

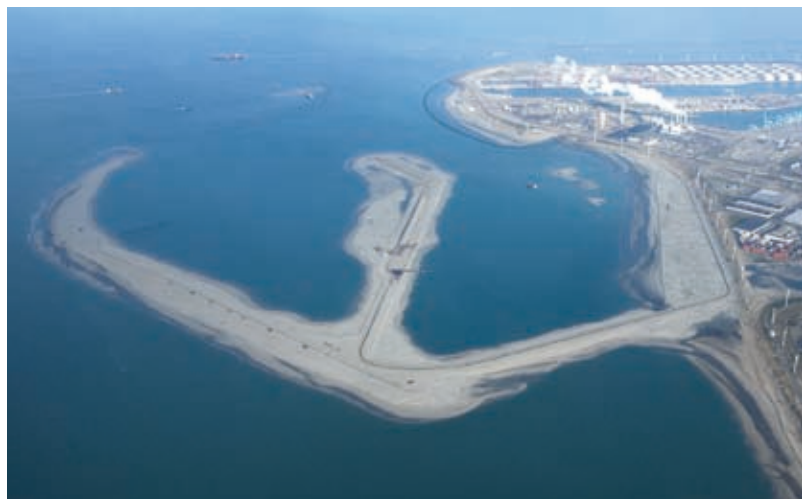


Work in progress (1): Getting closer every day

The construction of Maasvlakte 2, the expansion of Rotterdam's port, is carried out in stages. After an international tender procedure, the PUMA consortium (Boskalis and Van Oord) was entrusted with the task of constructing the first 700 ha of port and industrial area. The objective of this activity is to ensure that the first seagoing vessels can moor here in 2013. People can keep a close eye on the work in progress from the FutureLand information centre on the edge of the existing Maasvlakte.

TRAILING SUCTION HOPPER DREDGERS

Since January 2009 an average of six trailing suction hopper dredgers sail to and from the construction site daily. These vessels collect and transport the sand required to construct the new land. A trailing suction hopper dredger transports 15,000 m³ of sand on average. The sand extraction site is located some 11 km off the coast. The area has been divided into a grid for sand extraction purposes. The trailing suction hopper dredgers systematically dredge the area, section by section. The quality of the dredged sand is recorded, with the primary issue being the grain size. Once the hold (the bin) is full of sand, the trailing suction hopper dredger returns back to Maasvlakte to unload the sand. The sand is also deposited systematically, so that it always ends up where it should on the construction site.



Maasvlakte 2 in January 2010



Maasvlakte 2 in 2013

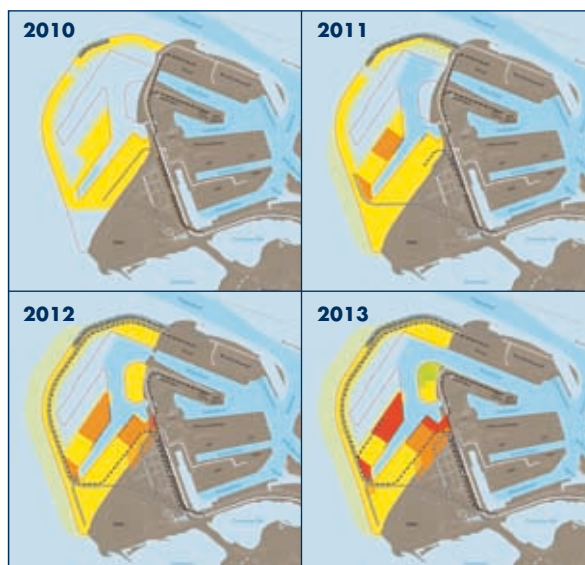
DUMPING AND RAINBOWING

Initially, the dredgers unload the sand in deep water by means of dumping, a procedure in which the doors in the hull of the vessel are opened. Once the water becomes too shallow, the crew proceeds to rainbow on the sand. The sand and water slurry is sprayed on using a nozzle on the bow of the ship. The name rainbrowing originates in the phenomenon of light refraction. If the sun is shining, one can occasionally see a rainbow next to the arc of sand. The first sand used to form the Maasvlakte 2 seawall was deposited in January 2009. This banana-shaped body of sand is situated virtually parallel to the current, limiting the amount of sand that is washed away by the sea. This first section of the seawall creates a lee for the dredgers, allowing them to continue working in the winter months. In November 2009, this section was connected to the mainland.

SHORE PUMPING

The Maasvlakte 2 sites will ultimately be 5 m above New Amsterdam Water Level (NAP). The seawall will stretch to a maximum of 15 m above NAP. Once the water becomes too shallow to unload the dredge spoil by dumping it through doors in the hullbottom and the trailing suction hopper dredger can no longer get close enough to the site to spray the sand on (rainbrowing), the sand is pumped to the island from the trailing suction hopper dredgers via pipelines: a procedure known as shore pumping. Bulldozers and power shovels ensure that the sand is distributed correctly, so that the site becomes ready for building as soon as possible.

ORDER OF CONSTRUCTION



24/7

By the start of 2013 some 240 million m³ of sand needs to be deposited on the Maasvlakte 2 site. To achieve this, the trailing suction hopper dredgers work seven days a week, 24 hours a day. An average of 2 million cubic metres of sand is processed per week. In 2009 a quantity of nearly 80 million cubic metres of sand was transferred from the sand extraction site to the future port area.

FACTS AND FIGURES

- The first section of Maasvlakte 2 emerged from the water in the spring of 2009.
- Every day an average of six trailing suction hopper dredgers sail to and fro.
- A return trip by dredger from the sand extraction site to Maasvlakte 2 and back lasts approximately 3-4 hours.
- One trailing suction hopper dredger transports an average of 15,000 m³ of sand.
- An average of 2 million cubic metres of sand is processed every week.
- The seawall of the new Maasvlakte was connected to the mainland in November 2009.
- According to plans some 240 million m³ of sand will be deposited in the period until 2013.

Maasvlakte 2

North Sea



The Netherlands

Rotterdam
Port Area



Europa



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.

MORE INFORMATION?

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WANT TO EXPERIENCE MAASVLAKTE 2?

Visit the FutureLand information center
www.futureland.nl