

OPERATING & FINANCIAL REVIEW

OFFSHORE & MARINE

WE AIM TO BE THE PREFERRED SOLUTIONS PARTNER OF THE GLOBAL OFFSHORE AND MARINE INDUSTRY.



EARNINGS HIGHLIGHTS (\$ million)

	2019	2018	2017
Revenue	2,220	1,875	1,802
EBITDA	181	26	(37)
Operating Profit/(Loss)	60	(73)	(167)
Loss before Tax	(24)	(113)	(862) [^]
Net Profit/(Loss)	10	(109)	(826) [^]
Average Headcount (Number)	11,560	11,875	15,571
Manpower Cost	561	485	623

[^] Includes the one-off financial penalty and related costs of \$619 million.

MAJOR DEVELOPMENTS IN 2019

Secured over \$2 billion worth of new contracts.

Delivered 13 newbuild and conversion projects.

Enlarged footprint in the offshore renewable energy industry with two contracts from Tennet Offshore and Ørsted.

Reached a settlement agreement with Sete Brasil, bringing closure to the outstanding contracts for the construction of six rigs.

Became one of the first companies in Singapore to achieve global certification for the ISO 37001 Anti-Bribery Management System.

FOCUS FOR 2020/2021

Capture opportunities in new and existing markets.

Leverage synergies across the Keppel Group to build new capabilities and expand solution offerings.

Continue to focus on execution excellence, corporate governance and risk management.

Invest in R&D to strengthen existing capabilities and build new muscles for long-term growth.

Re-purpose offshore technology for other applications, including renewables.

EARNINGS REVIEW

The offshore & marine (O&M) industry continued to show signs of recovery in 2019, with gradual improvements in rig utilisation and dayrates. On the back of its diversification strategy, Keppel Offshore & Marine (Keppel O&M) secured over \$2 billion worth of new orders in 2019, compared to \$1.8 billion in 2018. Gas and offshore renewables solutions made up over 60% of new orders.

Revenue from the O&M Division was \$2.2 billion for FY 2019, \$345 million higher than in FY 2018 mainly due to higher revenue recognition from ongoing projects, partly offset by the absence of revenue from the sale of jackup rigs to Borr Drilling in 2018.

The Division's operating profit before revaluations, major impairments and divestments for FY 2019 was \$76 million, more than double the \$37 million for FY 2018. The O&M Division returned to profitability for the first time since FY 2016. FY 2019 net profit was \$10 million, compared to the loss of \$109 million for FY 2018, underpinned by the increased topline, cost management efforts and lower impairment provisions.

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Over 2019, Keppel O&M continued to execute its projects well, secure new orders, expand capabilities and seek new opportunities.

To manage the higher workload, Keppel O&M increased its direct headcount to 13,500 as at end-2019 from 10,700 as at end-2018. The company expects to further increase its direct headcount by 1,500 in 2020 and will continue to adjust manpower requirements in line with the workload.

During the year, Keppel O&M secured over 100 scrubber and ballast water treatment system (BWTS) retrofit projects, as shipowners sought to meet the IMO 2020 requirements for the sulphur content of marine fuel, as well as the standards set out by the Ballast Water Management Convention. Keppel O&M is also scheduled to deliver Singapore's first liquefied natural gas (LNG) bunkering vessel in 2020. Its joint venture with Shell Eastern Petroleum, FuelNG, has conducted over 200 truck-to-ship LNG bunkering operations in Singapore.

In 2019, Keppel O&M became one of the first companies in Singapore to achieve global certification for the ISO 37001 Anti-Bribery Management System.

Having returned to profitability in 2019, Keppel O&M will continue efforts to enhance the performance of its business and seek new opportunities in 2020. As the global energy mix shifts toward cleaner energy,

Keppel O&M will continue to focus on capturing opportunities in offshore renewables and gas.

New Builds

During the year, Keppel O&M reached a Settlement Agreement (SA) with Sete Brasil (Sete), bringing closure to the outstanding contracts for the construction of six semisubmersibles (semis) for Sete. The SA will become effective upon fulfilment of certain conditions precedent, including the successful sale of the first two rigs, which are closest to completion, by Sete to Magni Partners. As part of the SA, the contracts for the other four remaining rigs will be amicably terminated with no penalties, refunds or additional amounts due to any party. With full ownership over the four remaining rigs, Keppel O&M will be able to explore various options to extract the best value for shareholders.

In 2019, Keppel O&M made significant strides into the renewable energy sector, securing major offshore wind projects worth about \$720 million. In May 2019, Keppel O&M, through a consortium with Aibel AS, secured a contract from TenneT Offshore for the design, engineering, procurement, construction, installation and commissioning of a 900MW offshore high voltage direct current converter station and an onshore converter station. Scheduled to be completed in 2024, the two converter stations will be deployed in the German sector of the North Sea. Keppel O&M also secured a contract from

Ørsted for two offshore wind farm substations, which will be deployed in Ørsted's Greater Changhua offshore wind sites in Taiwan. The substations are scheduled to be completed in 2021.

During the year, Awilco Drilling exercised its option for the construction of a second mid-water harsh environment semi worth US\$425 million. Keppel O&M is leveraging the engineering and construction process of the first rig to further improve productivity on the second project.

In 2019, the New Builds division delivered five jackup rigs to customers, namely Grupo R, Borr Drilling and Valaris. The two jackup rigs delivered to Grupo R are equipped with Keppel's proprietary RigCare solution, a suite of digital services to support the rig's lifecycle needs, and are the industry's first drilling rigs with Smart Notations which support a more data-centric approach to post-construction works surveys, and assists rig operators to optimise rig operations and maintenance. During the year, Keppel O&M was recognised by the American Bureau of Shipping as the first shipyard to integrate smart functions and services into rigs.

Keppel O&M also delivered four trailing suction hopper dredgers to Jan De Nul in 2019, and successfully delivered a dual-fuel LNG bunker tanker to Sinanju Tankers in January 2020. The ultra-low emission dredgers for Jan De Nul are fitted with dual exhaust emission filtering



During the year, Keppel O&M delivered two jackup rigs equipped with its proprietary RigCare solution to Grupo R.

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technology and comply with EU Stage V and IMO Tier III regulations.

In the Americas, work on two dual-fuel containerships for Pasha Hawaii is ongoing at Keppel O&M's yard in Brownsville, Texas. Built to Keppel's proprietary design, the Jones Act vessels are scheduled for delivery in 2020 and will run on LNG from day one in service. Keppel O&M will continue to build on its track record for the construction of Jones Act vessels in the United States, newbuild offshore rigs and platforms, as well as aftermarket services including repairs, upgrades and modifications of rigs for customers in the Gulf of Mexico.

Building on its engineering expertise in offshore platforms, Keppel O&M will actively explore opportunities in the renewables and gas-related sectors.

Keppel O&M will continue its digitalisation journey, focusing on infrastructure and product improvements through industrial Internet of Things, smart sensors and real time condition-based monitoring to optimise operations. It is developing its first autonomous vessel for operations in Singapore in partnership with M1, to deploy the latter's ultra-low latency 4.5G network connectivity.

In line with the Group's commitment to sustainability, Keppel O&M is also driving carbon reduction efforts in its operations through the installation of solar panels on rooftops and energy-saving lights, amongst others.

Building on its engineering expertise in offshore platforms, Keppel O&M will

actively explore opportunities in the renewables and gas-related sectors, as well as opportunities to re-purpose its offshore technology for other applications and collaborate with other Keppel business units on floating infrastructure projects.

Conversions & Repairs

During the year, Keppel O&M continued to execute its conversion and repair projects well. Following the success of Hilli Episeyo, Keppel Shipyard received the final notice to proceed from Gimi MS Corporation, a subsidiary of Golar LNG, to commence full conversion works for the Gimi Floating Liquefaction Vessel (FLNG) project. Together with the enhanced workscope of US\$242 million, the total contract value for Gimi FLNG is US\$947 million. Upon delivery in 1H 2022, Gimi FLNG will commence a 20-year charter in BP's Greater Tortue Ahmeyim field, offshore West Africa. In 2019, Keppel Capital acquired a 30% stake in Gimi MS, which owns the Gimi FLNG project. There are plans to inject interests in the Gimi FLNG facility as a seed asset for the newly launched Keppel Asia Infrastructure Fund.

In 2019, Keppel O&M completed two Floating Production Storage and Offloading (FPSO) conversion/modification projects, namely for Ngujima-Yin for Woodside Energy and FPSO Liza Destiny for SBM Offshore, and one Floating Storage and Re-gasification Unit conversion project, BW GDF Suez Paris for BW Gas.

During the year, the company repaired 288 vessels in Singapore, including 75 scrubber retrofit projects and BWTS installations and 40 LNG carriers. Although this was lower compared to the 330 vessels repaired in 2018, the revenue per vessel in 2019 was higher due to adjacency work on the scrubber and BWTS retrofits.

As at end-2019, Keppel O&M was executing works on five FPSO conversion/modification projects, including FPSO Liza Unity, a repeat order from SBM Offshore for the Liza project in offshore Guyana. Keppel O&M was also executing fabrication of the internal turret of Coral Sul FLNG for SOFEC.

In the Philippines, Keppel O&M repaired about 150 vessels in 2019 for domestic and foreign customers. In 2019, the Subic yard secured three BWTS projects and is primed to execute more scrubber and BWTS projects as shipowners seek to lower sulphur emissions.

In Brazil, BrasFELS successfully completed inspection and repair works for BW FPSO Cidade de Sao Vicente. BrasFELS is also executing offshore service works on FPSO Fluminense and on FPSO Cidade de Sao Paulo, and is undertaking module



fabrication works on FPSO Carioca MV30 for MODEC. BrasFELS will continue to actively pursue opportunities in the region.

MARKET REVIEW & OUTLOOK

There have been signs of recovery in the offshore market, notwithstanding geopolitical headwinds and slowing global growth. Utilisation and dayrates for jackups continue to improve, but it would take time for these to translate into new orders, given the continued oversupply in the market. Meanwhile, the outlook for the floater segment remains positive, with activity and demand expected to increase gradually over the next few years.

In the near term, Keppel O&M will continue to actively seek opportunities in the oil and gas production market, where several projects are expected to achieve Final Investment Decision in 2020.

According to the BP Energy Outlook 2019, the global energy mix is evolving, with renewables being the fastest growing source of energy and gas set to overtake coal as the second-largest source of energy by 2040. In particular, the offshore wind sector is an interesting market, with the Global Wind Energy Council (GWEC) projecting for installed capacity to increase to 190GW in 2030 from 23GW in 2018. With its growing track record, Keppel O&M is well poised to offer integrated solutions, including offshore substations, foundations, installation and support vessels to support the growth of the offshore wind energy industry.

New Builds

While newbuild capital expenditure is expected to remain subdued, the market has increased re-activation and contract deployment of existing rigs. IHS Markit's data also reveals that utilisation across drilling rigs has improved in 2019. Moreover, dayrates for semis and jackups have increased in 2019, while dayrates for drillships remained steady.

Keppel O&M will continue to target niche markets such as harsh environment semis and seek opportunities from rising demand for jackup rigs in Southeast Asia (SEA), Middle East and Mexico. In line with the Group's sustainability targets, Keppel O&M is looking to reduce the environmental footprint of its products. With the industry trending toward low carbon emissions and clean energy solutions, the company will continue to strengthen its presence in the renewables and gas market.

In specialised shipbuilding, the dredger market remains a bright spot for Keppel O&M, backed by rising demand

1 First Lady of the Co-operative Republic of Guyana, Madam Sandra Granger (first row, third from left), together with senior management from Keppel and SBM, celebrated the naming of Liza Destiny, the first FPSO to operate offshore Guyana.

2 In 2019, Keppel O&M delivered four EU Stage V dredgers to Jan De Nul.



from the Middle East, Indian subcontinent and SEA. With the growing offshore wind industry and the increasing need for cross-continental subsea cables for data transmission, Keppel O&M also continues to see demand for cable-laying vessels.

Keppel O&M is also developing new solutions to meet customers' needs. VesselCare, a proprietary remote vessel monitoring and analytics system, has been installed on a Keppel Smit Towage tug to gather data from the vessel's operations, and is the initial phase of developing the tug into an autonomous vessel. Through VesselCare, Keppel O&M is able to perform data consolidation and condition-based monitoring and maintenance for better analytics.

Leveraging its technology and construction expertise, Keppel O&M is well positioned to provide an extensive range of non-oil related solutions. The company is also capturing opportunities in the Jones Act market through its presence in Brownsville, Texas.

Conversions & Repairs

With the enforcement of IMO's 0.5% global sulphur cap, shipowners are actively pursuing alternative solutions, such as the installation of scrubbers, to reduce sulphur emissions.

To date, about 10% of vessels worldwide are or will be deemed compliant with the IMO standards by 2020. Keppel O&M

continues to see increasing demand for scrubbers, which is a proven and cost-effective solution for shipowners. The company will leverage its growing experience in scrubber retrofits and work to further lower turnaround time by tapping on its regional yards.

The container shipping market is also expected to improve, following the signing of a Phase One trade deal between the US and China. In the longer term, seaborne LNG trade is likely to grow healthily as large volumes of LNG export/import capacity come online and natural gas supply and demand continue to grow.

In the production market, Rystad Energy forecasts that up to 24 FPSO projects could be awarded in 2020, of which South America is leading with 12 projects planned by end-2020.

Keppel O&M will continue to pursue opportunities, leveraging synergies across the Group to provide value-added solutions for customers. Keppel O&M's capabilities in non-drilling and gas solutions will provide the company with new growth areas and revenue streams, amidst continuing challenges in the offshore drilling sector. Keppel O&M will continue to diversify its product offerings in line with the changing global energy mix, enhance its solutions through technology and innovation, and boost efficiency of its yards.