

Digital site planning

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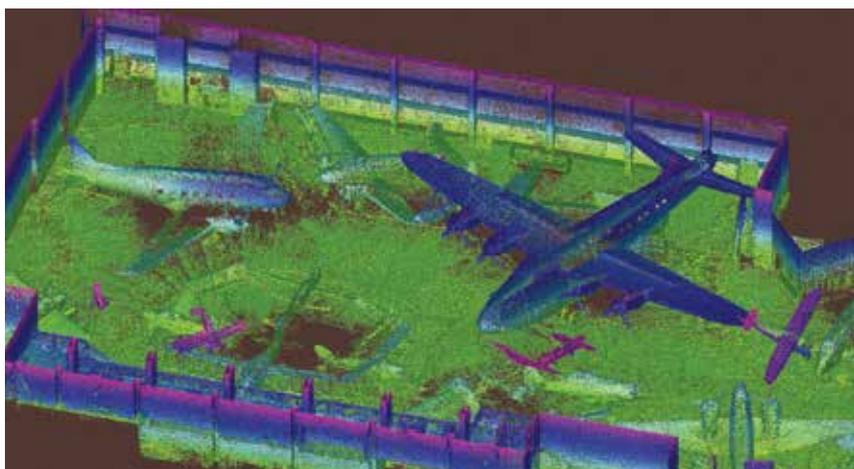
When planning how to redevelop the sites at MOTAT Beca was called in to ascertain the spaces used and those available for redevelopment. In the past, scale models were used to consider variables.

The Museum is looking to host more exhibition areas, and in order to do so needs to understand their available floor space. Normally, they would look to their as-built drawings, but in this case they don't have them, or the ones they have available are out of date or of questionable accuracy. So they went to Beca looking for assistance.

MOTAT approached Ian Jackson, who has worked with them on a number of asset-related issues, and asked if Beca could measure the floors of their buildings. Initially, MOTAT requested that Ian provide somebody to take the measurements manually. However, after considering various solutions, Ian offered them a better alternative. Following discussions with the Beca Survey Team it was suggested that a newly available, hand-held, laser scanning technology called ZEB1, be used to deliver the information that the Museum required.

Ian arranged for a technology trial to be carried out on the MOTAT exhibition hall, in association with Survey Solutions, to see if this new scanning technology would be able to scan the exhibition space and allow the available spaces to be measured. And it worked!

After the initial visit Beca were able to produce a 3D point cloud that the



Survey Team were able to load into Revit to produce floor plans. This meant the team now had a survey standard scale plan for which the measurements could be taken.

Following the success of this trial, MOTAT engaged Beca to repeat the exercise on three other buildings, including their flagship Aviation Display Hall. Key aspects of this technology are: simple set up and data collection; (it took 20 minutes to collect the point cloud data for the Aviation Display Hall); efficient point cloud processing via a cloud based service – which in turn produces a 3D model that can be interrogated and viewed from all directions and aspects. ●

Above: ZEB1 scan of the ASB Exhibition Hall. Photo: Survey Solutions

Below: ZEB1 scan of the Aviation Display Hall. Photo: Beca Ltd