

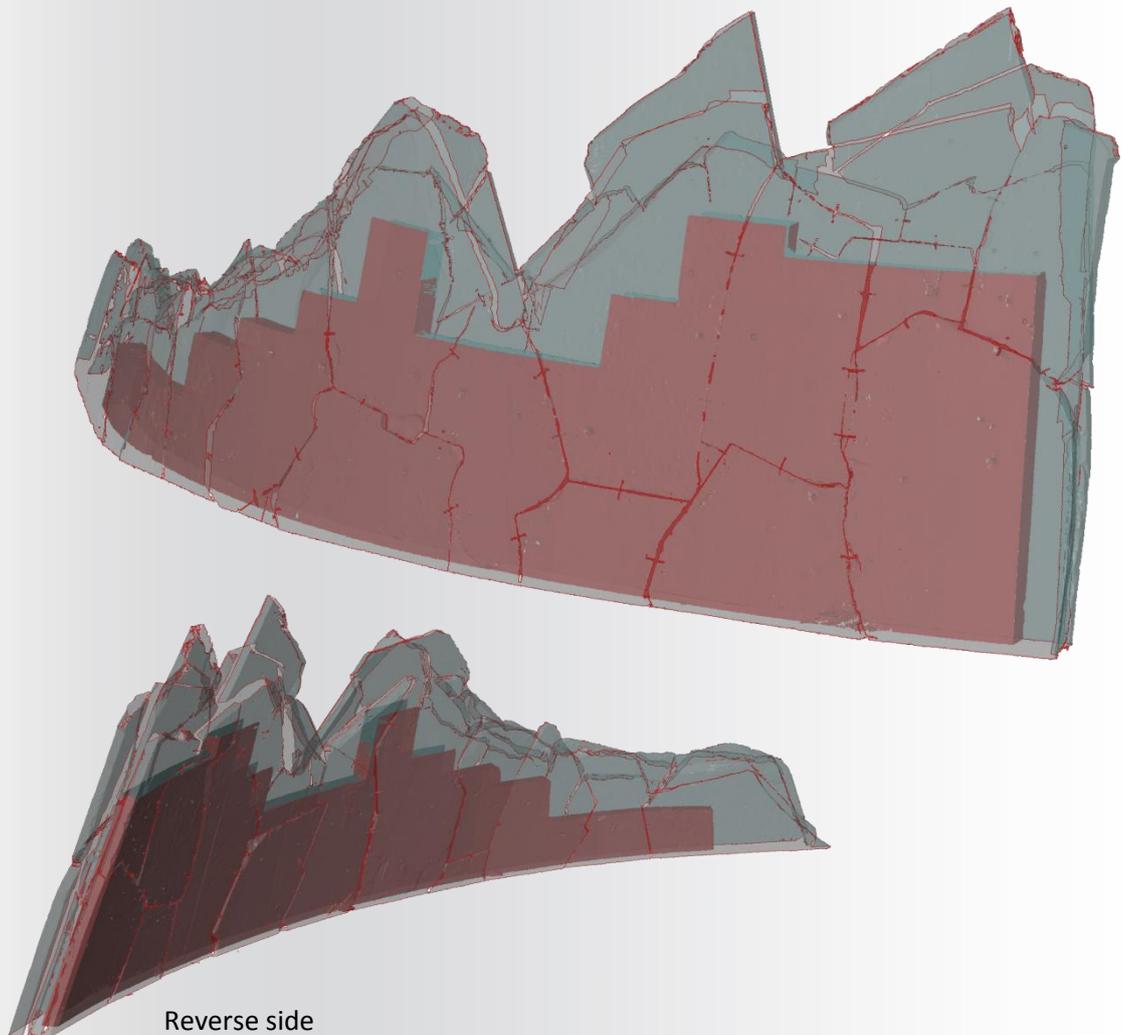
## Application Example: 3D Scanning

### Modern measuring tools in industrial construction, creating assembly instructions for large art installations

Measuring Systems: ATOS core

Keywords: 3D Scanning, Sculpture, Artwork, Assembly

The ATOS core system takes the guess work out of re-locating and re-assembling large art installations. This particular sculpture, which was to be relocated from Melbourne to Sydney, consisted of a concrete substrate with affixed sandstone plates. Each plate was unique in shape and fitted together with adjacent pieces like a puzzle piece. In order to ensure that an accurate re-assembly was possible the outer surface and supporting substrate were scanned. Scan-Xpress was able to deliver 3D geometry and virtual assembly instructions that enabled the artwork to be restored to its original configuration at its new location.



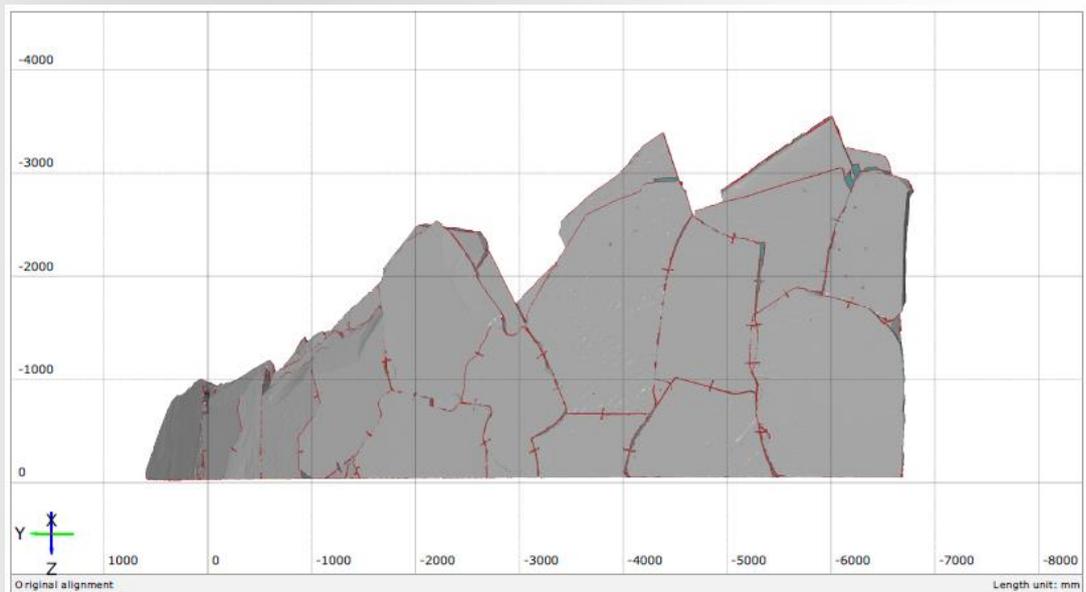
# SCAN-XPRESS

EXCELLENCE IN 3D MEASUREMENT

A photogrammetric study was first completed in order to capture some 3D dimensional reference points around the entirety of the structure. These markers provided locational information for each patch of scan data, allowing measurements to be pieced together with millimeter accuracy.



Following the photogrammetry a series of scans were taken to capture the entire outer surface of the sculpture. A model was generated which precisely located each sandstone slab. With the position and orientation of each individual piece documented the sculpture could be dismantled with confidence.



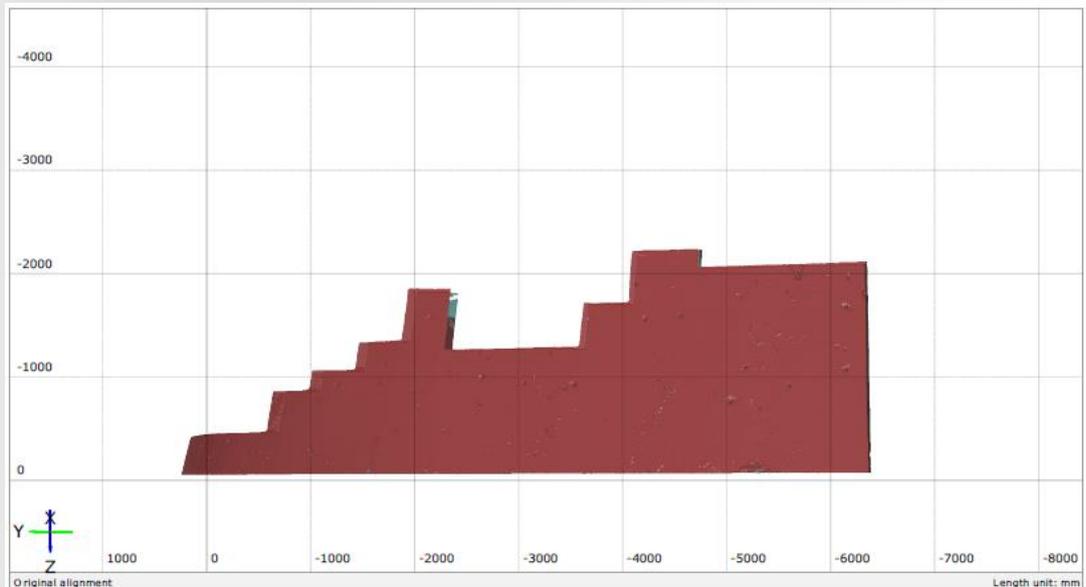
# SCAN-XPRESS

EXCELLENCE IN 3D MEASUREMENT

After partial dismantlement was completed Scan-Xpress returned to the construction site to document the underlying concrete substrate. Again a photogrammetric study was completed prior to scanning to ensure that the topology of the shape was accurately mapped.



With a full scan of the concrete substrate completed it could then be demolished. Using the captured geometry an identical support structure could be fabricated at the sculpture's new location.



After just two scanning sessions the entire sculpture was captured. The data was processed by Scan-Xpress into several formats and delivered to the client.