

**Pareto Securities'**  
**22<sup>nd</sup> Annual Oil & Offshore Conference**  
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CEO Keppel Offshore & Marine

**Keppel Offshore & Marine**

## **Disclaimer**

*This release may contain forward-looking statements which are subject to risks and uncertainties that could cause actual results to differ materially from such statements. Such risks and uncertainties include industry and economic conditions, competition, and legal, governmental and regulatory changes. The forward-looking statements reflect the current views of Management on future trends and developments.*

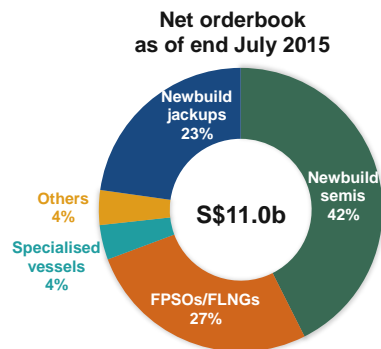
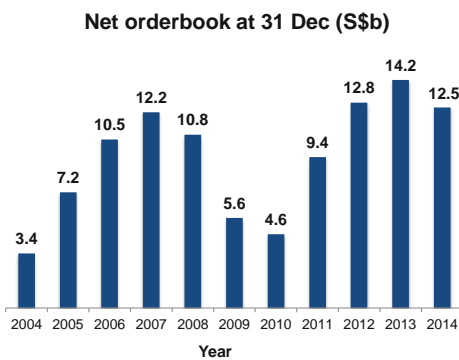
## Four Key Pillars of Business



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## Order Backlog

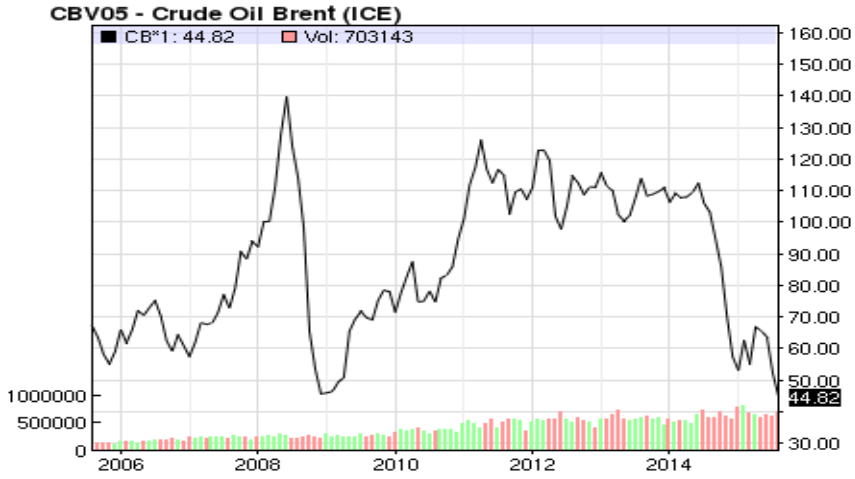


- Year-to-date order wins include an FLNG conversion, an FPSO conversion, FPSO topside/turret fabrication work, an ice-class multi-purpose vessel, 2 liftboats, an AHT and repair, upgrade and modification work.

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## Oil Price

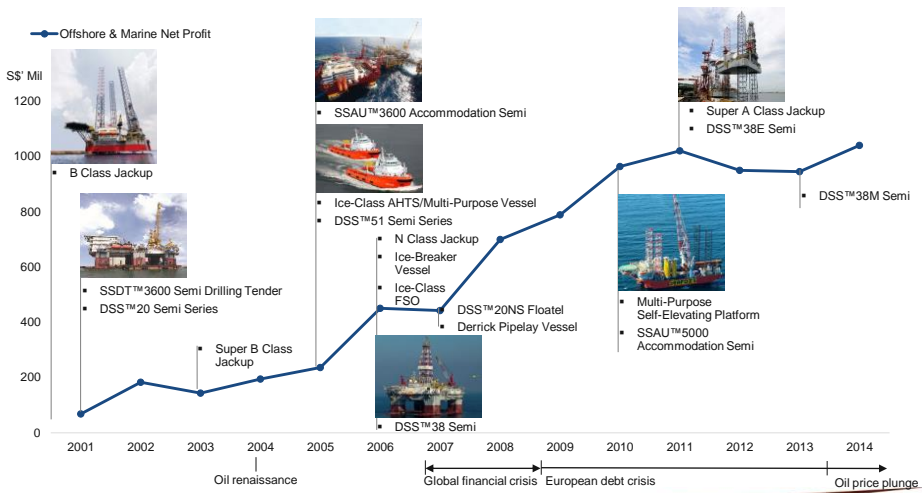


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## Scaling up the O&M Value Chain

Creating Value through Proprietary Solutions

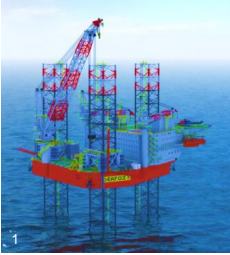


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## Scaling up the O&M Value Chain

- New proprietary solutions developed in recent years.



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1. Plug & Abandonment Jackup; 2. SMART Semi®; 3. FLNG Conversion; 4. Mid-Water Semi; 5. SSdT™ 5000NG Semi Drilling Tender; 6. New-Generation Liftboat; 7. New-Generation Platform Supply Vessel

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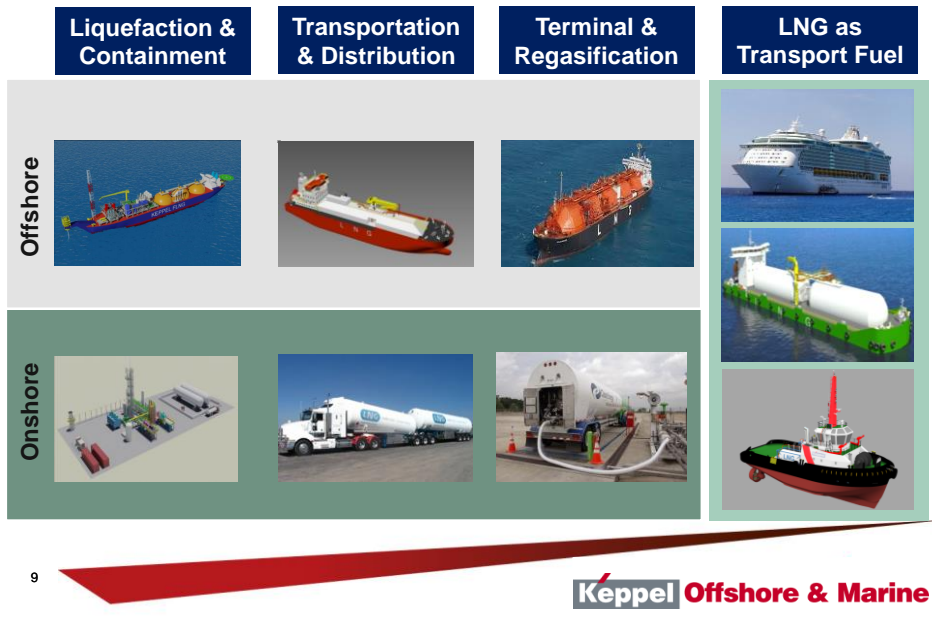
## Seizing Opportunities

- Gas
- Inspection, Maintenance & Repair (IMR), Support and Decommissioning
- Subsea Support
- Next-Generation Drilling

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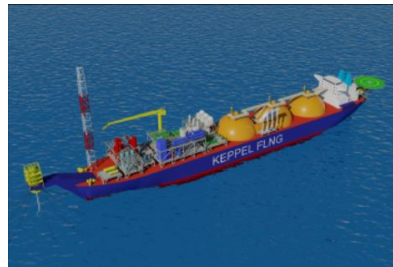
## Gas Value Chain



## FLNG Solutions

Providing a viable solution for mid-scale gas liquefaction

- Secured third FLNG vessel conversion job from Golar LNG.
- Building on track record of 113 units of FPSO, FSO and FSRU conversions.
- Innovating midstream solutions for small and mid-scale LNG projects.



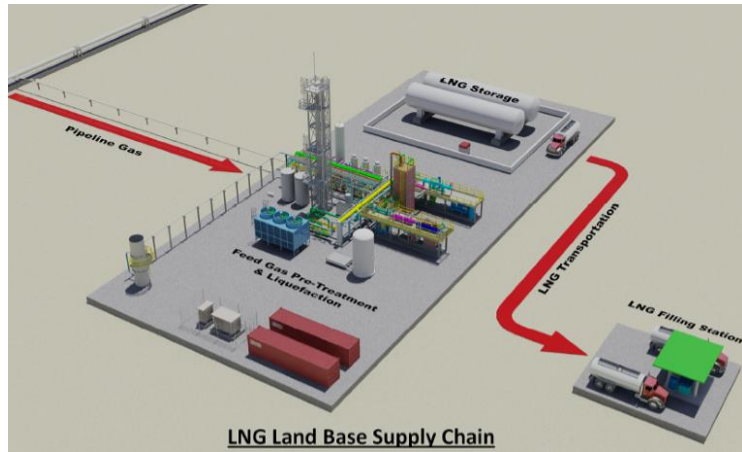
The global FLNG market is expected to draw US\$65b of investments from 2014 to 2020.

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## PreNEx Liquefaction Technology

The proprietary Pre-cooled Nitrogen Expander (PreNEx) technology is designed for LNG production



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## Seizing Opportunities

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- Next-Generation Drilling

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## SMART Semi®

Reliable accommodation / maintenance vessel to support turret-moored FPSOs

- SMART (Safety, Maintenance Rapid Transit) semi supports maintenance and upgrading of process system on FPSO.
- Designed with enhanced agility to work alongside turret moored FPSOs improving operational uptime.



The first Floatel design with enhanced agility to follow a target such as a Turret Moored FPSO.

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## New Liftboat Design

Innovative liftboat solution for global operations

- Customised self-propelled and self-elevating platform.
- An operating depth of 65 metres.
- Large versatile open deck space for cargo storage
- Accommodation capacity for up to 200 men.
- Greater safety features



The liftboat offers spacious work space and accommodation areas in addition to enhanced operational safety.

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## New Platform Supply Vessel Design

Designed with new improved bow shape that reduces pitch motion

- New bow shape “K-Bow” for improved ship motion.
- DC Grid for fuel-efficient power transmission.
- At low utilisation and standby modes, vessel will be battery operated which provides zero carbon emissions and fuel savings.
- Hydro-dynamically efficient hull form.



A new Platform Supply Vessel with well designed exterior and interior.

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## Ice-Class Vessel

Multi-faceted vessel for harsh environment in the Arctic and Caspian regions

- Operates in temperatures as low as minus 30 degrees Celsius.
- Equipped with Ice Class Arc 5 notation, Class 3 dynamic positioning and diving support function.
- In-house integrated diesel electric propulsion system for operating efficiency.



Keppel Singmarine has delivered seven newbuild ice-class vessels with an additional four under construction.

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## Plug & Abandonment (P&A) Rig

Versatile P&A rig based on Keppel's winning jackup designs.

- Commenced engineering study of a purpose-built P&A jackup rig with accommodation.
- Suited for the harsh environment of the Norwegian sector of the North Sea.
- Expected to be 25-30% more economical in terms of dayrates.
- Can be configured for other offshore support services.



Seafox 8 is able to offer P&A services, well intervention services, and accommodation and crane support services.

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## Seizing Opportunities

- Gas
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- Subsea Support
- Next-Generation Drilling

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## Subsea Construction Vessel

Cutting-edge Subsea Construction Vessel (SCV) for the Caspian Sea

- Dynamic positioning which enables operations in significant wave heights up to 2.5 meters.
- 750 MT main crane for 600 metre-deep subsea operations.
- 18-men 2-bell saturated diving system.
- 2 work-class remote operated vehicles.



The SCV will be deployed for Stage 2 development of the Shah Deniz field upon completion in April 2017.

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## Diving Support Vessel

In-house designed diving support vessel (DSV) serving a variety of functions



The DSV is capable of submarine rescue, rescue intervention training as well as subsea installation and operations.

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## Pipelay Vessel

### High-specification deepwater pipelay (S-Lay) vessel

- Designed to support advanced pipelay operations in depths of up to 10,000 feet.
- Highly efficient pipelay rates for long trunklines.
- Capable of operations in severe weather conditions.
- Provides significant thrust output and power distribution.



Keppel is one of the largest pipelay vessel builders.

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## Seizing Opportunities

- Gas
- Inspection, Maintenance & Repair (IMR), Support and Decommissioning
- Subsea Support
- Next-Generation Drilling

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## Mid-Water Semisubmersible

Robust and cost effective mid-water drilling solution

- Superior motion characteristics.
- Mitigates low frequency roll motions.
- Low wave drift forces.
- Enhances safety and operational performance.
- Higher deck load.



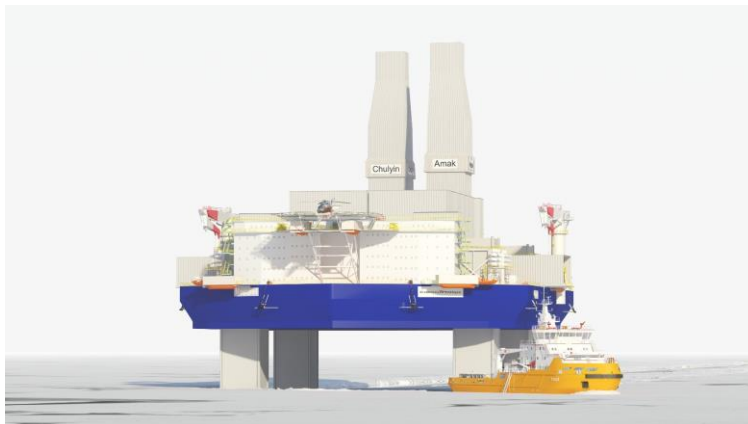
Mid-water semisubmersible is designed for harsh environment operation in UK North Sea (West of Shetlands), East Canada and Australia.

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## Arctic Jackup

Robust arctic rig based on Keppel's winning jackup designs



The arctic rig is capable of operations in harsh temperatures of below minus 60 degrees Celsius.

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## Can Do™ Drillship

Premier drillship for deepwater exploration, well development & completion



The next generation Can Do™ drillship is designed for optimal performance and cost efficiency

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***Near Market, Near Customer***

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## Global Network

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



## Singapore: Keppel FELS

Global leader in offshore rig design, construction and repair



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## Singapore: Keppel FELS

KOM: 113 jackups and 39 semisubmersibles delivered and on order since 2000



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## Singapore: Keppel Shipyard

Converted/repaired 40% of FPSO/FSO/FSRU vessels and fabricated 30% of turrets for FPSO vessels worldwide



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## Singapore: Keppel Shipyard

Expertise in LNG solutions



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## Singapore: Keppel Shipyard

- Conversion of the world's deepest offshore floating production development, Turritella, to be deployed at the Stones oil field in the Gulf of Mexico.



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## Singapore: Keppel Singmarine

Constructed over 400 specialised vessels for global clientele



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## Singapore: Keppel Singmarine

- Delivered Asia's first ice-breakers, Varandey and Toboy, currently operating in the Barents Sea of Russia.

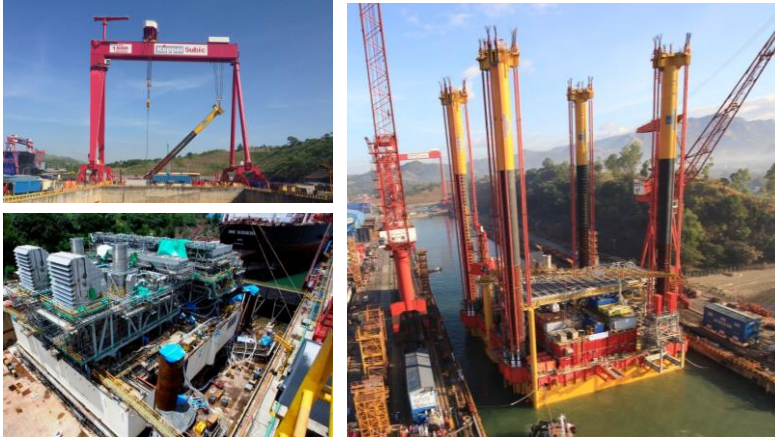


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## The Philippines: Keppel Subic

Delivered the first Depletion Compression Platform built in the Philippines to Shell



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## China: Keppel Nantong

Offers effective production support to the Singapore yards



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## China: Keppel Nantong

- Delivered pontoons and spud cans of an accommodation semi for assembly in Singapore.



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## US Gulf of Mexico: Keppel AmFELS

- Established a strong track record in the construction, refurbishment, conversion, life extension and repair of a variety of drilling rigs.
- Building one of world's largest land rigs, capable of operating in harsh conditions.



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## Brazil: BrasFELS

Over 13 years of experience operating in Brazil providing solutions for offshore rigs, FPSOs, specialised vessels and repair and upgrading projects



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## Brazil: BrasFELS

- On track construction of newbuild DRU #1 and #2.

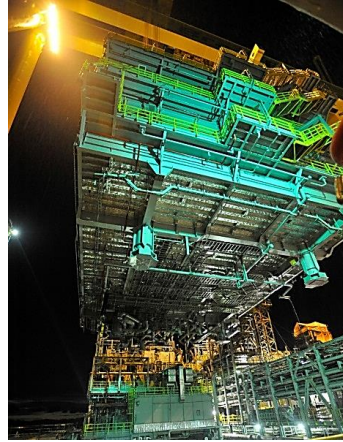


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## Brazil: BrasFELS

- Fabrication and integration of topside modules on the FPSO P-66 for the Petrobras-led consortium, Guara BV.



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## Brazil: BrasFELS

- Repair of semisubmersible rig, Ensco 6002.



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## Azerbaijan: Caspian Shipyard

- The first international rig construction, repair and conversion yard in the Caspian region.
- On track for delivery of newbuild DSS™ 38M semisubmersible rig on time and within budget.



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## Azerbaijan: Baku Shipyard

- Baku Shipyard is undertaking the design and construction of a subsea construction vessel for BP Exploration.



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## Middle East: Nakilat-Keppel O&M

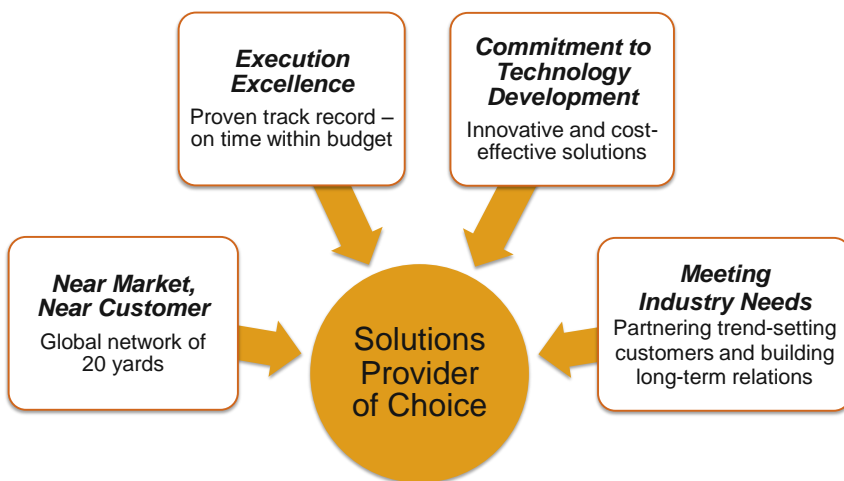
Repaired over 200 vessels to-date. Premium shipyard with a full and comprehensive range of services



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## Configured to Grow



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**Thank you  
Q&As**

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