

## STRUCTURAL MONITORING SYSTEM FOR SIF QUAY WALL

Inventec was awarded the contract to design, engineer, supply and install a comprehensive permanent structural monitoring system for the Sif quay wall at the Tweede Maasvlakte in the Rotterdam Port Area.

Main components of the monitoring system are:

- A number of SAAFs for monitoring deformation of the sheet pile front of the quay wall.
- Erosion detection over the full 500m length of the structure by means of Geodetect, a geotextile with integrated optical fibers. The technology used here is DSS (Distributed Strain Sensing).
- Fiber optic strain sensors mounted on the MV anchor piles to monitor the anchor forces.
- Fiber optic sensors for monitoring the ground water and harbour water levels.
- Data processing and data management. The local instrumentation room has a wireless connection with our Livesense® web platform where terminal owner Port of Rotterdam can log into at any time to follow the structural behaviour of the quay wall. Whenever pre-set measurement values are reached, the Port Authority automatically receives a warning or alarm.

This already is the fourth deep sea quay wall in the Rotterdam Port area that is equipped with a Structural Health Monitoring system provided by Inventec.

