



Improving Navigation information for the Rotterdam Harbour access through a 3D Model and HF radar

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The Port of Rotterdam is one of the largest harbours in the world and a gateway to Europe. For the access to Rotterdam harbour, information on hydrodynamic and meteorological conditions is of vital importance for safe and swift navigation. This information focuses on the deep navigation channel in the shallow foreshore, which accommodates large seagoing vessels. Due to a large seaward extension of the Port of Rotterdam area in 2011, current patterns have changed. A re-evaluation of the information needed, showed a need for an improved accuracy of the cross channel currents and swell, and an extended forecast horizon. To obtain this, new information system was designed based on a three dimensional hydrodynamic model which produces a 72 hour forecast. Furthermore, the system will assimilate HF radars surface current to optimize the short term forecast. The project has started in 2013 by specifying data needed from the HF radar. At the same time (temporary) buoys were deployed to monitor vertical current profiles.

The HF radar will be operational in July 2015, while the model development starts beginning 2015. A pre operational version of the system is presently planned for the end of 2016. A full operational version which assimilates the HF radar data is planned for 2017.