REALITY CAPTURE AND 3D MODELLING

BRINGING LIFE TO DESIGN PLANS AND DRAWINGS WITH REALITY CAPTURE AND MODELLING

ABOUT REALITY CAPTURE AND 3D MODELLING

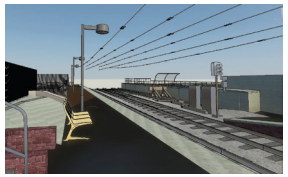
Capturing site data using laser scanning and 3D modelling allows our design and engineering team to create digital twins that are accurate, efficient, and versatile. It provides us with valuable insights to improve, innovate and influence the design and build process and assurance.

HOW DO WE DO IT?

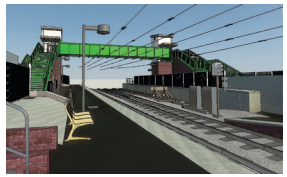
We use a range of specialist equipment and software for capturing and processing data such as the Leica RTC360, Leica GS18, Leica Cyclone Register 360 and Autodesk Recap Pro. For 3D modelling the team uses the latest Autodesk and Bentley Software (AutoCAD, Revit, Microstation, OpenBuildings Designer).

Scan >>

Model >>



Proposal.



> *3D modelling enables us to demonstrate to our clients the real-time layout of the structure and proposed works - allowing ambiguities to be discovered and mitigated to keep the build costs down.*
>
> *AmcoGiffen, project engineer*

Leica RTC360

WHAT DOES IT INVOLVE?

Project Preparation

- Reviewing project requirements and objectives
- Examining existing design or physical model, if available
- Preparing equipment and tools

Data Collection

- Implementing laser scanning process
- Capturing data
- Quality control checking on the data collected
- Data processing and cleaning

3D Model Creation

- Converting collected data into 3D design models
- Verifying model accuracy and completeness
- Enhancing the model, if necessary
- Creating visualizations and animations, if required

Outputs

- Final 3D design models and drawings

Sharing and using 3D models created from reality capture between team members, stakeholders, and clients improves assurance, communication and collaboration, producing the right design from the outset, and minimises changes, and errors during construction.

ADDED BENEFITS:

HIGHER ACCURACY:

Laser scanning technology provides precise and accurate measurements, resulting in detailed and accurate 3D design models and drawings. It can pick up unknowns to the project that aren't visible or picked up with traditional survey techniques, such as structures that are out of plumb.

SPEED:

Laser scanning can capture large amounts of data in a short amount of time, reducing the time and effort required for manual measurements on-site.

IMPROVED VISUALISATION:

3D models created from laser scanning data can create realistic visualisations and simulations, helping to improve communication and understanding of design concepts.

DESIGN VERIFICATION:

Laser scanning enables engineers to verify design dimensions and tolerances, reducing the risk of errors and improving the quality of the final product quickly and accurately.