

Mobile Handheld Competes with Terrestrial Laser Scanning



The ZEB1 mobile handheld laser mapping system has been proven to be able to outperform traditional terrestrial laser scanning during field tests in Chile. Supplied by 3D Laser Mapping and operated by Chilean company GEOCOM, the ZEB1 was used to conduct a survey of a stockpile in a covered mining facility.

The same area was scanned using a terrestrial laser scanner and the results were compared. Data capture with the ZEB1 was found to be around 5 times faster while automatic data processing, via 3D Laser Mapping's secure server facility, took less than 5 minutes. Data accuracies and definitions were also found to be well within the specified range, 3D Laser Mapping reported.

Using the ZEB1 the surveyors were able to capture the entire 100 metre survey area in around 3 minutes, commented Carlos Escudero, co-founder of Santiago based GEOCOM, compared to 15 minutes of data capture with the fixed location scanner. Processing of the ZEB1 data went smoothly – the team just uploaded the raw point cloud to the 3D Laser Mapping server and within 5 minutes they were looking at the processed data.

Mr Escudero continued that the detail and accuracy of the data was also exactly meeting the specifications they had been promised; proving the suitability of the ZEB1 for this type of application. At GEOCOM they are now confident in using the ZEB1 and marketing it to their client base.

Robotic technology

Developed by CSIRO and commercialised by 3D Laser Mapping, ZEB1 uses robotic technology called Simultaneous Localisation and Mapping (SLAM). The ZEB1 system includes a lightweight laser scanner mounted on a simple spring mechanism, which continuously scans as the operator walks through the environment. As the scanner loosely oscillates about the spring it produces a rotation that converts 2D laser measurements into 3D fields of view. Its ability to self-localise makes ZEB1 ideally suited for use indoors, underground and in other covered environments, where traditional solutions that utilise GPS usually not function well.

GEOCOM has over 20 years of experience in providing advanced solutions for field surveying and is 3D Laser Mapping's Chilean representative for its range of high-tech laser scanning solutions.