

BUILDING INFORMATION MODELLING

3D Laser Scanning and BIM for Existing Buildings

Many can see the benefit of applying a BIM approach to a new development, but it can also be applied to the existing environment where collecting built information can be somewhat challenging.

The use of 3D laser scanning has transformed data collection and the industry can now see the value in using this technology to provide the BIM platform for the existing built environment.

Plowman Craven has worked on numerous projects requiring both 3D laser scan data and BIM-ready models delivered as part of the BIM process.

The technology and workflows applied means it has become cost effective to directly deliver models, bypass the 2D phase, and integrate directly into the BIM process.

Laser Scanning

Laser scanning instruments collect high accuracy (+/- 3mm) data at 500,000 points a second providing millions of measurements in three dimensions called point clouds.

The result is an organised digital representation of a subject which is delivered quickly, efficiently and accurately.

Real-time access to this data can provide critical measurements instantly, or post process provides the measurement platform to extract 2D drawings or 3D models.

Benefits of 3D laser scanning:

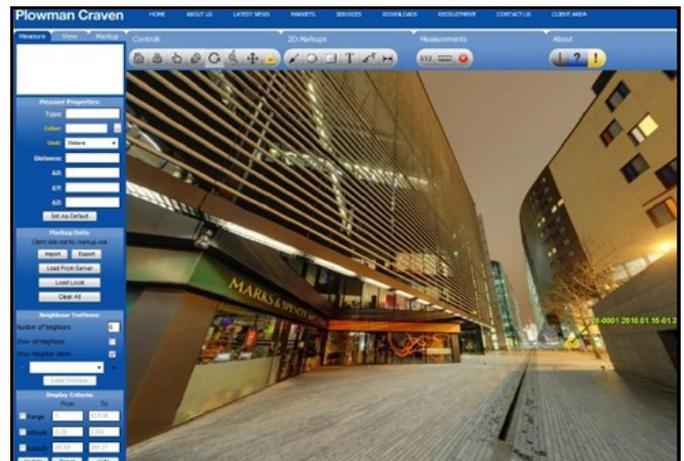
- Rapid site data collection
- Completeness of data – reduces returns to site
- Immediate data archive record and accessible measurements
- Operates remotely and in difficult situations
- Improved safety and non contamination
- Collects data from complicated environments

TruView™

From laser scanned on-site positions, high dynamic range photography can be taken and mapped onto the actual point cloud data.

This can be viewed within the supplied free view TruView™ application and provides the user with a high definition photorealistic duplicate of the site environment. The user can pan, zoom and accurately measure any visible details, all this while the 2D/3D deliverable is being completed.

An added advantage is its multi-user capacity - Engineers can be investigating the structural arrangement while the retail designer can be measuring merchandise layouts.



Benefits of TruView™:

- Early access to data and quicker decision making
- High dynamic range photography
- Measurement and investigation
- Internet access and multi-user facility
- Move around easily in a visual tour of the site
- Attach notes/hyperlinks/legal documentation



BIM Ready Models

Continually, our clients are requesting a BIM deliverable which can seamlessly integrate with existing design requirement and workflows.

The professionally surveyed BIM model has a major advantage in the fact that relevant parties can work directly in the BIM environment without the need to construct from 2D plans or convert from another 3D model format.

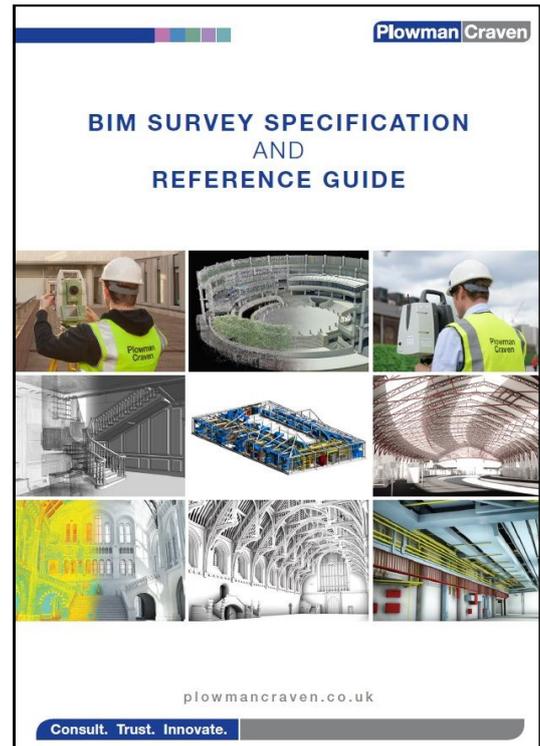
Benefits of BIM delivery:

- Minimise potential risk by reducing production stages
- Integrate conceptual design in an as-built environment
- Highly accurate as-built survey data
- Linked to survey data and control framework
- Time and cost savings by upgrading 2D survey data into Revit®
- Reduced project time

Save time and money

Providing accurate as-built information in a BIM format:

- Equips you with the sound base data upon which to build your designs
- Allows your design process to commence immediately after survey data delivery - without the need for preparing and transferring surveys from CAD
- Gives relevant stakeholders immediate access to work directly within the BIM Environment



The most successful of our projects are those where clear communication and cooperation is there from the beginning.

The utilisation of our BIM Survey Specification is a key factor in assuring concise communication and a firm understanding of clients requirements and expectations from BIM models.

About Plowman Craven

Plowman Craven provides integrated measurement and consultancy services to the property and infrastructure markets, pioneering the use of technical innovation to deliver proven expertise and trusted results throughout the project lifecycle.

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