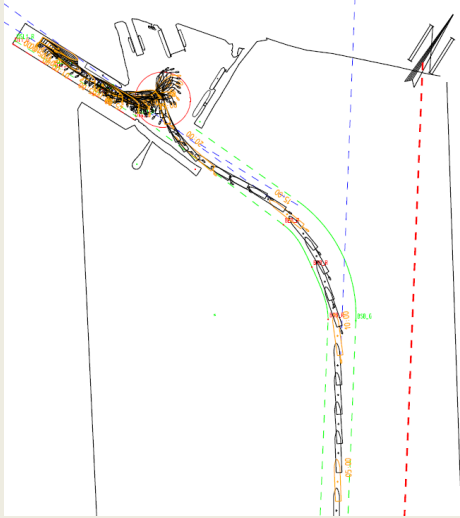


This is the nineteenth [newsletter](#) of the *Knowledge Centre Manoeuvring in Shallow and Confined Water*, which aims to consolidate, extend and disseminate knowledge on the behaviour of ships in shallow and confined water. In this newsletter, we follow up on a long-running design study that has been carried out on behalf of the Port of Lomé in Togo. In a second item, we mention two international seminars which members of the Knowledge Centre recently attended.



The [Autonomous Port of Lomé](#) in Togo is making a major investment in order to be able to receive Ultra Large Container Ships. In addition to a new dock, a new and deeper nautical access channel is required. The Knowledge Centre was contacted by the general contractor of the project, [Terminal Investment Limited](#), to propose a design of the access channel and an adapted lay-out of the port. As mentioned in our [11<sup>th</sup> newsletter](#) of two years ago, the first two stages of the project consisted of a providing concept design dimensions using guidelines and of evaluating and adjusting the design using real-time simulations in a rudimentary 3D environment. An advice was given about the width, depth and bend radius of the channel.

For the third and final stage of the project, the arrival and departure of Ultra Large Container Ships was evaluated and practised on the full mission bridge [manoeuvring simulators](#) of [Flanders Hydraulics Research](#). The objective was to evaluate the final lay-out of the port and the proposed aids of navigation. The required assistance of tugs was determined and optimal manoeuvring scenarios were established on advice of the [Flemish Pilotage](#). During the simulations the wind and current conditions were varied.

Finally, Togolese pilots came to Antwerp to train the manoeuvres in the [simulators](#) and to gain experience, again with advice from the [Flemish Pilotage](#). The proposed manoeuvring scenarios were carried out without problems, even in heavy wind conditions. After the training sessions at [Flanders Hydraulics Research](#), the pilots stayed on at the Belgian coast for some real-life training on board of large container vessels.

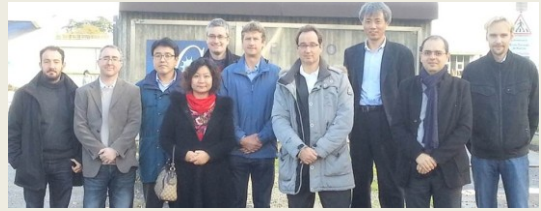


A delegation of the [Autonomous Port of Lomé](#), headed by the Director-General Rear-Admiral F.K. Adegnon, paid a visit to the facilities in Antwerp on 29 September 2014 to witness and approve the final manoeuvring procedures. The Director-General also paid particular attention that safety

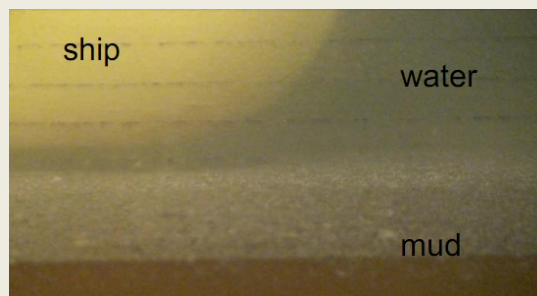
measures have been taken care of in terms of visual navigation aids and periodic bottom depth surveys. Finally, future training possibilities were discussed.

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Members of the Knowledge Centre attended the [27<sup>th</sup> International Towing Tank Conference](#) (ITTC), which was held in Copenhagen between 31 August – 5 September. The ITTC is a voluntary association of worldwide organizations that have the responsibility for the prediction of the hydrodynamic performance of ships and marine installations based on the results of physical and numerical experiments. The Full Conference, comprising representatives of all member organizations, is held every three years and constitutes the highest authority of the ITTC. The ITTC was attended by Prof. Marc Vantorre and by Dr. Guillaume Delefortrie. Dr. Delefortrie co-presented the Report of the Manoeuvring Committee (photo) and was re-elected as Secretary of the Manoeuvring Committee. One of the important recommendations of the Manoeuvring Committee was to work in a broader perspective on the topic of manoeuvring in waves in the near-future.



The [Universidade Federal do Rio de Janeiro](#) invited the Knowledge Centre to participate in the first [Seminário Internacional em Portos e Hidrovias](#). The seminary took place from 10 to 12 September 2014 in Rio de Janeiro, Brazil and focused on the concept of “Working with Nature”, Sediments in Ports and Navigation Channels and innovation in interdisciplinary studies. The Knowledge Centre was represented by Mr. Evert Lataire, who gave an overview on the effect of fluid mud on the navigation of vessels with large draught. The [presentation](#) was based on more than 30 years of experience in the influence of mud on ship manoeuvrability and the more than 20.000 model tests that were carried out specifically to study this topic. To complement this, Joris Vanlede of [Flanders Hydraulics Research](#) gave an [interdisciplinary presentation](#) on the experimental determination of the physical characteristics of a nautical bottom.



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