

# Terra Measurement boosts revenue with Arena4D's stunning point cloud visualisations

Challenge	Solution	Results
<ul style="list-style-type: none"> <li>▶ Keen to create visualisations of point cloud data</li> <li>▶ Existing software struggles to deliver quality, especially for large datasets</li> </ul>	<ul style="list-style-type: none"> <li>▶ Veesus Arena4D</li> <li>▶ Enables users to create high-quality still images and animations from point cloud data</li> </ul>	<ul style="list-style-type: none"> <li>▶ New revenue stream created in a challenging year for the business</li> <li>▶ High-quality animations offer even greater value to clients</li> </ul>



## The Challenge

### Visualisation software letting the side down

Terra Measurement has been using point clouds for almost as long as they've been commercially viable. As well as providing invaluable data for projects, the point clouds can be striking images that help clients make sense of their survey, and help them visualise a site. But for many years, the technology to display point cloud data was limiting the quality of the imagery Terra Measurement could create. This was especially true when working with large point clouds – which, as scanner technology continued to evolve, were becoming more and more common on projects.

“Point clouds are incredible,” says Sim Herrod, 3D Data Manager at Terra Measurement. “They can help clients understand a project much better than 2D drawings or even 3D models can, and they give a real sense of scale when you're working on larger projects. But for a long time, the visualisation software we had didn't really do the point clouds justice.”

Having settled for a piece of software from one of the leading scanner providers for many years, Sim and the team at Terra Measurement decided it was time to find a new tool for displaying point clouds.

## About the company – Terra Measurement

Terra Measurement is an innovative surveying practice providing services to a wide variety of sectors including architects, engineers, public sector, archaeologists and geologists. Founded with a vision to leverage the very best surveying technology, Terra Measurement has long been a champion of LiDAR scanning and point cloud data.



The heritage windmill that Terra Measurement scanned to provide virtual tours during lockdown. Internal scans have been combined with external scans using a drone to provide a complete picture of the building.



Terra Measurement created an animated cutaway of this house, slowly revealing all the interior and exterior details. This level of animation is something their clients love.



“It’s extremely simple to use, and the result is incredibly powerful.”

**Sim Herrod**

3D Data Manager, Terra Measurement

## The Solution

### Veesus Arena4D

Sim discovered Veesus after spotting a particularly striking point cloud animation online.

“I couldn’t take my eyes off this video,” he recalls. “It was so detailed, and the scale of the project was massive. It was exactly what we wanted.”

The team downloaded a free trial of Arena4D and was instantly sold. Very quickly, Arena4D became embedded in Terra Measurement’s processes. Once they have completed their on-site surveys – which include scans, photogrammetry, and drone flights – the team uses Arena4D to create a fly-through animation of the site. That fly-through is then overlaid with other data including CAD drawings, which the team blend with the point cloud to create a rich video that shows all the project data together. “It’s extremely simple to use, and the result is incredibly powerful,” Sim comments.

The team at Terra Measurement is also impressed with the quality of support that Veesus provides, compared to their experiences with some larger players in the market. “We were used to very difficult support experiences, but Veesus is always on hand to help us out if we need it. You get a real sense that they are listening to you and will come up with an answer to your problem – it’s brilliant.”

## The Results

### A new revenue stream, and even more valuable services

The quality and value of animations Terra Measurement can create using Arena4D means that clients are willing to pay for them, generating additional revenue in a challenging year. “It’s something that our clients might have gone to someone else for in the past – so it’s great for us to be able to offer a more complete service,” says Sim.

Point cloud visualisations have also been exceptionally valuable during the pandemic. One of Terra Measurement’s clients, the Society for Protection of Ancient Buildings, has been using point cloud animations to keep volunteers updated on the progress of work during lockdown. They also created a virtual tour of a heritage windmill for another client, using Arena4D. “It’s enabled them to remain open, in a sense, while being closed,” says Sim. “Both those projects were great fun and really rewarding to do, especially during lockdown. In fact, we’ve also been asked to help create virtual tours for Dudley Zoo and Castle!”

Terra Measurement has plans to continue developing how it uses Arena4D and Veesus. Sim and the team are experimenting with Arena4D’s VR module to create VR walkthroughs of point clouds, and are also offering engineering inspections using the software.

“Because the visualisations are so high-quality, we can enable engineers to do complete inspections without setting foot on site,” explains Sim.

As Terra Measurement branches out into disciplines such as photogrammetry, it is also considering adopting Rhino to aid them in 3D CAD work. “We’re especially interested in the Veesus Point Clouds for Rhino plug-in, to help us keep working smoothly with point clouds if we do adopt Rhino.”



For more information:

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