Leverage undeniable construction visibility and control with laser-scanning deployed for demanding projects.

Laser scanning has been a pivotal tool to achieve sustained construction wins for contractors and owners. The need to "identify construction problems before they do become actual problems" is a key aspect in surveying and documenting large construction areas. Traditional surveying processes and tools are insignificant and pose greater challenges that call for project delays and cost overruns.

Ductworks running into structures, electrical systems running into fire protection sprinklers, insufficient buffer space for beam positioning or MEP units, pipes running into wall foundations, pipes running into ducts, ducts running into lighting systems, and more are ambiguities that need preemptive visualization. Contractors and owners need to shed light on advanced 3D laser

scanning techniques and tools to achieve streamlined construction within planned project time and budget.

Planning precise and clash-free positioning and accessibility of each building component or MEP equipment through detailed visualization is key for undeniable construction visibility & control. From reducing on-site data capture time by 50% to accommodating true field data in less time, saving on labor costs, and more, advancements in software technology have augmented laser scanning processes for various construction sectors viz.

- Building and facilities renovation
- Transportation
- Process plants and utilities

Software Integrated 3D Laser Scanning has a myriad of applications i.e.

- As-Builts for preconstruction
- Virtual Design and Construction (VDC)
- Risk management and quality control during construction
- Comparing design intent to as-built conditions (overlapping a BIM model over the point cloud scan and running a comparison with photo documentation.)
- Works on new builds and retrofits

Integrating 3D laser scanning and reality capture for large and complex projects offers greater scalability right from documenting floorplans to as-built conditions. A quick snapshot at key benefits of laser scanning for construction:

- Accurate and detailed data archiving for renovation projects and heritage buildings
- Visualize 3D structures through highly-detailed surveys
- Reduce change orders to avoid time and cost overruns
- Identify and resolve issues that include inaccessible spaces or inaccurate placement or dimensions
- Minimize material waste and rework
- Track project progress with a side-by-side evaluation of onsite photographs with point cloud scans or 3D models
- Locate missing spaces or dimensions
- Leverage better clarity by connecting point clouds with RFI’s and field documentation

The most outstanding benefit of 3D laser scanning for General Contractors and Owners.

Are you leveraging the true capabilities of Laser Scanning data whilst integrating project management and modern software capacities? Mere 3D laser scanning for construction applications that falls way short to achieve significant outcomes? Connecting the dots through point clouds with field data produces detailed, enhanced, and high-resolution visualization. ***3D laser scanning integrated by Point Cloud to BIM model conversion, onsite photo documentation, and proactive & predictive analysis of onsite conditions establishes a greater impact on construction processes***. BIMe, with true construction experience in the field of BIM MEP coordination, brings in the newest site inspection or surveying processes and software for risk management, proactive project management, quality control, and more.

Service offerings general contractors & owners can utilize to maximize construction performance.

- Field measurements and spatial coordination
- Project documentation, inspection reports, and change monitoring
- BIM coordination, 3D modeling, and Virtual Reality
- Risk management by documenting as-built conditions
- Side-by-side project progress comparison of Scan-to-BIM models, 2D plans, & onsite photo documentation (360 photos)
- Facilities Management integration with ticket and asset management with on-premise data
- ADA project compliance
- As-Built Surveys
- Pre-close-in inspections
- Digital Architectural Documentation
- Retrofit building systems
- Engineer quick model prototypes

- Accuracy and comparative analysis

- Contour Mapping, Floor Flatness, Volume Calculations, & shape
- probability analysis

3D Laser Scanning Workflow with predictive construction analysis.
3D Laser Scanning

- We leverage our 3D Laser Scanning capabilities to scan your project at various timelines and document milestones

Point Cloud to BIM conversion

- Our team leverages BIM authoring tools like Revit to build a 3D model and coordinate various trades

Predictive Analysis

- Predictive analysis techniques help us analyze and identify every angle, corner, and space of the point cloud scan
- Our team identifies construction ambiguities or clashes between various building equipment or components that can create construction bottlenecks by overlapping the 3D model over the point cloud scan
- We integrate construction photography (360^0) as a crucial link to enable & reinforce side-by-side validation of the model and point cloud with actual photographs
- With complete software integration, contractors can raise RFI's and resolve them under a single cloud-based portal

Adapt to As-Built conditions

- With complete construction intelligence through software, we adapt to As-Built conditions by leveraging our Point Cloud to BIM model and provide the most optimum solutions for reduced or no rework

Conclusion

With a team of professionals and high-performance virtual construction tools, project stakeholders have the power to visualize the present, and what needs to be perceived next with pinpoint accuracy. BIMe provides end-to-end services & tools to

document every building component and compare it with point clouds and 3D BIM models. Instead of looking through outdated
field documents or 2D plans, project stakeholders can leverage real-time conditions and visualization.

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