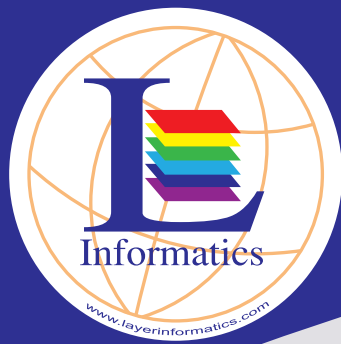




ROAD CORRIDOR MAPPING USING MOBILE LIDAR POINT CLOUD

A Case Study



CHALLENGES:

- Capturing the multiple crossing roads and identifying & collecting even the minute details surrounding the roads with an accuracy of 2cm.
- Capturing under the bridge with details with accuracy of 2cm.

INTRODUCTION:

The scope of the project is to map the road corridor which includes all road features, bridges, boundary features, water and drainage features, slopes, trees and street furniture's using mobile lidar point cloud.

KEY ASPECTS:

- Digitize the features with elevation.
- Maintain 5m interval between the node for straight line features.
- Placing elevation text for slope lines for every 5m interval
- Cleanup and Topology
- QC & QA

INPUTS

- Lidar Point clouds in LAS format
- PTC file illustrating the features
- Project file
- Tile definition
- Area of Interest
- Specification document

METHODOLOGY:

- LiDAR points were loaded tile by tile into terrascan environment.
- Using the surface model of the ground or shading or intensity mode, proposed breakline features were digitized.
- Ground level breakline features are draped to ground surface to get 3D elevation.
- Non ground level breakline features are captured in the section view to get 3D elevation.
- The Off-Highways breakline feature such as embankments, slopes, fences, DEM Points, gully's, inspection covers, marker posts are captured using Photogrammetry technique to avoid missing, incorrect size and positioning of the feature.
- The integration of both LiDAR and photogrammetric data to ensure the accurate and better description surface : 3D realistic models.
- Data cleanup and topology checks were done on the entire data.
- A QC checklist was prepared to assess the mapping quality. A random QA was performed to make sure the data was within the acceptance criteria.

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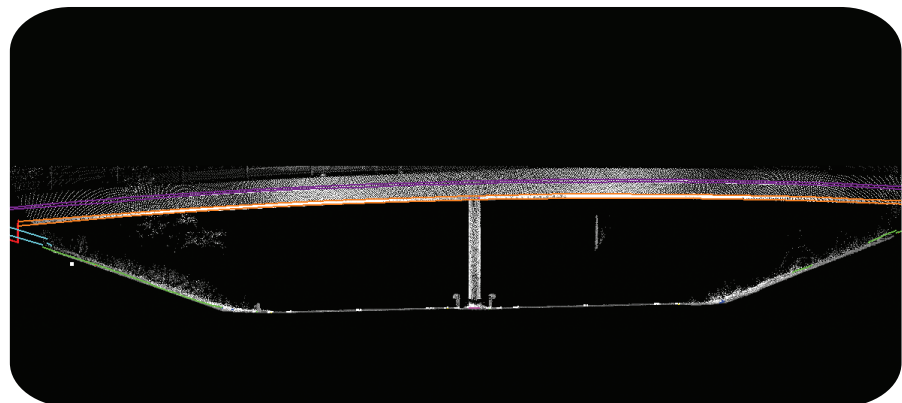
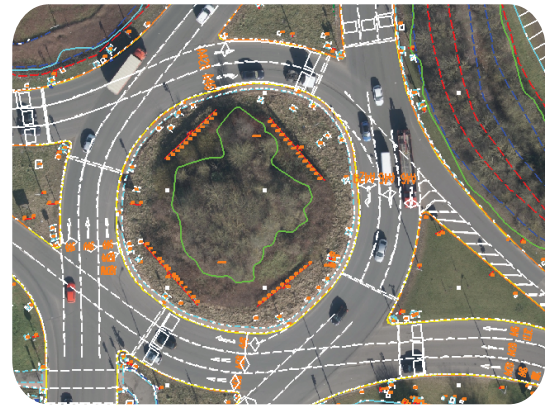
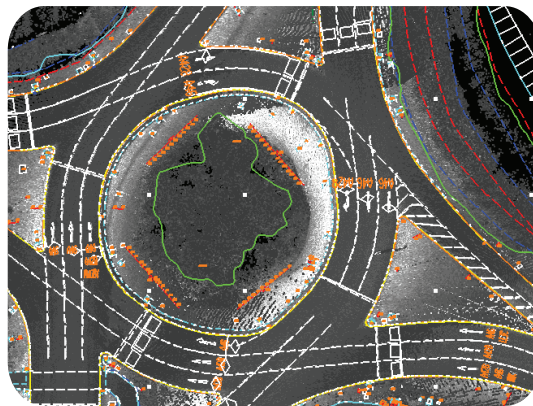
TECHNOLOGY:

- Microstation
- Terrascan
- Terramodel

APPLICATION:

- Construction of a new highway section
- Reconstruction and maintenance of an existing highway section
- Urban Modeling
- Route Assessment
- Engineering Survey
- Environmental analysis in transportation planning

SCREEN SHOTS:



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Edinburgh EH2 4AT,
Scotland, UK.

US Office:
Scranton, PA 18505
Middle East Office:

Doha, Qatar.



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Vision Through Mapping