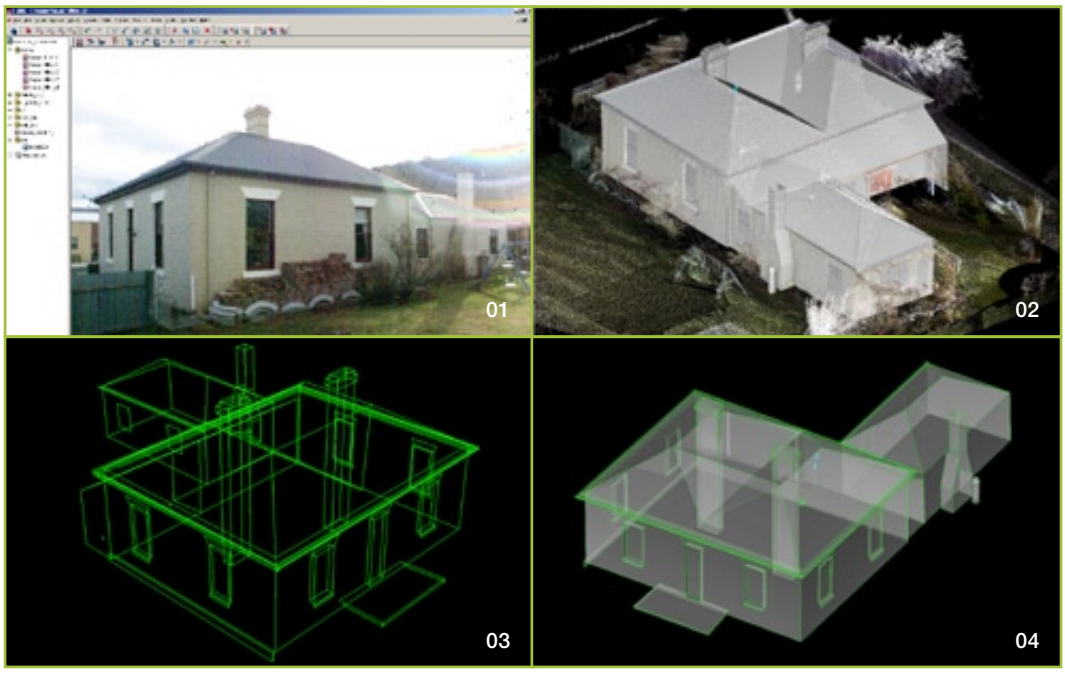
Generating 3D Profiles of Building Facades

The 4400 scanner can be used to accurately and quickly produce 3D models of buildings. On its own, the raw point cloud provides a highly detailed visual representation, but by fitting planes to the point cloud an accurate model can be generated very quickly.



01 *Raw 4400 point data of a heritage house*
02 *Filtered view of the 4400 data*
03 *Automatic CAD created lines from model*
04 *Model (transparent) with CAD data overlayed*

HIGHLIGHTS

- Intuitive easy-to-use software
- Use I-Site to capture 3D models
- Powerful 3D modelling tools

In this example five scans were completed in less than one hour. Because of its portability and speed of operation, the 4400 scanner causes no interruption to pedestrian or vehicle traffic. The 4400 software's Matching Surface Registration method was used to register the scans against each other, and the plane fitting tools were employed to create a final 3D model of the entire building. This model can be used to calculate accurate areas and distances for renovations or extensions. It also serves to preserve the 3D representation of a heritage building.

The advantages of the 4400 scanner are that it is extremely easy to use, quick to set up and is portable. An individual can carry it on site and set it up in minutes.

Although the 4400 scanner is geared up predominantly for terrain mapping, the software tools available make this system comparable to other systems which are predominantly used for short-range high detail scanning. The technique of fitting planes to tens of thousands of points means that 4400 models produce an uncertainty of only 2 mm.

CAD lines of the complete boundaries of the building can be quickly generated from the model. This useful tool enables planners and engineers to accurately produce 2D plots of a 3D model or point cloud.