

# 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
- » TIN
- » Vertical deviation and small object filters

## Elevation Profile

- » Interactive link between profile graph and visualized terrain

## 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®

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

## Intensity Image Generation

- » Customizable GSD

## Legend

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

## Line of Sight

- » 360 degree
- » Accounts for volumetric features
- » Customizable user 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 v1.2 and partial support up to v1.4
- » 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

© 2017 BAE Systems. All Rights Reserved. ClearFlite, DataThruWay, GXP, GXP WebView, GXP Xplorer, Multiport, SOCET GXP, and SOCET SET are registered trademarks of BAE Systems. This document gives only a general description of the product(s) or service(s) offered by BAE Systems. From time to time, changes may be made in the products or conditions of supply. Approved for public release as of 07/19/2013; This document consists of general information that is not defined as controlled technical data under ITAR Part 120.10 or EAR Part 772. ES-GEO-010517-0002. Rev. 01/03/2017