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Kongsberg Maritime: Dutch Government Chooses Kongsberg EM2040C Multibeam for Inland Waterway Surveys

The Dutch Ministry of Infrastructure and Environment (Rijkswaterstaat Survey department IGA) has selected the Kongsberg Maritime EM 2040C very high resolution, shallow water multibeam system to spearhead its inland waterway survey operations. For starters, the Ministry has in 2015 ordered five EM 2040C dual head and dual swath systems and the contract provides the option for additional systems up to a maximum of 11 within the next 10 years. In addition, Kongsberg Maritime was awarded a 10 + 5 year maintenance and management contract to be serviced and coordinated form

the Kongsberg Maritime Holland office.

The Dutch Ministry of Infrastructure and Environment is responsible for 2137 km of canals and rivers with 5472 km of waterways throughout the Netherlands, which must be surveyed on a regular basis in order to ensure safety of navigation. For the bathymetry workload that is not outsourced, Rijkswaterstaat will use the EM 2040C systems as the primary tool to survey these waters on an ongoing basis. The first five systems were delivered at the end of 2015 with remaining units ordered to be delivered on demand when the vessels are available.

"We are delighted to have been selected by the Dutch Ministry of Infrastructure and Environment as its main multibeam supplier of choice and long-term service partner," says Ronald Keesmaat, Sales Manager, Kongsberg Maritime Holland. "The EM 2040C is the ideal tool to support the Ministry's wide remit, as it can provide highly detailed results from small, lower cost vessels of opportunity. This provides flexibility, which is vital considering the huge amount of waterways the Ministry is responsible for."

Based on the state-of-the-art Kongsberg Maritime EM 2040 multibeam, the EM 2040C is a significant development in acoustic technology that makes highly detailed surveys of shallow water possible using small boats and launches.

The EM 2040C ensures that highly accurate data is available in real-time. This makes it possible to conduct very cost-effective surveys with lower requirements for post-processing, due to the high quality of data available. In addition to inland waterway surveys, applications include port and harbour surveys, post-dredging surveys, shipwreck exploration, habitat mapping, pipeline inspection and hydrographic surveys to a standard that exceeds IHO S44 Special Order and LINZ performance requirements.

The EM 2040C features high resolution and a wide frequency range from 200 to 400 kHz, with frequency selection in steps of 10 kHz. It uses Frequency Modulated (FM) chirp to extend range and offers a maximum depth of 490m with a beam width of $1x1^{\circ}$ at 400 kHz. As a dual head system, with two sonar heads tilted to each side, 200° coverage can be achieved, which enables surveying to the water surface or up to 10 times water depth on flat bottoms.

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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.

Kongsberg Maritime developed systems for vessels cover all aspects of automation, control, navigation, safety and dynamic positioning. Subsea solutions include single and multibeam echo sounders, and AUV/underwater navigation, communication and camera systems. Marine and offshore training simulators, LNG solutions, information management, position reference systems and technology for seismic and drilling operations are also part of the company's diverse technology 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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