

3D LASER SCANNING

Specialist expertise for the construction,
infrastructure and asset inspection
industries



When precision surveying in high accuracy and high value projects is required, 3D laser scanning is the go to capture method.

3D laser scanning collects millions of individual point measurements within minutes. The measurements are then **plotted** within a single **XYZ coordinate system** to form a '**point cloud**' of the object's external surface.

With the **addition of GPS data** these points can be **geo-referenced** and **transformed** into a **global reference system**.



measured



point cloud



GPS data



global reference system

The benefits of 3D laser scanning are as follows:

- Laser scanning helps avoid assumptions, generalisations, errors in interpretation and problems by having the original data set to reference.
- High accuracy and precision reduces the risks associated with project execution.
- Complete data collection enables further investigations to be carried out later on without costly returns to the site.
- Reduces the costs and downtime associated with construction rework, site revisits and field changes.
- Remotely capture data from potentially hazardous sites, e.g. motorways or structurally unsafe buildings.
- Enables 3D Modelling and Building Information Modelling (BIM)
- High accuracy plans for retro fitting design work, avoiding on-site alterations and clashes.
- High quality images, animations and visualisations can be created for reports and presentations.

Laser Scanning Applications

- Internal and external as-built surveys
- Site/Engineering Surveys
- Topographic Surveys
- Architectural Restoration
- Heritage Site/Conservation Surveys
- Archaeology
- Pipeline Surveys
- Construction Inspection
- Bridge, Overpass and Tower Surveys
- Hazardous Environments
- Volumetric Surveys
- Scan To BIM

Laser Scanning Deliverables

- 2D plans & elevations
- Point to point and point to surface measurements
- Sections & Profiles
- Volumetric reports
- Line of sight
- Detailed topographic maps
- Wireframe and surface models
- Links to asset information
- Fully textured models
- Fly-Through Videos
- Fully intelligent plant models
- Building Information Modelling (BIM)

