

This is the 32nd [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. This newsletter presents an item on a project that was carried out to implement a nautical depth in the Port of Cochin, India.



Researchers associated with the Knowledge Centre have worked with [Antea Group Belgium](#) on a multiyear project managed with [IIC Technologies](#) to assess the siltation processes and to implement a nautical depth in the Port of Cochin (India). The Port of Cochin has the largest siltation rate among the Indian ports, due to two rivers discharging into the port system and the ocean. The [Cochin Port](#)

[Trust](#) wishes to optimize the sediment management efforts by allowing ships to partially penetrate the fluid mud without compromising safety navigation. A research project was therefore set up to understand the siltation processes in detail, by field data acquisition and numerical modelling, and to determine a nautical depth, defined as the minimum water depth that is required for the safe passage of ships through the fluid mud layer.

The project involved several partners ([IIC Technologies](#), [Antea Group](#), [Gent University](#), [Flanders Hydraulics Research](#), [Fluves](#) and [Stema Systems](#)) and was carried out in different stages. The Knowledge Centre was involved in the fourth and final stage. Experiments were carried out in the [Towing Tank for Manoeuvres in Shallow Water](#)



to determine the mud rheology characteristics. The results were used to adapt the mathematical model of the [manoeuvring simulators](#) at Flanders Hydraulics Research. Finally, several manoeuvres for different underkeel clearances were carried out in order to determine a safe nautical depth. The results were presented to the [Cochin Port Trust](#) to optimize their dredging strategy.

The [28th International Towing Tank Conference \(ITTC\)](#) took place from 17 to 22 September in Wuxi China. Two researchers associated with the Knowledge Centre attended the conference and participated in the interesting discussions of the reports presented by the various ITTC Technical Committees. Particular attention was given to the improvement of procedures to execute model tests or CFD computations, which resulted in a significant amount of reviewed procedures in the [2017 Quality Systems Manual](#).

New technical committees have been formed to prepare the 29th ITTC Conference, which will be held in 2020 in Nantes. Two researchers associated with the Knowledge Centre are members participating in these committees. Guillaume Delefortrie has been appointed chair of the 29th Manoeuvring Committee. The Manoeuvring Committee will not only closely follow up the coming state of the art in manoeuvring research and review the manoeuvring procedures, but will also pay particular attention to the validation of manoeuvring simulation models, uncertainties with shallow water manoeuvring and subsea manoeuvring. The Manoeuvring Committee will also support the SIMMAN 2019 workshop. A specialist committee on Manoeuvring in Waves has been created to tackle the challenging task of combining seakeeping with manoeuvring. Manases Tello Ruiz will be participating

in that committee.

A poster entitled “Recommended Speed Limits in Inland Waterways” was presented by Marc Mansuy, researcher associated with the Knowledge Centre, at the [2017 PIANC Smart Rivers conference](#), which was held from 18 to 21 September in Pittsburgh.

A paper entitled “Side wall effects of ship model tests in shallow water waves” was presented by Maneses Tello Ruiz at the [20th Numerical Towing Tank Symposium \(NUTTS\)](#), which was held from 1 to 3 October 2017 in Wageningen, The Netherlands. The paper presented a discussion of experimental and numerical results for model tests in shallow water waves. Special attention was paid to the interaction with the tank side walls and their influence on model tests in waves. The paper concluded by considering what can be done to minimize these interaction effects.



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