the Keppel Group and sets our sustainability strategy. Supporting the Steering Committee is the Working Committee that executes our sustainability strategy and reports on our performance.

Core Values

Our employees are guided by our core values and the Employee Code of Conduct, which address standards of acceptable and unacceptable behaviour, personal decorum and ethical business behaviour.

Safety Excellence

Safety is a core value and top priority wherever we operate. Whether in an industry boom or downturn, we remain steadfast in our commitment to create a safe and healthy work environment that safeguards people, property and the environment.



01

HSE Awards

34

Workplace Safety and Health Awards received.

Upholding High Standards

In the current down cycle, while we look to reduce costs and optimise operations, safety remains the priority in all of Keppel Offshore & Marine's (Keppel O&M) global operations. We firmly believe that a strong safety culture brings about a more productive workforce and reduces business risks. Through meticulous execution, we work towards our Health, Safety and Environment (HSE) vision of being "Incident Free" – zero accident, zero loss, no harm to people and no damage to the environment.

In 2015, we invested about \$41 million to improve our infrastructure, as well as empower and train our people, so that we remain at the forefront in our safety measures and strategies, especially in a constantly evolving work environment.

Through consistency of best practices and rigour, Keppel O&M achieved an Accident Frequency Rate (AFR) of 0.10 per million man hours worked in 2015, a reduction from our AFR of 0.11 in the previous year. Similarly, our Accident Severity Rate (ASR)

in 2015 was reduced to 111 man-days lost per million man-hours worked compared to 132 in 2014.

While we have made improvements in our safety journey, we suffered three fatalities; one in Singapore and two overseas. We thoroughly investigated each incident and shared the lessons learnt across the Group. We also stepped up our safety efforts to prevent the recurrence of such incidents.

Unwavering Commitment

We believe that visible safety leadership directly influences our workforce and helps in building a stronger safety culture.

The Keppel O&M Board Safety Committee (BSC) formed in 2012 sets the safety directives for our yards around the world. Continuing from 2014, our focus in 2015 built on tackling serious injuries and fatal incidents at the fundamental level. Relevant cases were deliberated at quarterly meetings and key lessons learnt were shared with all our yards to ensure that we maintain the same high safety standards in all our global operations.

01 Regular training sessions are held for all our stakeholders, from employees to subcontractors, to ensure that the best safety practices are applied in our yards.

Sustaining Growth – Safety Excellence

To ensure that the safety practices are relevant in the countries where we operate in, each yard also develops and updates its own HSE Improvement Plan, which encompasses a range of unique strategies and initiatives.

Strengthening Our Safety Culture

Across our 20 yards, safety promotion campaigns are organised annually to highlight specific risks while encouraging safe behaviour and best practices.

Keppel FELS held its month-long campaign, themed “Stay Safe, Avoid Line of Fire”, in July 2015 to remind workers of the importance of situational awareness. In the Marine division, Keppel Shipyard conducted a ‘Hand and Fingers’ safety campaign in July 2015 to reinforce the importance of safe manual work while Keppel Singmarine organised a HSE Day, themed “Back to Basics” in October 2015, to improve safety fundamentals.

In our overseas yards, Nakilat-Keppel Offshore & Marine (N-KOM) held a Safety Excellence Day with the theme “One Family, One Vision towards Safety Excellence” in June 2015. Keppel Nantong also held a month-long safety promotion campaign to promote positive safe behaviour. During the same period, Keppel Singmarine Brasil launched its annual ‘Safety Prevention Week’ to inculcate safety awareness.

With a focus on fire safety, Keppel Batangas Shipyard and Bintan Offshore also launched promotional campaigns in March and August 2015 respectively to educate workers on fire hazards and how to prevent breakouts.

To ensure high standards of safety by using industry benchmarks, several yards also obtained key WSH certifications. Keppel FELS received certification for the Singapore Standard on Occupational Safety and Health

management system (SS506), in alignment with Keppel Shipyard and Keppel Singmarine’s compliance to the same standards. Similarly, our yards in Azerbaijan, Brazil, China, Qatar, Netherlands, UAE and USA have also been certified to OSHAS 18001 Safety/Health MS and ISO 14001 Environmental MS.

Besides complying with industry best practices, we continually improve ourselves through innovation and technology. At the annual Keppel Group Safety Convention, out of 48 Safety Innovation projects submitted Group wide, Keppel O&M business units picked up nine Gold, seven Silver and eight Bronze awards. The innovative solutions which have been developed into actual products ensure that work processes are made safer for all our workers.

Proactive Engagement

While each of Keppel’s global yards operates independently, Keppel O&M’s HSE department plays a pivotal role in engaging each yard to ensure that safety messages, programmes and best practices are shared and implemented.

HSE personnel in Singapore are regularly assigned to overseas yards, such as Baku Shipyard, Keppel Subic Shipyard, Keppel

Nantong Shipyard and Bintan Offshore, to guide, support and align safety standards. In May 2015, Mr Yong Chee Min, Director (HSE & Special Projects), conducted safety workshops for Keppel Nantong’s management, employees and subcontractors.

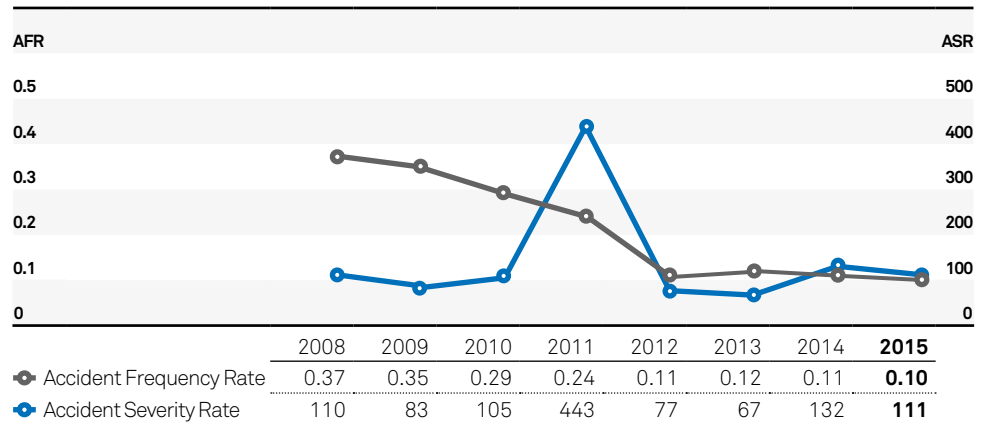
The Keppel O&M Cross Business Unit Audit introduced in 2012 ensures that the best safety practices are adopted and implemented by our overseas yards. The second round of cross audits was completed in end 2015 and focused on the implementation and execution of the HSE Improvement Plan in each yard. The audits also examined how well each yard addressed the top eight systemic root causes of major incidents in their respective yards.

To ensure that High Impact Risk Activities (HIRA) are carefully observed in daily work processes, a set of HIRA animations and pamphlets were developed and translated into nine different languages to engage the diverse workforce in our yards. In order to reach out to our large workforce, regular HSE sharing sessions are conducted at our yards and dormitories in Singapore. Safety initiatives are also regularly communicated through HSE newsletters, as well as sharing sessions.

Our Safety Principles

1. Every incident is preventable.
2. Health, Safety & Environment (HSE) is an integral part of our business.
3. HSE is a line responsibility.
4. Everyone is empowered to stop any unsafe work.
5. A strong safety culture is achieved through teamwork.

Keppel O&M Safety Statistics



Safety Excellence



01 To inculcate a strong safety mindset among our employees and subcontractors, regular safety workshops are conducted by Keppel O&M's HSE team.

02 For achieving excellence in workplace safety, Keppel O&M clinched 34 Workplace Safety and Health (WSH) awards at WSH Awards 2015.

01

In November 2015, Keppel Corporation organised the inaugural Global HSE Workshop, which saw over 50 Keppelites from around the world gather to share best practices, discuss safety issues and brainstorm on ways to address them. Some of the solutions include empowering supervisors and workers to proactively instil safe work habits, strengthening risk management and implementing controls on high risk activities as well as actively engaging the workforce.

Improving Employees' Well-Being

In line with the Workplace Safety and Health Council's (WSHC) integrated Total WSH approach, Keppel O&M believes that the work environment, overall safety, health and well-being of our employees are strongly connected.

Recognising that fatigue and poor health would contribute to accidents, Keppel O&M constantly seeks to improve employee well-being by upgrading its facilities. For instance, Keppel

Shipyard's Well-being and Support Centre, completed in March 2015, provides counselling and medical care to workers. Two four-storey rest areas, which can host up to 4,000 workers during meal breaks have also been completed.

Health and wellness initiatives, including exercise programmes, as well as fruits and nutritious food distribution, are made available to all employees across Keppel O&M. To protect workers from occupational injuries, healthy lifestyle initiatives, encompassing hearing conservation and respiratory protection initiatives, were also introduced.

Strong Partnership

Keppel O&M shares a strong working relationship with all our stakeholders, including our employees, customers, subcontractors and suppliers, industry members and regulatory bodies.

Keppel FELS' Subcontractors Executive Council Safety Committee, comprising different

trade sections' representatives, meets regularly to discuss safety initiatives and share best practices. At Keppel Shipyard, the Contractors' HSE Watch Group collaborates closely with both the workforce and contractors to prevent incidents in our yards.

Recognised as bizSAFE Partners, Keppel FELS and Keppel Shipyard actively encourage our contractors to utilise the bizSAFE framework to build their safety capabilities and competencies.

To contribute towards improving safety standards in the industry, Keppel O&M partners and supports national and trade organisations such as Ministry of Manpower (MOM), the WSH Council, and the Association of Singapore Marine Industries (ASMI). As a Group, Keppel has also been a regular contributor and sponsor of annual national safety events, including WSH Conference, National WSH Campaign and bizSAFE Convention.

Sustaining Growth – Safety Excellence

With its experience and wide exposure, Keppel O&M is proud to take an industry leadership role in safety and regularly conducts safety sharing sessions at seminars and forums. During the annual Air Defence and Operations Command (ADOC) Safety Forum organised by the Republic of Singapore Air Force (RSAF) on 13 April 2015, Keppel O&M shared on its safety management system, as well as the various programmes and initiatives to strengthen its safety culture. We participated in the “Confined Space Safety in Marine Industry” seminar organised by ASMI on 17 March 2015, where we shared on Keppel O&M’s confined space safety practices as well as our emergency response preparations. In 2015, Keppel O&M also hosted delegations from different companies, including SIA Engineering Company and Shell Singapore, to showcase our multi-pronged approach towards safety.

Keppel O&M’s HSE professionals have also contributed to the upkeep of the industry’s safety standards. A few members of Keppel’s senior management sits

in various committees in the WSH Council and ASMI. Mr Chow Yew Yuen, CEO of Keppel O&M is on the board of the National WSH Council and also chairs the WSH Council National Work at Heights Safety Taskforce. Mr Yong Chee Min is the Chairman of the ASMI WSH Committee, as well as a member of the WSH Council National Work at Heights Safety Taskforce and the WSH Council (Marine Industries) Committee. Mr Wong Kok Seng, Managing Director (Offshore), Keppel O&M, and Managing Director of Keppel FELS, as well as Mr Chor How Jat, Managing Director, Keppel Shipyard, both sit on Singapore’s WSH Council (Marine Industries) Committee.

Hallmark of HSE Excellence

For achieving excellence in workplace safety, Keppel O&M clinched 34 Workplace Safety and Health (WSH) awards at the annual event ceremony held on 29 July 2015. This is the largest number of awards won by a single organisation in Singapore. 31 of the awards were in the Safety and Health Award Recognition for Projects (SHARP) category. Keppel Shipyard also bagged the WSH Innovation Award for

implementing a workbench for scaffold coupler repairs while Keppel Singmarine clinched the WSH Performance (Silver) award for its strong workplace safety and health management system.

Our overseas yards also garnered accolades for their high safety standards. In 2015, Caspian Shipyard Company (CSC) emerged as one of 39 winners in a safety and health awards event organised by the Azerbaijan Trade Unions Confederation, affirming the yard’s continuous efforts in creating a safe and healthy work environment for all employees.

Apart from accolades from government agencies and industry associations, our customers also recognise our safety accomplishments in various projects. This includes a commendation received by Keppel Shipyard from Shell in December 2015 for having successfully converted the Floating Production Storage & Offloading (FPSO) vessel, Turritella, with a solid safety record of 13.1 million man-hours worked without any lost-time incidents.



Productivity and Quality

Through continuous improvements and innovations, we seek to raise productivity and quality so as to optimise our operations and sustain our competitiveness.



01

At Keppel Offshore & Marine (Keppel O&M), our strong track record for safe, on time, within budget and high quality deliveries is the result of our execution excellence, which is advanced through our continuous efforts towards productivity and quality improvements.

We leverage technology and innovation to refine our processes and strengthen our infrastructure. In addition, we actively organise and participate in various productivity, quality and innovation initiatives to generate ideas and solutions for optimal operations.

Optimising Operations

In 2015, we continued to make upgrades to the infrastructure,

equipment, processes and systems across our shipyards worldwide to sustain our high-performing work environments.

Over at Keppel Shipyard's Tuas Yard, a new well-being centre has been operational since March 2015. It also includes a counselling centre, medical centre and fire station. We believe that looking after the well-being of workers will result in a safer and more productive workforce. Three workers rest areas – two in Tuas Yard and one in Gul Yard – were also commissioned.

Keppel Shipyard's clients at Benoi Yard also enjoyed improved facilities when they moved into a new superintendent office

block in September 2015.

Besides enhancing the working environment, Keppel Shipyard also installed a new 250-tonne quay crane at the Benoi Yard for better execution of workflow, further increasing the productivity of its workforce.

Across Keppel O&M, various productivity initiatives and programmes were rolled out during the year. The Productivity PLUS Programme for 2015/2016 was launched on 23 Apr 2015, providing a framework for Keppel Shipyard to work on Total Productivity. Total Productivity is a holistic approach in improving productivity by not just reducing manhours – it also considers labour costs, efficient capital

Sustaining Growth – Productivity and Quality

deployment, and profit to value-added ratio. The focus is to identify key processes in the value stream and then either develop new processes or enhance existing ones for maximum leverage.

In addition, Keppel O&M is incorporating technology to optimise its processes. Keppel FELS collaborates extensively with partners to improve operation systems. These improvements include enhancing the capabilities of 3D modelling to improve collaboration among customers, project teams and engineers,

developing mobile applications to improve communication and productivity of work processes within project teams and utilising Radio-Frequency Identification (RFID) technologies to improve material management.

As for Keppel Singmarine, its Computer Aided Design and Computer Aided Manufacturing (CAD/CAM) teams have been working on implementing auto-cable routing capabilities in the SM3D software modelling system. With this, the routing of cables can be done automatically

with the software, eliminating the need to do so manually.

In addition, the teams developed the Master Cable Schedule for productivity enhancements and other customisations with the SM3D software. This includes a customised interface between profile cutting robots.

Spurring Innovation

Keppel O&M encourages employees at all levels to join platforms for sharing and developing their ideas for improvement.

01 A life-size 3D projection that covers a whole room helps Keppel FELS enhance its 3D modelling capabilities to improve collaboration among customers, project teams and engineers.

02 Keppel O&M constantly looks into ways at improving yard productivity and capability, such as installing a 1,500-tonne gantry crane in Keppel Subic Shipyard that can take on bigger projects more efficiently.



Productivity and Quality

Employees of Keppel O&M were active participants of the inaugural Keppel Innovation Convention, which was held on 15 June 2015. A platform to foster an innovative culture and recognise outstanding innovations across the Keppel Group, the convention also aims to encourage Keppelites to exchange best practices and embrace new ideas and methodologies.

As part of the convention, there was an innovation competition which attracted entries from Singapore and overseas business units. Business units from Keppel O&M did well in this competition, securing the top three places in the “Realised Innovation” and “Early-stage Innovation” categories. The former was for projects that have added significantly to Keppel’s products, processes, service quality or business models. The latter comprised projects that are still in design, detailed engineering or prototyping stage.

A third category, “Productivity Gems”, recognises incremental or small-scale projects that have improved productivity, or raised the quality of existing products or services. One of Keppel O&M’s winning entries in this category is a semi-automated blasting system that saw a reduction in manpower and grit usage. Another winning entry is an automated welding process that is less manpower intensive and faster than manual welding on curved surfaces.

In 2015, Keppel O&M held its third Keppel O&M Innovation Awards competition. The competition saw a wide variety of submissions, from state-of-the-art product designs to advance rig equipment, being recognised.

Two innovations in harsh environment designs stood out from the rest to clinch the Gold Awards. They are the SSDT™

5000NG design, the world’s first purpose-built drilling tender to operate in the North Sea by Deepwater Technology Group and Keppel FELS; and the new KFELS N-Plus jackup design with enhanced cantilever load chart and spudcan design by Offshore Technology Development, Keppel FELS and Keppel Offshore & Marine Technology Centre.

The use of technology to improve work processes is also encouraged through Keppel FELS Innovation and Quality Circles (iQC), which came up with projects during the year to innovate and streamline processes through the application of best practices to eliminate waste.

Over in Brazil, BrasFELS held its annual INOVE competition, which challenges employees at all levels to come up with solutions that raise productivity and reduce costs while ensuring safety, quality and

01 More automation introduced to the yard workshops, including a customised panel line system, help increase efficiency.

02 BrasFELS, Keppel O&M’s shipyard in Brazil, annually holds an innovation competition to challenge its employees to conceive solutions that help raise productivity and reduce costs.

01





02

Keppel O&M engages forerunners in the fields of business and academia to keep up to date with the latest industry developments and innovation.

care for the environment. Taking first place in the 2015 installation of INOVE was a team from the Painting and Maintenance section which looked into a more cost-effective and convenient solution for treating hydroblasting effluents.

Keppel O&M engages forerunners in the fields of business and academia to keep up to date with the latest industry developments and innovation.

From 7 to 8 December 2015, Professor Stefan Thomke, a member of the Keppel Technology Advisory Panel who is the William Barclay Harding Professor of Business Administration at Harvard Business School, conducted a two-day workshop at Keppel O&M on the dynamics and processes of innovation, and helped the participants which included senior management and project managers to develop creative ideas for reusing materials at the shipyard.

Ensuring Quality Standards

Seeking to ensure high quality standards in all aspects of its operations, Keppel FELS has undergone a Business Excellence assessment conducted by SPRING Singapore. In November 2015, Keppel FELS successfully renewed its certifications in Singapore Quality Class (SQC) STAR, which recognises organisations that have made further improvements in their business excellence journey; People Developer (PD), a niche standard which provides organisations with a total approach to attracting, managing and engaging employees for high performance and Singapore Innovation Class (I-CLASS), a niche standard that enables organisations to develop their innovation management capabilities.

Apart from Keppel FELS, Keppel Shipyard has also been certified with SQC and PD by SPRING Singapore. The yard is also certified with ISO 9001:2008 for its quality management system.

Eco-Consciousness

We are committed to do our part in protecting the environment through reducing our carbon emissions and adopting energy saving practices.



01 In China, Keppel Nantong Shipyard employees signed a pledge in support of environmental protection in the lead-up to Earth Hour on 28 March 2015.

02 Keppel FELS is the first shipyard in Singapore to use solar panels to harvest solar energy for consumption.

01

Keppel Offshore & Marine (Keppel O&M) ensures that environmentally responsible practices are an integral part of our business. The Group is committed to full compliance with all environmental rules, regulations, and standards applicable to its operations, as well as observing environmentally conscious practices in its operations.

Keppel O&M's environmental efforts are built upon the same three pillars adopted by all entities within the Keppel Group:

- Create sustainable products and services for its clients
- Improve operational efficiency and environmental footprint
- Expand engagement with its stakeholders on environmental issues

Energy Efficiency

With a strong emphasis on energy efficiency, Keppel O&M's yards are constantly looking for ways to improve their energy savings. Several projects have been

implemented in 2015. These include upgrading conventional lights at several yards to LED lights and motion lighting, installing induction lights as dock yard lights for improved luminance at lower energy consumption, collaborating with a vendor to study the various types of flood lights as well as upgrading the gantry crane flood lights to one that is much more efficient.

Keppel Singmarine replaced its existing T8 lightings to LED lightings for its offices in both its 5 Benoi and 15 Benoi facilities in Singapore, yielding energy savings of up to 40%, with an annual carbon avoidance of 33 tonnes. In addition, Keppel Singmarine also implemented integrated motion sensors. This initiative further reduced energy consumption by 85%.

Keppel Shipyard achieved approximately \$100,000 in annual cost savings by installing two power transformers instead of

using portable diesel generators to supply customised special voltage level at its Singapore yards. The step down transformers are able to achieve an average annual carbon savings of 257 tonnes based on diesel oil saved. There were also cost savings from portable generator rentals, and a return on investment from the new installations of only 0.47 years.

Keppel FELS further explored renewable energy as a means to achieve energy efficiency. Working with a vendor on a solar leasing programme, Keppel FELS became the first shipyard in Singapore to use solar panels to harvest energy and convert it into electricity for consumption. The pilot installation was completed in 2015 and the programme has thus far achieved annual electricity savings of 91,397 kWh, with a carbon reduction of approximately 27 tonnes. The positive outcome provides potential for the future expansion of the programme.

Keppel O&M aims to achieve a 16% improvement in its Greenhouse Gas emissions from 2020 business-as-usual level.

In line with the Keppel Group’s commitment to reduce carbon emissions, Keppel O&M organised an inaugural Keppel O&M Energy Saving Initiatives Workshop at the beginning of 2015. The workshop aims to provide a platform for Keppel O&M to consolidate its energy-saving ideas, and for all levels of management and all teams to pledge their commitment to drive and cascade these ideas down the Group.

Waste & Recycling

Keppel O&M implemented several on-going recycling programmes throughout its yards in 2015. These include recycling of general waste, paper, and scrap metal. Keppel O&M will continue its efforts in recycling as part of its sustainability efforts.

Managing Impact

Keppel O&M is committed to continue improving its carbon footprint and aims to achieve a 16% improvement in its Greenhouse Gas (GHG) emissions from the 2020 business-as-usual (BAU) level.

In addition, the Group will also continue to improve its data collection to obtain the information needed to plan for and implement initiatives to reduce its energy consumption, waste production, and overall environmental impact.

Stakeholder Engagement

Keppel O&M engages its stakeholders in

supporting green initiatives wherever it operates. Its efforts include educational projects seeking to protect or enhance the environment.

For example, Keppel O&M’s shipyard in the USA, Keppel AmFELS, held a “Go Green Campaign” and provided training for its employees, clients and contractors to promote and enhance awareness on waste management and spill prevention.

Over in Brazil, employees at BrasFELS conducted environment-related workshops for public schools. On World Environment Day in June 2015, BrasFELS employees shared with 200 students at the Cornelis Verolme school on the importance of water as well as how to prevent aedes aegypti mosquitoes from breeding. The shipyard also marked Tree Planting Day in September 2015 with lectures on the importance of trees to the environment as well as workshops on planting sunflower seeds. A total of 185 students at the Xavier Botelho school in Lambicade benefited.

Keppel O&M continued to support and participate in global events such as Earth Hour. In 2015, various Keppel O&M business units in Singapore and overseas switched off non-essential lights and electrical equipment for an hour on 28 March from 2030hrs to 2130hrs in support of the initiative.



Risk Management

A dynamic risk management system enables us to harness core strengths and navigate through the challenging business environment while preparing ourselves to seize business opportunities during the upturn.



01

Risk Management Structure

Keppel Offshore & Marine's (Keppel O&M) Enterprise Risk Management (ERM) framework provides a holistic and systematic process for identifying, analysing and managing risks to better prepare the company to respond to uncertainties and vulnerabilities, as well as to better manage new business opportunities. It outlines the reporting structure, monitoring mechanisms, specific risk management processes and tools, as well as policies and limits, in addressing key risks to Keppel O&M.

The Board of Directors, assisted by the Audit and Risk Committee (ARC), has oversight of the overall ERM implementation at Keppel O&M. The Management team discusses Keppel O&M's key risks, significant project issues and mitigating actions with the ARC every quarter. Underpinning the Keppel O&M ERM framework are three risk tolerance guiding principles, adopted from Keppel Corporation:

- Risk taken should be carefully evaluated, commensurate with rewards and in line with the company's core strengths and strategic objectives
- No risk arising from a single area of operation, investment or undertaking should be so huge as to endanger the company
- The Group does not condone

safety breaches or lapses, non-compliance with laws and regulations, as well as acts such as fraud, bribery and corruption.

Strong Risk Management Foundation

Risk management is an integral part of the strategic, operational, project and financial decision-making processes at all levels of Keppel O&M. Guided by the ERM framework, Keppel O&M adopts a five-step process from risk identification, risk assessment, risk mitigation and implementation, risk communication to risk monitoring and review.

Against the backdrop of subdued oil prices and weak macroeconomic conditions, competition and market demand risks continue to be key risks that Keppel O&M is closely monitoring. A group-wide risk review is incorporated into the strategy discussion session conducted twice a year at the group level.

All investment proposals include an assessment of key risk factors such as alignment with strategic objectives, operational controls, financial viability, potential contingent liabilities, specific country laws and regulations, technical competency and available resources.

Managing Project Risks

Many of Keppel O&M's projects are

01 Regular exercises such as the one for pandemic flu outbreak held at Keppel Housing on 26 August 2015 will help us better manage and minimise the impact of an actual crisis or threat to our people and business operations.

Sustaining Growth – Risk Management

executed over an extended period of time. A standardised risk assessment and monitoring process is implemented to help manage key project risks throughout the project life cycle. During the pre-contract stage, the project evaluation team, comprising members from different functions, identifies and evaluates key risks concerning areas such as the market, customers, contract and technical challenges. Mitigating actions are identified to address these potential risks. With more rigorous scrutiny and thoughtful consideration in the earlier stages, project risks are significantly reduced in the execution and completion phases. This has been especially important in a low oil price environment to mitigate contractual default risks.

At the execution stage, key risks involving areas such as cost, quality, schedule and health, safety and environment (HSE) are closely monitored through key risk indicators to ensure that pre-emptive measures are taken and appropriately implemented. These systems were established to ensure that projects are completed on time, within budget and safely, while achieving the quality standards and specifications as defined in the contracts with our customers.

Keppel O&M ERM reviews the emerging risks with the project teams and highlights potential issues in key projects to Management and ARC. Lessons learnt in challenging projects are also shared and discussed across the Keppel O&M business units. For our overseas projects such as in Brazil, we constantly review

changes in the operating environment, political and regulatory developments, and implement precautionary measures to mitigate our exposure in different scenarios.

Strengthening Risk Culture

We are committed to foster a robust risk-centric culture in the Group. There is strong management sponsorship and support for risk management initiatives. Risk management is integrated into the day-to-day business operations to enable early risk detection and prompt formulation of mitigating actions. To heighten risk awareness and build risk competencies, Keppel O&M emphasises continuous education and communications with all business units.

In 2015, Keppel O&M’s ERM Team conducted ERM training and risk assessment workshops across operating units in Singapore, Azerbaijan, Brazil, Indonesia, Middle East, Netherlands, USA and the Philippines. Keppel O&M also seeks to raise staff accountability and ownership of risk management through the annual performance evaluation process.

Building Resilience

Business Continuity Management (BCM) is part of Keppel O&M’s ERM initiatives in addressing and managing potential threats, as well as in minimising the impact of a crisis on people, business operations and assets. On a half-yearly basis, the BCM Steering Committee reviews the potential threats and status of implementation of the BCM programme in its key Singapore and overseas business units.

Each business unit sets up specific task forces to handle disruptive events such as epidemic outbreaks, natural calamities, security threats, critical facilities damage, and loss of critical supporting infrastructure and key personnel.

In 2015, all the key Singapore yards and supporting business units participated in the Keppel O&M Pandemic Flu (MERS) Table Top Exercise with the Management team. The Singapore yards also participated in the International Ship and Port Security (ISPS) table top exercise with the relevant authorities (i.e. Singapore Civil Defence Force, Singapore Police Force) to enhance their preparedness in managing security incidents involving unauthorised entry into the yard and sabotage of yard facilities.

Other BCM activities carried out by Singapore and overseas yards during the year include fire and evacuation drills, haze preparation and contingency plans, preparation for typhoons in the Philippines operations and testing of disaster recovery for critical IT application systems and operating systems that support key business operations.

Responding to Challenges

Keppel O&M’s ERM system and processes are continuously cascaded to overseas operating units and key functional departments to strengthen the risk management processes at Keppel O&M. While we do our best to minimise risks, we recognise that risks can never be entirely eliminated. A robust and effective risk management system will support decision-making capabilities and enable us to respond efficiently to challenges amidst the current climate of uncertainty in the offshore and marine industry.

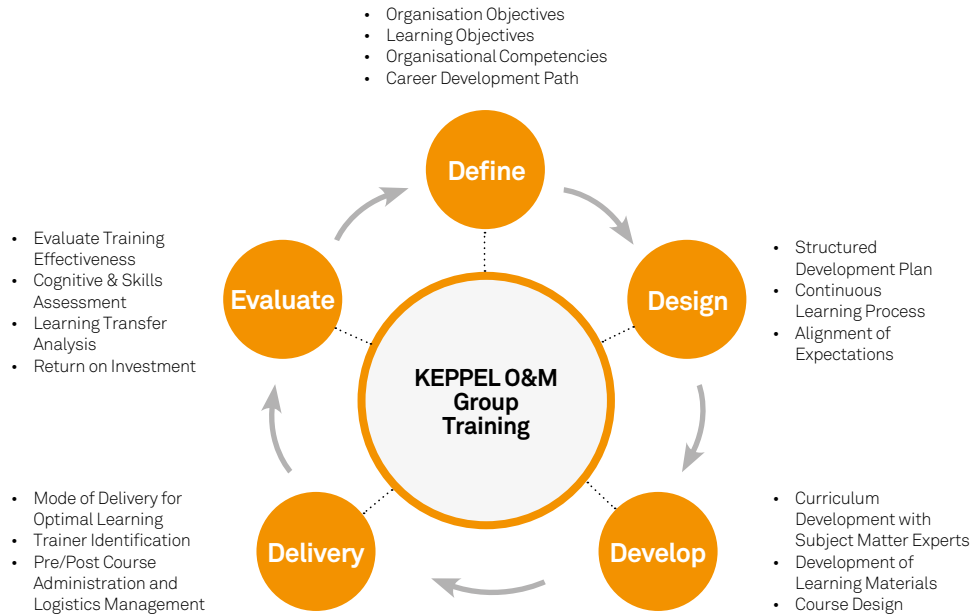
Five-Step Risk Management Process



People Development

In line with our operating principle of tapping and developing the best talents from our global workforce, we are committed to be a choice employer, nurturing the workforce through holistic development programmes to achieve sustainable growth for the company.

Talent Development Framework



Keppel O&M develops the skills and capabilities of our workforce based on a structured and comprehensive talent development framework.

At Keppel Offshore & Marine (Keppel O&M), people are our most important resource. We strive to create a conducive learning environment for our people so as to develop them to become the next generation of leaders. Through a comprehensive suite of initiatives and programmes, we equip them with the skills and knowledge to take the company to greater heights.

Despite the industry slowdown, Keppel O&M remains committed to providing learning and developmental opportunities for our employees. We continued our programme to identify in-house Subject Matter Experts (SMEs) and tap on their wealth of experience to develop and conduct an extensive list of customised courses for our employees. A total of 335 in-house courses were conducted in 2015, of which 70 were newly developed last year.

In 2015, Keppel O&M invested approximately \$13.2 million on the training and development of our global workforce of about 30,000. This has resulted in an average of 22.8 learning hours per employee.

Training Framework

Keppel O&M adopts a structured and

sustainable human capital development approach in grooming our employees, aiming to align their development with the goals and objectives of the company.

Employees are nurtured through a comprehensive learning platform that extends beyond the conventional classroom learning to include on-the-job training, blended learning and customised e-learning.

Our state-of-the-art Keppel O&M Group Training Centre is recognised as an Accredited Training Provider, Approved Training Organisation and Approved Training Centre by the Singapore Ministry of Manpower (MOM), Workforce Development Authority (WDA) and Institute of Technical Education (ITE) respectively. More than 150 SMEs are identified across the business units of Keppel O&M based on their competencies to deliver in-house courses.

In 2015, Keppel O&M implemented the Structured Development Plan (SDP) across all business units and departments within the organisation. The SDP provides a learning roadmap for employees of all levels within a competency matrix that is

designed to manage the development of our human capital. 95 different competencies are grouped into 15 broad competency categories ranging from engineering skills to innovation and leadership skills. The Keppel O&M talent development framework and SDP are adopted by both our local subsidiaries and overseas business units.

The year also saw the introduction of the role of Learning Partners who serve as the point of contact for all learning needs and curriculum development initiatives of the respective departments.

Recognising the importance of building well-rounded individuals, we offer employees opportunities to broaden their exposure through job rotations locally and globally. We currently have more than 200 employees of different nationalities seconded to various overseas operations.

Collaborative Learning

Knowledge sharing sessions across the different business units are conducted regularly to allow our employees to benefit from the experience and knowledge of the top talent in our global workforce. Keppel O&M Group Training Centre also collaborates with the overseas yards to develop critical skills training that address their specific needs.

For instance, under the Train-the-Trainer Programme, trainers from the overseas yards are attached to Keppel O&M Group Training Centre for a few months to learn various technical competencies. This programme equips our overseas operations with the capability and flexibility to train their local workforce in a timely manner.

Knowledge sharing is also done with the other units in the Keppel Group. The inaugural Global

Human Resources (HR) Conference was held in Singapore from 13 to 15 July 2015 to bring together HR personnel from the Keppel Group’s business units around the world. The objective was to share and exchange best practices so that they can be better equipped to help achieve the Keppel Group’s vision for 2020.

Keppel O&M also partnered Ngee Ann Polytechnic for the third year to conduct a 15-week Diploma (Conversion) in Marine & Offshore Technology (DCMOT) course for high-performing staff from our overseas and local business units. In 2015, we brought together outstanding Keppelites from Brazil, China, Qatar and the Philippines to attend the programme in Singapore. Besides a series of structured classroom courses at the polytechnic, participants also went through customised on-the-job training at Keppel O&M’s local yards.

01 Participants of the third run of the Diploma (Conversion) in Marine & Offshore Technology course celebrating the completion of their training programme with Keppel O&M senior management.



People Development



01

We adopt a meritocratic approach in developing our talent and strive to create a versatile workforce that is adaptable to a constantly changing environment.

Attracting Talents

Recruitment is one of the most important steps in building a sustainable talent pipeline.

In 2015, Keppel O&M participated in numerous recruitment drives, career fairs and road shows to source for talents from various local educational institutions. We also reached out to potential employees through yard visits to generate interest and provide insights into the offshore and marine industry.

We work with universities, polytechnics and technical institutions to groom talents by offering scholarships to well-rounded students with good academic records, proven leadership qualities and long-term career ambitions in the industry.

To enhance the skills and career development of students in the offshore and marine engineering sector, Keppel O&M signed a Memorandum of Understanding (MOU) with ITE, Ngee Ann Polytechnic and Singapore Polytechnic. With this MOU, students and fresh graduates who are keen to join the industry will be able to navigate their career paths through initiatives such as the

SkillsFuture Earn and Learn Programme and the Enhanced Internship Programme.

Providing Meritocratic Opportunities

We adopt a meritocratic approach in developing our talent and strive to create a versatile workforce that is adaptable to a constantly changing environment.

Structured development schemes are specially designed to provide targeted training for new hires of varying educational backgrounds from diploma holders to university graduates.

Our long-standing Management Traineeship (MT) scheme, accredited by the Institute of Marine Engineering, Science and Technology (IMarEST), is a two-year intensive development programme that provides comprehensive training for fresh graduates with either Diploma or Degree qualifications. Designed to expose them to the wide spectrum of our businesses and operations, it comprises classroom based learning, workshop skills training, cross-departmental attachments, on-the-job training, mentorship programmes and networking sessions with senior management. Since its inception in 1986,

this scheme has benefitted more than 1,500 management trainees, creating a pipeline of young talents who will be taking on various management positions within Keppel O&M.

Our collaboration with ITE on the Assistant Technical Associate (ATA) and Technical Associate (TA) schemes is designed for trainees with GCE 'N' Level, GCE 'O' Level and ITE qualifications. The comprehensive two-year work-and-study programme includes classroom learning, practical skills training, on-the-job training and soft skills training. To date, Keppel O&M is the only organisation in Singapore accredited to conduct an in-house Higher National ITE Certificate (NITEC) in Marine & Offshore Technology programme.

Sponsorships to pursue further studies are awarded to Keppelites who excel in their work and exemplify strong core values. A congratulatory ceremony was held on 26 October 2015 to celebrate 81 Keppelites who have attained new qualifications ranging from NITEC to Master's degree.

Fostering Conducive Learning

An empowered workforce is essential to achieving higher productivity and better organisational performance. Recognising this, Keppel has designed a comprehensive suite of programmes to enable Keppelites to realise their career goals and develop their potential.

Keppel Leadership Institute (KLI), the Keppel Group's new leadership initiative, was inaugurated in 2015 to help develop a pipeline of strong leaders that are equipped with the capabilities to grow a sustainable business and touch lives.

01 81 exemplary Keppelites achieved academic milestones in 2015 with the support of the company and its scholarship programmes.

02 Keppel O&M's HR team was recognised as a top people developer at the 2015 HRM Awards.

Best People Developer

As the global leader in the offshore and marine industry, Keppel O&M strives to sharpen our competitive edge by creating a quality workforce through a robust framework of attracting, engaging, recognising and developing our employees.

For our outstanding human resource practices, Keppel O&M clinched several awards, including Best Leadership Development Award, Best Training, Learning and Development Award and Special Recognition for the Best Graduate Development Award at the 12th Annual Human Resources Management (HRM) Awards held on 6 March 2015.

The awards bear testament to Keppel O&M's strong leadership and management bench strength built over years of meticulous succession planning, our established research and development capabilities, and a *Can Do!* culture among our workforce.

02



People Development



01

An evolution of the virtual Keppel College established in 2009, KLI organised a series of leadership programmes such as Influential Leaders Workshop and Project Management Workshop. During the year, KLI, in partnership with the Centre for Creative Leadership, developed the *Emerging Leaders Programme* which comprises a six-month blended learning programme for selected local and overseas Keppelites to exchange ideas, network and learn to become better leaders.

During the year, we continued to run the *Leadership Excellence Programme* which was launched in 2011 to hone the leadership and management skills of our newly-promoted managers. This programme, specifically

tailored to meet the needs of Keppel O&M, comprises four courses conducted over a year, with coaching and review sessions done after each course to ensure the optimal transfer of knowledge to their work. Since 2011, we have trained 72 managers under this programme.

Keppel O&M also organised 12 *Learn & Lunch* and KOMtech Knowledge Sharing sessions in 2015. Senior management of Keppel O&M and established speakers from the National University of Singapore and Det Norske Veritas Germanischer Lloyd (DNV GL) were invited to share their wealth of experience and knowledge with Keppelites.

01 Keppel senior management and participants of the *Emerging Leaders Programme* celebrated the inaugural run of the programme at the newly established Keppel Leadership Institute.

02 The Keppel O&M Technology and Engineering Development Programme provides an opportunity for Keppelites across Keppel O&M's global operations to deepen their skills and collaborate with one another.

Championing Workplace Wellness

Keppel O&M believes that a healthy lifestyle is not only beneficial for employees but also contributes to the overall productivity of our business.

Our Workplace Health Programmes (WHP) committee organises various programmes throughout the year to promote the health and well-being of our workforce.

In Singapore, our yards organised regular health talks on topics ranging from weight management to chronic diseases. Fruit bentos were also distributed to employees on a regular basis to promote healthy eating habits. The annual Active Day, a key health promotion event at Keppel O&M, saw more than 3,000 Keppelites participating in Bokwa, an energetic cardio workout in 2015.

In the Philippines, Keppel Batangas conducted regular health talks and offered complimentary dental consultations and eye checks for all employees. In Brazil, Keppelites at our BrasFELS yard participated in the third PAM (Mutual Aid Plan) Soccer Championship and emerged champions.

Employees from Keppel Verolme in the Netherlands participated in the annual “Go Fit, Go Healthy” programme during which they exercised regularly under the guidance of a physiotherapist. In the United States, Zumba classes were organised for Keppel AmFELS employees to help them stay healthy and fit.

To encourage Keppelites to maintain an active lifestyle, Keppel Nantong Shipyard and Keppel Nantong Heavy Industry organised a series of adrenaline pumping track and field events which saw a participation of over 550 Keppelites and subcontractors.

Fresh Initiative

In 2015, Keppel O&M partnered with the Singapore University of Technology & Design (SUTD) to develop the inaugural Keppel O&M Technology and Engineering Development (KTED) programme.

49 Keppelites from Keppel O&M were nominated to attend the first run of the eight-month programme which is held in three phases from November 2015 to August 2016.

Over the eight months, participants will get to learn from industry leaders, researchers and academics from renowned institutions such as the Massachusetts Institute of Technology and University of Cambridge.

Participants will also collaborate in multi-disciplinary teams to innovate and transform their ideas to value-added solutions for Keppel O&M.

02



People Development



01

Partnering Unions

Keppel O&M actively engages its unions to develop a productive partnership and a motivated workforce. To maintain good relations with the unions, luncheons and dialogue sessions were organised regularly to discuss a wide range of topics concerning the welfare of employees, including living environment, quality of food served in the yards' canteens and transportation.

In April 2015, Mr Chan Chun Sing, Minister, Prime Minister's Office and then-Deputy Secretary-General of the National Trades Union Congress (NTUC) visited Keppel FELS to meet the executive committee of Keppel FELS Employees Union (KFEU). Accompanied by Mr Heng Chee How, Senior Minister of State, Prime Minister's Office, Deputy

Secretary-General of NTUC and Advisor to KFEU, Mr Chan spoke with union leaders to better understand their concerns and needs. They also met with Keppel O&M's senior management to learn more about Keppel O&M's partnership with the unions.

For making significant contributions towards promoting good industrial relations and enhancing workers' welfare, Mr Wong Kok Seng, Managing Director (Offshore) of Keppel O&M and Keppel FELS, received a Medal of Commendation at the May Day Awards organised by the NTUC on 29 April 2015.

Mr Vincent Ho Mun Choong, President of KFEU, was also conferred the Comrade of Labour Award for his active contributions to the union.

Our overseas business units also remain committed to maintaining good industrial relations. 2015 saw the renewal of four Collective Agreements; Keppel FELS Brasil and Keppel Subic renewed the Collective Agreements with their unions till 30 April 2016 and 30 July 2017 respectively, while Keppel Batangas renewed both its Collective Agreements till 15 May 2017 and 31 December 2019 respectively.

Integrating a Multinational Workforce

At Keppel O&M, we look out for the well-being of our foreign workers. Other than providing highly subsidised dormitories for our foreign workers, we continuously improve the amenities at five dedicated dormitories which include

01 Senior management and more than 3,000 Keppelites enjoyed a fun workout together during the annual Keppel O&M Active Day.

02 Enjoying a hearty chat over lunch, Mr Chan Chun Sing (left) spoke with members from KFEU.

Keppel O&M actively engages its unions to develop a productive partnership and a motivated workforce.

canteens, minimarts, barber shops and wet markets.

In an effort to promote harmonious living and bonding among foreign workers, various activities including sports competitions and bazaars are organised regularly at the dormitories. To promote safety and anti-gambling, road shows were also held in 2015. In conjunction with Singapore’s 50th year of independence in 2015, Keppel Housing collaborated with M1 to organise an event called “Shades of Red”, where workers immersed in fun-filled activities and performances and enjoyed local snacks.

To help new foreign workers adapt to their lives in Singapore and to constantly take care of their mental and emotional well-being, Keppel Housing provides counselling services which include a 24-hour emergency helpline that is manned by trained counsellors.

Our management, union leaders and human resources representatives also visit the various dormitories regularly to receive feedback from the workers in order to improve their living conditions.

Optimising Workforce

The industry downturn is expected to be prolonged with a significant slowdown in orders. Accordingly, Keppel O&M has been optimising its operations by prudently allowing a natural attrition of the workforce. We have reduced our direct staff strength and subcontract workforce in Singapore and overseas in alignment with our operational requirements.

We have also redeployed manpower to our operations overseas, as well as from offshore to marine operations, for example, Keppel Shipyard, where increased resources are needed for the steady stream of repair and conversion projects.



Community Development

At Keppel Offshore & Marine, we believe that as our communities thrive, we thrive. We engage and nurture the communities where we operate in to achieve a sustainable future together.



01

In line with our key thrusts of Sustaining Growth, Empowering Lives and Nurturing Communities, Keppel Offshore & Marine (Keppel O&M) is highly committed to contributing to the communities where we operate in. In 2015, we contributed to a wide range of community development initiatives, from knowledge building to disaster relief support and environmental protection.

senior management, Mr Aziz Amirali Hasham Merchant, ED, KOMtech and Dr Foo Kok Seng, ED (Shallow Water Technology), KOMtech have also accepted NUS' invitations to be appointed as Adjunct Professors in the NUS Civil and Environmental Engineering department, as part of their involvement in the research work for the Keppel-NUS Corporate Laboratory.

Scholarships Offered

Over

410

scholarships offered to outstanding students passionate about the offshore and marine industry.

Promoting the Industry

Keppel O&M supports and advances the offshore and marine industry and spurs collaborations between stakeholders through our active involvement in knowledge-building platforms and international conferences.

As a founding member of the National University of Singapore's (NUS) Centre for Offshore, Research and Engineering (CORE), Keppel O&M has been actively promoting Research & Development (R&D) collaboration within the industry. With a slew of research and educational outreach programmes, Keppel O&M helps to strengthen Singapore's performance as an oil and gas hub by advancing technologies and enlarging the talent pool in the industry.

Since the launch of the Keppel-NUS Corporate Laboratory in 2013, Keppel Offshore & Marine Technology Centre (KOMtech) has been undertaking research in deepwater and arctic technology to address future challenges of the offshore industry. To grow the knowledge pool in the industry, two of Keppel O&M's

Keppel O&M also contributes to the growth of the industry through the sponsorship of lectures, such as the Chua Chor Teck Memorial Lecture. Organised annually since 1986 in remembrance of the late Mr Chua Chor Teck, then-MD of Keppel Shipyard and one of the pioneers of Singapore's marine industry, the lecture has been a valued platform for industry leaders and experts to share their insights on a variety of offshore and marine-related topics. At the lecture in 2015, Dr Jerry Ng Kok Loon, CEO of Blue Ocean Solutions, spoke on innovations in marine technology.

Besides the Chua Chor Teck Memorial Lecture, the Keppel Offshore & Marine lecture organised under the auspices of the Keppel Professorship is another platform through which Keppel O&M promotes interest in the study and research of offshore and marine technology in order to enhance our push towards developing our own proprietary technologies, products and services. Dr Brian Clark, an expert in oil field technology, shared about petroleum geology and the latest technologies in drilling operations in the 2015 lecture.

To document and share on the growth of Singapore’s maritime history, Keppel O&M supported the production of a documentary led by the Maritime and Port Authority of Singapore (MPA) and Singapore Shipping Association (SSA) as the Gold sponsor. The documentary, titled “Inside Maritime Singapore”, offers audiences a background on the growth and successes of Singapore’s maritime industry, as well as a glimpse into the future of the industry.

Developing the Talent Pool

Keppel O&M collaborates closely with local institutions to develop structured programmes and internships so that students will benefit from a better understanding of the offshore and marine industry.

In October 2015, Keppel O&M signed a Memorandum of Understanding (MOU) with the Institute of Technical Education (ITE), Ngee Ann Polytechnic (NP) and Singapore Polytechnic (SP) in an effort to enhance the skills and

career development of students in the offshore and marine engineering sector. With this, current students and fresh graduates of polytechnics and ITE who are keen on joining the industry will be better able to navigate their career paths. The initiatives include the SkillsFuture Earn and Learn Programme, a work and study programme that offers career placements and on-the-job training.

Keppel O&M is also in the process of customising a Higher NITEC in Electronics Engineering course with ITE that concentrates on the offshore and marine industry.

Senior management from Keppel O&M also contribute to the promotion of industry growth. In June 2015, Mr Chow Yew Yuen, CEO of Keppel O&M was elected as the President of the Association of Singapore Marine Industries (ASMI). As the Council’s President, Mr Chow will work towards forging closer ties between council members for more collaborative work within the industry.

We also work closely with educational institutions to provide scholarships, academic awards and internship opportunities to students with a passion for the offshore and marine industry. In 2015, Keppel O&M offered 413 scholarships to outstanding candidates, as well as 198 internship opportunities to students from both local and overseas educational institutions. Additionally, yard tours and career talks in schools are hosted on a regular basis to raise awareness of the industry.

To provide internship and employment opportunities to students in China, Keppel Nantong entered into an agreement with Nantong Shipping College and Nantong Institute of Technology. Prior to the agreement, Keppel Nantong had also collaborated with Nantong Shipping College by engaging teachers from the college to provide off-site training at the shipyard. These programmes aim to provide employees with opportunities for continuous training and upgrading.

01 During his visit to BrasFELS, Singapore Deputy Prime Minister & Coordinating Minister for National Security Mr Teo Chee Hean (centre) planted a Pau-Brasil tree within the shipyard’s grounds.

02 To enhance the skills and career developments of students in the offshore & marine engineering sector, Keppel O&M signed a Memorandum of Understanding with the Institute of Technical Education, Ngee Ann Polytechnic and Singapore Polytechnic in October 2015.

02



Community Development

Engaging the Global Industry

As a global industry leader, Keppel O&M is a regular participant at trade and industry conventions and exhibitions around the world.

The annual Offshore Technology Conference (OTC) in Houston, Texas is an example of a platform that Keppel O&M regularly participates in to showcase our award-winning products and to strengthen networks with customers and business associates. From 27 to 29 October 2015, we also participated in the third OTC Brasil, where Keppel O&M received a wide range of visitors, including industry professionals, government representatives and students.

To help promote the country's maritime industry, Keppel O&M showcased its broad-ranging capabilities and services at the Singapore Pavilion of the Nor-Shipping Conference and Exhibition (Nor-Shipping) held in Oslo, Norway in June 2015.

In September 2015, Mr Chow Yew Yuen, CEO of Keppel O&M also presented at the

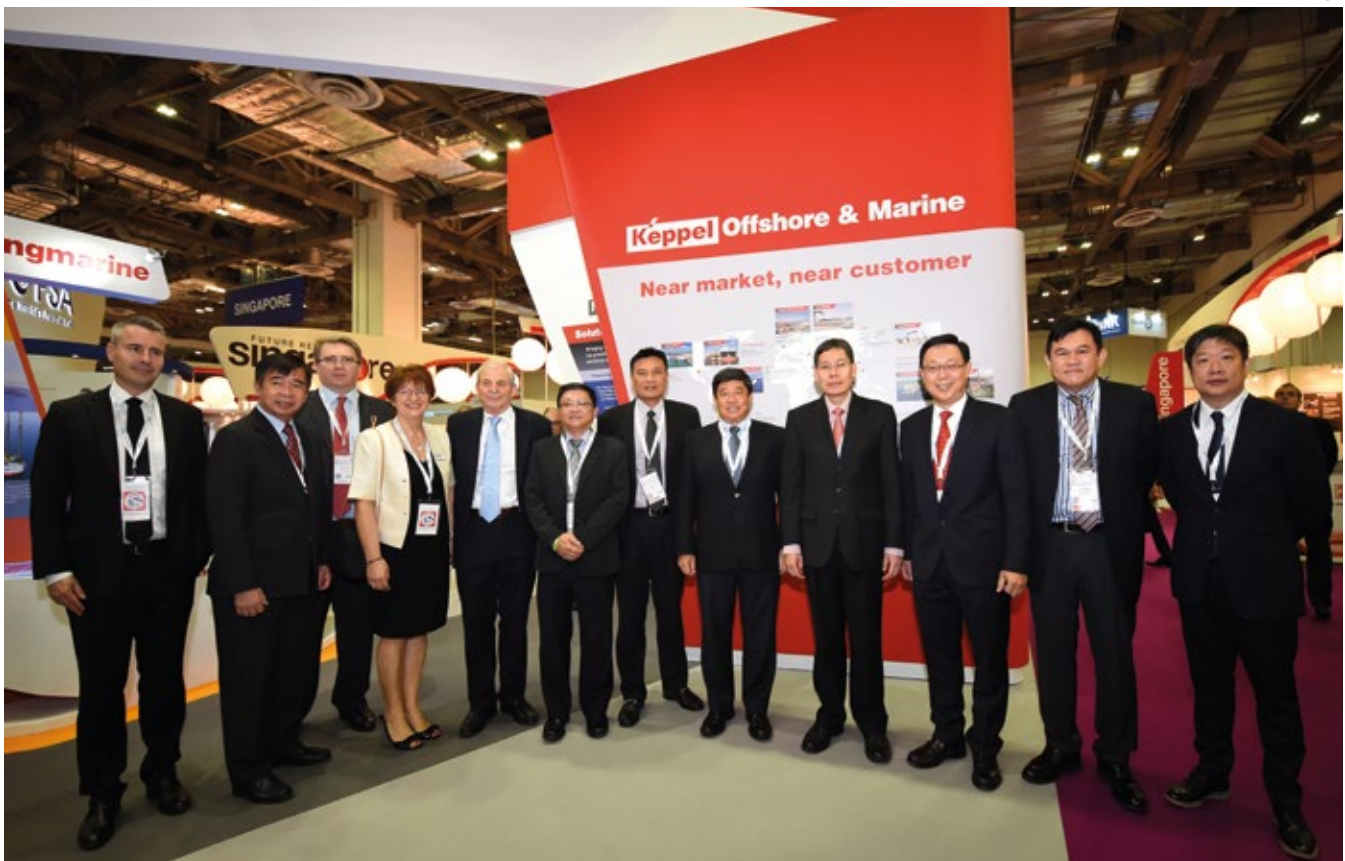
Pareto Securities Oil & Offshore Conference, the largest oil and offshore investor conference in Europe.

With a strong presence in the offshore and marine industry in the Asia-Pacific region, we were one of the major exhibitors to showcase our range of solutions and technological innovations at Sea Asia 2015. In addition, we participated in the Gastech Singapore and Petrovietnam Conference & Exhibition 2015.

Mr Chow Yew Yuen, was also the keynote speaker of the Opening Plenary session at The World Maritime Technology Conference in Rhode Island, USA in November 2015. He spoke about Keppel O&M's continuous innovation and R&D efforts to tap into new markets in the current low oil price environment, as well as our tight partnership with clients to develop customised solutions to meet future demands in the industry.

In the Middle East, Nakilat-Keppel Offshore and Marine (N-KOM) and Arab Heavy Industries (AHI) jointly featured their solutions at the

As a market leader, Keppel O&M plays an active role in developing and growing the industry.



01 Sea Asia is one of the many trade and industry conventions that Keppel O&M participates in to engage our clients and business partners.

02 As part of our efforts to save lives, blood donation drives are held regularly across Keppel O&M's local and overseas yards.



02

Abu Dhabi International Petroleum Exhibition & Conference 2015 held in the United Arab Emirates.

On top of our active participation in conferences and exhibitions, Keppel O&M also regularly hosts visits by foreign government officials and industry and business delegates who are keen to learn about our yard structure and operations.

Enriching Our Communities

Keppel O&M actively seeks to give back and support the different communities it operates in through a variety of programmes and projects. All employees are encouraged to initiate and participate in volunteer events to make a tangible difference.

Lending a Helping Hand

From active volunteerism to charitable contributions, both local and overseas business units from Keppel O&M regularly reach out to different social groups spanning a wide range of causes.

To help victims of a major earthquake in Nepal in April 2015, Keppel O&M organised a charity drive that raised over S\$35,000 for the Red Cross Society's Nepal Earthquake Relief Fund.

Over in Brazil, volunteers from BrasFELS worked with the Association of Neighbourhood Houses to organise a Christmas celebration for over 800 children from less privileged backgrounds in Angra dos Reis.

In 2015, BrasFELS also implemented the Teach-It Forward programme, an initiative which encourages younger employees to share their knowledge and experience with the community. The programme, which started in September 2015, saw over 30 trainee engineers from BrasFELS conducting Portuguese and Mathematics classes for Cornelis Verolme public school.

To meet the needs of elderly residents in Mother Teresa - Sister's Monastery, an old folks

home, volunteers from Caspian Shipyard Company (CSC) in Baku, Azerbaijan, contributed medical supplies and various amenities to the home. Volunteers from Keppel Nantong also visited an old folks home, Nantong Tianshenggang Gerocomium, where they engaged the residents in various activities, including gardening, dumpling making and workout exercises.

As part of The Philippines' National Schools Maintenance Week, 60 volunteers from Keppel Subic Shipyard and 43 volunteers from Keppel Batangas Shipyard cleaned, painted, repaired and reconditioned the facilities of various educational institutions, including elementary schools and high schools. Keppel Batangas Shipyard also donated 5,000 Pesos to three public schools located near the shipyard.

To raise funds for out-of-school youths volunteers from Keppel Batangas Shipyard participated in the annual Alay Lakad (Tagalog for 'walk offering') event.

Community Development



01

Keppel Subic Shipyard also donated supplies of scrap wood to Aeta Children's Home, which was used to construct furniture. The home provides indigenous children with free education and training of various skills, such as sewing.

Over in Brownsville, Texas, USA, volunteers from Keppel AmFELS delivered Christmas turkeys to a soup kitchen, the Good Neighbour Settlement House, which prepares and serves meals to around 200 low-income or homeless families. Together with Brownsville fire department, the yard also organised a toy drive and collected presents for children from low-income families.

As part of our efforts to help save lives, blood donation drives were also held across Keppel O&M's local and overseas yards,

including Keppel Subic Shipyard and Nakilat-Keppel Offshore & Marine (N-KOM).

Contributing to Green Initiatives

Committed to building a sustainable future, Keppel O&M is actively involved in various environmental protection programmes and preservation efforts.

In support of Earth Hour, lights at various Keppel O&M's yards and buildings were switched off for an hour on 28 March 2015. Educational materials, in the form of posters and e-mails, were sent to encourage Keppelites to adopt eco-friendly practices, such as reducing energy consumption and practicing the "3Rs"- Reduce, Reuse and Recycle.

In April 2015, N-KOM organised its fourth annual Beach Clean-up Campaign to raise awareness

of marine habitat preservation. Keppel Batangas Shipyard also actively supports the International Coastal Clean-up, an annual event aimed at educating the public on marine pollution and the protection of aquatic resources.

Through a petition, employees from Keppel Nantong pledged to protect the environment and participated in the yard's fourth tree planting activity. Six peach trees and approximately 300 green hedges were planted in various locations within the yard.

As part of the World Environment Day, an initiative by the United Nations Environment Programme, a poster-making competition with the theme "Our Yard, Our Home, Our Environment, Our Responsibility" and a tree planting programme were launched at Keppel Batangas

01 *Volunteers from Keppel Subic Shipyard contributed to environment preservation during the coastal clean-up at Barangay Calapandayan, Subic, Philippines.*

02 *Committed to giving back to the community, AmFELS organised a charity golf tournament that raised more than US\$50,000 for local charities and scholarship programmes.*

Committed to building a sustainable future, Keppel O&M is actively involved in various environmental protection programmes and preservation efforts.

Shipyards. A Mangrove Planting 2015 event with the theme “Environmental Care is the Most Profitable Investment” was also held.

Championing an Active Lifestyle

Through a range of different activities, including sports day, charity runs and charity golf tournaments, Keppel O&M encourages healthy and active lifestyles. We also help to raise funds for worthy causes by supporting as sponsors.

In 2015, Keppel O&M sponsored various sports events including the Metta Charity Walk, Metta Charity Golf, Society of Naval Architects and Marine Engineers Singapore (SNAMES) Golf Tournament 2015, HomeTeam NS REAL Run, Association of Singapore Marine Industries (ASMI) 23rd Bowling Tournament 2015, ASMI 24th Golf Championship Tournament, the Nanyang

Academy of Fine Arts (NAFA) Fundraising Golf Tournament 2015 and Singapore Red Cross Charity Golf.

At its annual Charity Golf Tournament this year, Keppel AmFELS in Brownsville raised more than US\$50,000 for various local charities and scholarship programmes, including YouthBuild, a programme providing hands-on training in construction trades to youths who have not completed their formal education; My Baby and Me Programme, an initiative to equip teenagers with parenting skills; Camille Playhouse, a community theatre that organises drama workshops for the community’s youths; as well as the Keppel AmFELS Scholarship Fund, which offers grants to outstanding students attending the University of Texas Rio Grande Valley.



Near Market, Near Customer



Keppel Offshore & Marine's network of yards worldwide are strategically located to meet the needs of our customers and bring our suite of proprietary solutions into more markets. By continuously strengthening our capabilities, we have the agility to take on a wider variety of projects as well as improve efficiency and safety.

From Singapore to China to Brazil, we have upgraded facilities or installed new equipment with greater capabilities to improve operations and enhance efficiency. The specifications of the individual yards can be found

on page 100 -101 of this report. We will continue to expand our yard network to where our customers require us, and will focus on markets which have growth potential and are commercially viable for us.

Four floating cranes support the lifting capabilities of the yards in Singapore:

- Asian Hercules III (5000MT)
- Asian Hercules II (3200MT)
- Asian Hercules (1600MT)
- Asian Helping Hand III (400MT)

Keppel FELS added a

700mt

gantry crane at its pioneer yard.



All Keppel yards in Singapore are within a 4km circle

- Keppel Offshore & Marine (HQ)
- Keppel FELS
- Keppel Shipyard
- Keppel Singmarine

Singapore

Singapore is the headquarters of Keppel Offshore & Marine which has seven yards in the country that are located within a 4km radius, enabling the yards to harness and share resources easily.



01 Keppel FELS[®] Pioneer Yard.

01

Keppel FELS has delivered more than 100 jackup rigs to date.

Keppel FELS

Keppel FELS leads the industry in the design and building of high performance mobile offshore rigs. Our portfolio of proprietary designs and floating production solutions meets a broad spectrum of operating requirements including deep waters and harsh environments. Since 2000, it has delivered the most number of jackup rigs and semisubmersibles in the world.



Capabilities

- Design and construct jackup rigs, semisubmersible rigs, floating production systems and other advanced vessels such as drillships
- Repair, upgrade and conversion of offshore rigs
- Design and development of critical rig equipment
- Fabrication of offshore structures and rig components



Key Equipment & Facilities

- Two drydock goliath cranes: 700MT and 500MT
 - The two cranes cover the fabrication and painting areas all the way to the drydock. It enables the yard to construct the modules of rigs in larger blocks which can then be lifted from the fabrication area to the drydock for assembly
- CAN-DO floating dock 138m x 78m
- Automated panel line workshop
- Automated pipeshop
- Development of Pioneer Yard 3
 - Strategically located along the major sea lane in the Singapore Straits
 - Designed to take in deepwater vessels such as semisubmersibles and drillships
 - Integrated skidding system for multiple uses

Near Market, Near Customer

Keppel Singmarine has constructed some

400

ships of diverse types and sophisticated levels for operations around the world.

Keppel Shipyard

Backed by over a century of experience, Keppel Shipyard is the industry's leading partner for the repair, conversion and upgrading of a diverse range of vessels. It has delivered over 115 FPSO/FSO/FSRU conversions.



Capabilities

- Conversion of FPSO/FSO/FSRU/FLNGV
- Repair, upgrading and conversion of a diverse range and capacity of vessels such as LNG carriers, livestock carriers, drilling tenders, and derrick lay barges
- Topside engineering, fabrication and integration
- Fabrication, installation and integration of mooring solutions such as turrets and spread mooring systems



Key Equipment & Facilities

- Semi-automated pipeshop
- Newly constructed 20,000 tonne load-out quay in Benoi with new 250 tonne crane

Keppel Singmarine

Keppel Singmarine has a strong track record for reliable and versatile newbuild solutions, having constructed some 400 ships of diverse types and sophistication levels for operations around the world.



Capabilities

- Design and build specialised vessels such as anchor handling tug/supply vessels, platform supply vessels, pipelay vessels, diving support vessels, multipurpose construction vessels, ice breakers & ice-class support vessels, cable laying vessels, floating storage & offloading vessels, rockdumping fall pipe vessels, well stimulation vessels, as well as harbour and terminal tugs



Key Equipment & Facilities

- Automated pipeshop with robotic profile cutter and 6-axis robotic welding
- Automated panel line workshop

01 Keppel Shipyard's Benoi Yard.

02 Keppel Nantong Shipyard and Keppel Nantong Heavy Industry.



Asia

Our yards in China, the Philippines and Indonesia have been configured to take on more complex projects as well as support our Singapore yards.



02

KNHI supports Keppel O&M's construction work by producing up to

32,000mt

of steel structures annually.

China

Keppel Nantong Shipyard (KNS) and Keppel Nantong Heavy Industry (KNHI)

Keppel Nantong Shipyard (KNS) has received the Industrial Excellence and Safety Excellence award by the Nantong Municipal People's Government for five consecutive years since 2010. As part of ongoing plans to expand its production capacity to build bigger offshore support vessels and take on more offshore projects in China, Keppel established a new yard, Keppel Nantong Heavy Industry (KNHI), next to the existing shipyard in 2011, increasing total yard space of Keppel Nantong from 190,000sm to 430,000sm.



Capabilities

- KNS constructs a wide range of vessels and offshore structures
- KNS was the first shipyard in China to be awarded the highest grade of safety certification from the Chinese State Administration of Work Safety

- Located along the Yangtze River, about 150 km north-west of Shanghai with close proximity to supporting offshore and marine industries in the Municipality of Nantong
- KNHI supports Keppel O&M's construction work from China by producing up to 32,000MT of steel structures annually
- KNHI can undertake heavy offshore fabrication projects including jackup rigs and semisubmersibles



Key Equipment & Facilities

- KNS has extensive berths, advanced mechanical transfer and launching systems, and comprehensive workshops
- Shoreline of 1,000m and wharf length of 535m
- KNHI has panel line fabrication workshops, a 600MT gantry crane and a 140m (L) by 80m (W) slipway to launch structures of up to 24,000MT
- With KNHI's newly established facilities, a complete upper hull for a semisubmersible can now be built and delivered in one single megablock

Near Market, Near Customer

The Philippines

Keppel Batangas Shipyard

Started in 1975, Keppel Batangas is the first overseas venture of the Keppel Group. Its shipyard at the Keppel Philippines Marine – Special Economic Zone is strategically located along the main trading routes of vessels in the region.



Capabilities

- Offshore rig fabrication
- Ship repair and conversion
- Shipbuilding track record of more than 100 newbuilds



Key Equipment & Facilities

- Keppel Batangas operates a 200m x 38m, 50,000 dwt capacity handy-max graving dock
- The yard is able to accommodate simultaneous repair projects using its shiplift system to bring vessels to any of its seven dry berths which are capable of docking vessels up to 20,000 dwt
- The newly-installed 300T gantry crane will facilitate the assembly of complete vessels at Berth 3 & 4
- Modern panel line workshop, hull shop and assembly slabs with 40T gantry cranes and sheds support efficient shipbuilding activities
- The yards' four assembly areas are equipped with mobile sheds and gantry cranes allowing for continuous production work on newbuild and fabrication projects

Keppel Subic Shipyard

Located in the Subic shipyard - Special Economic Zone, Keppel Subic Shipyard is the leading shipyard in the region providing greater flexibility and turnaround times for ship owners.



Capabilities

- Offshore structure/platform fabrication
- Topsides module fabrication

- Ship repair, marine and FPSO conversion
- Successfully completed Depletion Compression Platform (DCP) for the Malampaya Phase 3 Project of Shell Philippines Exploration. It is the first such platform to be fully constructed in the Philippines



Key Equipment & Facilities

- Operates a 550m x 65m drydock, one of the largest in the Philippines capable of co-drydockings
- Carries out a wide range of repair and modification works on a variety of vessels with drafts over 8.5m alongside the yards' berthing quays with a total of 942m length
- Fabrication areas totalling to 94,000m² with a 1,500T capacity gantry crane, the biggest in the Philippines at the grand assembly area
- Services double-banked Panamax and Capesize vessels undergoing afloat repair using its 100m jib crane with lifting capacity of 35T

Indonesia

Bintan Offshore

Established in 2006, Bintan Offshore is supporting Keppel O&M in module blocks fabrication. It has a dedicated local Indonesian team which is able to undertake the construction of jackup legwell blocks, semisubmersible columns, pontoons and upper hull blocks, living quarters, crane columns and helideck trusses amongst other things.



Capabilities

- Fabricates module blocks for a variety of offshore projects
- Steel structure fabrication and outfitting work as well as piping work, including fabrication, installation and testing.



Key Equipment & Facilities

- Total yard area of 310,000sm
- Wharf length of 270m and depth 5m
- Dry dock with length 102m, breadth 33m and depth 4.5m
- In-house welding training centre

01 Keppel Subic Shipyard.

02 BrasFELS yard in Angra dos Reis, Rio de Janeiro.



Americas

The Americas contains some of the world's largest hydrocarbon reserves and is dominated by oil majors. Keppel O&M's yards in USA (Brownsville, Texas) and Brazil (Rio de Janeiro and Santa Catarina) are strategically located to serve one of the most robust oil and gas regions in the world.



02

USA

Keppel AmFELS

Strategically located at the gateway of the Gulf of Mexico, Keppel AmFELS is the foremost offshore shipyard in the Gulf of Mexico, backed by a confluence of strengths such as a sheltered waterfront area, a massive drydock and modern steel-processing plant.



Capabilities

- Yard space of 555,438sm
- Construction, refurbishment, conversion, life extension and repair of a complete range of mobile drilling rigs and production platforms



Key Equipment & Facilities

- Floating dry dock with a lift capacity of 37,000 LT
- Manitowoc 21000 crane capable of lifting 1,000 short tonnes and with a maximum reach of 640ft
- Floating crane, Atlantic Giant, has a lifting capacity of 700 short tonnes.

Brazil

Keppel FELS Brasil/BrasFELS

The most well-equipped yard in Latin America, BrasFELS plays a key role in helping to meet Brazil's energy aspirations.



Capabilities

- Yard space of 522,230sm
- Construction, refurbishment, conversion, life extension and repair of a complete range of mobile drilling rigs and production platforms



Key Equipment & Facilities

- Newly installed Goliath gantry crane with 2,000MT lifting capacity has been supporting the installation of megablocks and modules
- FS-1 floating dock (130m x 71m)
- Gantry crane with 660MT lifting capacity
- Assembly area with movable sheds
- 720m of berthing space integrated with customs clearance facilities

Keppel Singmarine Brasil

Located in Navegantes, Santa Catarina, Keppel Singmarine Brasil complements BrasFELS yard in offering a one-stop solution for customised vessels with local content.



Capabilities

- Construction of specialised ships ranging from anchor handling tug/supply vessels to platform supply vessels, oil recovery support vessels and harbour tugs, among others
- Fabrication of offshore modules



Key Equipment & Facilities

- 300m long waterfront area
- CNC plasma steel cutting facilities with a 128m panel line fabrication shop
- Slipway with 120MT gantry crane
- 220m sheltered hull fabrication shop
- Pipe shop with CNC pipe bending machine
- Semi-auto recovery blasting chamber

Near Market, Near Customer

Europe

Netherlands

Keppel Verolme

Keppel Verolme operates a comprehensive yard in Rotterdam, the Netherlands, which is in close proximity to the gas and oil fields of the Netherlands, UK, and Norway, and has direct access to the North Sea.



Capabilities

- Dry-docking, repair and maintenance, modification, conversion and construction

- of various vessel types and offshore units
- Support European offshore wind energy sector with value-added services and solutions



Key Equipment & Facilities

- Three graving drydocks with the largest drydock measuring 405m x 90m, with water depth of 11.6m
- 2,000m of quay side with a water depth of up to 12m

Caspian Sea

The Caspian Sea region is one of the oldest oil-producing areas in the world and is an increasingly important source of global energy production.

Azerbaijan

Caspian Shipyards Company

Caspian Shipyards Company (CSC) in Azerbaijan is the first international rig construction, repair and conversion yard in the Caspian Sea region servicing the offshore oil and gas industry. It has a track record of delivering the first semisubmersible, jackup rig and ice-class Floating Storage and Offloading (FSO) vessel built in-country.



Capabilities

- Offshore rig construction, repair and conversion
- Able to support in the completion of rigs going to the Black Sea



Key Equipment & Facilities

- Quay berthing space: 250m
- Reinforced load-out quay area: 3,700m² (80t/m²)
- Workshop: structure, piping, electrical, mechanical
- Material handling equipment

Baku Shipyards

Baku Shipyards adds to Keppel's existing footprint in Azerbaijan. Responsible for the management of the yard, Keppel O&M has a 10% ownership while SOCAR and AIC own 65% and 25% respectively.



Capabilities

- Construction of a wide range of specialised vessels and merchant ships including subsea vessels, anchor handling tug/supply vessels and multi-purpose offshore support vessels
- Ship repair and conversion
- Able to undertake offshore structure construction and repairs
- When operating at full capacity, it is able to undertake up to 100 repairs and conversions per annum and is estimated to achieve an average annual steel output of 25,000MT



Key Equipment & Facilities

- Floating dry dock 168m x 50m
- 300m x 30m finger pier
- 450m of quay berthing space with 25MT level luffing crane
- 275m x 80m of new building berth
- 323m x 136m transfer slab for repair services
- Blasting and painting hall equipped with full abrasive recovery system, dehumidifier, silo and blast and paint machines
- Steel fabrication, pipe fabrication, mechanical and electrical workshop housing the most modern machines



Middle East

The Gulf holds some of the world's largest oil and gas reserves, and is home to the biggest offshore oil and gas fields. It provides one of the best offshore environments in the world for oil and gas production, offering shallow, warm and relatively calm waters.



02

01 Keppel Verolme in The Netherlands.

02 N-KOM yard in Qatar.

Qatar

Nakilat-Keppel O&M

Nakilat-Keppel O&M (N-KOM) is a 508,000sm world-class shipyard facility located at the north-eastern tip of Qatar, next to the gas loading terminals in the Ras Laffan Port. In operation since 2011, the shipyard has delivered more than 500 marine and offshore projects. It is the leading provider of repairs and maintenance for gas carriers in the region, having completed more than 100 LNG carrier repairs.



Capabilities

- Ship repair and conversion
- Construction and maintenance of offshore structures (jackup rigs, liftboats, jackets & piles, etc.)
- Provider of green shipping & gas-related marine solutions (e.g. BWTS installations, ME-GI conversion, etc.)
- Leading provider of repairs and maintenance for gas carriers



Key Equipment & Facilities

- Two VLCC-sized graving docks (400m x 80m and 360m x 66m),
- Q-max floating dock (405m x 66m)
- Eight quays and piers with a total berthage capacity of 3km and a 150m loading quay

- Electrical and instrumentation, steel, piping and mechanical and machinery workshops as well as a 9,600sm warehouse
- Cryogenic clean room
- Over 500,000sm of fabrication area
- Dedicated facility (200m floating jetty & dry berth) for small vessel repairs
- 300MT and 1,100MT mobile boat hoists

Emirate of Ajman

Arab Heavy Industries

Strategically located along the coast of the Emirate of Ajman, about 30 km from Dubai, Arab Heavy Industries (AHI) has built a reputation for being the preferred solutions partner for fleet owners and operators in the Arabian Gulf.



Capabilities

- Ship repair and conversion, shipbuilding, as well as offshore structures repairs and modifications
- Newbuilding of tugboats, supply vessels, barges, landing craft, coastal freighters, jetties and pontoons



Key Equipment & Facilities

- Yard area of 270,000sm
- 9,000sm covered workshop
- 75,000sm open fabrication area

Yards & Offices

Harnessing the synergy of 20 yards worldwide keeps us Near Market, Near Customer.

- Headquarters ●
- Offshore & Marine ●
- Engineering/R&D Centre ●
- Representative Offices ●
- Marine Services ●

Headquarters

Singapore

- **Keppel Offshore & Marine Ltd (Headquarters)**
Global leader in offshore & marine

Offshore & Marine

Azerbaijan

- **Caspian Shipyard Company, LLC**
Builder & repairer of rigs & ships
- **Baku Shipyard LLC**
Builder & repairer of offshore support vessels and tankers

Brazil

- **Keppel FELS Brasil S.A./BrasFELS**
Most established offshore yard in the Latin American region
- **Keppel Singmarine Brasil Ltda**
Builder of offshore support vessels & tugboats

China

- **Keppel Nantong Shipyard Co. Ltd**
Builder of offshore support vessels, tugboats, ice-class vessels and LNG carriers
- **Keppel Nantong Heavy Industry Co. Ltd**
Offshore construction facility

Indonesia

- **PT Bintan Offshore**
Offshore fabrication facility

Japan

- **Regency Steel Japan Ltd**
Manufacturer of large, high-quality steel structures

Qatar

- **Nakilat-Keppel Offshore & Marine Ltd**
Comprehensive service provider of marine and offshore solutions

Singapore

- **Keppel FELS Ltd**
World leader in design & construction of mobile offshore structures
- **Keppel Shipyard Ltd**
Leader in the repair & conversion of all kinds of vessels
- **Keppel Singmarine Pte Ltd**
Leading builder of offshore support vessels & tugboats

The Netherlands

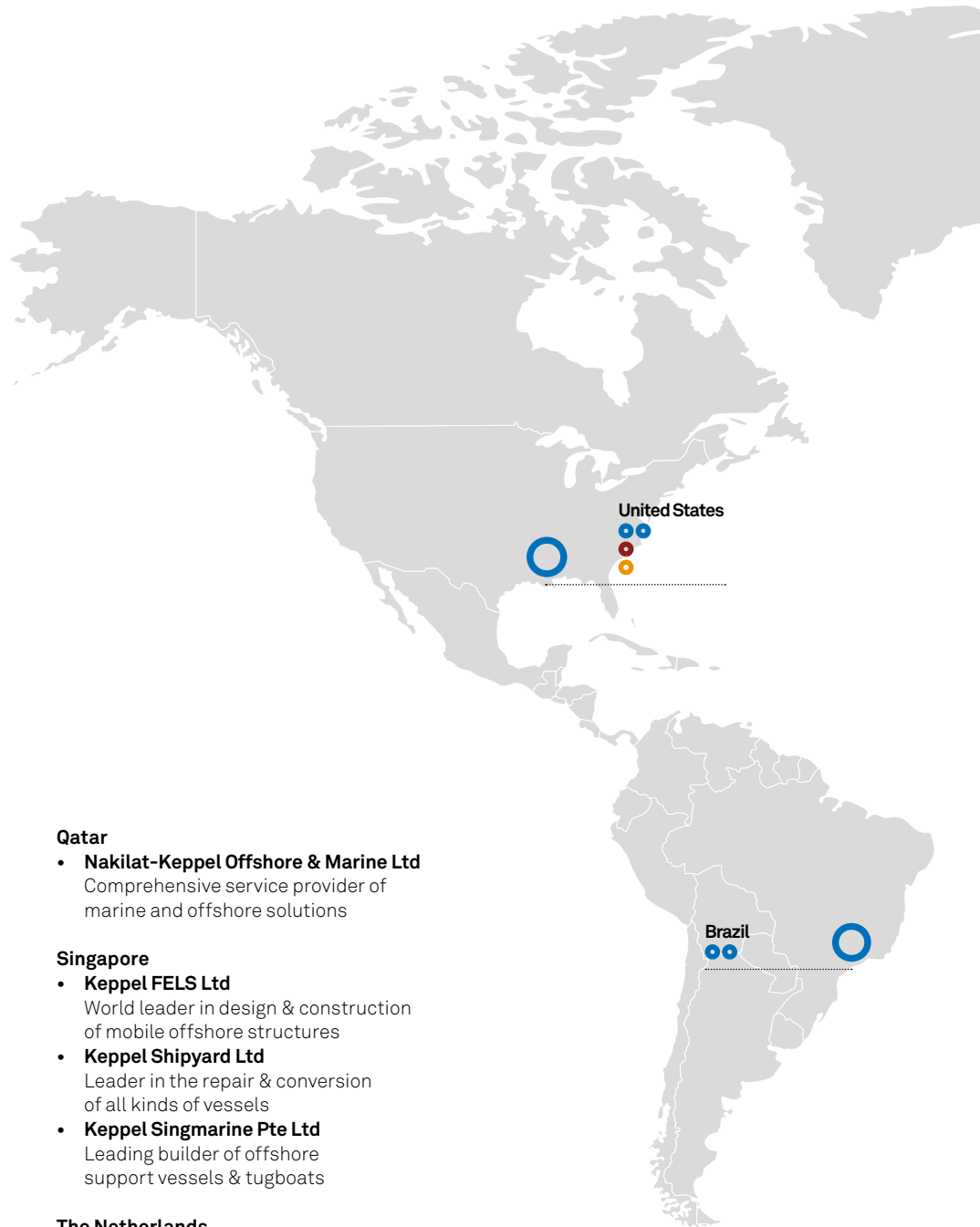
- **Keppel Verolme BV**
The most established offshore & marine yard in Europe

The Philippines

- **Keppel Philippines Marine, Inc**
- **Keppel Batangas Shipyard, Inc**
Repairer & builder of small to medium-sized vessels & offshore fabrication facility
- **Keppel Subic Shipyard, Inc**
Provider of ship repair, conversion, offshore fabrication & construction solutions

United Arab Emirates

- **Arab Heavy Industries PR.J.S.C.**
Repairer & builder of small to medium-sized vessels



United States

USA

- **Keppel Offshore & Marine USA, Inc**
Solutions provider for offshore structures
- **Keppel AmFELS, LLC**
Best-equipped offshore yard in the Gulf of Mexico

Engineering/R&D Centre

Bulgaria

- **Keppel FELS Baltech Ltd**

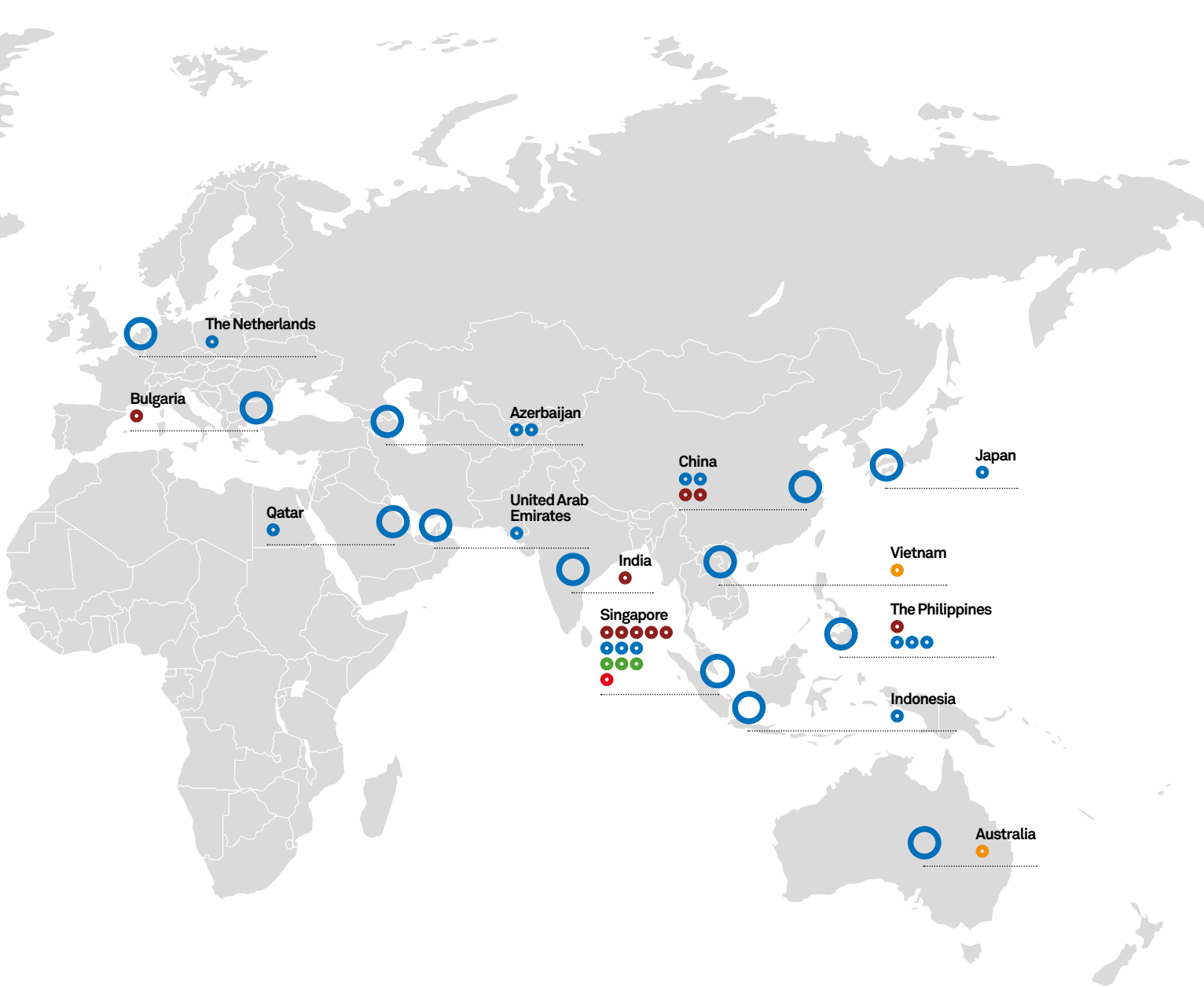
China

- **Keppel FELS Engineering Shenzhen Co. Ltd**
- **Keppel FELS Engineering Wuhan Co. Ltd**

India

- **Keppel Offshore and Marine Engineering Services Mumbai Pte Ltd**

Yards & Offices



Philippines

- Keppel Singmarine Philippines, Inc

Singapore

- **Keppel Offshore & Marine Technology Centre Pte Ltd (KOMtech)**
R&D Centre for new technologies and processes
- **Offshore Technology Development Pte Ltd**
Designer of jackup rigs & critical equipment
- **Deepwater Technology Group Pte Ltd**
Designer & developer of deepwater semisubmersible solutions
- **Marine Technology Development Pte Ltd**
Designer of offshore support vessels & tugboats
- **Gas Technology Development Pte Ltd**
Provider of gas solutions

USA

- **Bennett Offshore, LLC**
Offshore & marine design and engineering company

Representative Offices

Australia

- Keppel Prince Engineering Pty Ltd

USA

- Keppel Marine Agencies International, LLC

Vietnam

- Keppel FELS Ltd (Vietnam)

Marine Services

Singapore

- **Asian Lift Pte Ltd**
Specialist in heavy lift
- **Keppel Smit Towage Pte Ltd**
Towage solutions provider
- **Keppel Sea Scan Pte Ltd**

Yard Equipment and Facilities

	Total land area (square metres)	Type	Dock capacity Capacity (dead weight tonnes)	Berthage			Outfit quay						
				Size (metres)	Length (metres)	Draft (metres)	Building berth (capacity)	Length (metres)	Depth (metres)				
Singapore													
Keppel FELS Ltd (Pioneer)													
Admiral Dock	284,292.3	Drydock	400,000	380 x 80	380	13							
FELS CAN-DO		Semisubmersible Barge	30,000 lifting	138 x 78									
		Berth space						1,400	8 – 11				
		Berth space						350	4.5 – 6				
Pioneer Yard II	139,073	Berth space					500	4.5					
Shipyard Road	88,289	Berth space					740	7					
Crescent Yard	98,919	Berth space					300	4 – 5					
Tuas South Yard	131,289	Outfit Quay											
Keppel Shipyard Ltd (Tuas)													
Tuas Dock	443,423	Drydock	360,000	350 x 66	2,507	6.6							
Raffles Dock		Drydock	400,000	400 x 64		6.6							
Temasek Dock		Drydock	150,000	301 x 52		7.4							
Temasek Pier East		Berth space				280	7.2						
Finger Pier West		Berth space				350	9						
Finger Pier East		Berth space				370	8.5						
Raffles Pier West		Berth space				430	8.5						
Raffles Pier East		Berth space				230	6.1						
West Quay		Berth space				450	7.1						
South Quay		Berth space				177	8						
Raffles Dock Entrance		Berth space				220	7.1						
Keppel Shipyard Ltd (Benoi)													
Drydock No. 1		350,000	Drydock	300,000		350 x 60	1,737	5.5					
Drydock No. 2			Drydock	170,000		300 x 60		5.5					
No.1 Quay	Berth space				217	11							
No.2 Quay	Berth space				220	8							
No.2 Quay/Extension	Berth space				340	12							
No.3 Quay	Berth space				280	8							
No.4 Quay	Berth space				224	7							
No.5 Quay	Berth space				156	7							
Dock 1 Entrance	Berth space				200	8							
Landing Quay	Berth space				100	5							
Building Berth	Slipway				230 x 70								
Keppel Shipyard Ltd (Gut)													
FD No. 1	140,000		Floating Dock	14,000 lifting	190 x 32	530							
FD No. 2			Floating Dock	5,000 lifting	114 x 27								
FD No. 3		Floating Dock	12,000 lifting	170 x 27									
North Quay 1		Berth space			177		6.5						
North Quay 2		Berth space			193		6.6						
North Quay 3		Berth space			160		6.6						
Keppel Singmarine Pte Ltd													
Drydock in Benoi 5		149,924	Drydock	5,000	105 x 18.5			8.2					
Building Berth in Benoi 15			Slipway		225 x 38.5(min) – 72.5(max)			120 x 27.5					
Building Berth in Benoi 5			Slipway										
Wharf in Benoi 5			Wharf					60	5				
Quay 5 in Benoi 15			Berth space					156	7				
Azerbaijan													
Baku Shipyard LLC													
28 May Floating Dock	720,000		Floating dock	25,000 lifting	168 x 50						7.5		
Repair Slab on Shore			Berth space on Land	18,000 for transfer mode	250 x 140							7.5	
East Quay			Berth space					250				7.5	
West Quay			Berth space					130				7.5	
Finger Pier			Berth space					300				7.5	
Caspian Shipyard Company Ltd													
Yusif Ibrahimov (Hull 901)			60,000	Floating Dock	15,000			128 x 74.5		6.5			
Floating Dock (Hull 953)	Floating Dock	5,000		128 x 21.7	6.5								
Floating Dock (Hull 806)	Floating Dock	4,500		102 x 20	6.5								
Jetty 3								280		6.5			
Jetty 4								100		4.5			
Brazil													
Keppel FELS Brasil S.A. (BrasFELS Yard)													
Drydock	522,230	Graving Dock		125 x 70									
FS1 Floating Dock		Floating Dock	22,000	120 x 57		10							
Slipway No. 1		Slipway	35,000	174 x 30									
Slipway No. 2		Slipway	150,000	310 x 45									
Slipway No. 3		Slipway		185 x 70									
Finger Pier East		Outfit Quay				360	12						
Finger Pier West		Outfit Quay				360	11.5						

Yard Equipment and Facilities

	Total land area (square metres)	Type	Dock capacity Capacity (dead weight tonnes)	Berthage			Outfit quay		
				Size (metres)	Length (metres)	Draft (metres)	Building berth (capacity)	Length (metres)	Depth (metres)
Brazil (cont'd)									
Outfit Pier East		Outfit Quay			300	6 – 7			
Outfit Pier West		Berth space			120	7 – 8			
Slipway 2 Pier		Berth space			160	8 – 9			
Slipway 3 Pier 1		Outfit Quay			160	8 – 9			
Slipway 3 Pier 2		Outfit Quay			160	8 – 9			
Keppel Singmarine Brasil Ltda	76,000								
Slipway No. 1		Slipway		130 x 28					
Quay No. 1		Berth space			300	6			
China									
Keppel Nantong Shipyard Co. Ltd	190,000								
Slipway No. 1		Slipway	3,000	90 x 33					
Wharf No. 1		Wharf			80	7			
Keppel Nantong Heavy Industry Co. Ltd	235,900								
Slipway No. 2		Slipway	24,000	140 x 84					
Wharf No. 2		Wharf			80	7			
The Philippines									
Keppel Subic Shipyard, Inc	666,933								
Pacific Dock		Graving Dock	550,000	550 x 65					
C Quay					279				
E1 Quay					351	8.5			
E2 Quay					312	8			
Keppel Batangas Shipyard, Inc	353,000								
President Dock		Graving Dock	50,000	200 x 38					
Ship Lift System		Lift Platform	20,000	172 x 28					
		Dry Berth: 8 off	Dry Berth: 8 off						
Pier No. K1					68 x 2	6			
Pier No. K2					83 x 2	6			
Pier Block No. 1					183	8			
Pier Block No. 2					160	8			
Pier Block No. 3					70	8			
Pier Block No. 4					155	8			
The Netherlands									
Keppel Verolme BV	554,000								
Dock No. 5		Berth Space			1,600	9 – 12		400	9 – 12
Dock No. 6		Graving Dock	65,000	230 x 35.5		8			
Dock No. 7		Graving Dock	130,000	275 x 41		10.30			
		Graving Dock	500,000	405 x 90		11.60			
Qatar									
Nakilat-Keppel Offshore & Marine Ltd	508,000								
Dry Dock No. 1		Drydock	350,000	360 x 66	360	11			
Dry Dock No. 2		Drydock	450,000	400 x 80	400	12			
		Floating Dock	120,000t lifting capacity	405 x 66					
1 Quay					400				11
1 Quay					400				11
Loading Quay					150				11
1 Pier					400				11
1 Pier					400				11
1 Pier					400				11
1 Pier					400				11
1 Floating Pier					200				11
1 Quay					400				11
United Arab Emirates									
Arab Heavy Industries PR.J.S.C.	273,000								
Al Zora Drydock		Graving Dock	30,000	175 x 32		7			7
Slipway No. 1		Slipway	*1,500	120 x 16					
Slipway No. 2		Slipway	*1,500	120 x 16		5			
Slipway No. 3		Slipway	*2,500	120 x 16					
Slipway No. 4		Slipway	*3,000	120 x 16		5			
Al Zora Wharf		Wharf			250				7
East Wharf		Wharf			200				5
West Wharf		Wharf			83				5
USA									
Keppel AmFELS, LLC	555,438								
Floating Drydock		Floating Drydock	37,594	94 x 111		10			
Launching Way					380	9.14			
West Dock Quay					153	9.14		153	9.14
East Dock Quay					297	10.67		297	10.67

* Light Displacement Tonnage

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Azerbaijan

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Singapore Asian Lift Pte Ltd	INDIA Keppel Offshore & Marine Engineering Services Mumbai Pte Ltd	Norway OWEC Tower AS	USA FloaTEC, LLC	
Singapore FELS Offshore Pte Ltd	CHINA Keppel FELS Engineering Shenzhen Co. Ltd		USA Bennett Offshore	
	JAPAN Regency Steel Japan Ltd	Brazil Keppel FELS Brasil SA	BRAZIL Estaleiro BrasFELS Ltda	
Singapore Keppel Offshore & Marine Technology Centre Pte Ltd	INDONESIA PT Bintan Offshore	Brazil Keppel Singmarine Brasil Ltda		
Singapore Offshore Technology Development Pte Ltd	BERMUDA Floatel International Ltd	Azerbaijan Baku Shipyard LLC		
Singapore Deepwater Technology Group Pte Ltd	SINGAPORE Keppel Singmarine Pte Ltd			
Singapore KS Investments Pte Ltd	SINGAPORE Blastech Abrasives Pte Ltd			
Singapore Keppel Sea Scan Pte Ltd	SINGAPORE Keppel Smit Towage Pte Ltd	Malaysia KSP Towage Sdn. Bhd		
	SINGAPORE Maju Maritime Pte Ltd	Malaysia Kejora Resources Sdn. Bhd		
	UAE Arab Heavy Industries PR.J.S.C.	UAE Arab Eagle Marine Engineering LLC		
	SINGAPORE Alpine Engineering Services Pte Ltd			
	PHILIPPINES Keppel Philippines Marine, Inc	Philippines Keppel Batangas Shipyard, Inc		
	SINGAPORE Marine Technology Development Pte Ltd	Philippines Keppel Subic Shipyard, Inc		
	CHINA Keppel Nantong Shipyard Co. Ltd			
	CHINA Keppel Nantong Heavy Industry Co. Ltd			
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	SINGAPORE Dyna-Mac Holdings Ltd			
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