

Case Study

Customer:
Associated British Ports
Southampton

Project:
Increasing coverage within the port
of Southampton

Solution:
Trimble VRS Now Service



Supporting the safe navigation of vessels within the Port of Southampton

Trimble VRS Now has been used to replace a base station bringing even greater coverage and improved efficiency to the Hydrographic Survey Team at ABP Southampton.

Over the years, we've covered many applications where KOREC customers have opted to use Trimble's VRS Now RTK correction service as an alternative to a base station. Delivering centimetre accuracy on demand, VRS Now is renowned for a reliability that has established it as a turn-to choice when time and dependability are key, for example courtesy of the Highways Agency, VRS is used by the police, primarily for collision scene investigation, enabling them to quickly and efficiently survey incidents and minimise road closures.

A switch from a base station to Trimble VRS now is also proving a useful solution for the Hydrographic Team based in ABP Southampton (Associated British Ports) and in particular, Principal Hydrographic Surveyor, Becky Conway.

One of the country's busiest and most successful deep-water ports, Southampton is a natural choice for a wide range of customers and trades efficiently handling £40 billion of UK exports, contributing £2.5 billion to the UK economy

every year. Becky's responsibilities are far ranging and include the management and running of a small technical team of Hydrographic Surveyors whose primary role is to support the safe navigation of vessels within the Port by providing the latest hydrographic information to the Harbour Master, Pilots and the Vessel Traffic Services (VTS) Centre. This information keeps key personnel informed of the depths in the berths and channels and is delivered to them through regular hydrographic surveys using a dedicated survey vessel, 'PROTECTOR'.

The Hydrographic Team uses a multibeam echosounder which makes use of acoustic pulses to map the seabed. To ensure the location of this depth data is accurate, centimetric accuracy in the vessel position is needed as well as the vessels height relative to the ellipsoid. The team can therefore use the height (z) position to work out the level of the tide whilst surveying, using this to reference their surveys to Chart Datum, the level to which depths are measured to on a nautical chart. Southampton's tidal range is 4.0m. To

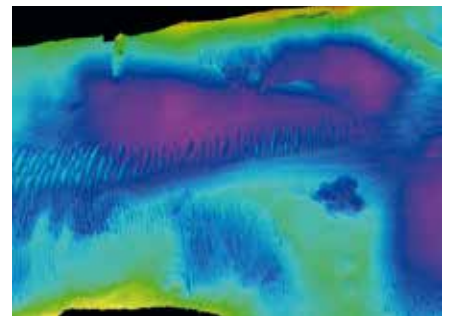
compensate for the vessel moving up and down with the tide, the team uses known values for the height of the RTK antenna above the ellipsoid reference and waterline, the vessel draft and the known separation between chart datum and the ellipsoid reference. Adding and subtracting these values gives an RTK tide correction.

From base station to VRS Now

This positional information was supplied via a base station located on a land-based building. However, the building was due to be demolished and Becky needed to look at different options one of which was Trimble's VRS Now service. Following a consultation with KOREC, a switch to VRS Now was seen to be the most advantageous bringing:

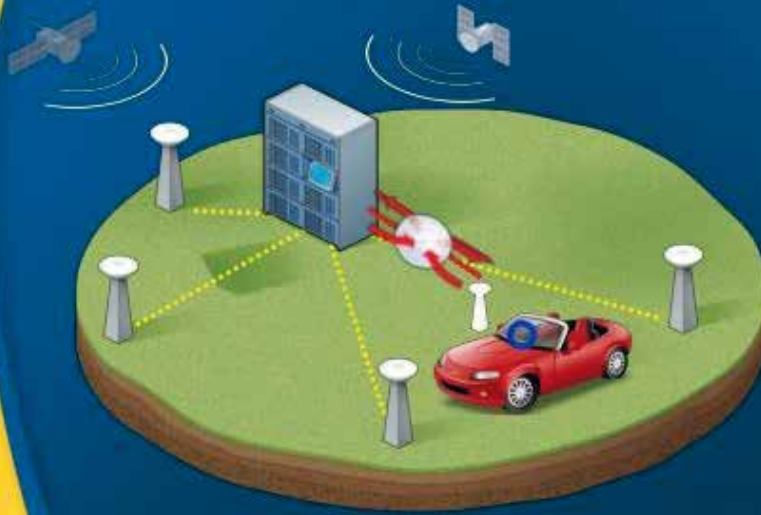
- Greater coverage - VRS Now would provide the team with RTK corrections throughout the Port and its approaches in areas which the previous base station could not cover due to limitations on the VHF transmitter.
- Improved efficiency - Having accurate and reliable RTK corrections would allow the team to significantly increase the efficiency and turnaround of survey results. This is particularly important during dredging operations, speeding up the process of updating the vessels with the most up to date information for them to continue working.
- Additional checking - Ability to compare the RTK Tide correction against tide boards and gauges within the port to give a cross check of the results.
- Peace of mind - VRS Now is renowned for its reliability

Becky reports that following the switch to VRS Now in the summer of 2018, the service has delivered on all these requirements.



▲ Example of bathymetric data collected showing seabed variations in the Thorn Channel. Blues and purples represent deeper areas, greens and yellows shallower depths.

Trimble VRS Now – How does it work?



- Connect
 - Power up your Receiver and connect to the Server
- Correct
 - Trimble VRS Now delivers centimeter accurate corrections tailored for your geographic location
- Position
 - Devine your current Location and re-compute your location every second with one centimeter accuracy again



Contact us:

Please do get in touch for further information on any of the products or services mentioned in this case study, a demonstration, support or just a chat about your requirements.

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