GreenValley International

LiPowerline

Point Cloud Processing Software
for Power Line Inspection & Analysis

LiPowerline is a LiDAR-based power inspection software independently developed by GVI. It is designed for integrated scenarios of transmission, transformation, and distribution. By processing and analyzing massive point cloud data, LiPowerline can swiftly and accurately extract potential danger target information in power channels. It offers functionalities such as simulated working condition early warning analysis, powerline completion acceptance, multi-period data analysis, and fine inspection route planning, all aimed at ensuring the safe operation of power systems.

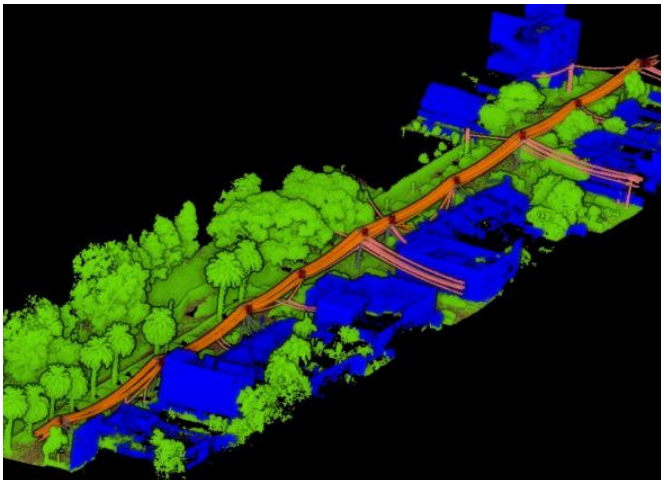
Product Advantages

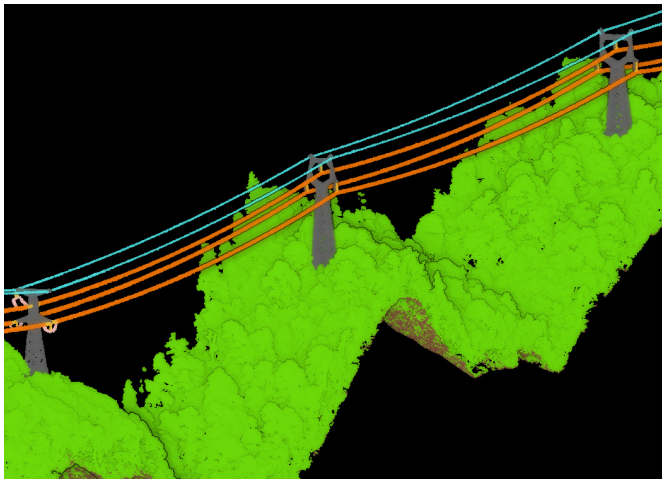
TB-level LiDAR Point Cloud Data Processing and Analysis

- Supports loading of greater than 1000 tower raw point cloud data without sparse extraction.
- High processing and analysis efficiency, capable of achieving 300 km of data per person per day on the main grid.

AI-based Point Cloud Classification

- One-click automatic classification of categories including towers, conductors, shield lines, insulators, drainage threads, scissors crossing lines, ground points, vegetation, buildings, roads, and water.
- High classification efficiency with accuracy up to 95%.





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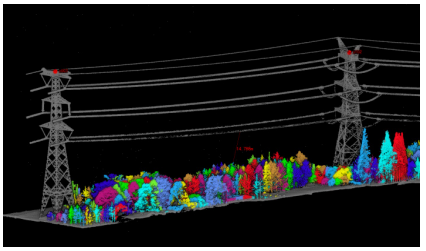
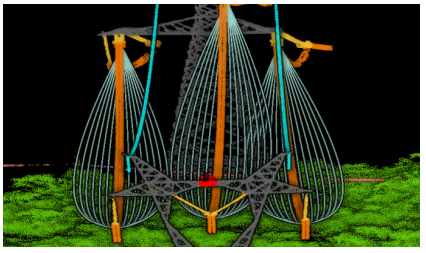


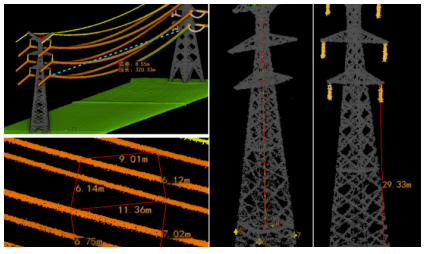
Comprehensive Analysis of Trees in Power Channels

- Supports individual tree segmentation within power channels, accurately calculating deforestation areas.
- Quickly detect the number, location, height, crown width, and other information of dangerous trees.
- Generates reports on tree height and density distribution within channels.



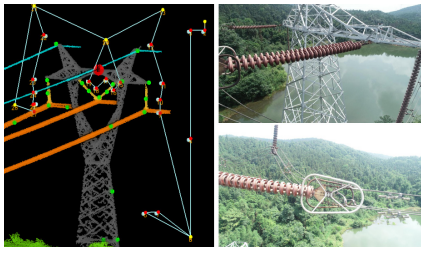
Simulated Working Conditions and Scientific Warning

- Batch vectorization of power lines.
- Simulation analysis of tree fall and growth.
- Comprehensive simulation of high temperatures, ice covering, and strong winds.



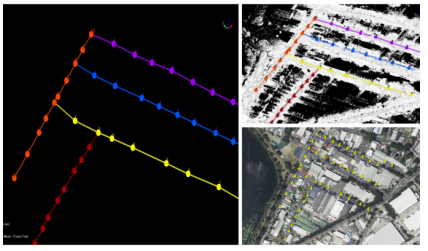
Completion Acceptance of Power Lines

- Provides analysis functions including sag, phase spacing, electrical clearance of drainage threads, spacing between conductors and shield lines, tower inclination, cross-arm height difference, nominal height, and tower diaphragm of towers.
- Automatically generates analysis reports.



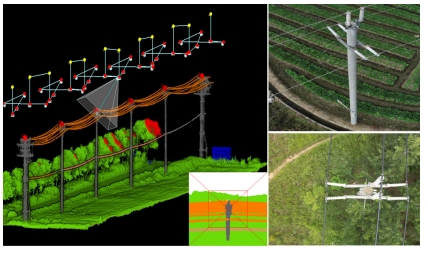
Fine Inspection

- Batch generation of tower fine inspection, wire inspection, and channel inspection and other types of routes.
- Based on tower type automatic recognition of component points.
- Quick archiving and renaming of inspection photos.



Distribution Network Tower Management

- Tree-structured management of distribution grid towers.
- Automatically extraction of tower points.
- Batch generation of tower information ledger (KML) , with support for importing into Google Earth.



Distribution Grid Inspection

- Support for generating multiple modes of distribution network inspection routes.
- Capability to create route models and batch generating routes.
- Accurate analysis of route safety.

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