

# Navigational Access: Safe access at all times

**One of Rotterdam's key assets is the port's strong and safe accessibility over water. This will also be the case for Maasvlakte 2. Even the largest container ships, with a capacity of 12,500 TEU<sup>1</sup> and over, will be able to dock here without a problem, 24 hours a day.**

## YANGTZEHAVEN

Both sea shipping and inland vessels will enter the new port area via the Yangtzehaven, which is situated in the existing Maasvlakte. The port basin will undergo intensive redevelopment to this end. Besides being extended to Maasvlakte 2 [A], the Yangtzehaven will also be deepened [B] (to a depth of some 20 metres below New Amsterdam Water Level (NAP)) and widened [C] (to 600 metres). Pier 2 of the Maasvlakte 2 Oil Terminal has been moved [D] to facilitate access to Maasvlakte 2. This allows sea shipping to easily navigate the bend from the mouth of the Maas to the new port area. In due time, rising levels of shipping traffic to and from Maasvlakte 2 in the period 2020-2025 may also necessitate the widening of the Beerkanaal [E].

## RESEARCH

The intended changes to the Yangtzehaven port basin are the result of extensive simulation studies. The proposed measures will allow even the largest container ships (12,500 TEU and over) to safely reach the new port area under extreme weather conditions (up to Beaufort 8). However, during extreme weather conditions, on various

stretches of the route some restrictions will apply for large container ships approaching each other in opposite directions.

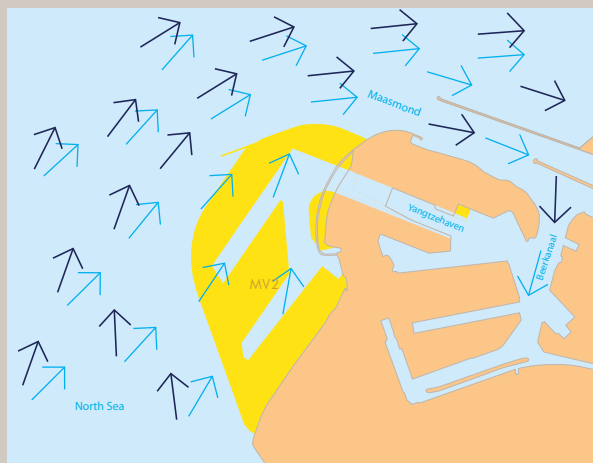
- [A] Extension to Maasvlakte 2.
- [B] Deepening of the Yangtzehaven to some 20 metres below NAP.
- [C] Widening of the Yangtzehaven to 600 metres.
- [D] Relocation of Pier 2 of the Maasvlakte Oil Terminal.
- [E] Widening of the Beerkanaal.



<sup>1</sup> The Twenty Foot Equivalent Unit is a standard unit for describing container capacity

# Safe access at all times

## STUDY OF CURRENTS AT THE PORT ENTRANCE



➤ Currents present situation      ➤ Future situation (MV2)

## CURRENTS AND WAVES

Naturally, the construction of Maasvlakte 2 will have consequences for local currents and waves. The cross current in front of and within the port entrance in particular forms a key factor for safe access to the port. This has also been subjected to extensive simulation studies with the help of computer models and navigation simulators. The conclusion is that the planned land reclamation will lead to more favourable current conditions in the Maasgeul and the mouth of the Maas (the port's entrance and exit). In the port area itself, the current will increase at various locations, namely the Beerkanaal and the Yangtzehaven. However, neither sea shipping nor inland shipping will be hindered by these increased currents. Local wave conditions after the construction of Maasvlakte 2 will remain comparable to those of the present situation.

## INCREASE IN SEA SHIPPING AND INLAND SHIPPING

The number of ocean-going vessels calling at the Rotterdam port is expected to increase from 31,000 in 2006 to a maximum of 57,000 in 2033. The existing Maasvlakte area alone handles some 28,000 inland vessels per year. For the present Maasvlakte and Maasvlakte 2 combined, the number of inland vessels is expected to increase to nearly 70,000 in 2033. At a number of locations, the increase in shipping traffic in the period 2025-2033 will lead to considerable pressure. Rotterdam's fine traffic guidance system guarantees that the current high security levels are maintained. The port's existing Vessel Traffic System is already considered one of the most advanced systems in the world. At present, preparations are underway to introduce a new guidance system: Vessel Traffic Management Future. This modernised system is expected to become fully operational in 2012.

## AS PRACTICE DICTATES

The construction of Maasvlakte 2 and the increase in shipping traffic are gradual processes. Those using the waterways, the providers of maritime services (such as pilot and towage services) and the traffic management service can all develop their knowledge and expertise as practice dictates. When required, it is possible to draft extra traffic regulations, to provide the shipping sector with additional information or to develop supplementary training courses for pilots and/or captains. With such measures, all types of ships will be ensured problem-free, safe access to the port of Rotterdam..

## Maasvlakte 2



## The Netherlands



## Europe



## ROTTERDAM MAINPORT DEVELOPMENT PROJECT

The construction of the new port area, Maasvlakte 2, is part of the Rotterdam Mainport Development Project (PMR). This project also includes environmental compensation measures connected to the construction, the development of a 750 ha area for nature and recreation and improvements to the Existing Rotterdam Area. PMR is a partnership between national and regional government and the Port of Rotterdam Authority. For further information, please visit [www.mainport-pmr.nl](http://www.mainport-pmr.nl).

## MORE INFORMATION?

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