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MEDIA RELEASE

Keppel Offshore & Marine signs MOU with MPA and TCOMS to jointly develop autonomous vessels

Singapore, 25 April 2018 - Keppel Offshore & Marine (Keppel O&M) has signed a Memorandum of Understanding (MOU) with the Maritime Port Authority of Singapore (MPA) and the Technology Centre for Offshore and Marine, Singapore (TCOMS) to jointly develop autonomous vessels for a variety of applications including undertaking harbour operations such as channelling, berthing, mooring and towing operations.

In the context of ports, the development and application of remote or autonomous vessels could potentially automate operations and enhance safety and productivity. Such developments and pilot projects will contribute to Singapore's experience and act as demand drivers for local capability development in selected areas.

Mr Andrew Tan, Chief Executive of MPA, said, "Our partnership with Keppel O&M and NUS TCOMS allows us to test the operations of autonomous vessels such as harbour tugs in our port waters as well as the interface between such vessels and our future vessel traffic management systems. As one of the world's busiest ports, Singapore provides an excellent test-bed for autonomous systems which will have to meet the highest standards of safety and security."

Keppel O&M will use its remote vessel monitoring and analytics programme, VesselCare™, as the base platform in the initial phase to develop autonomous vessels. VesselCare™ is able to perform data consolidation, condition based monitoring and maintenance, mining and analytics of vessels.

Mr Chris Ong, CEO of Keppel O&M said, "As a leader in the design and construction of specialised vessels, we have been developing advanced remote monitoring and analytics systems for vessels. We are pleased to partner MPA and TCOMS to take the next step in developing fully autonomous vessels. The industry is keen to explore the commercial use of autonomous vessels as there are multiple safety, efficiency and cost benefits. This partnership demonstrates Keppel O&M's commitment to be at the forefront of research and provide the latest cutting-edge technologies to our customers."

During the advanced stages of monitoring and controlling a vessel, the project will develop a Digital Twin of the tug which will simulate vessel behaviour to help optimise the vessel operations using data analytics and visualisation tools. TCOMS will provide expertise in coupled physical-numerical modelling and simulation to evolve solutions that improve on the predictability and control of the behaviour and response of the vessel.

Prof. Chan Eng Soon, CEO of TCOMS, added, "As a national research & development centre for the marine and offshore industry, TCOMS is glad to collaborate with leading organisations such as Keppel and MPA to develop innovative concepts such as autonomous vessels for marine and maritime operations. The behaviour of marine vessels in challenging operating conditions is

complex and to some extent still poorly understood. This is one key technical challenge that we seek to address, to ensure that autonomous vessels could operate safely and reliably while enhancing efficiency and productivity."

As the maritime industry moves towards leveraging technology to produce more autonomous vessels & operations that is safer, faster, and more cost-effective, one potential application is the regional harbour fleet of crafts including tug boats, pilot boats and ferries, among others.

The above MOU is not expected to have a material impact on the net tangible assets or earnings 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 Maritime Port Authority of Singapore
The Maritime and Port Authority of Singapore (MPA) was established on 2 February 1996, with the mission to develop Singapore into as a premier global hub port and international maritime centre ("IMC"), and to advance and safeguard Singapore's strategic maritime interests. As the driving force behind Singapore's port and maritime development, MPA partners the industry and other agencies to enhance safety, security and environmental protection in our port waters, facilitate port operations and growth, and promote maritime R&D and manpower development and develop thought leadership to maintain Singapore as an International Maritime Centre and develop Singapore as a green and sustainable next generation port.

About Technology Centre for Offshore and Marine, Singapore
TCOMS is a national Centre of Excellence established by the Agency for Science, Technology and Research (A*STAR) and the National University of Singapore (NUS) to spur research excellence and advance Singapore's Marine & Offshore Engineering (M&OE) industry. The Centre is also supported by the Singapore Economic Development Board (EDB) and the Maritime & Port Authority of Singapore (MPA), and seeks to develop and validate innovative concepts and solutions for M&OE operations. Through strategic global partnerships with industry and research institutions, TCOMS aims to push frontiers in the development of safe, reliable and sustainable future systems for mankind. A key feature of TCOMS is a next-generation Ocean Basin with forefront simulation capabilities, including smart sensing and integrated physical-numerical-data driven modelling.

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