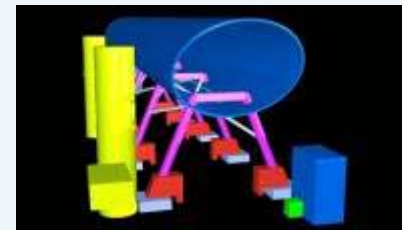
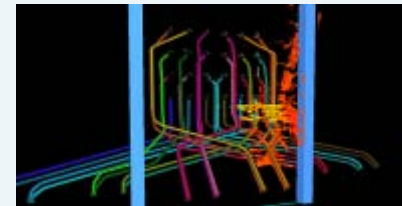
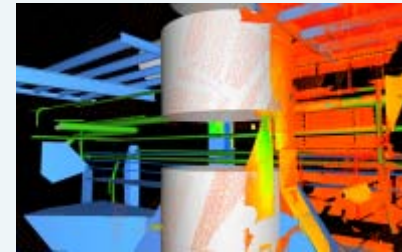
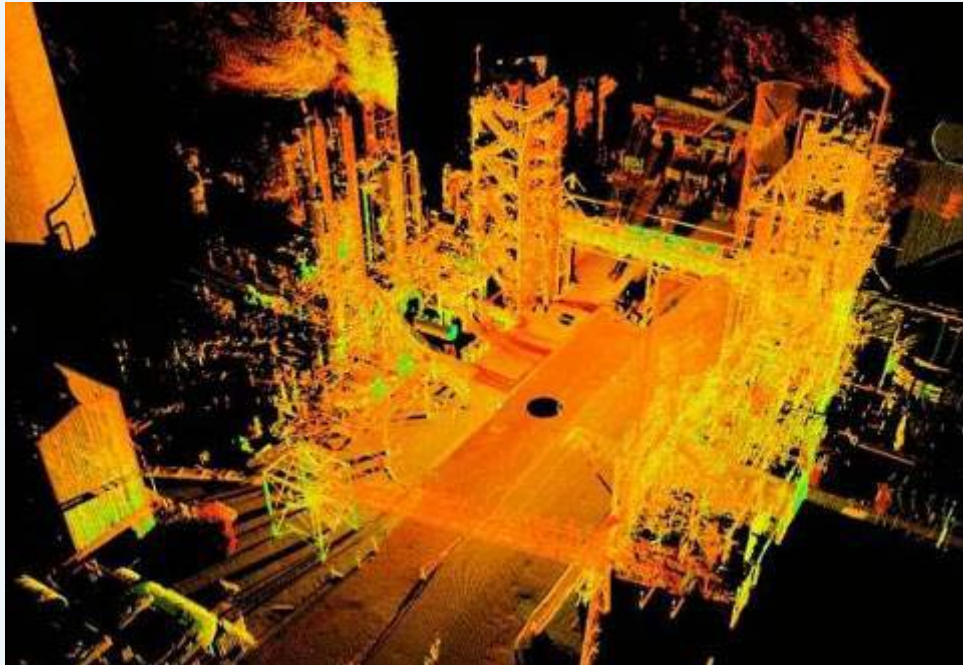


HDS in the Plant Environment



HDS in the Plant Environment

- High integrity data (individual pts +/- 5mm)
- Quick capture (10 million points per 5 minutes cycle)
- Everything is captured. If the scope of works change or additional information is required it can be extracted from the point cloud with out having to revisit the site.



Extents of
single scan

HDS in the Plant Environment

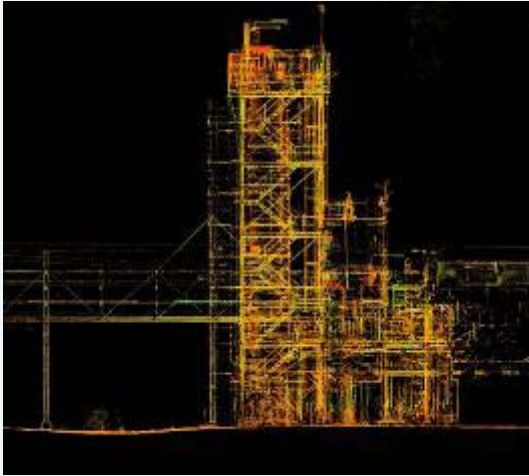
- High intensity data
- Provides instant 3D digital model of subject and provides end user with powerful communication tool



Resolution of a
single scan

HDS in the Plant Environment

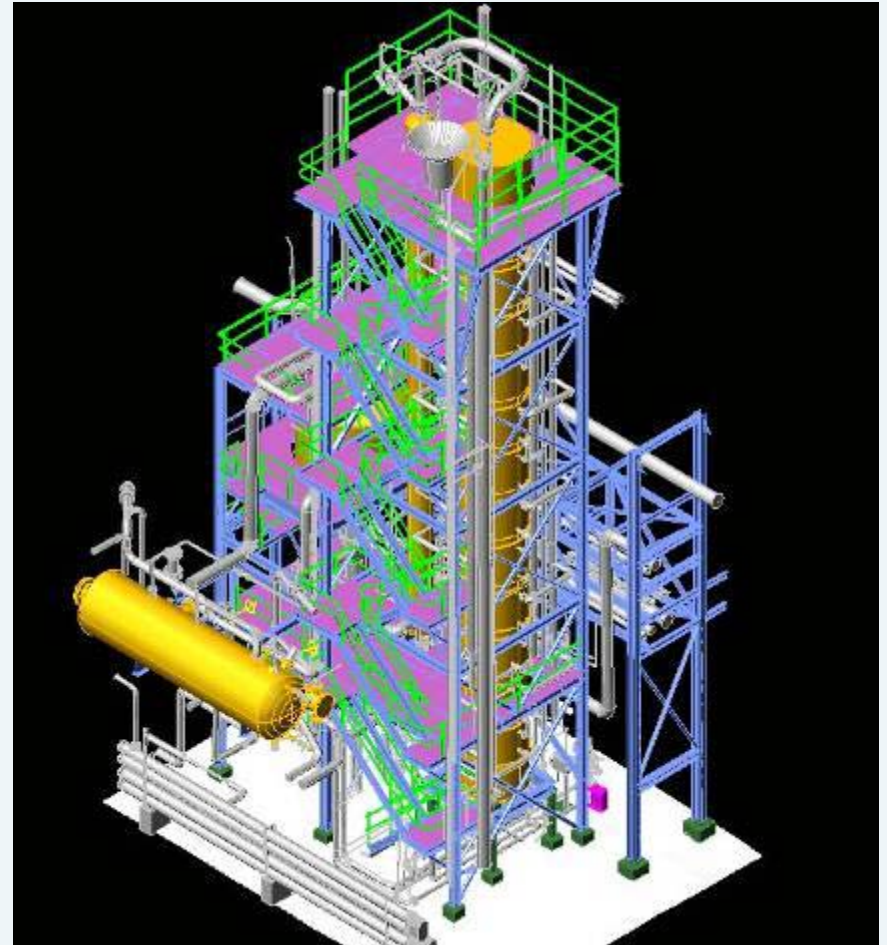
Time and cost effective method of creating a 3D model for planning and design



Cross Section of Scan Data



Modelling of elements



Final 3D Model

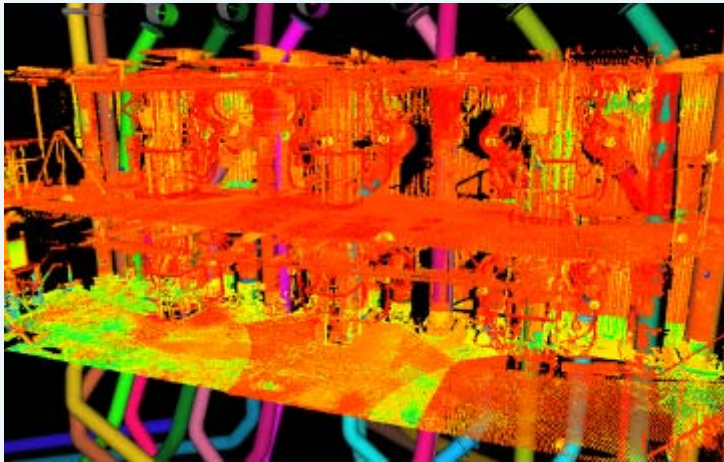


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HDS in the Plant Environment

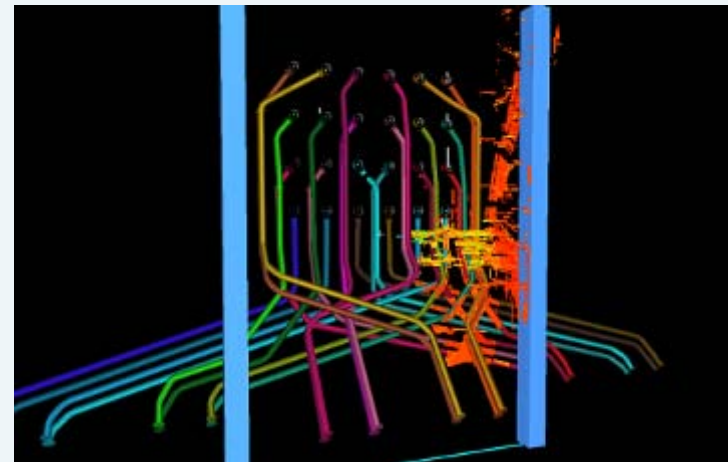
Safe working environment

Don't need to physically access the points to be captured

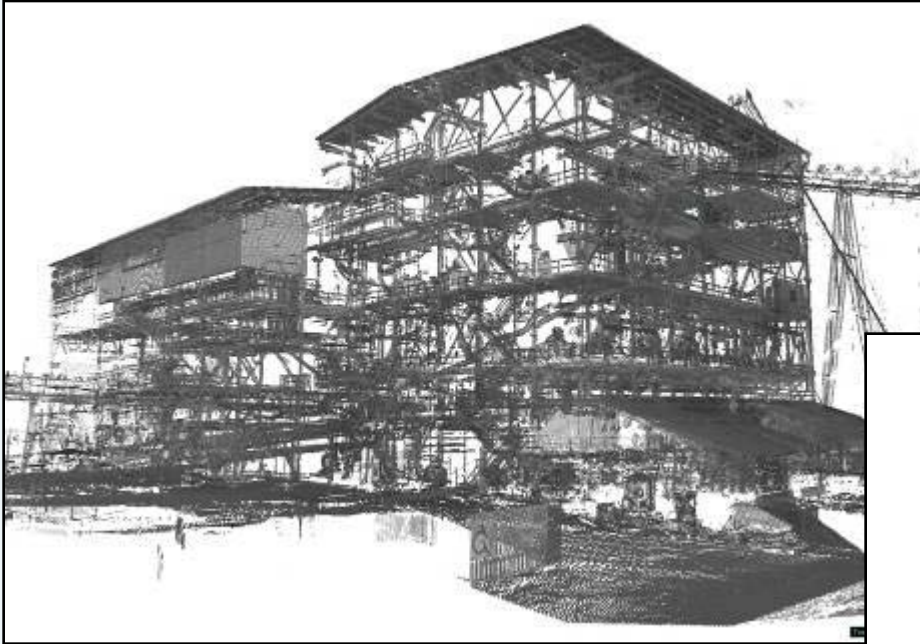


Pipe fabrication –
remedial work

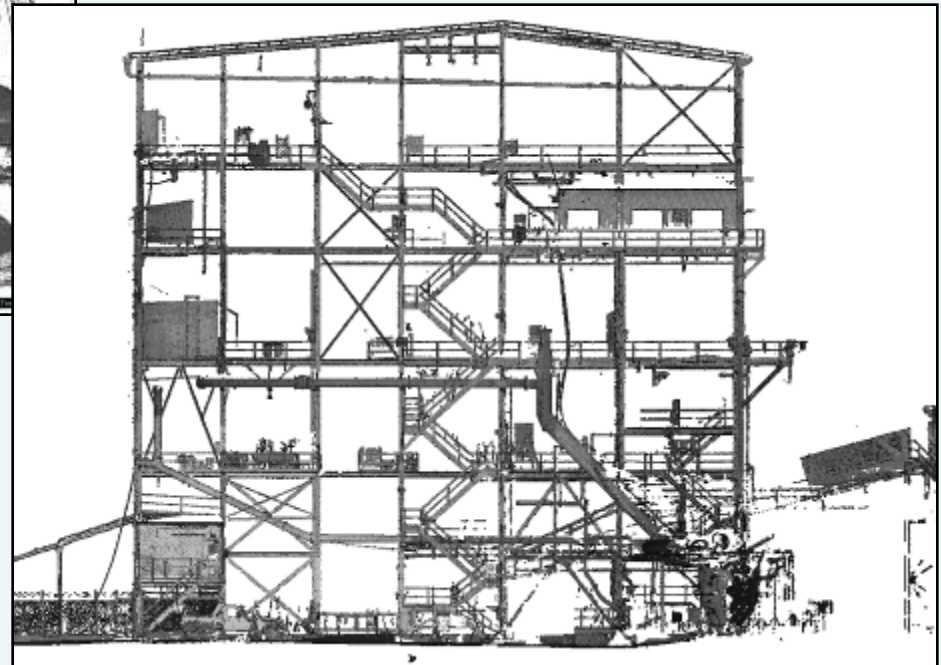
- PowerStation Boiler
- Pipe-work 5 Stories High
- Operating temperature 1000°C



HDS in the Plant Environment



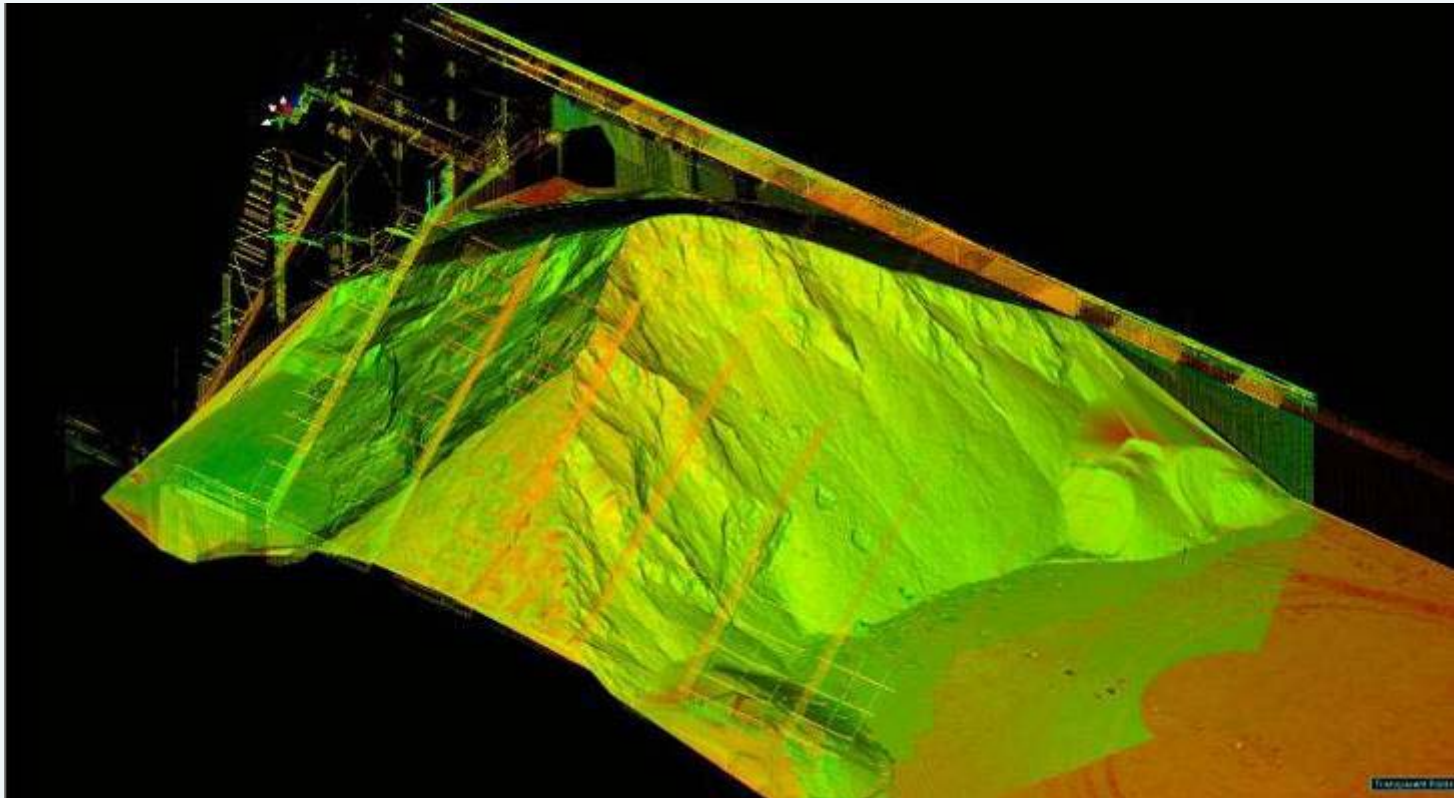
Scanning is used to capture entire process plants for major infrastructure upgrades



Scan data is provided as part of the tender packages for plant upgrades as a financial control to avoid variations later in a project

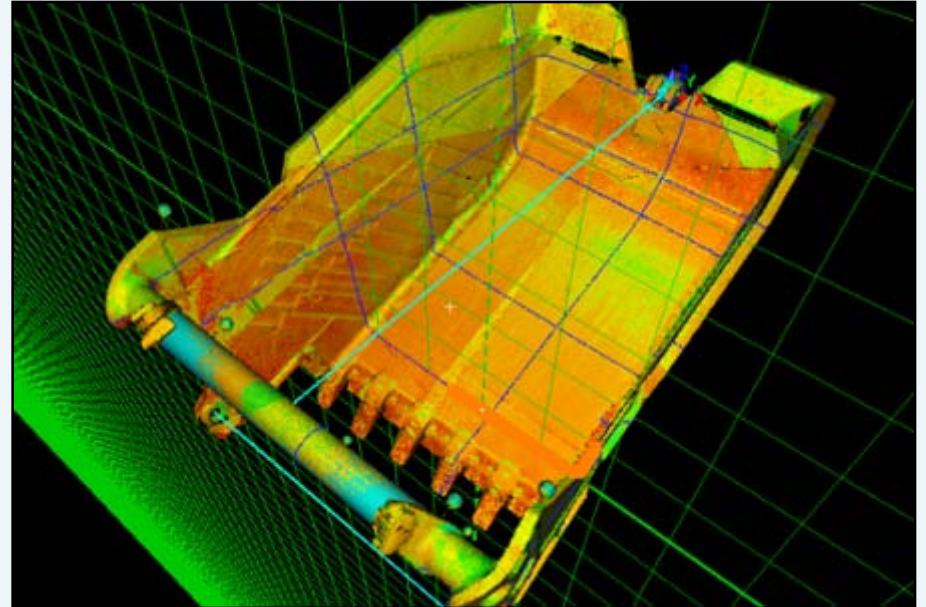
HDS in the Plant Environment

Volumetric surveys can be rapidly captured at a much higher level of detail than conventional surveying.

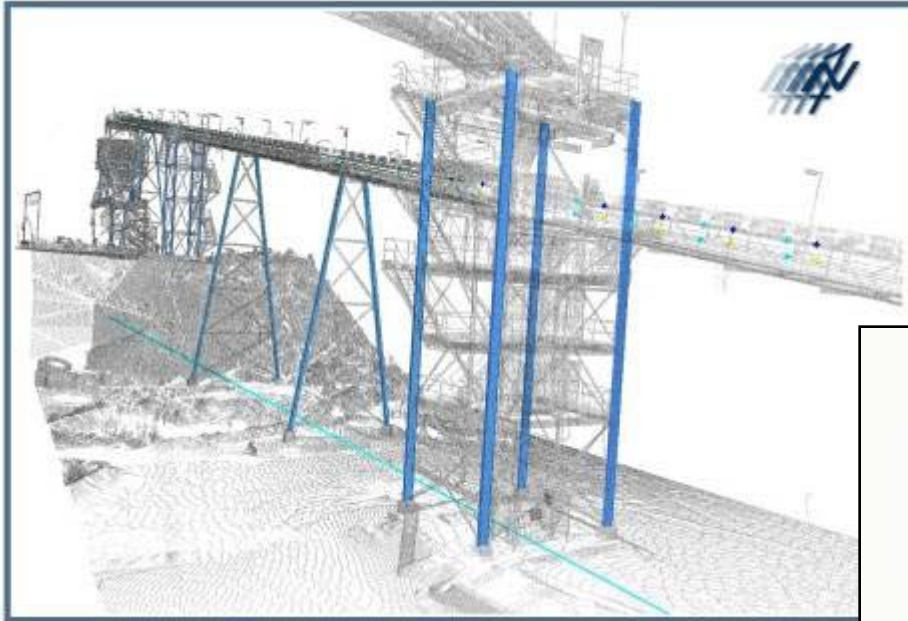


HDS in the Plant Environment

Structural analysis of mobile plant

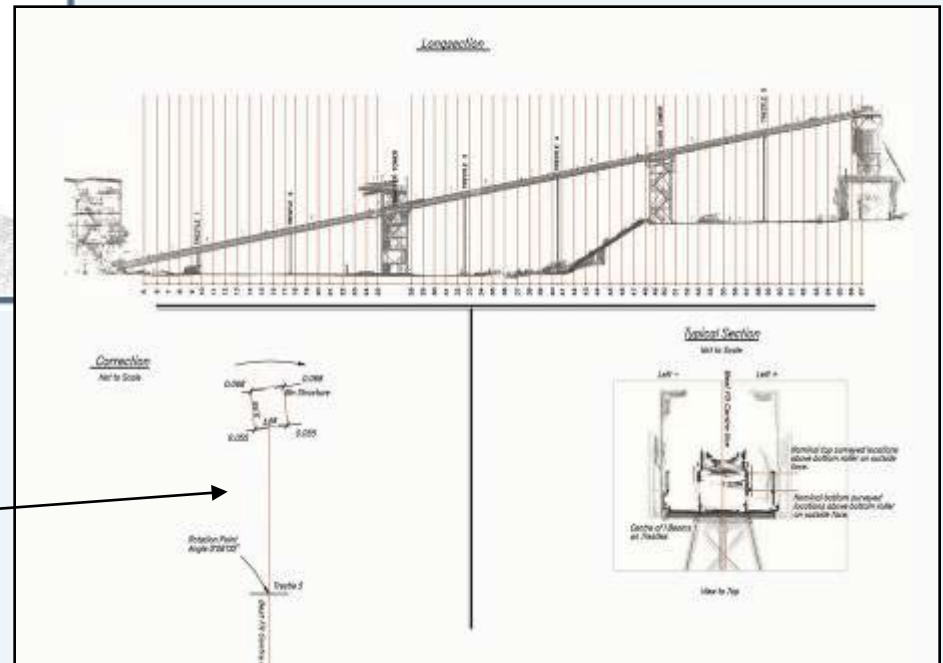


Conveyors

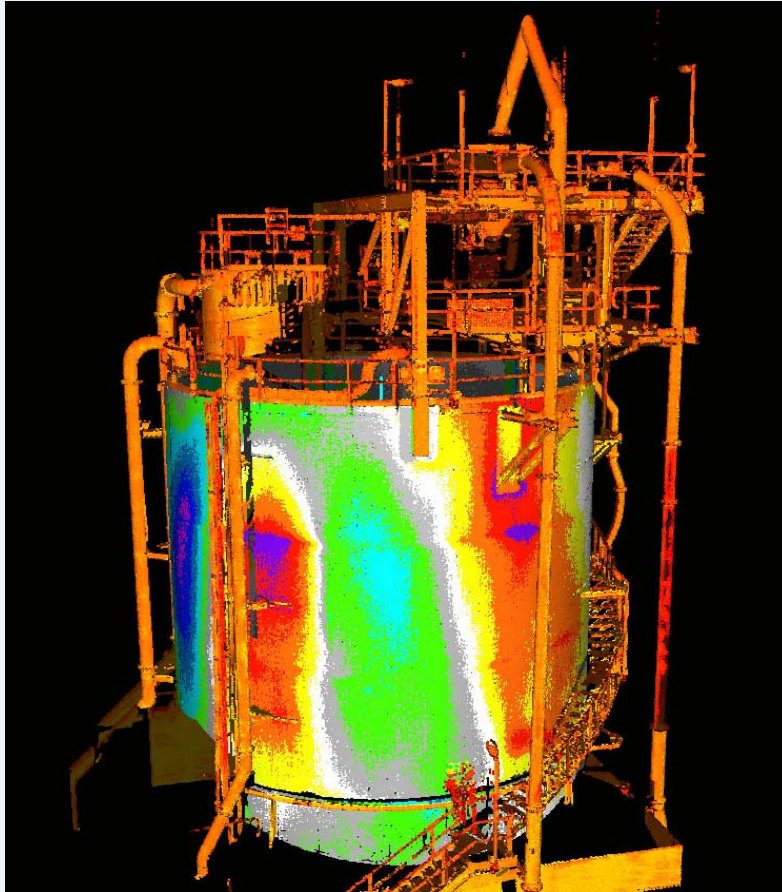


Conveyor alignment

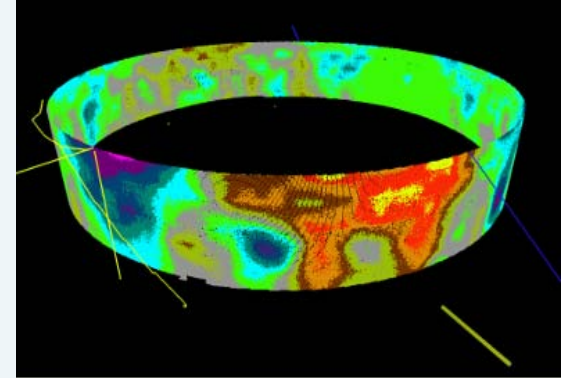
Each roller modelled from scan data to check and correct alignment



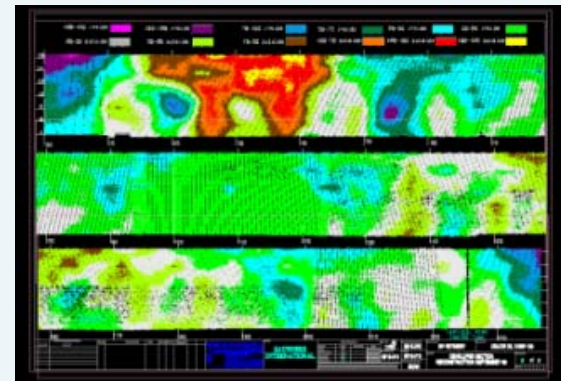
Deformation Surveys



Isopach showing deformation of tank



Presentation of a crude oil tank in 3D



2D 'derolled' projection of oil tank

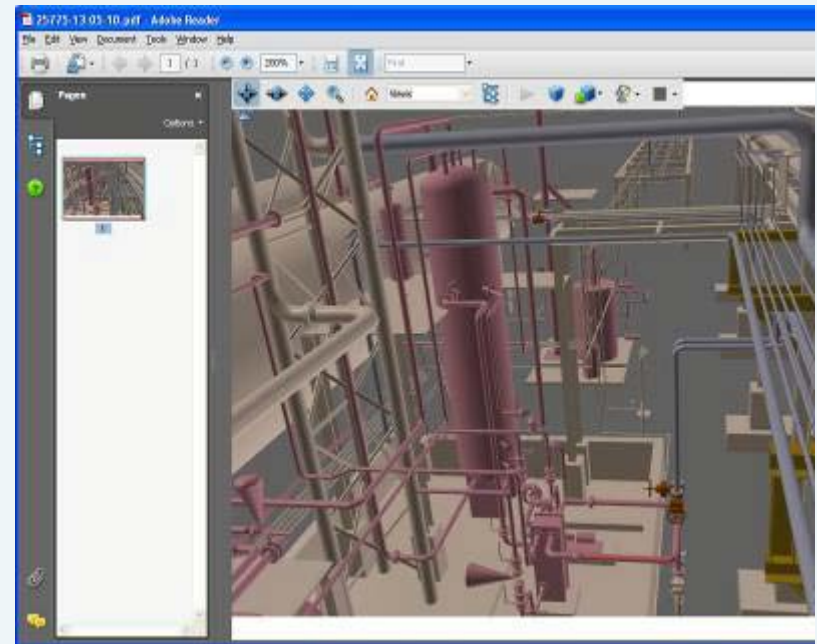
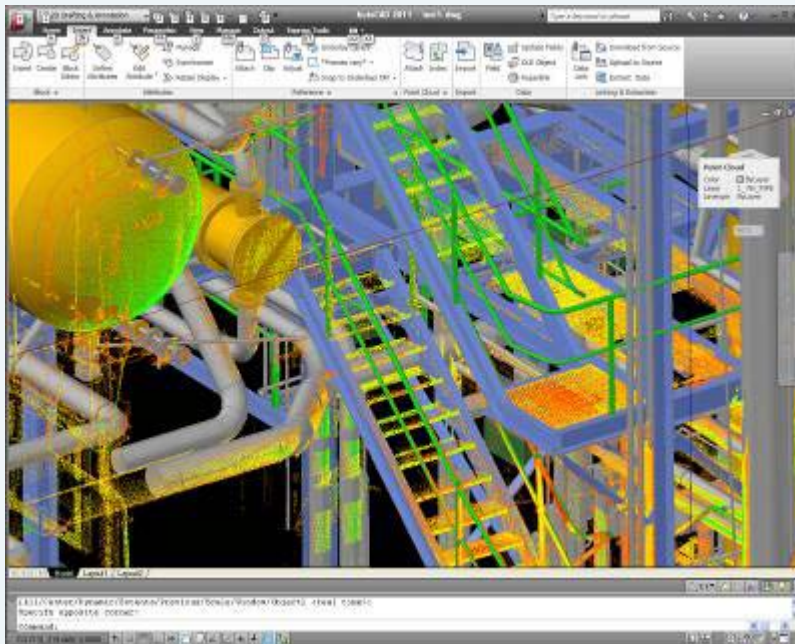
Truview

- Truview is a free scanning viewing software package which allows you to view each scan from the perspective of the scanner
- It allows simple measurements to be made and with the use of XMLs is a very powerful communication tool

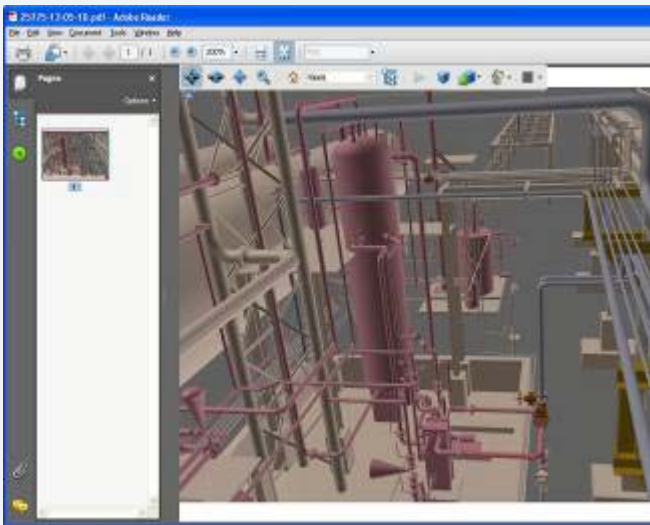
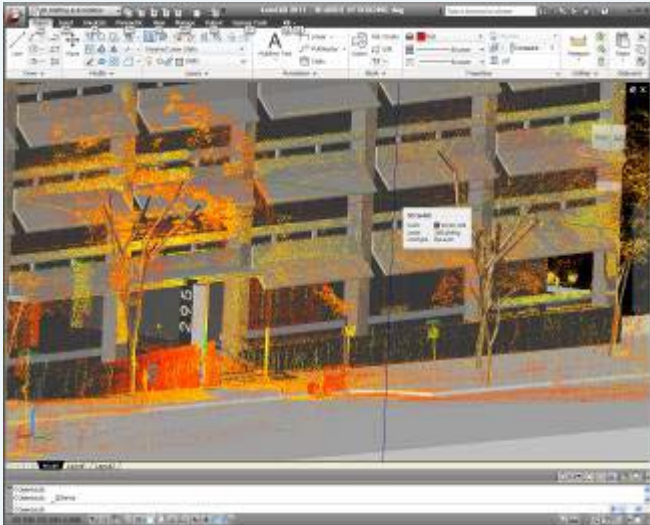


Emerging Standard

The manipulation of scan data is becoming a standard for mainstream software including AutoCAD 2011 and Adobe PDF.



Deliverables



- Cyclone software is the base scanning software that allows complex modelling capabilities and clash detection. It is traditionally used to capture and register the scans into a combined modelspace by surveyors
- Truview is a free scanning viewing software package which allows you to view each scan from the perspective of the scanner. It allows simple measurements to be made and with the use of XMLs is a very powerful communication tool.
- AutoCAD 2011 is now supporting point cloud data as a standard function can import up to 2 billion points. 3d data users will be able to manipulate the point cloud using standard 3d commands. Add on packages such as Cloudworx or Kubit will increase the functionality with better scan management, modelling of cylinders and planes and clash detection.
- Final modelled objects and coded strings may be exported into standard engineering packages such as AutoDESK, Microstation, 12d, Moss etc.
- PDF writer allows capture of scan data and 3D models that is measurable with the full version. The 3d projects can be viewed freely with recent version of PDF reader.

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