

Software Features

General

- Generate high resolution images of data
- Generate animation and AVI files
- Survey station management
- Record scanner settings with the data
- Use repeated acquisition and averaging to improve data accuracy
- Query range and intensity of a single point
- Query distance and bearing between pairs of points
- Report counts, range and intensity statistics for a scan
- Report only on masked data points to report statistics by areas
- Full report on data statistics recorded
- Fully interactive rotation, zoom and pan of the view
- View data from any aspect, including from scanner, birds-eye view
- Fly or walk through the data
- View scans with created CAD geometry or other imported data to see the scan in relation to existing or planned designs
- Adjustable lighting and illumination for surface viewing
- Variable point size to aid visualisation
- 'Mouse free' mode to allow easy manipulation in the field
- Export high resolution screen captures not limited to display size
- Full 'hot key' functionality
- Windows™ style explorer for intuitive data management
- Operates in both 32 bit and 64 bit versions of Windows XP and Vista
- German, Portuguese, American English, Spanish and Chinese language editions

SOFTWARE CAPABILITIES

- Multiple Document interface style of operation
- Windows™ style explorer to copy, paste, delete and move data, 'undo' and 'redo' on selected data
- Independent 3D view windows
- Powerful multi-data transfer between projects, DataEngines, networks
- High resolution screen capture not limited by screen display
- Drag and drop between browsers, views & dialog boxes

Import/Export Facilities

- Import of Maptek I-Site™ 3DP, DXF data, DXB data, DWG data, OBJ data, polygons from ASCII files, 3dv data, 3dd data, Ptx data and IXF data
- Scan data saved to disk in a proprietary data format immediately after scanning, for data security and integrity
- Export CAD geometry, scan data and surfaces direct to Maptek Vulcan™ data formats
- Export ireg, 00t and jpg for texture drape in Vulcan
- Export CAD geometry and scan data to JPG, DXF, DXB, DWG, OBJ, ASCII and Maya formats
- Export to VRML 97, for viewing in web browser
- Import / export between dataengines for improved workflow
- Full unit support (metric and imperial)

Filtering options

- Topography filtering
- Filter scan points by polygon, and by vertical and horizontal extents
- Minimum separation filtering
- Filter by surface proximity
- Mask scan points by range, bounding box, plane, polygon and intensity
- Reduce resolution of points by masking alternate scan rows and columns
- Randomly mask scan points to reduce distribution
- Edge detection techniques show only points on edges in the scan, based on a distance threshold and colour attributes
- Logical (AND, OR) combinations of masking operations
- Data smoothing to reduce the amount of noise

Colouring

- Full texture render of 37 megapixel photo from I-Site 4400LR scanner
- Easy-to-apply colour schemes automatically analyse data
- Greyscales and colour spectra mapped onto scan range / intensity values
- Specially created 'perceptually uniform' colour spectra can be used to avoid misinterpretation of data
- Range and intensity colouring can be blended to add extra dimension to the visualisation
- 'Thresholding' reveals bright spots such as reflectors in the data
- Colouring of filtered points allows patchwork colouring to highlight areas of interest
- Advanced options to refine colouring, allows colour scales to be reversed, equalised and applied over percentile ranges to focus on interesting aspects of the data
- Colour surfaces based on distances from other surfaces

SYSTEM REQUIREMENTS

Operating System

Windows XP Professional, Windows XP Professional x64, Windows Vista Business or Ultimate 32 or 64 bit

Specifications

| | Minimum |
|-------------|--|
| Processor | Pentium IV |
| OS | Windows, XP |
| RAM | 2 Gb RAM |
| Hard Disk | 10 Gb |
| Graphics | OpenGL Accelerated |
| Display | 1024x768 resolution |
| Peripherals | 3-button mouse |
| | Recommended |
| Processor | 64 bit compatible |
| OS | Windows XP x64 |
| RAM | 4 Gb RAM |
| Hard Disk | 100 Gb |
| Graphics | 256 Mb nVIDIA GeForce or ATI Radeon series |
| Display | 1280x1024 resolution |
| Peripherals | Scroll-wheel mouse |

Registration

- Locate scan in correct easting, northing and elevation obtained from conventional surveying instruments (i.e. GPS, total station) including tilt compensator from the I-Site 4400 scanners
- Multi-point registration to locate data to common points
- Arbitrary translation and rotation of data to 'tweak' the location
- Automatic surface feature registration using any type of data
- Locate data that has been acquired using various scanner frames
- Multi-degrees of freedom constrained registration

CAD

- Design points, lines and polygons
- Create text, circles, arcs and rectangles
- Delete geometry
- Move, delete and insert points
- Work in the visualisation environment so geometry can be drawn on the scans and views can be changed interactively during the editing process
- Smart line function to create polylines of scan data, on both scan points and surfaces
- Extrude features such as circles, rectangles and squares
- Register data to topography
- Create contours and sections
- SPG - Survey Point Generator

Modelling

- Create 3D triangulated surfaces from single and multiple scans
- Create 2.5D surfaces from multiple scans
- Create solid triangulation from closed polygons
- Surface facets take on true passive colour of scan data
- Remove unwanted triangles on surface by edge length or orientation criteria
- Adjust the shading and transparency of the surface
- Interactively fit geometric, primitive shapes (planes, lines, circles) to scan data points
- Fitted objects are placed to a higher degree of accuracy than the individual scan points
- Edit and combine these objects to construct complex 3D CAD models
- Move, rotate, scale and copy objects
- Create a mirror of original data set
- Find boundaries, check surfaces, add facets and automatically fix holes in triangulations
- Smart facet reduction tools
- Fragmentation of surfaces against each other

Volume Calculations

- Calculate volumes between two surfaces
- Calculate the volume within a void
- Calculate differential solid volume between 2 solids