Changing the Face of Documentation in the Built Environment

Efficient quality assurance with comparison to design-intent and BIM

In recent years, technology has influenced the way we design, manage and document the built environment. The introduction of sophisticated 3D modelling and BIM has opened the eyes of designers and constructors alike to the opportunities that technology can offer, improving productivity, increasing accuracy and reducing costs. The move from 2D to 3D has helped the industry to become more profitable, productive and better organised.

3D Reality Capture Delivers Understanding

3D reality capture is the latest technology improving understanding and documentation of the built environment. Using ultra-accurate laser scanning combined with high-definition imagery, whole environments are captured quickly and in detail to create a digital 3D environment that can be explored, measured and annotated, for a fuller understanding of the building.

Smaller, more powerful and faster laser scanners and software can now be used by novice users to capture and record projects. For example, BIM Managers can quickly capture construction stages at the touch of a button, allowing comparison to design-intent for quality assurance. Mechanical and electrical consultants can also record the positioning of pipework and electrical systems prior to being clad to inform future maintenance and adaption.

Ensuring quality, accuracy and precision, 3D reality capture provides contractors and consultants with a new tool to improve productivity and workflow, while also reducing costly mistakes.

Enhanced productivity and workflow with automated software tools

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Advantages of 3D Reality Capture

Quickly create an **accurate 3D model** of your site

Measure, view and **annotate** imagery and point cloud data

Capture every detail for review on- or off-site

Record as-built structures for **quality assurance** and client handover

Improve **productivity** and **workflows**

Less manual work and **trips to site** required

Easy-to-operate for novice users

Interactive and collaborative information

More **accurate** construction **verification**

Complete project documentation, scanned and verified, at the touch of a button

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Documenting Built Environments

There are a number of ways that 3D reality capture can be used to document the built environment and improve construction and maintenance:

As-Built Documentation

Complete documentation of build attained quickly through automated registration of scans, simple notation and verification by automated software tools.

QA and BIM

Fast and precise digitisation of the as-built environment for quality control and comparison to BIM, ensuring quality and accuracy of build.

Record of Services

Record exact position of services prior to cladding to ensure compliance with design and to inform future maintenance or refurbishment.

Project Handover

Complete project documentation, either in stages throughout project for invoicing, or as a whole at completion ready for handover to client.

To learn more about 3D reality capture solutions and how they can improve project documentation and quality assurance, contact Leica Geosystems at leica-geosystems.com