

CUSTOMER

Aspect Land and
Hydrographic
Surveys

PROJECT

Wind farm access road
mapping

SOLUTION

Trimble MX50 Mobile
Mapping System

‘Whatever the challenge, we have the solution’



The MX50 system mounted on Aspect’s aerial and marine survey support vehicle

Aspect Land and Hydrographic Surveys’ investment in Mobile Mapping yields substantial benefits for both the company and its clients.

Located in Irvine on Scotland’s western coast, Aspect Land and Hydrographic Surveys has established itself as a prominent survey company providing a comprehensive range of services across the UK and internationally. Working with regional authorities, consultant engineers and blue-chip companies, the practice has adopted an approach of ‘whatever the challenge, we have the solution’. This ethos has seen them make significant investments in their Trimble survey equipment portfolio with the most recent addition being a KOREC supplied Trimble MX50 Mobile Mapping System.

Mobile Mapping

Mobile Mapping has emerged as a widely acknowledged and integral technology, playing an important role in the digital strategies of numerous prominent survey businesses. These companies either opt for the assistance of third-party mobile mapping service providers or invest in a system of their own.

Under the guidance of Deputy Survey Manager Stephen Scott, who possesses extensive expertise in LiDAR and Laser Scanning, Aspect Surveys has made a strategic investment in the Trimble MX50 Mobile Mapping System supplied and supported by KOREC. Previously, the company conducted vehicle/vessel and UAV LiDAR surveys, integrating their own mapping systems. With the new Trimble MX50 system, Aspect Surveys has already secured tender opportunities for three distinct project types:

Large scale inner city surveys – with traditional survey methods, these surveys would have required traffic management (additionally, in Scotland traffic management now incurs additional charges with each application) and night shift working.

Wind farm access road mapping – again with traditional methods, the high detail required to capture all the topographical information would have taken at least three times longer.

Mapping above water assets with the MX50 mounted on a vessel.

First project – wind farm access routes

One of Aspect Surveys’ first completed projects included a 4km stretch of wind farm tracks and access roads. In order to ensure that the blade transportation vehicle could pass freely along the road their client required a high level of detail from Aspect Surveys including overhanging canopy heights and trunk locations of trees along the route plus the gradient of the road. Their client was excited by the deliverable and the potential to use the point cloud and imagery in future elements within their projects.

Benefits for Aspect Surveys and their clients

- User friend system with intuitive workflow making the MX50 easy to use in different scenarios
- Avoidance of Traffic Management and new additional costs in Scotland
- Clients able to revisit the same point cloud for different applications
- Far faster than carrying out traditional high-level detail surveys
- Health and safety – keeping the Aspect Surveyors off the roads



Trimble MX50 System



Captured data of access road

Survey preparation

Prior to all data acquisition, KMLs (file format used to display geographic data in an Earth browser such as Google Earth) were created of the survey area reducing the risk of anything being missed and for finding good areas to calibrate the system.

A few of the survey areas were covered by large stretches of canopy resulting in poor GNSS IMU conditions for PPK trajectory processing. Following advice from KOREC, Stephen incorporated longer periods of static GNSS observations before and on exiting the tree covered stretches. The success in this approach was clear in the high percentage of fixed GNSS epochs during post processing.

GCP's were also established using Trimble VRS Network corrections for survey control and a Trimble S5 Total Station. These GCPs were then used in a global trajectory adjustment within TBC.

The 4km stretch of wind farm was mapped in one day as opposed to traditional methods which would have taken three days or more. A bonus was that the client only needed to have their representative on site for the day, freeing them up for other tasks. Fewer days on site also means that Aspect Surveys is reducing its carbon footprint by reducing the number of car journeys needed to complete a project.

Processing and deliverables

The MX50 data was processed in Trimble Business Centre and further survey packages were used to extract the link features. Stephen also states that the additional 360 imagery has been a real asset and that the team has been collecting images at 1m centres and stitching them together to generate a full 360 drive through video deliverable. This allowed their client to make a full inspection of the road/ access track.

"We have the system mounted on our dedicated vehicle and have been pleasantly surprised how user friendly it's been.

The workflow is very intuitive, with projects processed and delivered even before we'd had our post processing training day."

Stephen Scott, Deputy Land Survey Manager

“Our clients are excited by the deliverable and the potential to use the point cloud and imagery in future elements within their projects.”

Stephen Scott,
Deputy Land Survey Manager

The final deliverables included 2D/3D AutoCAD.dwg with vectorised breaklines and link features from the point cloud. Full coloured point clouds and 360 imagery was provided as well as 360 videos of the drive.

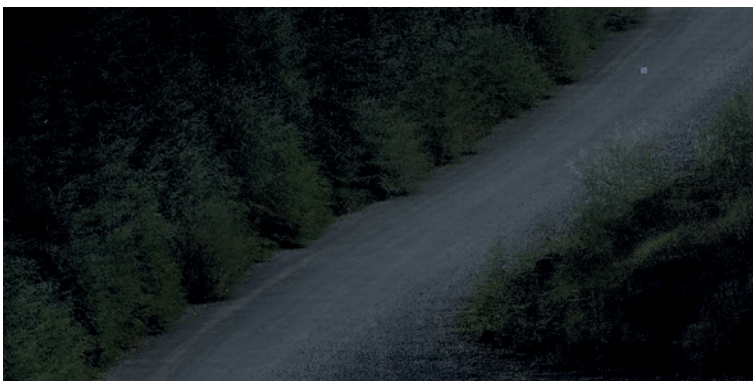
About Aspect Land and Hydrographic Surveys

Located in Irvine on Scotland's western coast, Aspect Land and Hydrographic Surveys has established itself as a prominent survey company providing a comprehensive range of services across the UK and internationally. Renowned as one of the leading coastal survey firms in the UK, it boasts over two decades of industry expertise.

Recognising their status as a preferred contractor for numerous regional authorities, consultant engineers, and esteemed blue-chip companies with long-term framework agreements, Aspect Land and Hydrographic Surveys understands the importance of delivering the highest quality service to its valued customers. With this in mind, the company continuously embraces innovation, recently making significant investments in cutting-edge mobile mapping technology.



The MX50 is easy to mount on a range of vehicles



Captured data of access road

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.

(UK) 0345 603 1214

(IRE) 01 456 4702

info@korecgroup.com

www.korecgroup.com



Measured Solutions
Construction | Surveying | Mapping