



The EM 2040P surveys up to and exceeding the IHO-S44 special order and LINZ specification

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## Kongsberg Maritime: KONGSBERG Demos New Shallow Water Multibeam at Oceanology

*Oceanology International 2016, 15-18 March, Stand D600*

The latest development of Kongsberg Maritime's EM 2040 multibeam echo sounder technology platform is being demonstrated at Oceanology International 2016. The new EM 2040P is a highly portable shallow water multibeam echo sounder designed for easy transport and quick deployment on any vessel, while offering survey performance up to and exceeding the

IHO-S44 special order and the more stringent LINZ specification.

An EM 2040P will be operational on KONGSBERG's Oceanology demo boat, the Northern Wind, which will be running test surveys open to show visitors in the Victoria Dock. Demonstrations, which also feature a number of new and existing survey, positioning and communication technologies can be booked on the KONGSBERG Oceanology stand, D600.

Designed for any high resolution mapping and inspection application, the portability of the new EM 2040P enables straightforward delivery and installation on small vessels of opportunity. A key aspect of the system is that it features 3 sector transmitters (TX), which allows for active stabilisation for the vessels roll, pitch and yaw. The transmit fan is divided into three sectors pinging simultaneously at separate frequencies, which ensures effective dampening of 'multi-bounce interference'. This enables the user to conduct surveys in rough seas and weather conditions, and still maintain full seabed ensonification.

Both the TX and the RX transducers are combined into one sonar head for ease of installation and integration. The operating frequency range for the EM 2040P is 200 to 400 kHz. The operator can select the best operating frequency at any time; 300 kHz for near bottom, 200 kHz for deeper waters, and 400 kHz for very high resolution inspection.

New features available on the EM 2040P include Extra Detection, which enables the user to identify, classify and map objects above the seafloor and in the water column, i.e the shallowest point on a shipwreck. The pipe-tracker is another important new feature enabling the system to increase the number of beams and focus on the pipe, which delivers a higher resolution image of the pipe.

The EM 2040P is made possible through the development of a new KONGSBERG EM Portable PU (Processing Unit), a ruggedised splash proof processing unit created to work with all KONGSBERG shallow water EM-series multibeam. Designed for operation in harsh conditions, the EM Portable PU allows the full feature set of KONGSBERG multibeam technology to be utilised.

The basic EM 2040P has three units: A Sonar Head with both the receiver and transmitter integrated, the EM Portable PU and a workstation. Data input



from a motion sensor and a positioning system, such as the new KONGSBERG Seapath 130, which offers the same portability as the EM 2040P, is required. The sonar head may be delivered mounted on a frame together with the motion sensor and a sound speed sensor, factory aligned for ease of mounting.

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**About Kongsberg Maritime**

Kongsberg Maritime is a global marine technology company providing innovative and reliable technology solutions for all marine industry sectors including merchant, offshore, subsea and naval. Headquartered in Kongsberg, Norway, the company has manufacturing, sales and service facilities in 20 countries and a total of 65 worldwide offices.

Kongsberg Maritime developed systems for vessels cover all aspects of automation, control, navigation, safety and dynamic positioning. Kongsberg Maritime also develops subsea solutions covering systems for Underwater Mapping (UMAP), Underwater Navigation (UNAV), Subsea Monitoring (SUMO) and Marine Robotics in addition underwater cameras.

Marine and offshore training simulators, LNG equipment, information management software, position reference systems, integrated aquaculture technology and advanced products to support seismic and drilling operations are also part of the company's diverse portfolio.

In parallel with its extensive technology portfolio, Kongsberg Maritime provides services within EIT (Electro, Instrument & Telecom) engineering and system integration, on an EPC (Engineering, Procurement & Construction) basis.

Kongsberg Maritime delivers solutions that cover all aspects of technology underwater and on the water, aboard new build and retrofit vessels, and on offshore platforms and rigs, often under a single supplier strategy called The Full Picture.

Kongsberg Maritime is part of Kongsberg Gruppen (KONGSBERG), an international, knowledge-based group that celebrated 200 years in business during 2014. KONGSBERG supplies high-technology systems and solutions to customers in the oil and gas industry, the merchant marine, and the defence and aerospace industries.

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