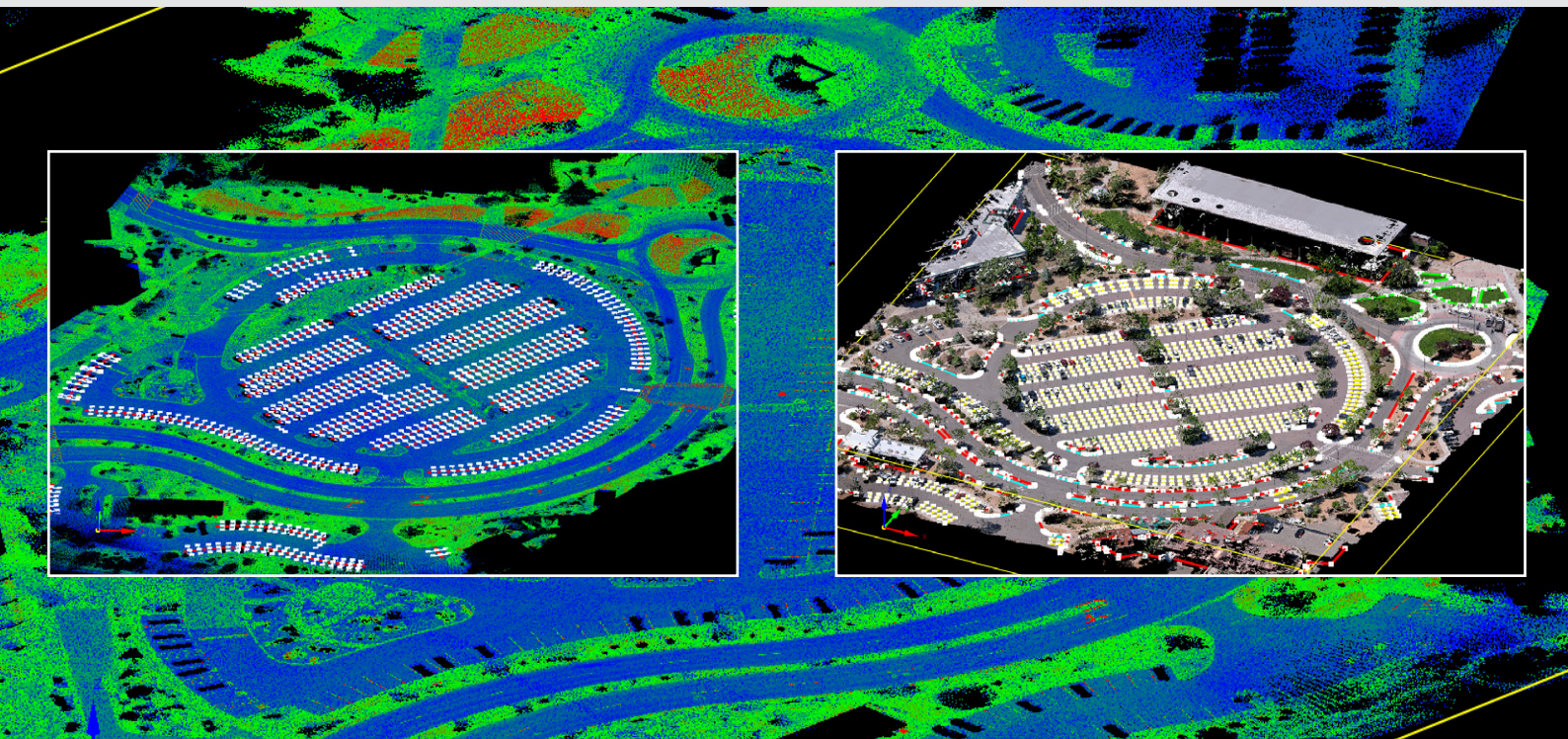# Point Cloud

LiDAR & Photogrammetry to Deliverables

Powerful tools to make the most of Point Cloud data and bring it to the world of CAD

A modular program designed to work with point cloud data from many sources including ground scans, aerial LiDAR, and photogrammetry, allowing you to easily extract necessary data to create maps from any size data set.

Key features include:

- Machine learning based tools to automatically create curbs, parking lines, paint stripes, and smart classifications from orthoimages.

- Powerful feature extraction curbs, parking lines, paint stripes, sidewalks, color edges, building outlines, and powerlines from all data sources.

- Bare earth functions for the removal of vegetation, buildings, cars, and more.

- Extraction of contours, profiles, cross sections, and volume calculations.

- Automated drafting with Field-to-finish using point descriptions and advanced snap tools, as well as Survey point creation on regularized grids.

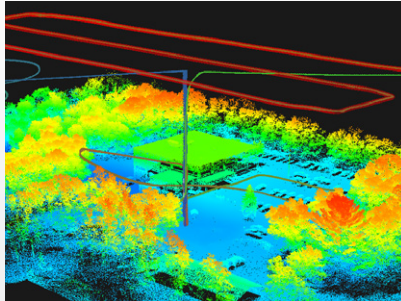- Seamless creation of CAD entities.

BREAK NEW GROUND

Carlson BREAK NEW GROUND

Top Features

- **Machine learning based feature extraction:** use the resulting orthoimages from photogrammetry or RGB + LiDAR process to extract curbs, parking lines, paint stripes and smart classify the point cloud data

- **Automated Feature Extraction:** Create linework for parking lines, curbs, sidewalks, color edges, building outlines, powerlines and more with these powerful tools

Point Cloud is available in both **Basic and Advanced** versions. Both versions include basic point cloud manipulation tools, some filtering options, and the ability to draw and export linework, TINs, contours, and more to CAD.
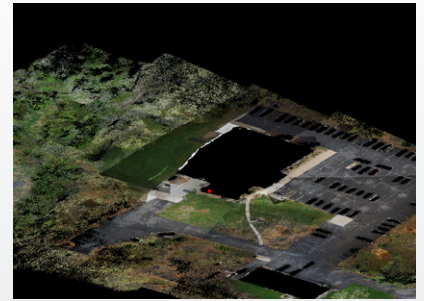
Point Cloud Advanced adds many valuable functions, including quickly-developing automated feature extraction capabilities, additional filters, transformations, and the creation of feature type points and solids.

LiDAR Trajectory

Colorized Point Cloud

Bare Earthed Site

Import / Export
- I**mport/export multi-billion point point clouds**
- **Import more cloud formats,** including LAS, Leica, Faro, E57, DEM, GeoTiff, RCP and more
- **Export** to ASCII, LAS, RCP, or PDF

Multiple Scan Consolidation
- **Register multiple scans** into one cloud
- **Merge clouds**

Decimate Point Clouds
- **Reduce point cloud size** with smart clean and resampling algorithms
- **Reduce point cloud noise** with outlier and smoothing tools

Field-to-Finish
- **Use the full power** of Carlson Field-to-Finish with Point Cloud data. You can use the same FLD files you use with GPS or conventional total stations with Symbols, Line Work and Labels all drawn in CAD

Viewing Cloud Data
- **Color Adjustment**
- **View multiple clouds** at once
- **Color by Elevation** or Intensity
- **Adjust point size** and cloud detail

Draw Linework
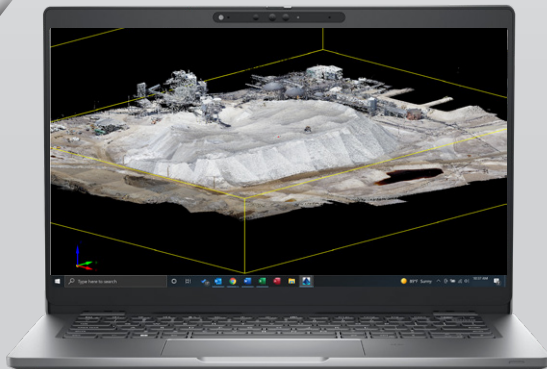- **Multiple snap modes** to extract edges and slopes

Surface Data Commands
- **Load Surfaces** — Import scan data from various sources
- **View Surface** — 3D viewer for point cloud data

Breaklines
- **Automatic 3D breakline creation** based on surface zones

Generate Profiles & Sections
- **Trace an alignment** across the site and generate profiles or sections

Feature Extraction of Curbs, Parking Lines, and Building Footprints

420-920-80

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