

SOCET GXP® At-a-Glance LiDAR Capabilities

LiDAR imagery courtesy of US Imaging

2-D Surface Visualization

- » Contour Labels
- » Customizable elevation colorization
- » Post Thinning options
- » Posts, mesh, X-Profile, Y-Profile, Quick Contours, Detailed Contours

3-D Cursor

- » Surface intersect plane
- » Surface Tracking and manual elevation adjustment

3-D Feature Visualization

- » Features can be optionally draped on a surface

3-D Mensuration

- » Customizable units and reported measurements
- » Height
- » Markers
- » Polylines
- » Polygons

3D Multiport Options

- » 3D Compass
- » Apply Templates in 3-D
- » Customizable backgrounds

3-D Point Cloud Visualization

- » Adjustable Point Size
- » Colorization based on Classification, Elevation, Intensity, Return, or RGB
 - Layers may be turned transparent

- » Multiple point clouds automatically create a mosaic
- » Project imagery onto point clouds
- » Shade colorization by intensity or luminance

3-D Surface Visualization

- » Imagery can be draped on any surface in 3-D

Aspect Map

- » Customizable aspect colorization

Automatic Feature Extraction

- » Building footprints
- » Building rooftops
- » Trees
- » Volumetric buildings with complex roof structures

Bare Earth and Surface Elevation Model Generation from Point Clouds

- » Grid
- » Triangulated Irregular Network (TIN)
- » Vertical deviation and small object filters

Elevation Profile

- » Interactive link between profile graph and visualized terrain

Elevation Shaving

- » Dynamically remove points above a specified ground level based on a flat plane or a reference terrain file

Embed Colorization

- » Allows colorization options available for point clouds to be written to the RGB values of the point cloud
 - Classification, Elevation, Imagery, and Return values of the point cloud
- » Point clouds can be saved as .las files with the embedded RGB values

Generate Vectors

- » Aspect Map, Slope Map, Terrain Shaded Relief, and Line of Sight

GeoPDF®

- » 2D GeoPDF for terrain surface products
- » 3D GeoPDF generation

Intensity Image Generation

- » Customizable Ground Sample Distance (GSD)

Legend

- » Dynamic key for 2-D surface visualization and terrain analysis tools

Line of Sight

- » 360 degree
- » Accounts for volumetric features
- » Customizable Observer Height, Distance Perimeter, and Off-Boresight Angle
- » Dynamic update on move
- » Linked elevation profile graphically shows obstructions
- » Multiple Line of Sight graphics may be dropped
- » Range Fan

- » Visible and hidden areas shown
 - Customizable visibility and colorization
- » Visualization in 2-D or 3-D

Native Surface and Elevation Model Support

- » GeoTIFF, NITF, etc.

Point Cloud Formats Supported

- » .las
 - Full support up to v1.4
- » .laz
- » ASCII
- » Binary point file (.bpf)
- » NITF-wrapped .las

Rigorous Sensor Model

- » Generic Point Cloud Model (GPM)

Slope Map

- » Average or Steepest Slope
- » Customizable slope colorization
- » Percent or degree units

Terrain Comparison

- » Volumetric mensuration

Terrain Shaded Relief

- » Customizable elevation colorization
- » Customizable Light Source
- » Simple Relief Map option

Triangulation

- » Triangulate point clouds to imagery
 - Error propagation using GPM sensor model

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