

TWICKENHAM STADIUM SURVEY

- using 3D Laser Scanning



Faro X330
and Leica
P20 Laser
Scanners

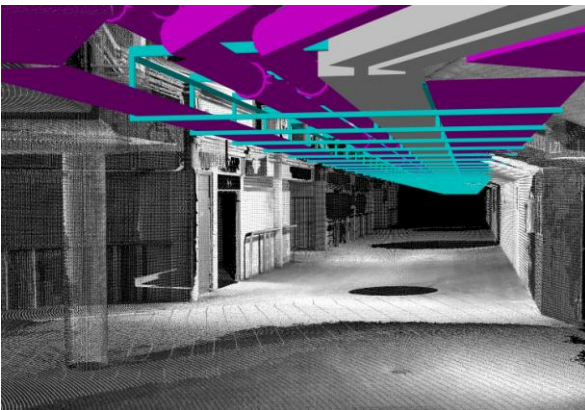


Shepherd Engineering (SES) contacted Scantech International to carry out several surveys at Twickenham Stadium in order to provide 3D models as the starting point for several refurbishment and enhancement projects prior to the Rugby World Cup in 2015.

We set out the control grid around the building using an EDM and tied this into OS coordinates using GPS. The control grid was then transferred into the various areas of the stadium again using an EDM.

We utilised three laser scanners to capture dimensional data for the various areas ie

- The Riegl scanner for the areas captured from around the pitch
- The Faro scanner for the confined areas under the stands, the risers and inside the corporate areas
- The Leica P20 to capture the underside of the roof and later the topside of certain roof areas



*Colourised Point Cloud/model
Image of The existing MEP services
and the overall stadium*

The risers were particularly tricky as they rose up several floors and were congested with the existing services.

Once all the scanning was completed the individual scans were registered together to produce an overall pointcloud of the various areas including the existing MEP services. These were required to ensure that the new services could be designed such that there would be no clashes with existing services and to highlight where additional cable tray etc would be required.

From these registered pointclouds we produced 3D models in **AutoCAD** and these were used as the starting points for the design of the refurbishments and enhancements including the new MEP services.

