Benefits of Point Cloud to As-built models

As-Built models or drawings help analyze, visualize, and document actual design vs expected design in restoration and renovation projects.

Challenges with traditional methods of recording or surveying

- Inaccurate and incomplete documentation sets
- Renovation challenges due to lack of visualization
- Diminished subcontractor onboarding and permit issues
- Inefficient operations or facilities management
- Unexpected modifications in design changes, onsite changes

71% of project owners indicate that capturing & retaining data during design & construction will reduce lifecycle operations costs.

Source: Autodesk + FMI report

Benefits of point cloud to As-built models

Greater information depth
Track project progress through referencing scans, stress estimation, building diagnosis & morphological analysis.

Enhanced visualization
Greater clarity and ease in documenting dimensions, geometry, location, etc. for renovating projects.

Quick subcontractor onboarding
Speed up work operations while ensuring safety by increasing communication and collaboration.

Improve operations & management
Information access availability from a centralized as-built database with spatial representation.

Real-time design upgrades
Digitized and effective project handover with real-time documentation of modifications or changes.
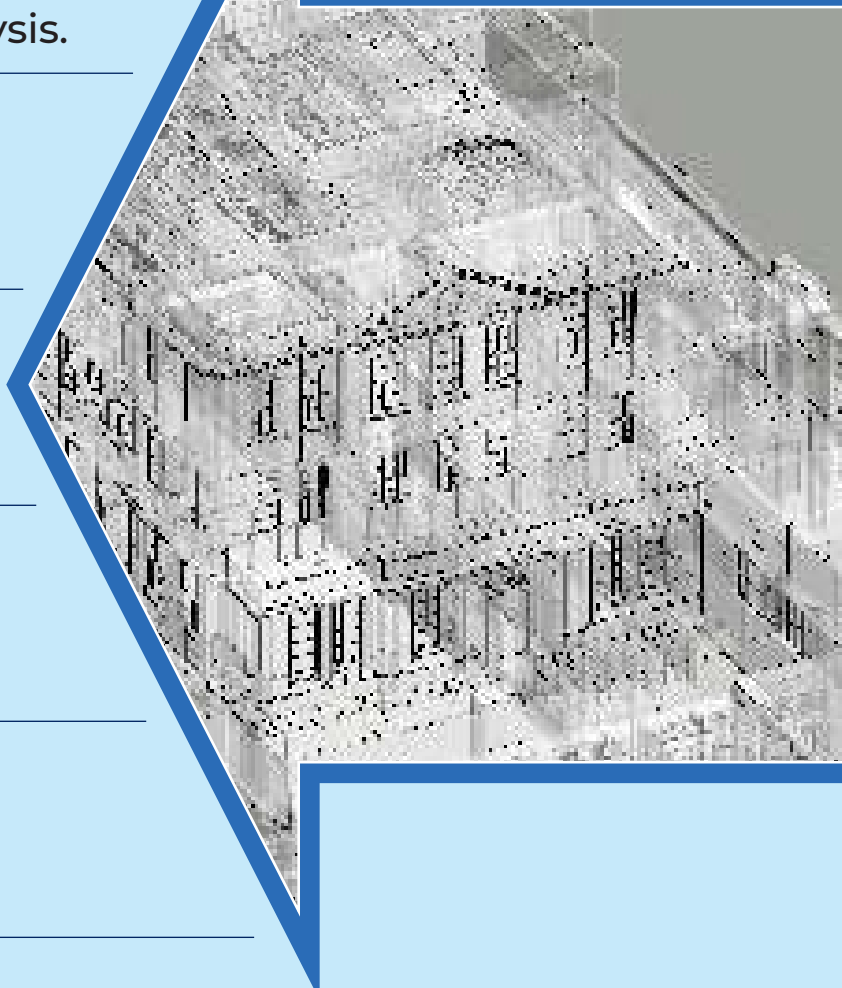
Business impact in numbers

Out of 200 professionals & owners who used BIM & laser scanning techniques for their AEC projects

62% Combined BIM with Laser Scanning for their projects

46% Achieved a positive financial result

62% Captured accurate analysis of the site

59% Accepted improved communication & reduction in change orders

47% Accept benefits through cost reduction

-Construction Research Congress in 2016

Best practices to create As-built models from point cloud

- Distribute control points with pre-scanning activities
- Register each area individually through pre-scanned control points
- Collate all the areas in a unified project file
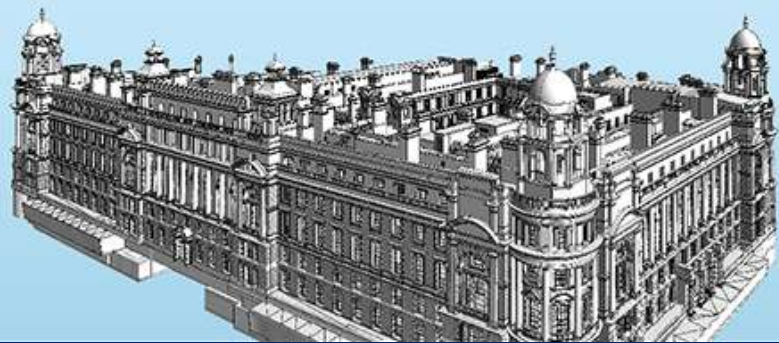- Use 360 panorama photos to get measurements & real-time coordinates
- Assess and build model geometry from the point cloud
- Build a BIM catalog or library before actual modeling starts
- Import geometry to Revit BIM & integrate .RCP files to model support systems
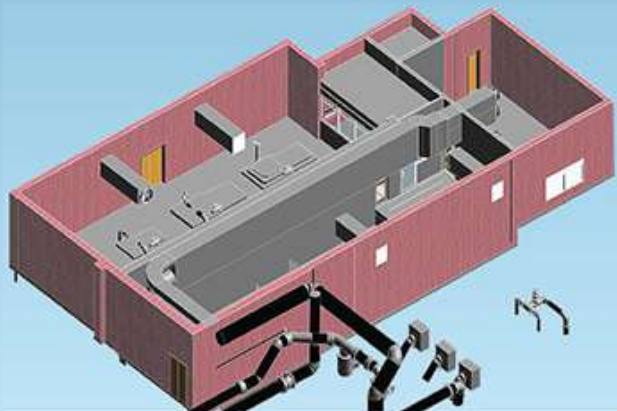- Perform a quality check to verify model content

Point cloud to As-built modeling success stories

Scan to BIM model at LOD 400 saves time & cost for a 16th-century heritage monument

Key deliverables
- Complete digitized version of pre-existing conditions
- Greater insights on material quantity consumption and manpower budget
- Precise renovation timeframe

3D model from Scanned data enables better decision-making for a college backyard project

Key deliverables
- Diminished project risks
- Cost reduction
- Quick documentation access for stakeholders

True CADD
Design ▪ Drafting ▪ Modeling

At TrueCADD, we convert your laser scans to information-rich as-built 3D models for architectural, structural and MEP projects. Our team of 50+ Scan to BIM experts help you complete projects on time and within budgets for all renovation, restoration and retrofit buildings.

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