

## 3D Scanning and Modelling

Based on our philosophy of employment of latest technology to improve quality and efficiency, LandScope has developed a 3D laser scanning capability. As with all survey instrumentation, the critical success factor is a thorough understanding of application, economy of accuracy and quality of deliverable. LandScope has identified several areas where 3D laser scanning has greatly increased our capability and efficiency. Without the need to create detailed time consuming and expensive 3D CAD models, the surveyor or end-user has the capability to extract vector distances, create 2D plans or elevations or cross sections directly from the measurement domain, which in this case is a point cloud.

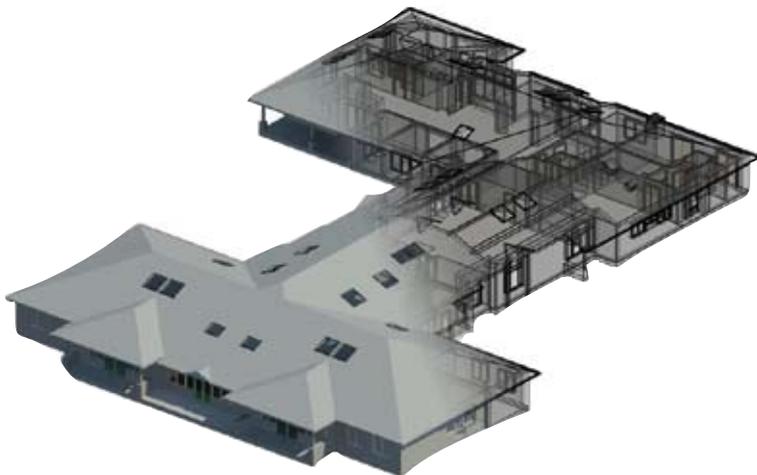
With scan rates of up to 1 million points per second, field acquisition times are greatly reduced and the inevitable redundancy of data aspect provides an additional level of quality control, not possible with traditional survey instrumentation.

### BIM, Buildings and Structures

Drawing on extensive experience in measured building surveys LandScope is now able to deploy the latest and fastest laser scanners to rapidly model buildings both internally and externally creating the basis for traditional drawings or a 3D Model as input to BIM project.

The laser scanning service is able to deliver fundamental base components to the BIM process including building part geometries and spatial relationships either in its raw LiDAR point cloud form or as a resultant parametric model or similar.

As the design and build industry focuses on the government's mandate to deliver level 2 BIM by 2016, LandScope has developed its laser scanning and 3D modelling service to provide an accurate and detailed geospatial foundation to your BIM project.



### Applications Include:

- Structural and Engineering Applications
- Visual Impact Assessment
- Building and Architectural Survey
- Slope and Embankment Stability Modelling
- Cityscape Modelling
- Specialist Topographic Surveys
- Manufacturing and Processing Facilities Management
- Volumetric and Extraction Modelling
- Restricted Access Surveys
- Ports, Harbour and Water Course Modelling
- Erosion Monitoring
- 3D Modelling For Film and CGI Productions
- Crime and Accident Scene Recording

### Civil Engineering

Traditional survey technique has long been at the heart of civil engineering schemes. As projects become more complex and the need for optimum development of space increases, mainstream CAD packages are now capable of handling billions of measured points. As a result laser scanning is becoming an invaluable tool within the civil engineering sector.



### Plant

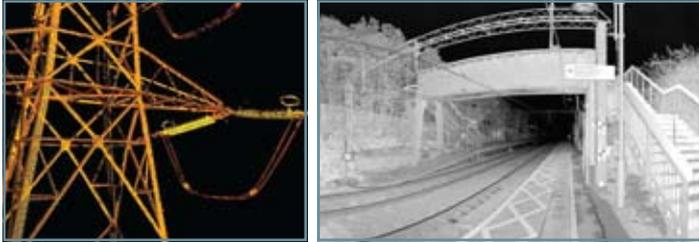
Hi-resolution 3D laser scanning has revolutionised measured data capture within the power and processing industries in support of 3D plant modelling, as-built survey, clash detection, clearance analysis and upgrade retrofit design. No longer is it a necessity to house drawers of technical drawings when all the information can be captured and stored in one digital 3D model.



## Transport and Utilities

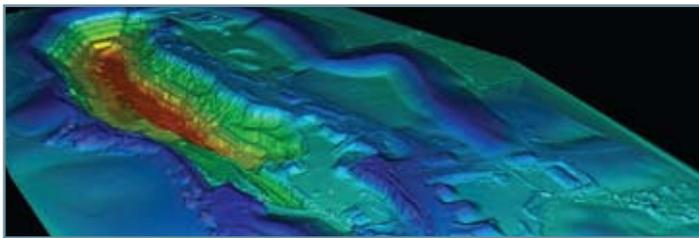
Complementing our services to the civil engineering sector, LandScope offers a wide range of services to the transport and utilities sector. Key among these is our autoMAP mobile mapping service. autoMAP utilises the very latest Topcon IP-S2 Compact+ Mobile Mapping System to accurately and rapidly map large areas of the transport network, whether road, rail or river. The system incorporates five high resolution laser scanners to acquire a detailed point cloud of the road and surrounding area alongside a high resolution Ladybug 360° spherical image camera.

Deliverables include topographical surveys, asset inventory, DTM's, string models, photographic recording and route mapping.



## UAV Surveys

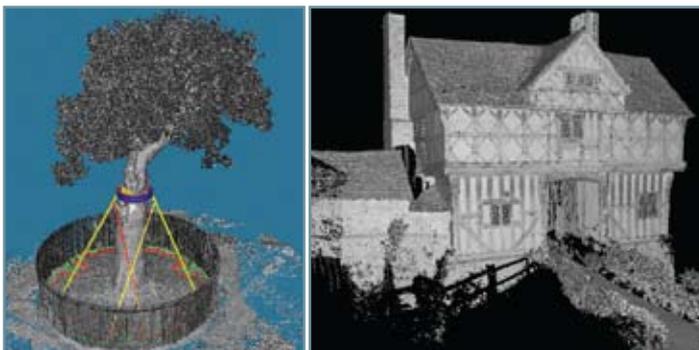
LandScope offers a complete unmanned aerial vehicle survey solution. By providing high quality and accurate data, large scale mapping projects can be realised at an affordable price. Serving a wide range of industries including quarries, construction, agriculture, environmental, agriculture and heritage, orthorectified aerial photography are collected and processed to produce topographical survey data, DEMs, asset inventory and point clouds. All of the UAV operators are fully qualified with appropriate CAA permit.



## Heritage

With the unique properties of laser scanning technology we are able to undertake detailed surveys of important heritage sites, buildings and objects without the risk of marking or damaging the subject. The survey can be completely unobtrusive with unprecedented levels of survey resolution and accuracy delivering a permanent, geo-referenced, record.

The point cloud dataset can be visited again and again to extract additional data and measurement or develop models as required.



## Media

The media and games sector has always been at the forefront of innovative technology and laser scanning provides an ideal solution to creating accurate and realistic environments. LandScope has developed a robust workflow to enable rich 3D data to be brought in to modelling packages such as Autodesk 3DS Max. Accurate and dense point clouds augmented with panoramic photographic imagery provides the video game model developer the ultimate reference.



## Using and Sharing Point Cloud Data

Point cloud data can be readily viewed and shared without the need of installing costly and complex software. Free to use software from mainstream vendors including Autodesk, Leica and Faro allows for viewing, measuring, annotating and sharing point clouds created by LandScope. Alternatively, most mainstream CAD packages have the ability to import point clouds in some form.

