

Case Study

Customer:

Reencon

Project:

Complex survey for a Port Authority

Solution:

Trimble SX10 Spatial Total Station and TBC software



Meeting the challenges of a complex survey project with the Trimble SX10 and TBC software

Since acquiring the SX10 over a year ago, it has been used on many Reencon projects including wind farm surveys (with the R10 for integrated surveying), assisting Belfast City Council after the devastating fire at the iconic Primark building and most recently, on a complex survey for a Port Authority.

Operating out of County Down in Northern Ireland, Reencon has over 17 years of experience in the measurement and management sector of the construction and renewable energy industries. More recently, it has been providing Scan to BIM modelling services for as-built buildings and modelling for MEP and land surveys.

Under the guidance of Senior Surveyor, Tim Connolly, the company has a policy of adopting new technology and a survey fleet that reflects this investment including Trimble's R10 GNSS and an SX10 Scanning Total Station – the first scanning total station to be purchased in Northern Ireland.

On this particular project, the Port Authority approached Reencon to undertake a topographical survey on a 0.7km long

petrochem site adjacent to the sea. The site was home to a number of jetties delivering oil and gas as well as a fire fighting water main supply pipe system which needed replacing. The job was particularly challenging because the project's consultants required a detailed design to allow a new mains system to be installed whilst the old one was kept active.

Given the complexity of the survey requirements and the time restraints on site, Tim recommended using the Trimble SX10 for the speedy collection of survey data (26,600 points per second) that could be turned into an IFC model. This solution was approved and the work was undertaken by a single Reencon surveyor over a four to five day period. At several points during the survey, the SX10 was elevated to further enhance the scan data.

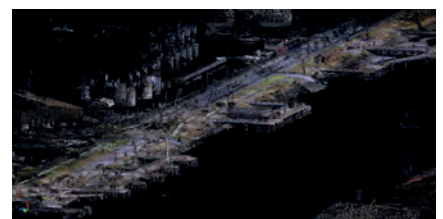
Back at the office, the survey data was processed in less than two days with Tim using Trimble Business Center (TBC) to remove 'noise' such as weeds and tall grass and to create the DTM surface model requested by the out of house modelling company.

Black surfaces are notoriously difficult to capture and Tim was aware that even using the SX10, scan data could be sparse on some areas of the main pipes which were insulated in black rubber tape. Whilst the photos taken with the SX10's VISION technology helped the modelling company, they were not sufficient for them to see everything in context. Tim's solution therefore was to export the entire TBC project as a TDX file which he issued to them along with a copy of the free Trimble RealWorksViewer* so that they had the photos overlaid with the point cloud allowing them to model difficult areas more accurately.

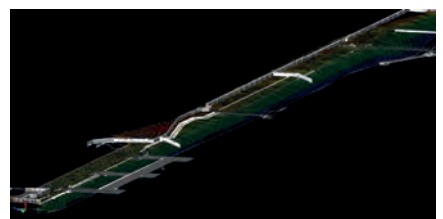
It was TBC to the rescue again when a hiccup in communications meant that the model was created to non-georeferenced coordinates, something that couldn't be easily rectified in its modelling package,



▲ Modelled pipe work



▲ Oil berth jetties



▲ Surface and IFC model



making QA checks a problem. This difficulty was overcome by exporting the model as an IFC which TBC then imported for re-referencing to the original survey. It was then sliced and diced to check for errors and emissions and the project successfully delivered.

View Reencon's video of the data at [youtube/na3HPxUsilM](https://www.youtube.com/watch?v=na3HPxUsilM)

** Trimble RealWorks is software for pointcloud processing and analysis. Trimble RealWorks Viewer allows for the viewing of datasets without any productivity tools.*



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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