This is the 25th newsletter of the *Knowledge Centre Manoeuvring in Shallow and Confined Water*, which aims to consolidate, extend and disseminate knowledge on the behaviour of ships in shallow and confined water. In this newsletter, we present a study that was carried out for the Port of Antwerp concerning safe passing distances in the Deurganck dock.

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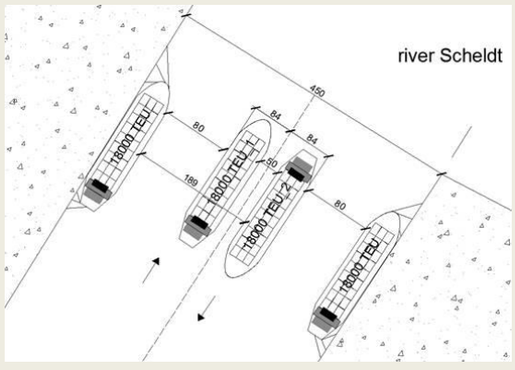
The Knowledge Centre has been contacted by the Antwerp Port Authority to study the effect of passing ships on moored ships in the Deurganck dock. When the largest lock in the world, the Kieldrecht lock, will officially be inaugurated in June 2016, ships will sail through the Deurganck dock to reach the Waaslandhaven. As a consequence, RoRo vessels, bulk carriers, container ships and tankers will pass moored container ships. As the width of the dock is restricted and container ship sizes still tend to increase, the passing distance is limited. Passing ships exert forces on the moored ships, which are transferred to the mooring system. It is important that the mooring lines and fenders are strong enough to cope with these forces. Moreover, the induced motions should not disturb loading and unloading operations.




Several passages were simulated using the dedicated software package *Ropes* to calculate the forces on moored vessels. Different configurations were simulated ranging from the passage of a single RoRo vessel at the centerline of the dock to the meeting of two 18000 TEU container ships in the dock, every simulation considering a moored vessel at each side of the dock. Based on existing mooring configurations and the forces predicted by *Ropes*, the motions of the moored vessels were calculated using the software package *Vlugmoor* which has specifically been developed by the Division of Maritime Technology at Ghent University for this purpose.

The numerical results were compared with PIANC guidelines with respect to acceptable ship motions and the allowable forces in the mooring lines and fenders. The results of the study, which contain recommendations for passing ships, are being communicated to the river pilots by the Antwerp Port Authority and generally appear to match the intended speed ranges the pilots have in mind for a safe passage in the given studied situations.

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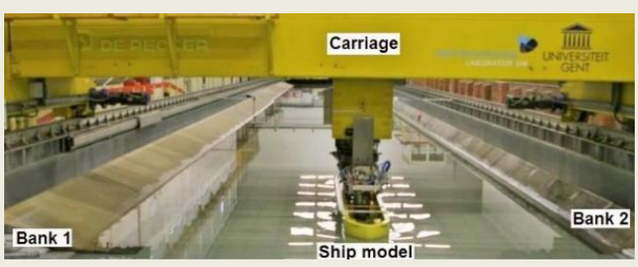
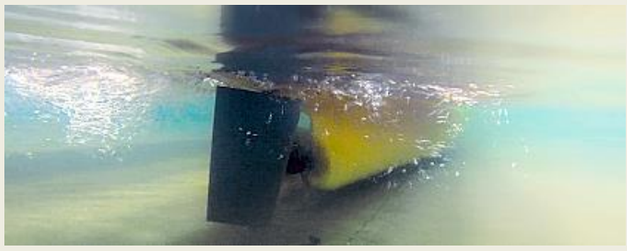



At the 32nd edition of the PIANC De Paepe-Willems International Award 2015 organized by PIANC - The World Association for Waterborne Transport Infrastructure, Dr. Evert Lataire won third place for the paper entitled "Hydrodynamic interaction between waterway and ship". The paper gave an overview of bank effects and the experimental research, comprising more than 8000 test runs, that was carried out to model these effects. These model tests provide the input for the creation of a mathematical model that copes with a wide range of ship types and bank configurations. The mathematical model has been implemented in ship manoevring simulators, which can be used for training purposes as well as for research to support the admittance policy or exploitation of ports and waterways.



34 papers are scheduled to be presented at the 4th MASHCON conference, which will be held in Hamburg, Germany, on 23 – 25 May 2016. The preliminary program has been put online. The main theme of the conference, which is ship bottom interaction, will be covered from various points of view. The validations of numerical computations will be presented by researchers who made use of the open access experimental benchmark data for validating numerical codes. Other researchers will present experimental data and full scale measurements and nautical experts will present their experience with manoeuvring in shallow water. In addition, other topics relating to ship manoeuvring in shallow and confined water will be presented as well.

The registration fees can be consulted on the conference website, which links to a secure online registration system.

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