

where your data matters

Customer
Case Study

How the Port of London is Benefiting from Port-Log System

“The complexity of PLA’s Tidal Monitoring System, covering such a large area, with multiple sensors in remote and inhospitable sites, whilst maintaining a 24/7 operation, should not be under-estimated. The new system took considerable expertise to design, install and test. During this period, thanks to **OceanWise**, the UK’s 2nd largest port continued to operate as normal.”

*Stephen Strickland,
Navigational Systems Project Manager*



The Requirement

The Port of London Authority (PLA) required a new tidal monitoring, telemetry and display system to replace an existing system that had been operational since 1990. It includes eight monitoring stations, four base stations and a data feed from fourteen upriver tide gauges operated by England's Environment Agency.

As a critical navigational system essential to the running of the port, the new system needed to be robust, reliable and meet all PLA's requirements. Ideally, the system needed to be off-the-shelf, capable of being supported long-term, and upgraded and enhanced as circumstances changed. The system had to have complete redundancy so if any part of the system went down a backup method would continue to ensure the data was available so the Port could remain open.

Key Benefits for PLA

- **Dual telemetry provides total redundancy, ensuring the system is always up**
- **Weatherproof enclosures fully tested to industrial standards**
- **Data is centrally stored and shared between systems, reducing risk of using incorrect data in decision making**
- **Web based displays enable access to data and system information wherever personnel are located**



Methodology

OceanWise designed and implemented the new system, known as POLATIDE 5, providing system control, data management and web based user display and administration software, while Valeport provided the pressure and radar based water level sensors.

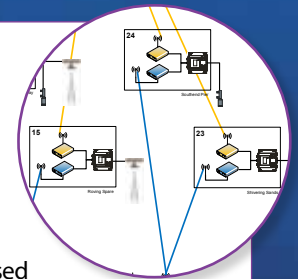
To provide total redundancy, a dual telemetry system was implemented, comprising Ultra Wood & Douglas UHF and **OceanWise 'Smart Telemetry'** modems, the additional benefit of this method allows bi-directional communication with sensors so updates can be handled remotely. PLA had a requirement the system must collect and store data for up to 7 days and as many of the outstations have no mains power batteries are charged from solar panels and/or wind turbines.

All equipment is housed in wall-mounted enclosures providing protection to IP66 / IEC 60529 standards. The enclosures guarantee weather proofing and for additional security include a door switch which triggers an alarm on the web display each time the door is opened or closed.

Each enclosure is EMC tested to industrial standards and all sensors, antennae and other external cables are connected through the enclosure, ensuring water tightness is maintained.



Data transmission is over UHF and the PLA LAN or via GPRS on a Mobile to Mobile Virtual Private Network (M2M VPN) set up by **OceanWise**. The M2M VPN provides data security and communication to sensors from the POLATIDE servers and any other authorised device. Post installation, POLATIDE 5 has been enhanced to send water level data over AIS using the IMO TideMet (Message 8) standard and to include the loading, storage and display of weather and tidal surge forecasts from UK agencies.



OceanWise's commercial off-the-shelf software products, **Ocean Database** and **Port-Log System**, were used for data loading, management and display and are installed on multiple POLATIDE servers. Full synchronisation between the databases ensures all data collected is available at all times, and can feed into other PLA systems.

