

LiDAR Surveys

using RPAS

For vegetated areas, drone LiDAR is the best alternative to ground-survey (time-consuming), manned aircraft survey (expensive) and in many cases regular drone surveys which use photogrammetric methods (uncertain under vegetation).

Our RIEGL-based LiDAR system offers incredible canopy penetration and accuracy levels to produce exceptional topographic surface models of the bare earth ground surface, even below the canopy. Alongside the laser scanner, the system also features dual cameras which capture high-resolution imagery simultaneously. This enables the generation of a dense 3D coloured point cloud as well as an orthomosaic from the same dataset captured, without needing to fly the area again with a different sensor.

With reduced field time, enhanced accessibility, improved safety and quick turnaround to process the data – drone LiDAR surveys can quickly provide extremely accurate (+/- 20-50mm) datasets to assist with planning, design and many other applications. Our clients have peace of mind knowing Scout Aerial is certified, compliant and fully insured.

The RIEGL miniVUX-3UAV laser scanner provides 120m range with up to 5 returns per outgoing pulse at a scan rate of 200,000 pulses per second, resulting in point densities of 45-90pts/sqm. Coupled with the Applanix APX-20 (the industry's most accurate and reliable position and orientation system), it is capable of accuracies better than 2cm RMSE.

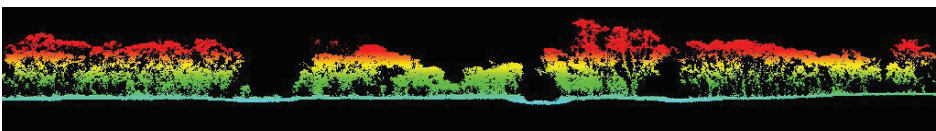


BENEFITS

- > Can penetrate vegetation to accurately model a ground surface below the canopy
- > Quicker and more cost effective than labour-intensive methods
- > Can cover large areas (1000ha+) or long linear flight paths in a short time
- > Reduced risk to personnel (inaccessible areas, confined spaces, high voltage, hazardous environments etc.)
- > High accuracy survey-grade data to assist with decision-making

APPLICATIONS

- > High accuracy topographic surveys, particularly where vegetation exists or large areas where ground survey is difficult due to accessibility and scale
- > Creation of digital surface models and contours for planning & design (flood modelling, bulk earthworks, civil, architecture, environmental management etc.)
- > Extraction of features such as water bodies, drainage networks, roads, buildings, fences, powerlines, pipelines etc.



DELIVERABLES

- > High resolution orthomosaic
- > Filtered & classified Point Cloud
- > Digital Terrain Model (DTM), Digital Surface Model (DSM), Contours
- > Vector features (water bodies, drainage networks, roads, buildings, fences, powerlines etc.)
- > Site maps & plans

Email info@scoutaerial.com.au to request a sample dataset.