

Raising the Roof

How a major US construction firm embraced mobile mapping for quick & easy ceiling void surveys



GeoSLAM.com

Turner Construction utilize GeoSLAM's ZEB-REVO for hard-to-reach ceiling void surveys

When Turner Construction needed to carry out a revamp and extension of their Atlanta office, they took the unique opportunity to test-drive some revolutionary technology.

Traditional laser scanning technologies are great for certain applications, but for hard-to-reach, overhead or 'feature dense' spaces, a new type of solution was called for.

No 3D model exists of the above-ceiling conditions - and the team knew that relying on conventional methods of survey (such as tape or laser distos) would simply take too long.

Therefore, the team decided to call in BuildingPoint Southeast, their local GeoSLAM distributor. They had heard that mobile mapping might be exactly the fast and flexible solution that they needed.

The team utilized the ZEB-REVO - a handheld, laser scanner weighing in at just over 2lbs. The REVO was deployed on an extendable pole, which allowed the operator to simply 'poke' the scanner into the ceiling void.



Turner Construction's Atlanta office in the midst of renovation

The beauty of a mobile scanner is the ability to quickly and effortlessly move the scanner - meaning no time-consuming set-ups and very few occlusions (object shadows).

"The mobility of the GeoSLAM unit allowed us to eliminate almost all occlusions which saved time on the modeling because we had a complete picture instead of having to interpolate between shadows that are usually seen in terrestrial scanning," Omar Martinez from Turner Construction said about the project.

So fast was the scan, that the whole ceiling void was surveyed in just 5 minutes - with a further

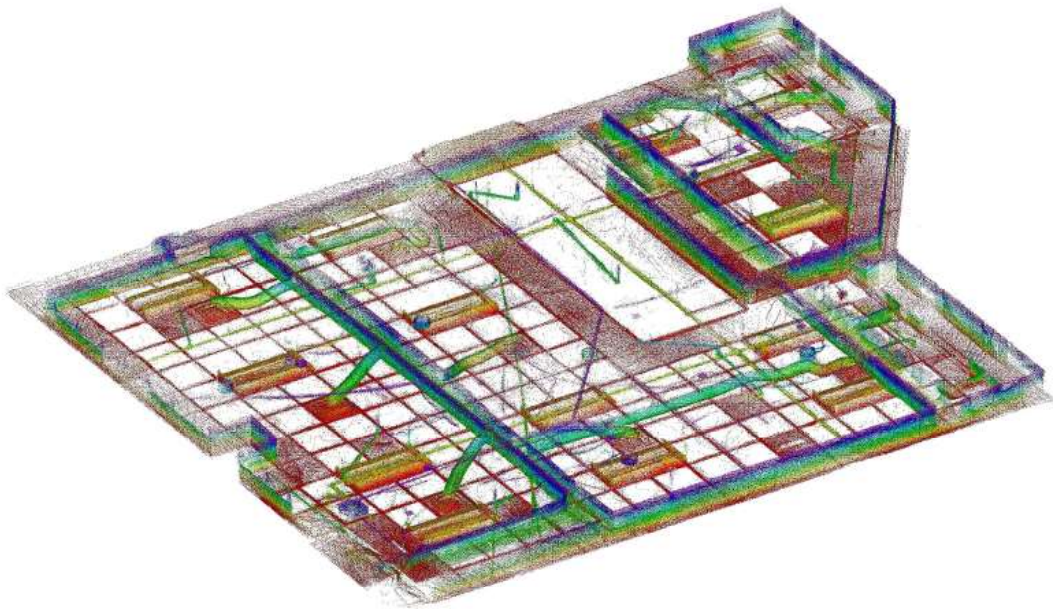
5 required for data processing. Traditional techniques would have taken an entire 8-hour working day to complete - and, would be less detailed.

But don't think that this speed came at the cost of accuracy.

Relative accuracy of surfaces was, on average, $\frac{3}{4}$ " - more than sufficient for modelling the data in a BIM model.

Indeed, the cleanliness of the mobile data allowed a full MEP layout to be built in one working day, showing features all the way down to $1 \frac{1}{2}$ ".

Not a bad result for 10 minutes' work.



“In only 10 minutes, we had what would have taken an entire 8 hour day to capture.”

Omar Martinez,
Turner Construction

In just 10 minutes, this 3D scan data was collected from the ZEB-REVO scanner

About Turner Construction

Turner is a North America-based, international construction services company and a leading builder in diverse market segments.

The company has earned recognition for undertaking large, complex projects, fostering innovation, embracing emerging technologies, and making a difference for their clients,

employees and community.

With a staff of 5,200 employees, the company completes \$10 billion of construction on 1,500 projects each year.

Turner offers clients the accessibility and support of a local firm with the stability and resources of a multi-national organization.

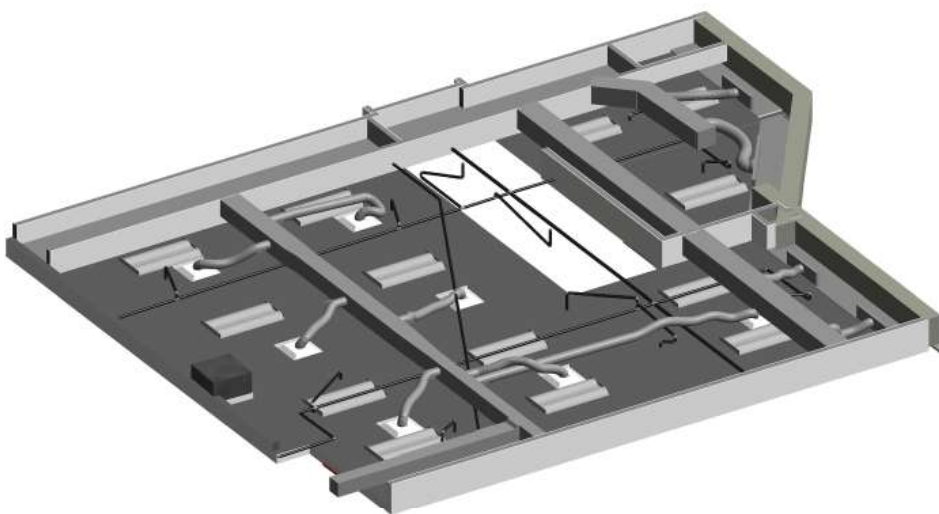
www.turnerconstruction.com

About GeoSLAM

Headquartered in the UK, GeoSLAM is a global market leader in “go-anywhere” 3D mobile mapping technology. Our unique handheld technology is highly versatile and adaptable to all environments - especially spaces that are indoor, underground or difficult to access, providing accurate 3D mapping without the need for GPS.

Our technology is easy to use and within minutes’ customers can build a highly accurate 3D model of their environment. GeoSLAM was founded in 2012 as a joint venture between CSIRO (Australia’s National Science Agency and the inventors of Wi-Fi) and 3D Laser Mapping. Serving the surveying, engineering, mining, forestry, facilities and asset management sectors, GeoSLAM has an expanding network of over 60 distributors, with a presence in 50 countries across 6 continents.

www.geoslam.com



From the scan data (above), a comprehensive BIM model of the MEP layout was created

Get in Touch

GeoSLAM

Innovation House
Mere Way
Ruddington Fields Business Park
Ruddington
Nottinghamshire
NG11 6JS
United Kingdom

+44 (0) 1949 831 814
info@geoslam.com
[@GeoSLAMLtd](https://www.instagram.com/GeoSLAMLtd)



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