

PROJECT PROFILE

DOVER PRINCE OF WALES PIER



Client

Dover Harbour Board

Start Date

December 2014

Completion Date

*Installation completed Dec 2014
Data delivery and active support
ongoing for the next three years*

System

- Uniaxial MEMS tilt sensors
- Campbell's scientific data logger
- ARGUS monitoring software

Overview:

The Port of Dover is home to the busiest international 24/7 roll-on roll-off ferry port in Europe. As part of its asset management programme and commitment to maximising the operational life of its assets, Dover Harbour Board wanted an automated monitoring system to continuously measure the pier structure with a view to potentially using the same monitoring approach for other sheet piled piers around the Port.

ITM Monitoring was invited to tender for the supply of a monitoring system for the Prince of Wales Pier at The Port of Dover. The east facing elevation of the pier is a steel sheet pile construction and was constructed over 40 years ago. To the west of the pier is a former Hoverport area, which is soon to be redeveloped as part of the Dover Western Docks Revival project.

ITM Monitoring worked closely with the Port to devise the most reliable and accurate monitoring system. The recommended approach involved MEMS tilts sensors being fixed to the face of the sheet piled wall, just below the capping beam. Being just above the high tide line, but still in a highly corrosive environment, ITM Monitoring upgraded the sensor enclosures to 316 marine grade stainless steel. All sensors are cabled back to a centralised multiplexer, which in turn are cabled to a data logger complete with modem for remote data acquisition.

This system allows highly accurate, sub millimetre readings to be taken on the verticality of the wall and, with all sensors being data logged and posted to ITM Monitoring's web based data visualisation software, allows for completely autonomous, remote monitoring. This enables the client to view the reaction of the pier structure due to tidal influence and to assess whether there are any long term movement trends.