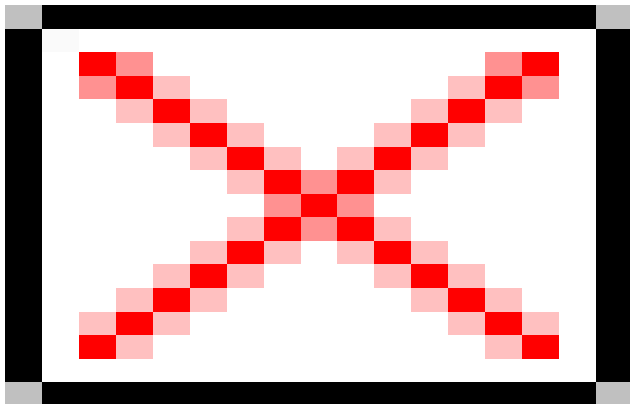


IMDC  
Marine environment  
Environmental impact  
Environmental impact and beneficial re-use  
Location:  
Antwerp, Belgium  
Client:  
Afdeling Maritieme Toegang & Rijkswaterstaat Zeeland



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## EIA concerning the deepening and widening of the navigation channel in the Scheldt estuary

The governmental agencies in Belgium and The Netherlands in charge of the River Scheldt have jointed forces to make an environmental impact assessment (EIA) study in order to evaluate the effect of widening and deepening the navigation channel in the Westerschelde and the Beneden-Zeeschelde.

The project aims the deepening of the navigation channel from 11.85m to 13.10m up to the Deurganckdok in the port of Antwerp. There are already 11 identified critical locations that do not comply with the new required depth.

The final report from the EIA will allow choosing among different alternatives in order to fulfill the environmental requisites for the dumping of the capital dredging and optimize a flexible strategy for the dumping of the maintenance dredging afterwards.

The Consortium Arcadis (The Netherlands) ? Technum (Belgium) were engaged for the execution of this study. IMDC, as part of the Technum group, offered its experience in dredging activities, numerical modeling and hydrodynamic and sediment transport processes in estuaries.

- The main responsibilities of IMDC in the study are: Set-up of a hydrodynamic and cohesive sediment transport 3D model of the Westerschelde and the Beneden-Zeeschelde with 12 vertical layers (see Figure 1). Salinity and cohesive sediment are considered in the model.
- Study the effect on the salinity (see Figure 2) and cohesive sediment transport and deposition in the estuary due to the deepening and widening of the actual navigation channel.
- Evaluation of several scenarios in order to optimize the dumping strategy and to take into account the several projects that will be implemented along the River Scheldt until 2030, such as the implementation of depoldering areas and full operation of the Deurganckdok.
- Simulation of dumping material and study of the dispersion of the sediment plume.
- Give expertise advise in topics related to dredging activities and the dumping of the dredged material (capital dredging and maintenance).