

Innovation Platform for Hydrographic Measurements 2.0

Flanders, Belgium, is taking a leap forward into the next generation of bathymetric measurement technology. The economic development of the maritime industry in Flemish harbours demands new and advanced technologies to stay ahead of various challenges. There is especially a need for continuous, accurate and reliable bathymetric measurements over a wide area and at reasonable cost, according to the Maritime Access division of the Department of Mobility and Public Works.

The indispensability of digital elevation models as a major source of information for evaluating the effects of human activities in sensitive environments requires breakthrough technologies in hydrographical measurements and data processing.

It takes a long time to survey the Scheldt estuary and the Belgian coastal zone using conventional SBES and MBES methods. Hence, the Department lacks multi-sensor survey methods including advanced algorithms to provide a future way of working: hydrography 2.0.

The department MOW and IWT, the Agency of Innovation of Flanders (procurement of innovation), intend to launch by year end a call for tenders for the development of highly innovative prototypes or demonstrators.

The idea is to set up a pilot project covering two specific innovation themes:

- Remote sensing for bathymetric measurements in shallow waters, for example aero spatial hyperspectral imaging, airborne electromagnetic bathymetric survey, etc.
- Prediction of shallow water floor faces and water column properties based upon advanced data processing, either of remote sensing data or either of MBES backscatter data

The Scheldt estuary and the Belgian coastal area are quite harsh environments posing huge challenges to technology. The study area is characterised by shallow turbid waters and is intensively used for shipping. The Scheldt estuary in particular features sensitive intertidal areas and salt marshes, of which most are designated to the Natura2000 network.

The ambition of the call for tenders is threefold:

- Faster, more efficient and cost-effective service by the government to its stakeholders
- Improve the available data in the field of eco-morphological research
- Improve accuracy and safety of the nautical activity