

3D Laser Scanning to Detect Property Encroachment

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Key words: Cadastre; Laser scanning;

SUMMARY

3D laser scanning technique employs the LiDAR (Light Detection and Ranging) scanner to capture millions of data points of a real-world environment in 3 dimension (3D), allowing users to view that environment virtually. The data points are known as point clouds which can be used to produce accurate and realistic 3D maps/models for use in a variety of applications including surveying, mapping, engineering, monitoring and investigations of crime/accident scenes etc. The major advantage of this surveying technique is that it facilitates high accuracy, high resolution, complete and detailed 3D data acquisition of objects and environment rapidly. Property encroachment is the situation which occurs when a structure is built in whole or in part on a neighbour's property. It may be the result of incorrect surveys, or mistakes or miscalculations by builders or owners when erecting a structure. Traditionally, the survey work processes to detect encroachment is tedious and the plan created is not easy to visualise. This paper describes the usage of 3D laser scanner to capture accurate 3D point clouds data and to detect encroachment. Point clouds data collected will be overlaid with existing cadastre boundary GIS data for better understanding of the encroachment and better decision making.