

CUSTOMER

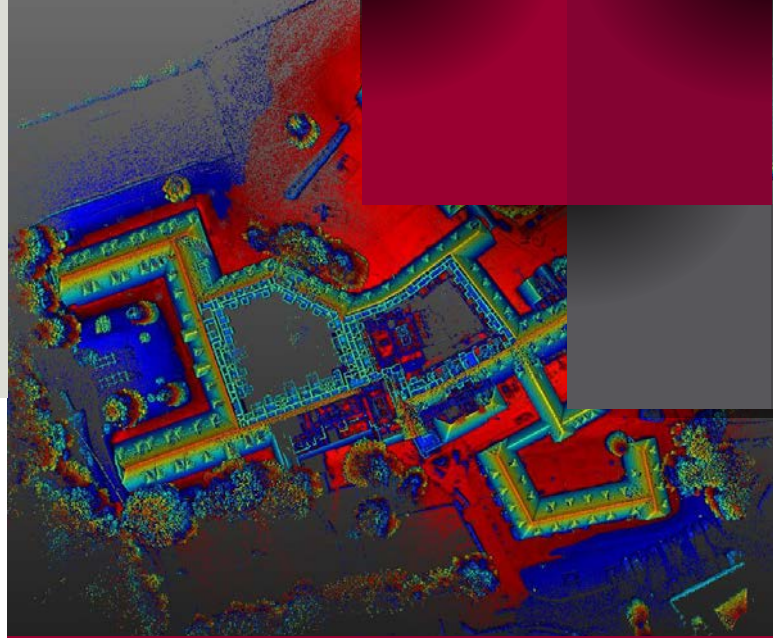
Virtuscan

PROJECT

Creation of fire strategy plans

SOLUTION

Trimble X Series 3D Laser Scanner



Scan data generated by the Trimble X7 from a recent large hotel project

Elevating Fire Safety with the Trimble X-Series

Accuracy is the cornerstone of any fire strategy drawing, and for Cambridgeshire-based Virtuscan, Trimble's X7 3D Laser Scanner delivers this with precision. However, accuracy is just one of many benefits that make the X7 an ideal choice for a company that takes on a range of projects from single dwellings to hospitals, schools and skyscrapers.

Founded on the back of Gunfire, a company specialising in the supply and installation of passive fire protection systems, Virtuscan is the in-house survey team that maps and documents properties and structures for the provision of fire strategy drawings. These drawings detail essential elements such as fire extinguishers, escape paths and fire exits - a vital part of any building's safety, and central to legal requirements within the new Building Safety Bill.

Right tool for the job

Whilst many companies collecting the information for these plans use traditional survey methods (including hand held measuring devices and tape measures) to generate fairly low level but workable plans, Virtuscan has always been ahead of the game, first purchasing a 3D Laser Scanner several years ago. However, as the company grew, it became evident to Virtuscan Director, Richard Fraser-Smith, that their existing scanner simply wasn't up to the demands of the larger and more complex jobs they were taking on.

"It took one large car park job in Canary Wharf to bring home to us the fact that our laser scanner was causing a certain amount of anxiety on these bigger projects. Pressing a button and hoping we'd captured all the information meant that we'd often have to return to site after we'd registered the point cloud in the office to scan anything we'd previously missed. A project we expected to last a week could often run into two weeks."

With the team growing and further large jobs coming in, Richard began to research new scanners, aware that the technology had developed significantly since making their first purchase. From a short list, two manufacturers' scanners were hired for a week of testing, one of which was a Trimble X7 supplied by KOREC.

Trial period: "The Trimble X7 excelled!"

Following the testing period, Richard reports that the X7 stood out for a number of reasons:

The on-site registration meant that all scans could be checked on-site, on the tablet – a massive game changer that would take away all the anxieties they experienced with their previous scanner.

The X7 was extremely quiet, perfect for office and hospital jobs, especially when compared to other models.

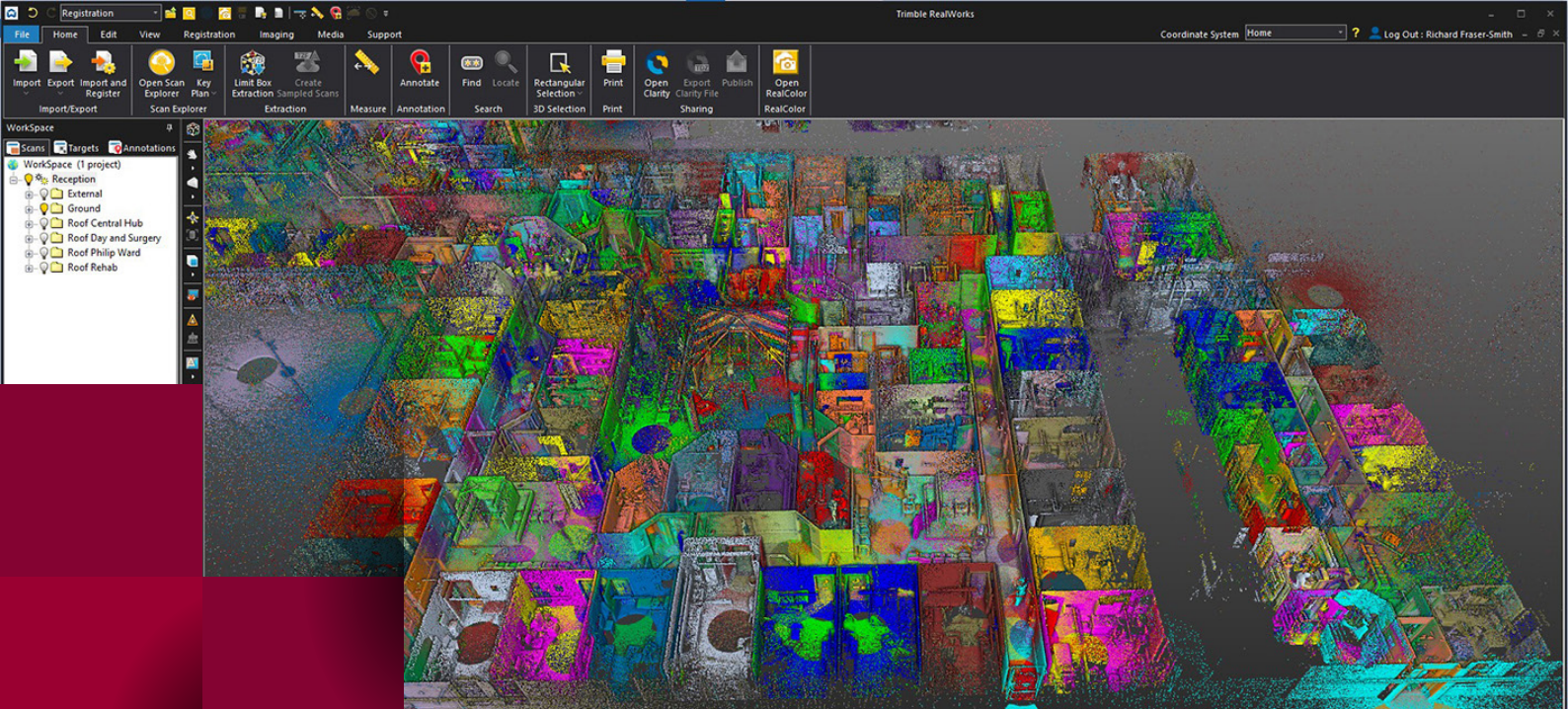
The auto-levelling feature would enable them to move quickly through buildings when working to a tight schedule, especially important because speed is a priority on many of their projects.

Why Virtuscan use Trimble X7s

- On-site registration was imperative
- Self-levelling saved time on large sites
- Intuitive workflow
- Extremely quiet operation
- Excellent level of interest and service from KOREC



Virtuscan on site with the Trimble X7



The X7 operated extremely quietly during a recent hospital job, reducing disruption to patients and staff

The KOREC team provided an excellent level of pre-sales support and were extremely attentive to the particular needs of Virtuscan’s projects.

An intuitive workflow is now fully established and easily adaptable for non-standard job requirements.

Two Trimble X7 systems were therefore purchased from KOREC.

On site: Three projects showcasing the X7

Hospital Project – Virtuscan were contracted to produce floor plans ahead of a fire engineer visiting to check and recreate a hospital’s fire strategy. The two sites, belonging to the University Hospitals of Derby and Burton, presented a number of challenges.

The Virtuscan team would need to work quickly in areas such as operating theatres, as and when they became available, with little opportunity to return. Therefore, it was vital that all the information was captured quickly and accurately, with nothing missed. The onsite registration enabled them to do this successfully. Wards also had to be scanned and with permission from patients and staff alike to enter these areas, the team was able to carry out all the required scans with minimal noise or disruption.

Sewage Treatment Plant – this confined space site was particularly challenging because the team was aware that it was a ‘right first time’ job because there would be no opportunity to return. The team was given a timed period to carry out the scans before the concrete removal work began directly after. Again, the on-site registration allowed them to check that everything had been accurately captured.

On this project, Trimble RealWorks was used to create comparisons of the scans to then check that sufficient concrete had been removed and how much needed to be replaced.

Hotel Project – Virtuscan works on a number of buildings, such as flats and hotels, where general practice is to survey ‘unique’ floors,



“Time and capacity can be in short supply for them [Fire Safety Managers] which makes the quality of the drawings generated by the X7 of particular importance in a rightly highly-regulated industry.”

Richard Fraser-Smith,
Director, Virtuscan



The stair core was scanned to see how the floors align in a hotel

“ The X7 has been a game changing investment for Virtuscan and the after sales technical support and follow up from KOREC was strong from the start.”

Richard Fraser-Smith, Director, Virtuscan

usually a ground floor, middle floor and top floor. The client will often cite that the middle 15 or so floors are the same, something that Virtuscan likes to check! On a recent hotel project, it was found that the building was not as the client believed. By comparing the point clouds of two floors on the tablet screen, Virtuscan was able to show the client the different positioning of the corridors, in this case 2m to the right of its expected position, which consequently affected the room shapes on that floor.

Additionally, Virtuscan can scan the stair core and spin the building all at once to see how the floors align or in this case, how they did not. Richard is quick to point out the importance of being able to do this:

“This is not something that our clients would notice immediately and would often be undiscovered until the next survey team or trade goes in and the floor levels don’t make sense. This can be unbelievably stressful and time consuming to correct but with the X7 we can quickly check this sort of discrepancy there and then.”



The X7 has been particularly useful on hotel projects with a number of floors

Full assurance for the client

The Virtuscan team has a standard workflow for every scan job and then adapts that workflow depending on the client’s requirements. If more detail is required, eg for identifying features such as plug sockets, a higher definition scan is undertaken of that area. Once the site work is complete, the hundreds, if not thousands of scans are taken into Trimble RealWorks and then exported into either AutoCAD or Revit for the creation of the client’s requested deliverable, 2D drawings and sections or a 3D model. Richard feels that although their clients are as yet, not sufficiently tech savvy to be requesting point clouds, they are extremely appreciative of the high-quality, high-accuracy floor plans that Virtuscan deliver.

For Virtuscan, the team has the additional benefit of a point cloud that they can refer to which provides the back-up they need to explain any project decisions to the client.

“Our clients want a clean, simple floor plan that is fully representative of their building. They tend to be Building and Safety Managers, Asset Managers and Estates Managers who can often be looking after 80+ buildings over 18m in height. Time and capacity can be in short supply for them which makes the quality of the drawings generated by the X7 of particular importance in a rightly highly-regulated industry.”

“The X7 has been a game changing investment for Virtuscan and the after sales and technical support strong from the start. For future scanning investment we know what we want and who we want it from!”

CONTACT US

Please do get in touch for further information on any of the products or services mentioned in this case study, a demonstration, support or just a chat about your requirements.

(UK) 0345 603 1214

(IRE) 01 456 4702

info@korecgroup.com

www.korecgroup.com



Measured Solutions
Construction | Surveying | Mapping



Generating information for high-quality drawings