

Infrastructure

The extremely high point densities of elevation data collected with today's high repetition rate airborne laser scanners (Lidar), makes them an ideal tool for mapping, planning, maintaining and managing infrastructure such as dikes, dams, roads, railways, pipelines, airports and power lines. Given the economic importance of such facilities and the growing adoption of GIS as a management tool, the ability of laser scanning to rapidly generate high accuracy, high density data that realistically represents the structures in 3D, makes it a powerful tool for infrastructure mapping and management, even more so when combined with the simultaneous capture of digital imagery.

Traffic and roads

Maintaining existing roads, increasing their capacity and developing new infrastructure is vital for any society in order to meet our rapidly changing transportation demands. Lidar data and the products provided by the digital camera provide a good base for efficient planning and the extension and maintenance of infrastructure.

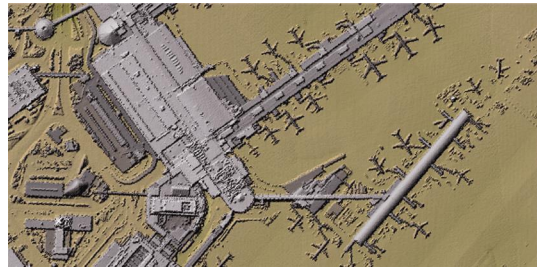


The British Highways Authority awarded us a 5-year contract to scan a huge part of their highway network in a very high resolution in x, y and z. We use a helicopter system and a fixed wing airplane for the acquisition of the data, the required point density of 24 points/m² and a pixel resolution of 3.5 cm for the digital camera data are challenging specifications we were proud to meet. The data is processed in-house with our own processing chain and delivered in various formats for further usage.

These new surveying methods will speed up the delivery of major road schemes by reducing the time taken to produce the data. Safety is another very important reason for choosing this technology. Measurements on the roads or bridges itself are no longer necessary and the surveys do not require lane closures nor cause delay to drivers.

Airport obstruction analysis

Safety is the rule No. 1 in airport management. Knowing all features and possible obstacles in and around an airport is essential for safe operations. Lidar, flown at low altitude with high density, delivers high accuracy point clouds that are the basis for advanced obstruction surveys. With sophisticated algorithm the millions of points are being processed, obstructions that penetrate a virtual surface are detected and identified.



Power line mapping

Laser scanning is an appropriate tool for mapping power lines. High repetition laser pulses reflect from the ground, from the undergrowth and encroaching vegetation and from the power line cables, pylons and towers, giving a detailed and complex copy of reality.

Dikes

The maintenance of existing dikes and the planning and adjustment of new dikes to protect land and lives is a challenging task for all administrations involved. The traditional method for dike surveying has been terrestrial measurements.



TerraImaging uses its experience and approved laser-scanning methods to scan large parts of the existing dike infrastructure in the Netherlands. The helicopter-based data acquisition delivers high quality and high resolution elevation information. In addition to the elevation data high resolution orthoimages and video data is acquired.



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