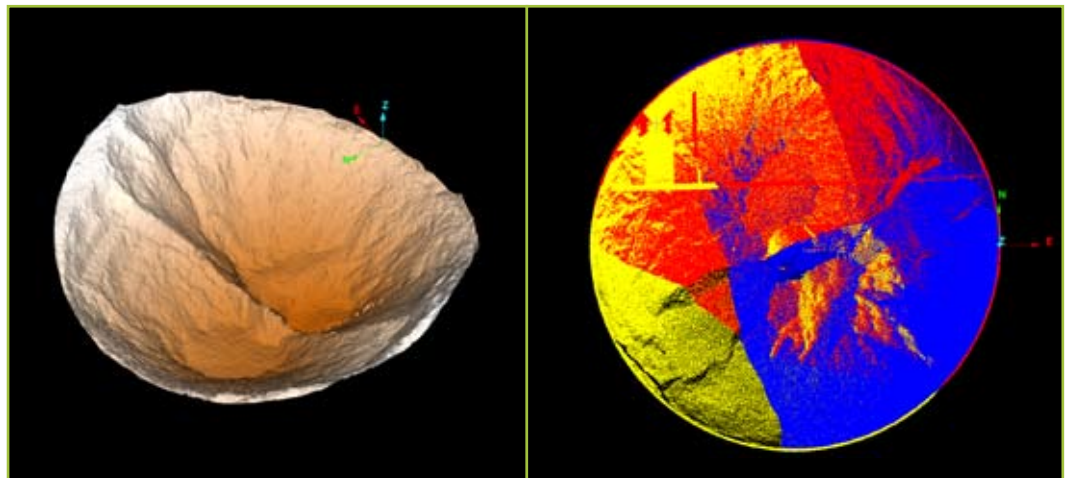


Modelling Cement Silo Profiles

Surveyors often need to tackle tricky assignments such as calculating volumes of stockpile bins and silos. Recent Maptek™ experiences resulted in the construction of a mounting bracket so the Maptek I-Site™ scanner could be suspended over a precipice or through narrow openings.

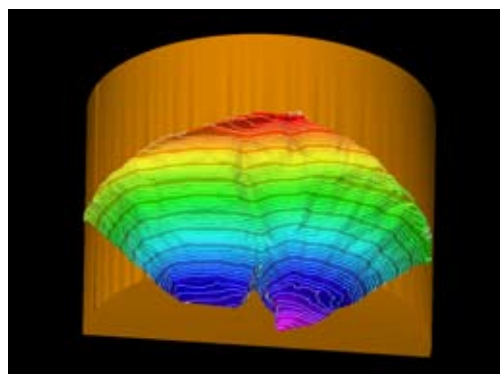


HIGHLIGHTS

- Construction of a mounting bracket to overcome site access issue
- Scanner can be suspended over a precipice or through narrow openings

I-Site was called to the Melbourne Cement Facilities site to profile cement inside a silo in order to understand how the silo was emptying. At the same time, the modelled surface was used to quickly calculate accurate volumes for stocktake.

The silo was 30 metres in diameter and 20 metres high. The only access was from two hatches 0.75 m square in the roof of the silo. The scanner was mounted horizontally and lowered 0.8 m below the silo roof to gain full 100% coverage of the cement surface.



Over three scans, 1.2 million data points were collected. Two were taken from the 1st hatch, and one scan was required from the second hatch to fill in small laser shadow areas.

I-Site was used to understand how the silo is emptying and calculate stocktake

The data was translated and rotated together, and merged using the new scan surface registration tool. It was then filtered of unwanted data (walls and roof) and a surface was created.

The data was then contoured and the silo shape was created to show the cement surface inside the silo. This data was then sectioned as shown above.

Within two hours Melbourne Cement had a detailed model of how their silo was emptying, demonstrating that a significant amount of material remained on the silo walls and chute. Accurate volumes were easily calculated from the modelled surface.