



SOUTH ME plus CASE STUDY

Introduction

A trial was completed on an industrial site to compare the time frames to survey the site by conventional survey using GNSS and Robotic Total Station compared to the latest new SOUTH ME plus visual lidar RTK.



Above red line is the trajectory walked

Site details

The industrial site was operational with trucks regularly entering/exiting the site and forklifts regularly unloading trucks. The existing building on site required surveying inside/outside as well as the main site and adjoining public road with work area:

Building area = 2,060 m²

Site area = 3,630 m²

Road area = 2,750 m²

Field survey procedure ME plus

The ME plus has a **built in UHF radio** so the survey grade RTK GNSS can receive RTK corrections from your locally setup GNSS base station on a tripod. An existing survey mark was available located in the kerb outside the site based upon Bay of Plenty 2000 coordinates and geoid 2016 heights.

The SOUTH **SurvStar** android field software was used to measure and adjust the measurements to the known survey mark on the road using the built in survey grade GNSS on the ME plus. The lidar unit was then started using the SurvStar software and then a slow walk around the site to measure all areas of interest. The built in GNSS receiver positions the trajectory of SLAM every second as you walk around the work area. The entire work area including inside and outside the building was **completed in one scan taking 15 minutes**.

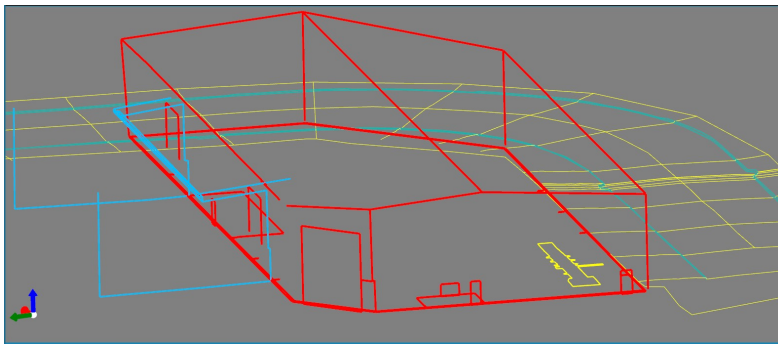


A total of **1 hour was spent on site** which covered site induction, site familiarise, setup RTK GNSS base, survey control checks and 3D scanning.

Office processing

The field data from ME plus is transferred to the office PC via TF memory card which only takes a few minutes.

The field data is imported into the SOUTH ACUTELAS software which is a PC based software that has a **perpetual license** via USB dongle licensing. This ensures **data security** and no additional costs for processing and data ownership. Once the data is imported the **processing is automated** with the output of a colourised georeferenced LAS point cloud on the Bay of Plenty 2000 coordinate system.



Watch video <https://youtu.be/sLgwt5QE10>

Deliverables

The following deliverables were generated in less than 2 hours:

1. Internal **floor plan** of building in 2D DWG format
2. **Site/road plan** and Xsections in 3D DWG format
3. **Road DTM** surface in landXML format
4. **3D point cloud** colourised shared via a web portal for all project stake holders to do virtual visits of the site and take measurements

Summary

	ME plus	GNSS/Robotic
Field time on site	1x hour	6x hours
Office time generate deliverables	2x hours	3x hours
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Total	3x hours	9x hours

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