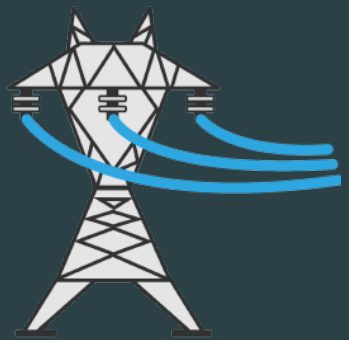
GreenValley International

LiPowerline

Point Cloud Processing Software
for Power Line Inspection & Analysis



LiPowerline is a LiDAR-based analysis solution for power line applications independently developed by GreenValley International Inc. (GVI). Designed for integrated transmission, substation, and distribution applications, it combines AI-based point cloud classification, 3D spatial analysis, and AI Agent assistance. By efficiently processing large-scale point cloud data, LiPowerline can quickly and accurately identify potential hazards in power corridors. It provides operating condition simulation and early warning, power line completion acceptance, fine inspection route planning, and substation inspection route planning, helping ensure the safe and stable operation of power systems.

Product Advantages

TB-Scale Point Cloud Processing and Analysis

- Supports full-resolution loading of raw point cloud data for more than 1,000 towers
- Enables one operator to process up to 300 km of transmission-grid data per day

Multi-Source Data Fusion and Visualization

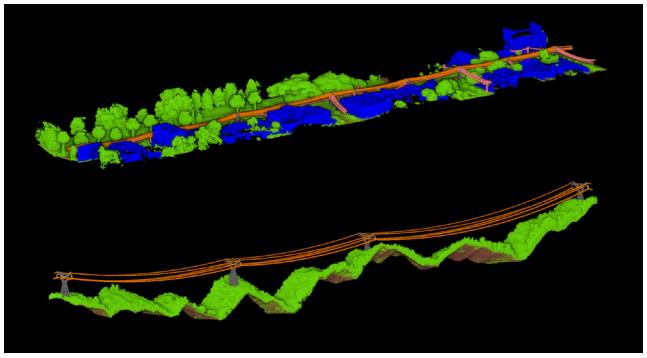
- Integrates point clouds, vector data, oblique photogrammetric models, 3D Gaussian Splatting (3DGS), and panoramic imagery
- Supports visualization by elevation, classification, true color, and individual-tree segmentation results

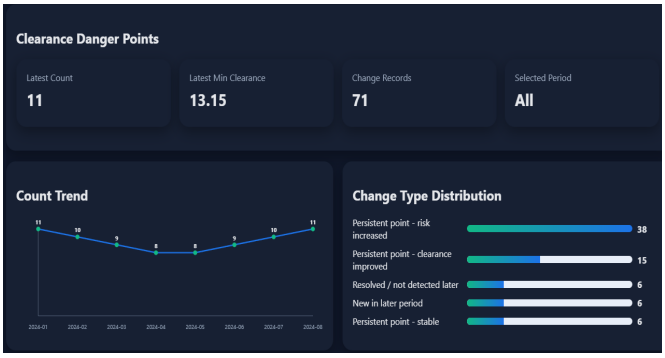
AI-Based Point Cloud Classification

- One-click classification of towers, conductors, shield wires, insulators, jumper wires, crossing lines, ground points, vegetation, buildings, roads, and water bodies
- High classification efficiency with accuracy up to 95%

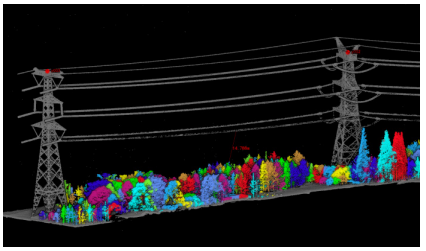
AI Agent Workflow Assistant

- Provides intelligent Q&A through a built-in knowledge base
- Enables natural-language access to 90+ capabilities
- Integrates historical data and analysis results to track hazard trends and generate comprehensive reports



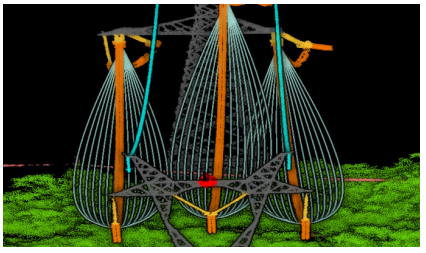


729 Heinz Avenue, Suite 9, Berkeley, CA 94710, USA I www.greenvalleyintl.com I info@greenvalleyintl.com



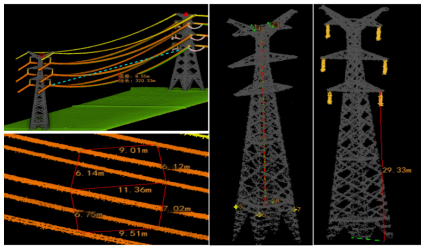
Comprehensive Power Corridor Analysis

- Automatically detects vegetation encroachment, crossing hazards involving power lines, buildings, highways, and other objects, and generates analysis reports
- Supports individual-tree segmentation to extract the number, location, height, and crown width of hazardous trees and accurately calculate vegetation clearance areas



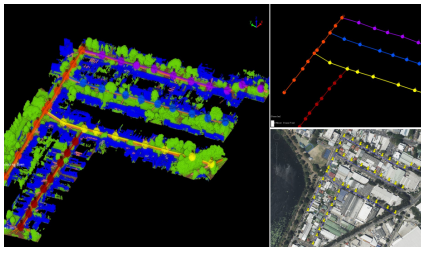
Operating Condition Simulation and Early Warning

- Vectorizes power lines in batches
- Simulates tree fall and growth
- Simulates operating conditions such as high temperatures, ice loading, and strong winds



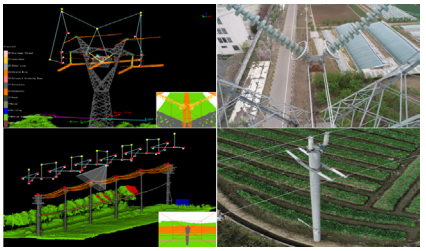
Power Line Completion Acceptance

- Supports acceptance analysis of sag, phase spacing, jumper wire clearance, conductor-to-shield-wire spacing, tower inclination, cross-arm height difference, nominal height, and more
- Automatically generates acceptance analysis reports



Distribution Grid Tower Management

- Manages distribution-grid towers by hierarchy
- Automatically extracts tower points
- Batch-generates tower information ledgers in KML format for import into Google Earth



Fine Inspection

- AI automatically identifies key tower component locations
- Batch-generates inspection routes for transmission and distribution towers, conductors, shield wires, and power corridors
- Automatically optimizes route safety



Substation Inspection

- Builds 3D substation inspection environments from multi-source data
- Generates safe inspection routes with one click
- Supports object-level segmentation of substation equipment

729 Heinz Avenue, Suite 9, Berkeley, CA 94710, USA I www.greenvalleyintl.com I info@greenvalleyintl.com