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MEDIA RELEASE

Keppel to develop its first autonomous vessel for operations in Singapore

Singapore, 9 April 2019 – Keppel Offshore & Marine Ltd (Keppel O&M) has, through its wholly-owned subsidiary, Keppel Singmarine Pte Ltd (Keppel Singmarine), embarked on the development of an autonomous tug, to be operated by Keppel Smit Towage. It is expected to be one of Singapore's first autonomous vessels when the project is completed in 4Q 2020.

To develop the autonomous tug, Keppel O&M has secured a grant of up to S$2 million from the Maritime Port Authority of Singapore (MPA) under its Maritime Innovation and Technology Fund (MINT FUND).

This follows the Memorandum of Understanding signed by Keppel O&M, MPA and the Technology Centre for Offshore and Marine, Singapore (TCOMS) in April 2018 to jointly develop autonomous vessels for a variety of applications including undertaking harbour operations such as channelling, berthing, mooring and towing operations.

Mr Chris Ong, CEO of Keppel O&M, said, "We are proud to be at the forefront of innovation with the development of autonomous tugs that are commercially viable. The maritime industry is transforming and we are glad to be able to partner MPA and TCOMS in exploring how to improve the industry with new technologies."

The project will involve modifying a 65 MT tug by retrofitting advanced systems such as position manoeuvring, digital pilot vision, as well as collision detection and avoidance. An onshore command centre will also be set up to remotely control the tug.

Ms Quah Ley Hoon, Chief Executive of MPA, said, "Autonomous vessels are the next exciting phase of development in the maritime industry and in Maritime Singapore. Here, we are constantly looking out for the next new technology to pilot and testbed in an effort to develop Maritime Singapore to be more efficient, productive and technologically advanced. We are pleased to support Keppel in their autonomous vessel project. This is one of five autonomous vessel projects that MPA is supporting as part of our Marine Autonomous Surface Ship (MASS) test bedding programme."

As part of the project, Keppel O&M, through its technology arm, Keppel Marine and Deepwater Technology (KMDTech), will work with MPA and TCOMS to develop various technologies and be the system integrator for the autonomous solutions. These technologies include a Digital Twin of the tug to simulate vessel behavior in multiple scenarios and optimise vessel operations, as well as data analytics tools to improve the control and response of the tug. ABS (American

Bureau of Shipping) will provide the Approval in Principle for the novel features such as Remote Navigation Control and Autonomous Control System.

Keppel O&M is also partnering M1, another member of the Keppel Group, to leverage M1's ultra-low latency 4.5G network connectivity to establish standards & data transfer links in terms of latency and reliability for the ship to shore communication, and support mission-critical Internet-of-Things (IoT) maritime applications.

The abovementioned transaction is not expected to have any material impact on the earnings per share and net tangible asset per share of Keppel Corporation Limited for the current financial year.

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About Keppel Offshore & Marine
Keppel O&M is a global leader in offshore rig design, construction and repair, specialised shipbuilding, as well as ship repair and conversion. It integrates and harnesses the experience and expertise of yards and offices in 15 countries to be near customers and markets. Driven by innovation and a capable people with the Can Do! spirit, Keppel O&M strives to become a builder of distinction in every aspect of its business. For more information, visit www.keppelom.com

About Keppel Smit Towage
Keppel Smit Towage Pte Ltd was established in 1991 under a joint venture between Keppel Shipyard Investments Pte Ltd [which is a part of Keppel Offshore & Marine under the umbrella of Keppel Corp] and Smit Singapore Pte Ltd [Which is a part of Royal Boskalis Westminster N.V. ("Boskalis")]. The company is the operator of the first LNG fueled tugs in South East Asia and is one of the largest and leading Harbour tug service providers in Singapore and Asia Pacific region. To learn more, please visit www.keppelsmit.com.sg

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