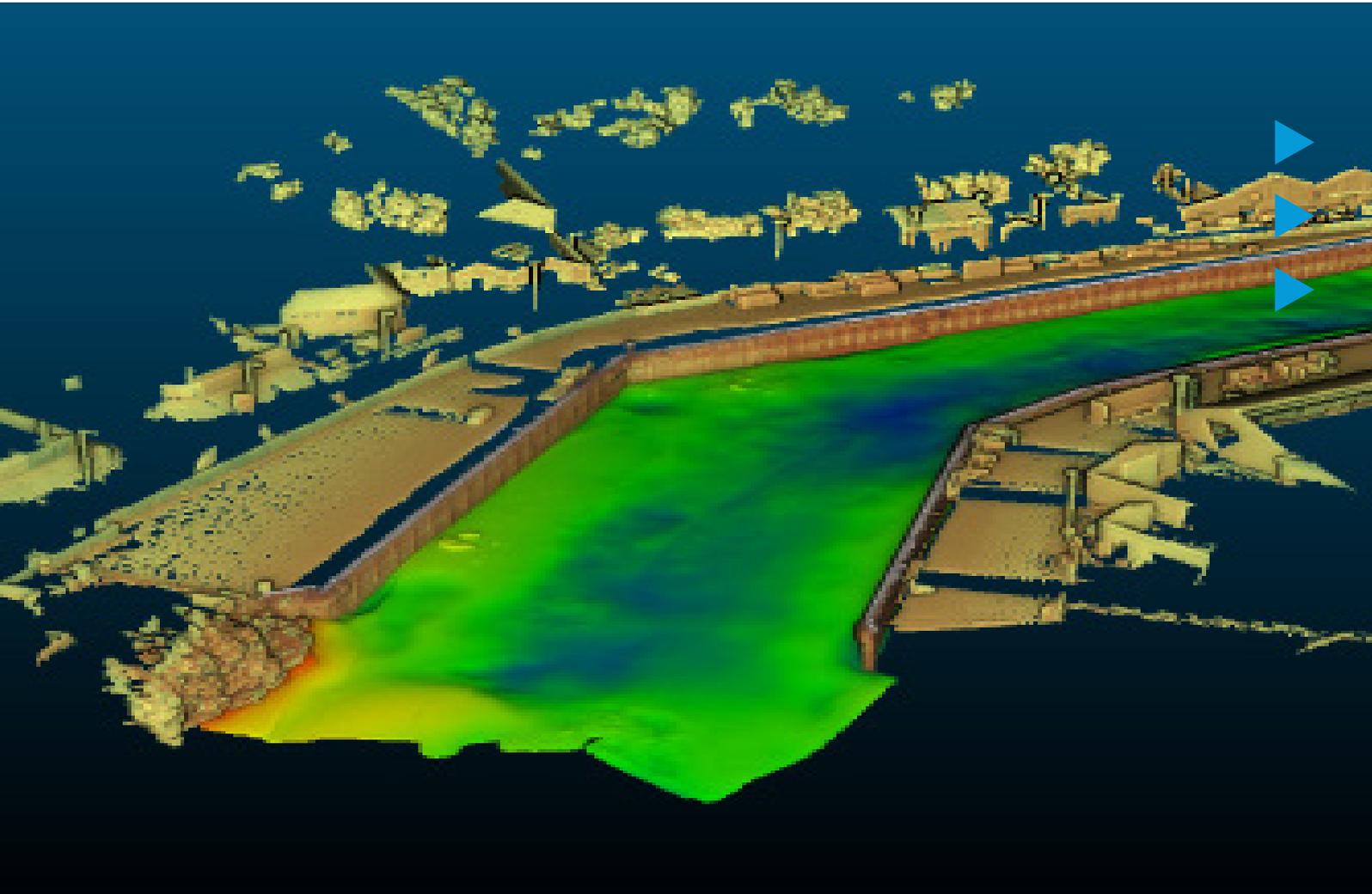




SEP Hydrographic Limited use Applanix technology for asset inspection



Asset inspection in difficult GNSS environments

SEP Hydrographic Limited was founded in 2020 to meet the needs of a growing client base. Based in Skelmersdale, near Liverpool, United Kingdom, their senior management team benefits from more than 45 years of experience in hydrographic and geophysical survey.

Solution

POS MV

POS MV™ blends GNSS data with angular rate and acceleration data from an IMU and heading from GAMS to produce a robust and accurate solution.

applanix.com/products/posmv.htm

POSPac MMS

POSPac Mobile Mapping Suite™ is industry-leading software for Direct Georeferencing of mobile mapping sensors using GNSS and inertial technology.

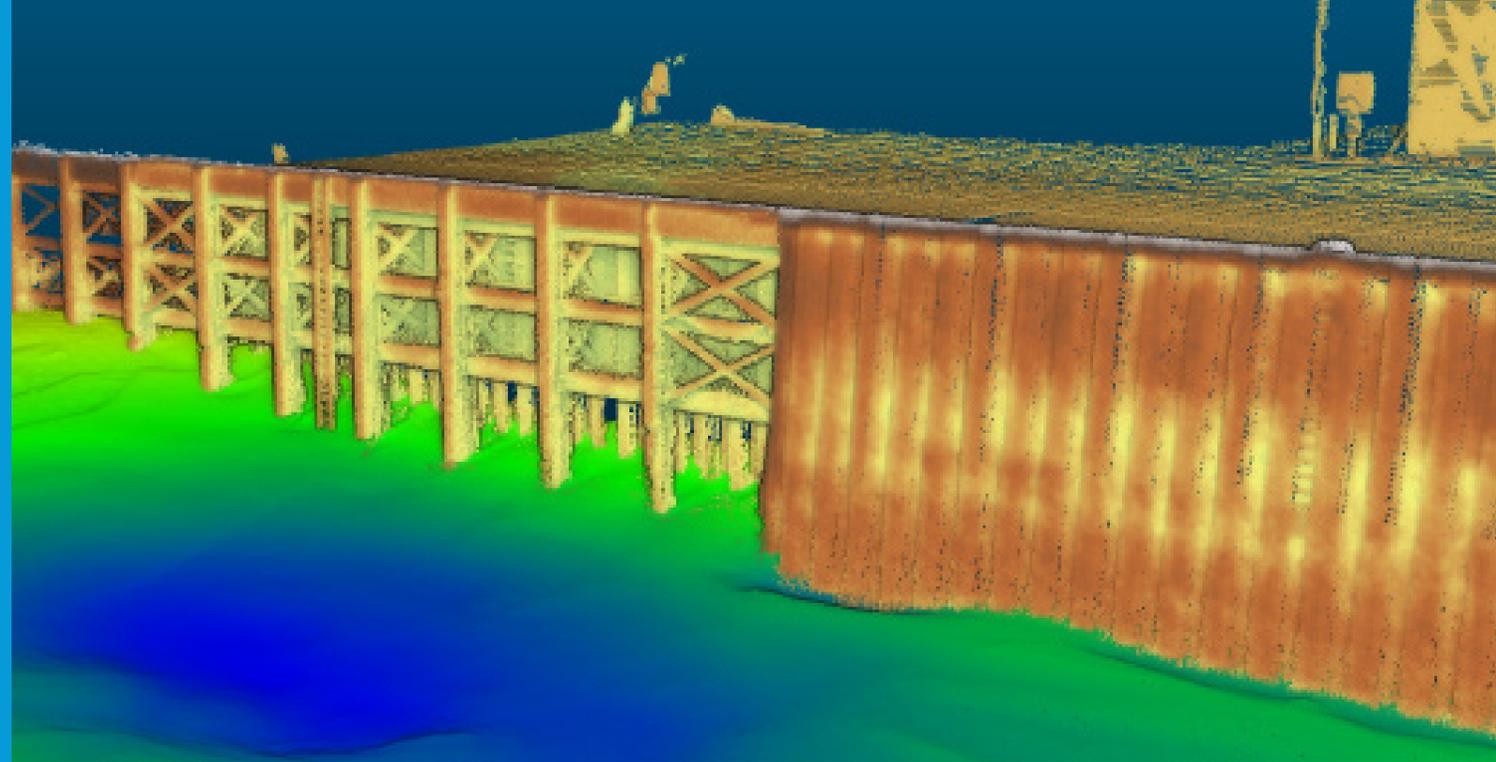
applanix.com/products/pospac-mms.htm

OVERVIEW

SEP Hydrographic utilises high-resolution 3D scanning technology, providing unparalleled data quality both above and below the waterline. It works with clients from various sectors to offer general asset integrity inspection and monitoring, post-storm or damage event surveys, and pre-construction engineering surveys. Their combined land and marine service offering allow the delivery of an efficient, integrated solution to their clients.



Location
Skelmersdale,
UK

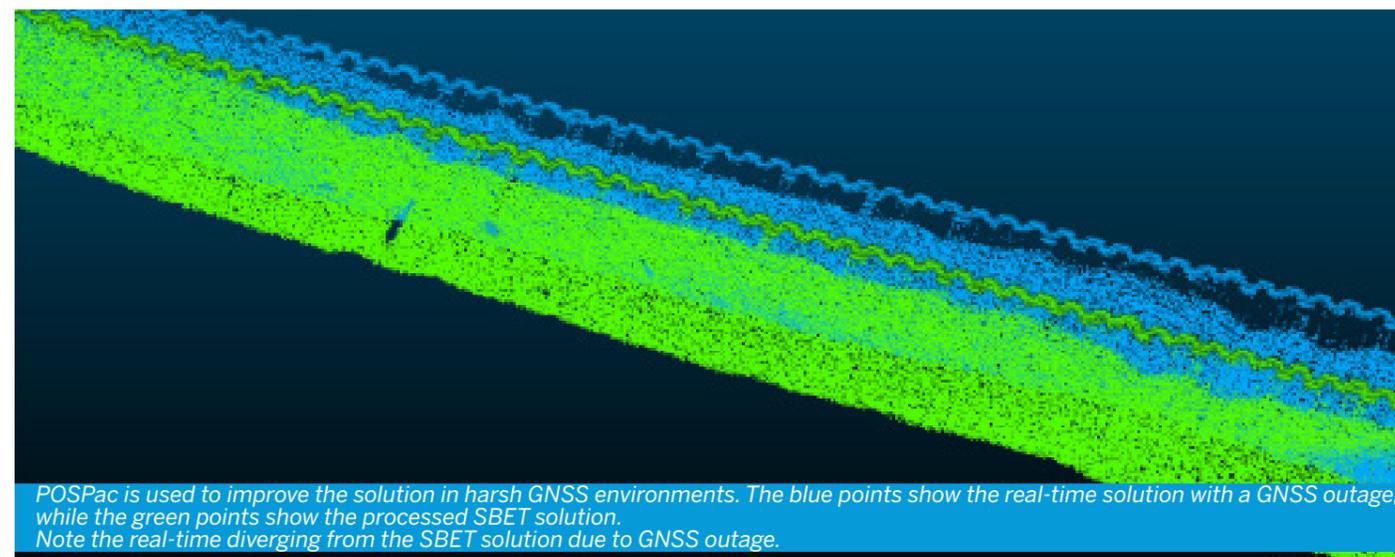


CHALLENGE

SEP frequently operates in ports and harbours, which are often high multipath environments, with large structures in the vicinity of the survey area. These areas can also cause GNSS masking and dropouts, as well as correction telemetry issues. Therefore, it is necessary to use a solution that provides robust positioning and orientation in all scenarios. So, when faced with the challenge of performing an asset inspection in the confines of Perth Harbour, Scotland, SEP chose Applanix.



MV Pulsar equipped with a Norbit WBMS paired with the OceanMaster



POSPac is used to improve the solution in harsh GNSS environments. The blue points show the real-time solution with a GNSS outage, while the green points show the processed SBET solution. Note the real-time diverging from the SBET solution due to GNSS outage.

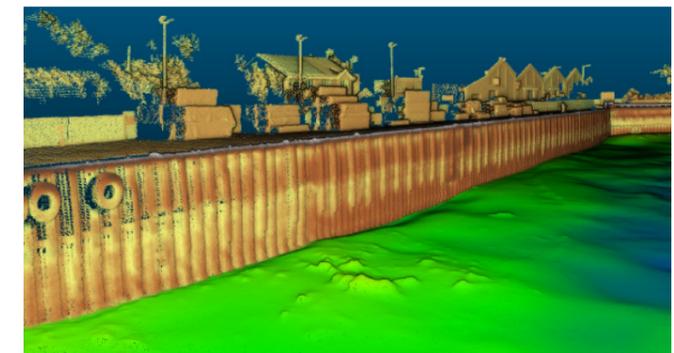
SOLUTION

The SEP Hydrographic vessel, the MV Pulsar, is a 7.2m shallow drafted catamaran, which carries Category 3 certification under the current MCA Code of Practice for Small Workboats and Pilot Boats. The vessel is equipped with a BlueView Scanning Sonar, Carlson Laser Scanner and a NORBIT WBMS Multibeam system, paired with an Applanix POS MV OceanMaster.

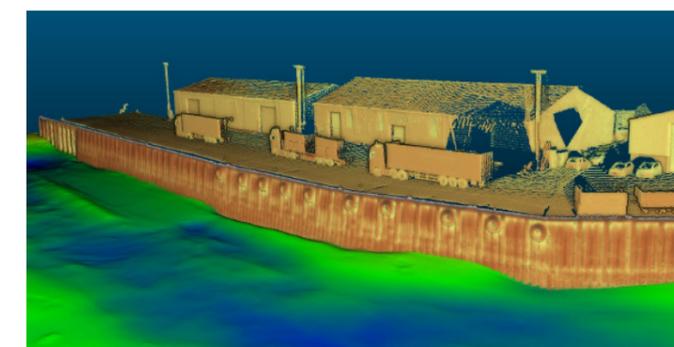
With GNSS and real-time correction outages, which is an issue when surveying quay walls, SEP has Applanix POSpac MMS IN-Fusion SmartBase and SingleBase processing modes at their disposal.

- **POS MV** blends GNSS data with angular rate and acceleration data from an IMU and heading from GAMS to produce a robust and accurate solution
- **POSPac Mobile Mapping Suite** is industry-leading software for Direct Georeferencing of mobile mapping sensors using GNSS and inertial technology.

“Our confidence in this methodology is often validated in cases where vessel mounted LiDAR is complemented with Terrestrial Laser Scanning (TLS). Post-processed dynamically acquired data has always matched TLS data, which is typically referenced to a network of survey control points, where both sensors capture the same objects or structures,” says SEP Hydrographic.



Vessel-mounted LiDAR and Multibeam compliment each other to provide precise data above and below the water line.



The use of POSpac MMS allows the precise alignment and integration of data from different sources.

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