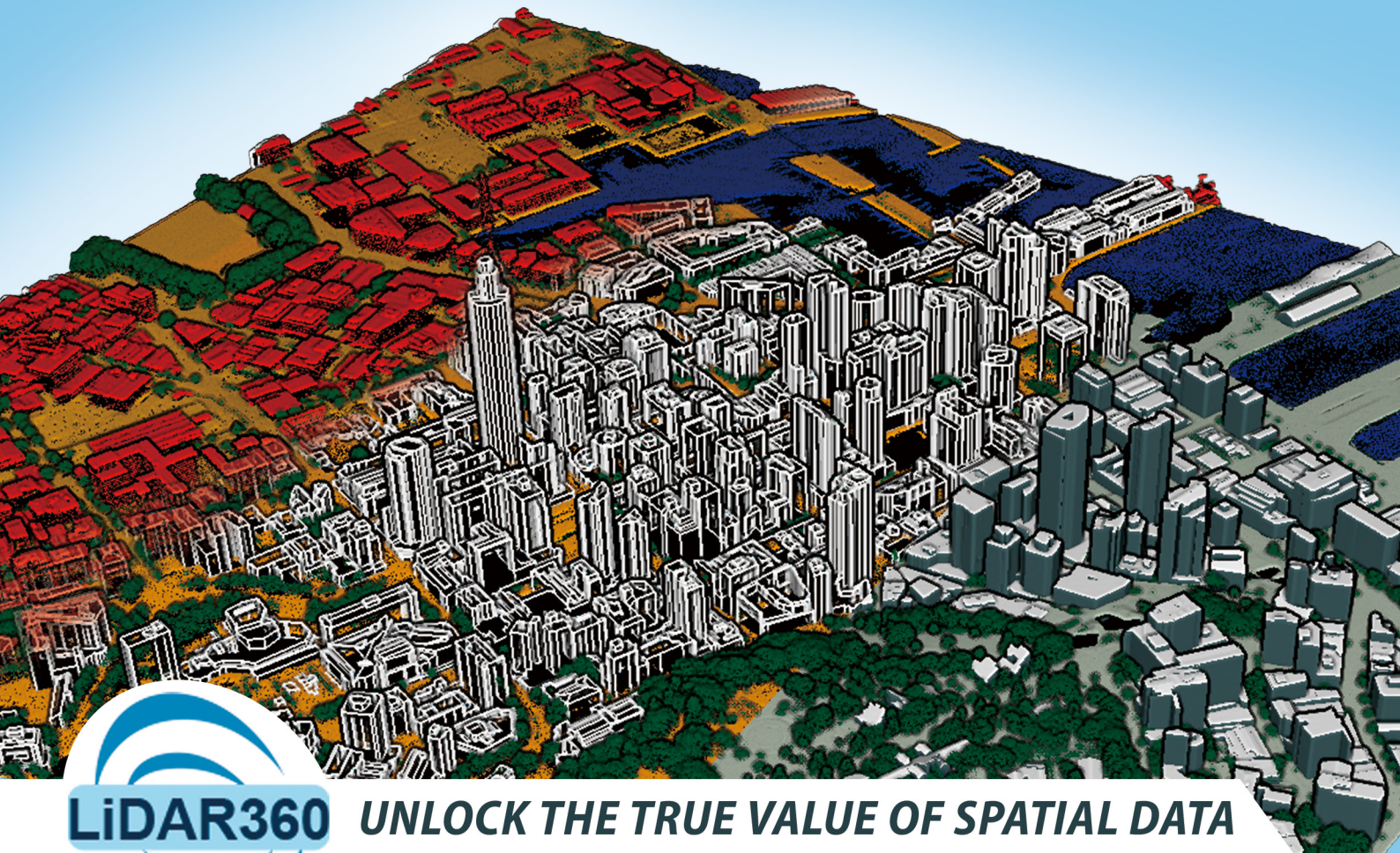




**UNLOCK THE TRUE VALUE OF SPATIAL DATA**

# **LiDAR360**

## **Professional LiDAR Solutions**



# SOFTWARE

AI-Driven | Open Ecosystem | Intelligent Spatial Data Processing Platform

**L**iDAR360 is an all-in-one intelligent processing platform for point clouds and imagery that integrates the AI assistant, data quality inspection, precision processing, intelligent analysis, custom development, and industry-specific applications. It supports high-speed visualization and processing of TB-scale LiDAR data, delivering a one-stop intelligent workflow from raw data to final deliverables for scenarios including topographic mapping, smart forestry, engineering surveying, mine safety, photogrammetry, and digital twin construction.

## 137

Countries and  
regions served

**TB-level**

Data processing capacity

**700+**

Professional tools

**300+**

Tools callable by AI

**260+**

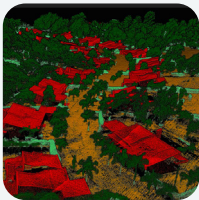
Custom development APIs

**60+**

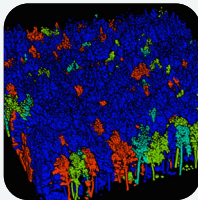
Data formats supported

**100+**

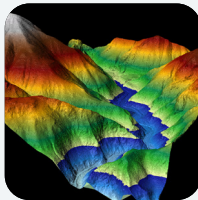
Tree species identification



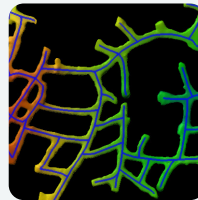
Intelligent Classification



Forest Management



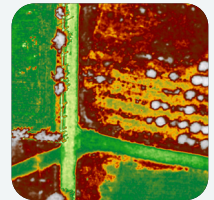
Topographic Mapping



Mine Analysis



3D Modeling

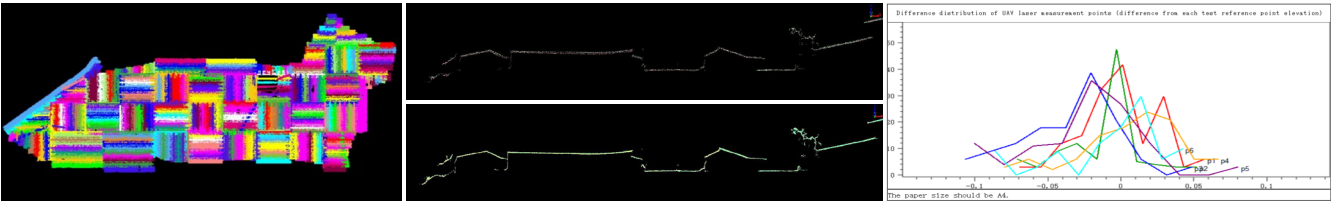


Imagery & Spectral

# Platform Capabilities

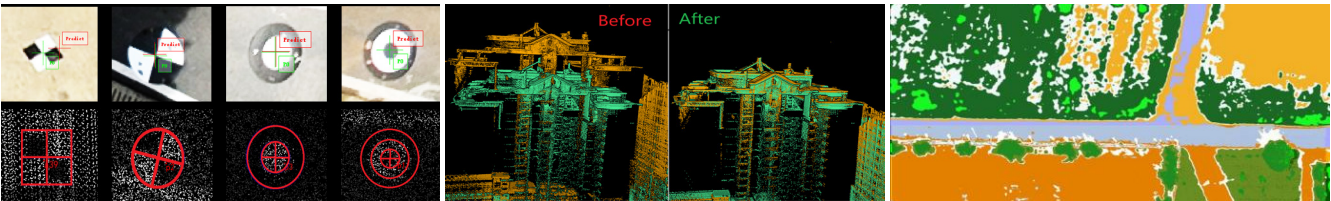
## Quality Inspection & Improvement

- **Accuracy Inspection** — Full decoding of DJI point cloud data with comprehensive evaluation of device acquisition accuracy.
- **Data Quality Check** — Automatically assess strip overlap, point cloud density, elevation quality, and trajectory compliance to ensure data reliability.
- **Accuracy Optimization**—Support direct alignment of hundreds of strips simultaneously, effectively eliminating device errors, trajectory deviations, and LiDAR sensor errors for high-precision data alignment.



## Multi-source Data Fusion & Reprojection

- **Multi-source Data Fusion** — Common-scene data, combined with GCPs and various target types for high-precision alignment, enabling faster multi-source data registration.
- **Extensive Coordinate System Support** — Support reprojection of point clouds, rasters, vectors, tables, and 3D models, improving cross-regional and multi-source project integration efficiency.



## Rich Rendering Capabilities

- **Diverse Rendering** — Support multi-attribute overlay display including class, RGB, elevation, intensity, TreeID, etc., making complex results clearer.
- **Immersive Visualization** — Extended catalog tree for independent rendering management of 3D Gaussian splats and panoramic imagery. Skybox supports both custom and built-in schemes, creating more immersive project presentations and reports.



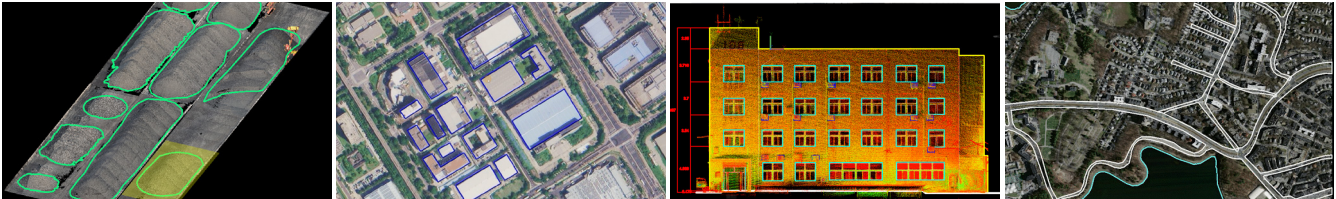
## Classification & Extraction

- **One-click Point Cloud Feature Extraction** — AI automatically identifies 26 object types, covering ground, vegetation, buildings, poles, vehicles, mine tunnels, etc., improving classification efficiency.
- **One-click Imagery Feature Extraction** — Rapidly generate building, road, and other feature contours and masks, reducing manual vectorization workload.
- **Foundation Model Joint Recognition** — Cover semi-automatic object recognition and classification for both point cloud and imagery, with joint point cloud–image processing for more efficient and accurate extraction.
- **Industry-Customized Model Training** — Provide a closed loop from labeling and training to inference deployment, meeting differentiated recognition needs in professional scenarios.
- **Prompt-based Semantic Recognition** — Support text-prompt input to automatically identify any user-specified object without a preset category library, enabling zero-shot intelligent extraction and flexibly meeting real-time recognition needs across diverse scenarios.



## Vector Creation & Editing

- **50+ Professional Tools Integrated** — Cover 2D/3D vector drafting and GIS analysis, with support for topology editing, spatial analysis, and batch processing for efficient smart mapping.
- **One-click Vector Extraction** — Based on visible and spectral data combined with the SAM model, enabling intelligent contour extraction and >300% improvement.
- **Industry-grade Automation** — Generate 1,000+ building footprints, continuous road curbs, and large-scale stockpile toe lines in <1 minute, with direct export to AutoCAD/ArcGIS.

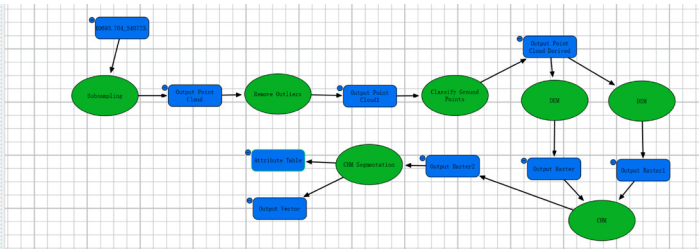


## 3D Mesh Modeling & Editing

- **Flexible Selection & Editing** — 10+ combinable tools for precise selection, auto hole filling, and bridging.
- **Optimization & Export** — Automatically smooths and simplifies models, allows control of triangle count, and supports export in multiple formats including OBJ.

# Model Builder & Distributed Computing

- **Custom Workflows** — Organize software functions to create custom workflows and process data in bulk.
- **Model Builder** — Freely combine 200+ functional modules to build custom workflows, suitable for batch and standardized data production.
- **Scripted Execution** — Workflows can be executed via scripts without launching the software interface, facilitating automated task deployment.
- **High Performance Distributed Computing** — Process point clouds and imagery across multiple devices, efficiently handling massive data projects.
- **Custom Tool Extension** — Support packaging user-developed tools or scripts within the software into functional modules, seamlessly integrating them into the Model Builder for combination with the existing 200+ modules, enabling personalized workflow customization to meet differentiated processing needs in professional scenarios.



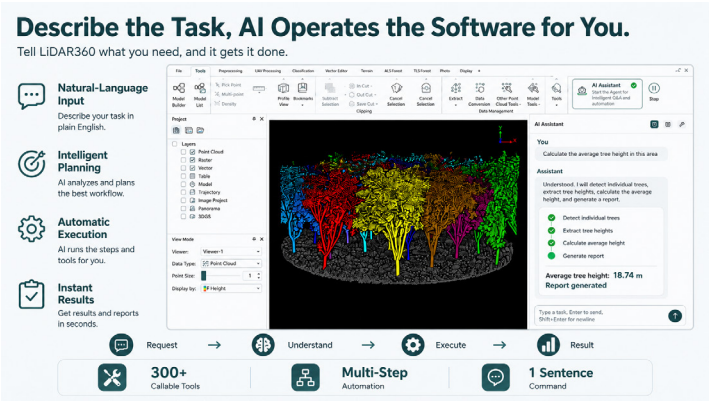
Distributed Computing Reference Efficiency Table

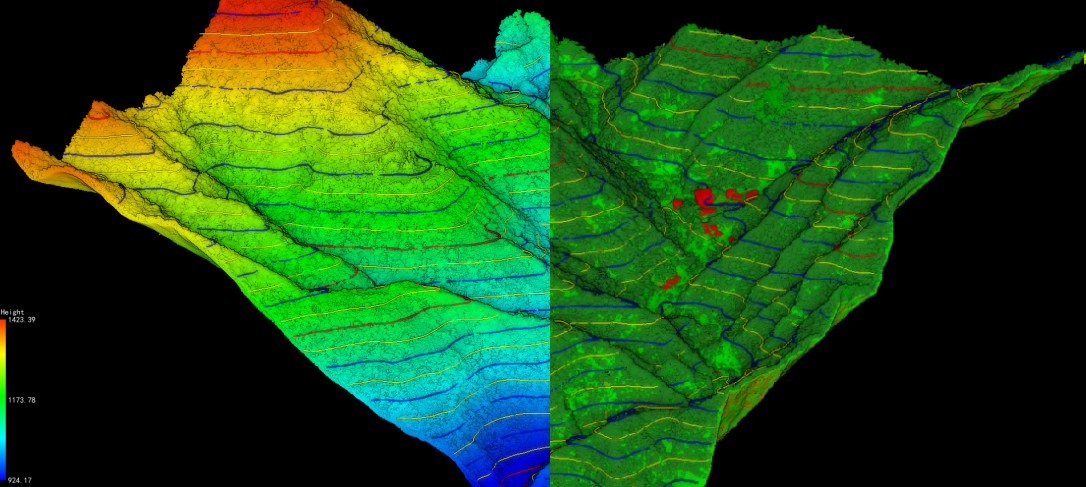
| Device Configuration                                                                            | Function                                                              | Data             | Compute Nodes Number | Efficiency Improvement |
|-------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------|------------------|----------------------|------------------------|
| <b>System:</b><br>Windows 10<br><b>CPU:</b><br>Intel® Core i7<br><b>GPU:</b><br>NVIDIA RTX 3050 | Smooth+<br>Subsampling+<br>Remove Outliers+<br>Classify Ground Points | 30GB point cloud | 4                    | 168%                   |
|                                                                                                 |                                                                       |                  | 5                    | 278%                   |
|                                                                                                 |                                                                       |                  | 6                    | 375%                   |

Due to the influence of different device configurations, switches, network bandwidth, and structure, the efficiency improvement of distributed computing may vary. The above figure is for reference only.

## AI Assistant: Guidance

- **Real-Time Help** — Users can ask questions directly about data processing, parameter settings, result output, etc., and quickly obtain operation paths, reducing the learning curve for new users.
- **Out-of-the-Box Experience** — Built-in large language model; simply log in to enjoy a smooth experience.
- **One Sentence Complex Task Completion** — AI intelligently understands user intent, invokes built-in skills, and breaks complex goals into multiple executable steps. With 300+ callable tools, the system automatically connects requirements, tools, and deliverables, streamlining the completion of complex tasks.
- **Agentic Integration of Custom Tools** — Integrate LiDAR360 custom tools into the AI Agent tool library, allowing the Agent to automatically recognize, invoke, and combine them with built-in tools to complete complex tasks.



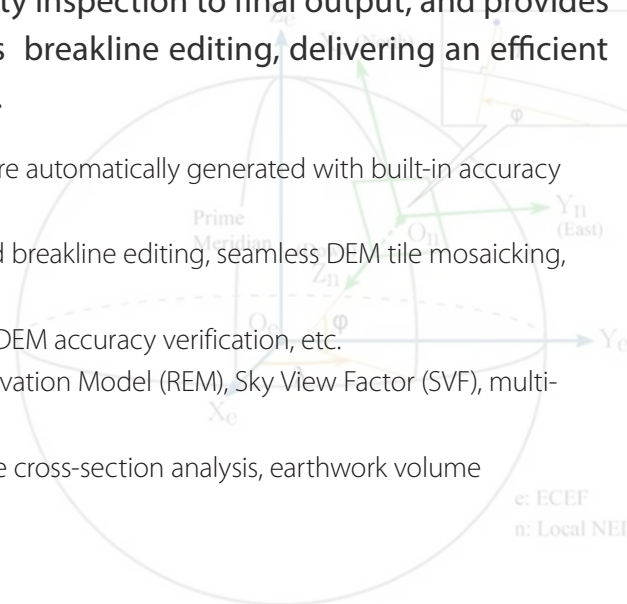


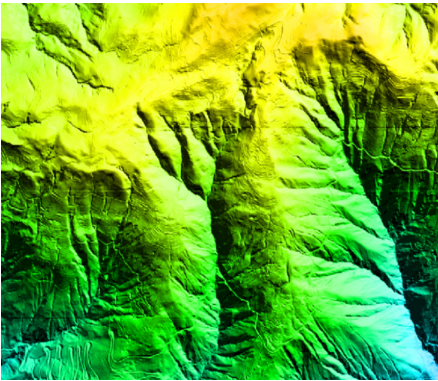
# Surveying and Mapping

01

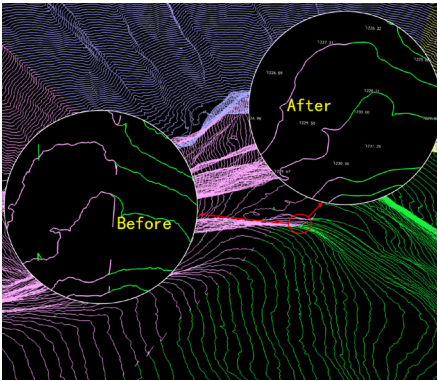
LiDAR can penetrate the canopy to capture sub-canopy terrain features, efficiently generating large-scale, high-precision terrain point cloud data. LiDAR360 accurately extracts ground points and produces a variety of standard terrain products, including DEM, DOM, DSM, and contour lines. With intuitive and user-friendly interactive tools, it supports the complete workflow from terrain product generation and quality inspection to final output, and provides automatic contour and breakline joining, as well as breakline editing, delivering an efficient and streamlined terrain data processing experience.

- **Automated Terrain Modeling** — DEM, contours, and DOM are automatically generated with built-in accuracy checks.
- **Editing & Correction** — Support semi-automatic contour and breakline editing, seamless DEM tile mosaicking, etc.
- **Accuracy Assurance** — Provide contour consistency checks, DEM accuracy verification, etc.
- **Smart Terrain Analysis** — Includes flood analysis, Relative Elevation Model (REM), Sky View Factor (SVF), multi-period change detection, and more.
- **Engineering Application Support** — Support road subgrade cross-section analysis, earthwork volume calculation, and construction progress monitoring.





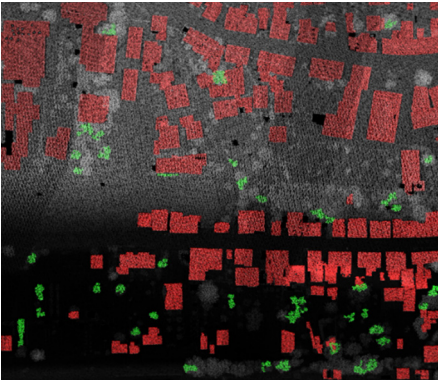
DEM



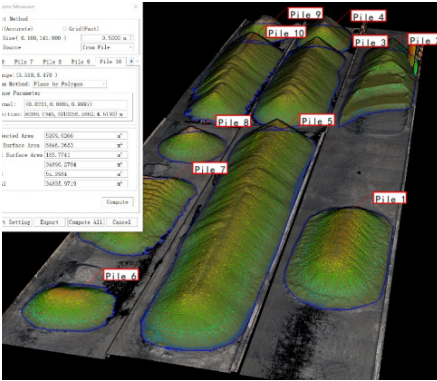
Contour Sheet Joining



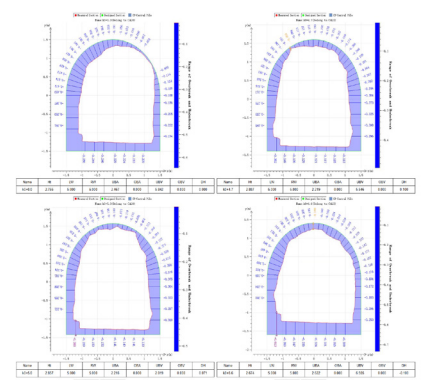
DOM



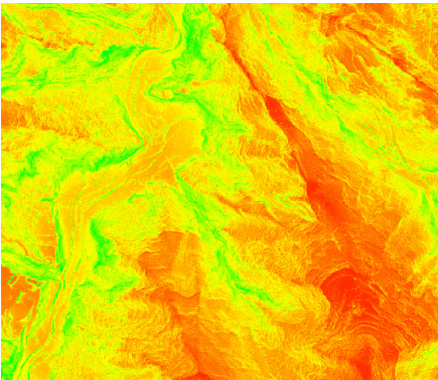
Change Detection



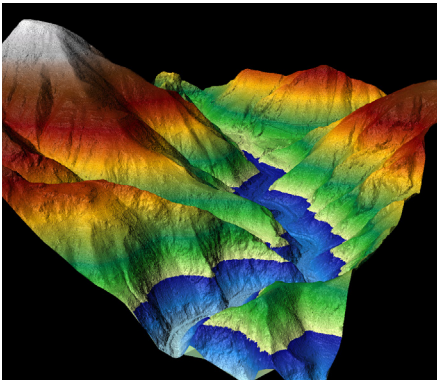
Volume Measurement



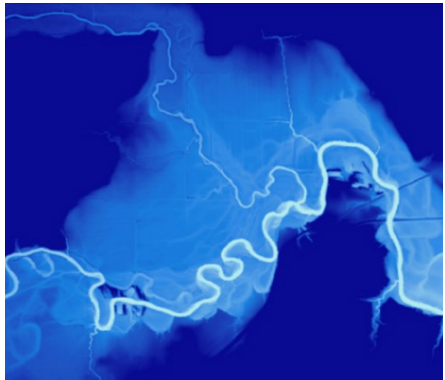
Section Analysis



SVF



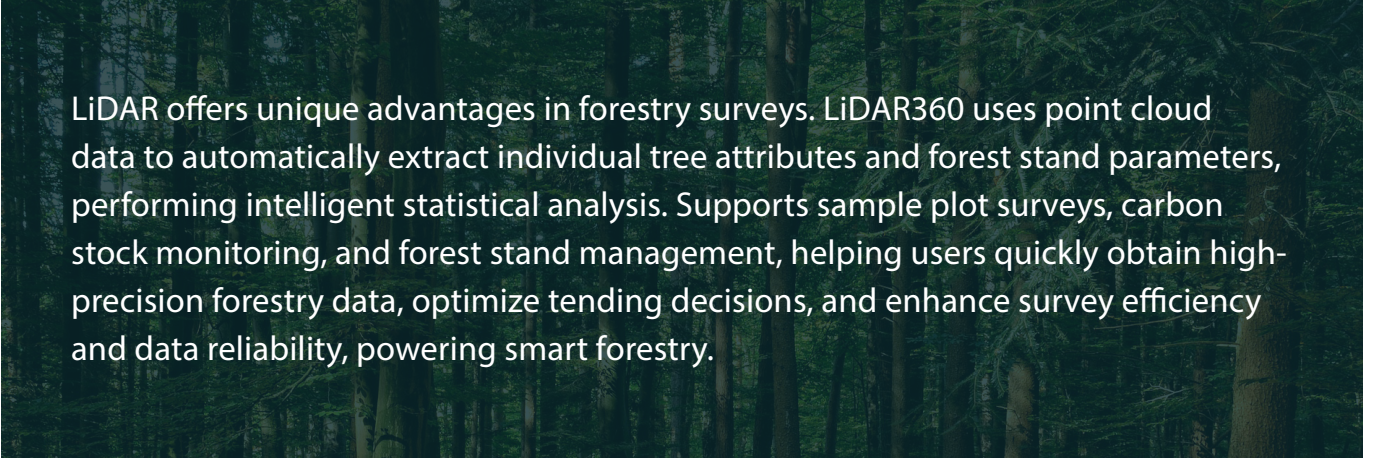
Flood Analysis



REM

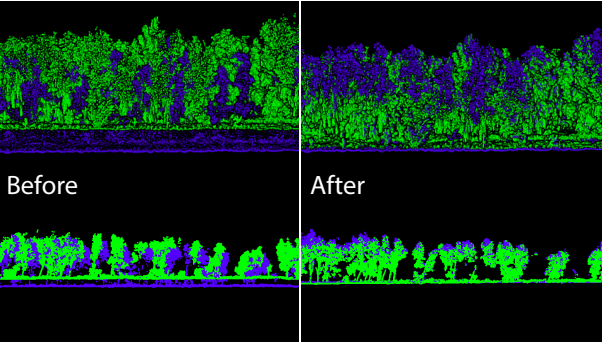
# Forestry Survey and Management

02

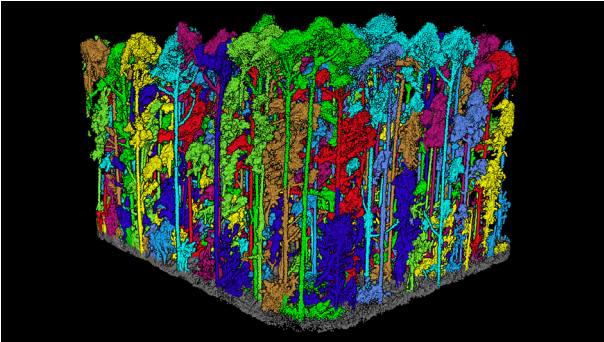


LiDAR offers unique advantages in forestry surveys. LiDAR360 uses point cloud data to automatically extract individual tree attributes and forest stand parameters, performing intelligent statistical analysis. Supports sample plot surveys, carbon stock monitoring, and forest stand management, helping users quickly obtain high-precision forestry data, optimize tending decisions, and enhance survey efficiency and data reliability, powering smart forestry.

- **Industry-Leading Individual Tree Segmentation** — AI-driven individual tree segmentation across multi-source data, improving single-tree recognition efficiency in complex stands and meeting forestry survey requirements under various acquisition methods.
- **100+ Tree Species Automatic Recognition** — Species distribution information is a key indicator for assessing forest community structure, providing unprecedented data insights for forest managers and laying a solid foundation for scientific, precise, and sustainable forest management.
- **Automatic Extraction of 28 Individual Tree Parameters** — High-precision acquisition of key indicators including diameter at breast height (DBH), tree species, stem form, biomass, and timber volume.



Automatic Forestry Registration



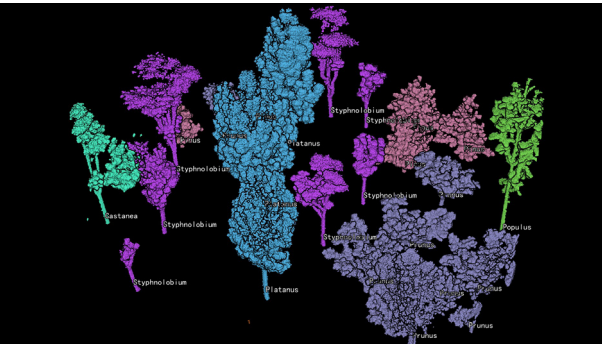
Individual Tree Segmentation



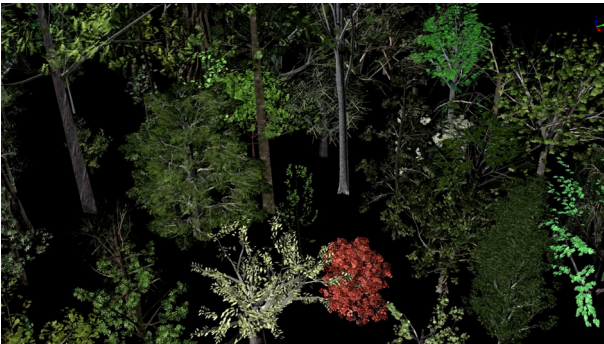
Individual Palm Tree Segmentation



Individual Tree Attributes

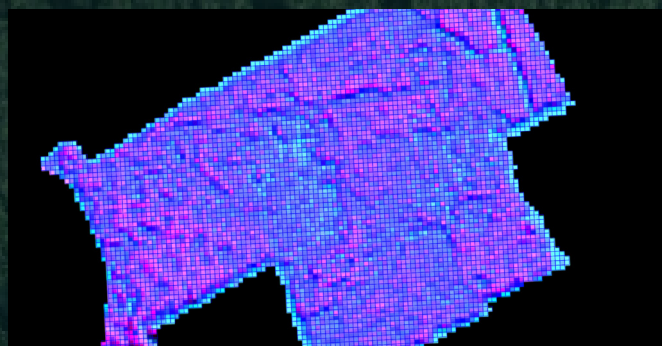


Tree Species Identification



Tree Model (70 Built-in Species)

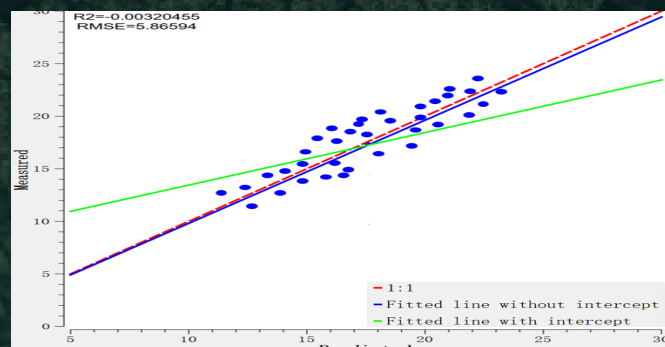
- **Forestry-specific Registration** — Specially designed for forestry data characteristics; achieves automatic and precise alignment of multi-source, multi-device point cloud data without relying on individual tree segmentation, significantly improving the stability and efficiency of forestry deliverable production.
- **TreelD Multi-attribute Rendering** — Support overlay display by TreelD, tree height, category, and other attributes, facilitating rapid single-tree localization and segmentation quality inspection.
- **90+ Stand-level Parameters Supported** — Cover LAI, canopy cover, gap fraction, and more, combined with plot data for large-scale regression analysis.



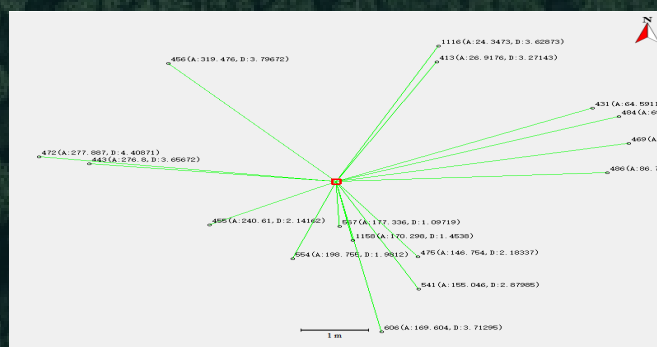
LAI



Forest Stand Delineation

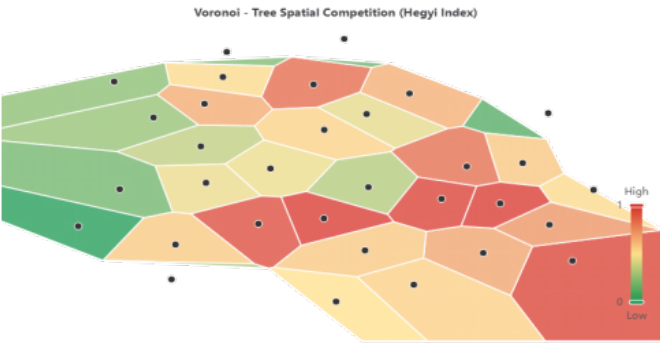


Regression Analysis

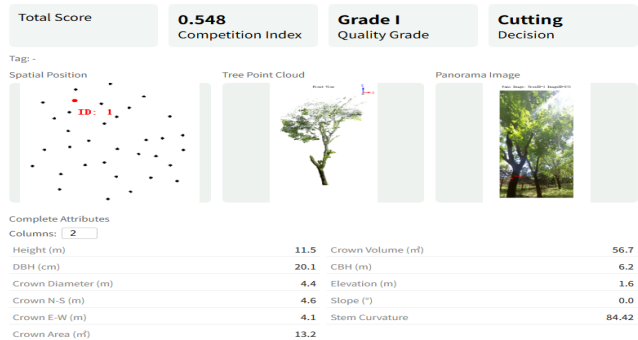


Azimuth and Distance

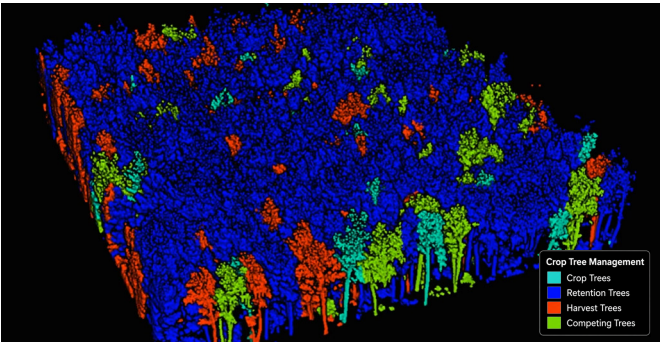
- **Intelligent Stand Analysis** — Support stand delineation, DBH grading, timber volume analysis, and other statistical outputs, helping users quickly grasp stand structure.
- **Intelligent Tending Planning** — Supports thinning simulation and forest tending; AI-driven analysis helps users move from data processing to planning decisions.
- **Automated Individual Tree Reports** — Organize individual tree locations, attributes, images, and statistical results into reports, reducing manual compilation time.
- **Professional Rule Custom Extension** — For tending planning, it supports custom development of operation design record sheets (based on local regulations/enterprise standards) and decision rule engines (embedding expert experience & management objectives). This enables one-click field data collection to report generation and automated decision logic, transforming general tools into an intelligent, tailored planning platform.



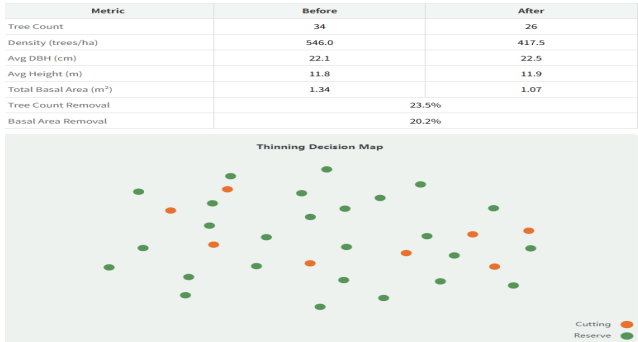
Tree Spatial Competition



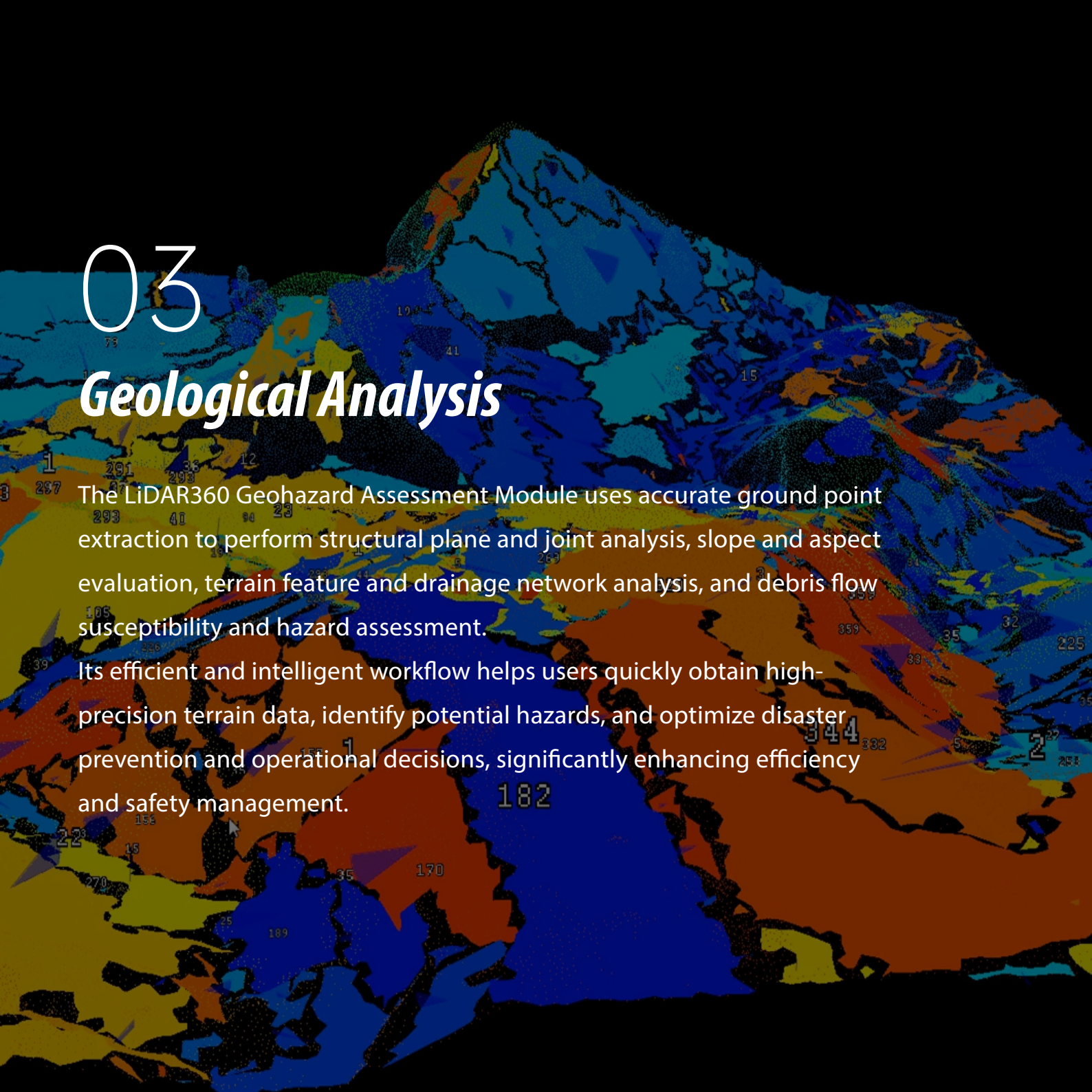
Individual Tree Report



Crop-tree Management



Thinning Decision



# 03

## *Geological Analysis*

The LiDAR360 Geohazard Assessment Module uses accurate ground point extraction to perform structural plane and joint analysis, slope and aspect evaluation, terrain feature and drainage network analysis, and debris flow susceptibility and hazard assessment.

Its efficient and intelligent workflow helps users quickly obtain high-precision terrain data, identify potential hazards, and optimize disaster prevention and operational decisions, significantly enhancing efficiency and safety management.

- **Rapid Response**

Quickly and accurately capture microtopographic features of geological hazards such as landslides and subsidence, supporting on-site judgment and emergency analysis.

- **Diverse Parameters**

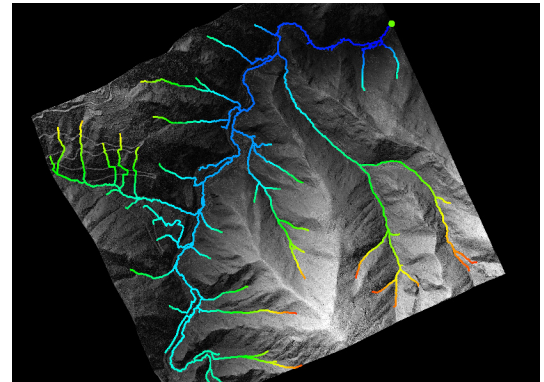
Extract multiple parameters including slope, aspect, surface roughness, etc., providing multidimensional evidence for risk identification.

- **Precise Extraction**

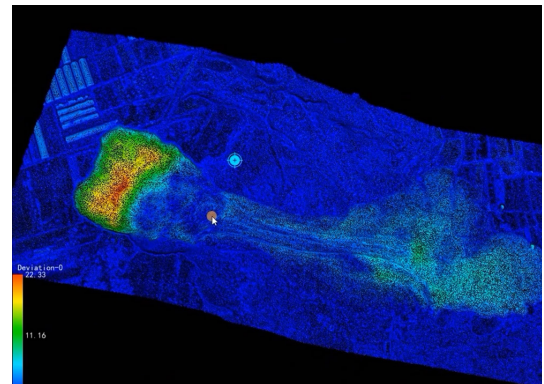
Detect subtle terrain changes across multi-period data, applicable to cross-section analysis and structural plane extraction.

- **Early Warning & Hydrological Analysis**

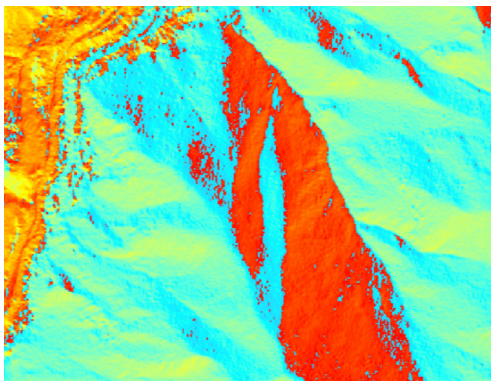
Support flow accumulation, depression filling, and drainage line analysis, helping identify water flow paths and assess potential risks.



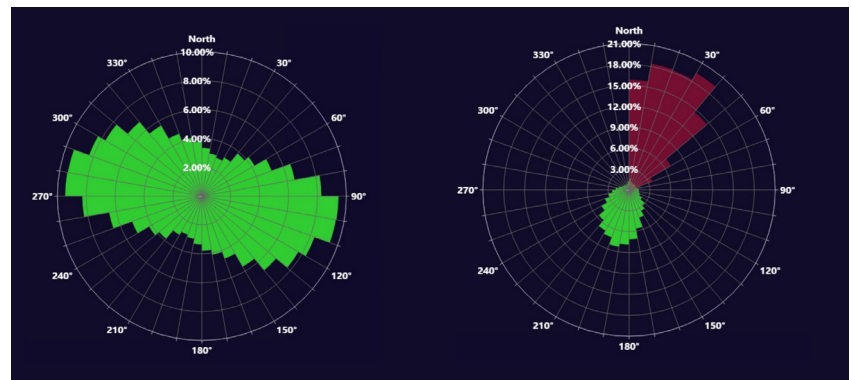
**Drainage Analysis**



**Disaster Monitoring**



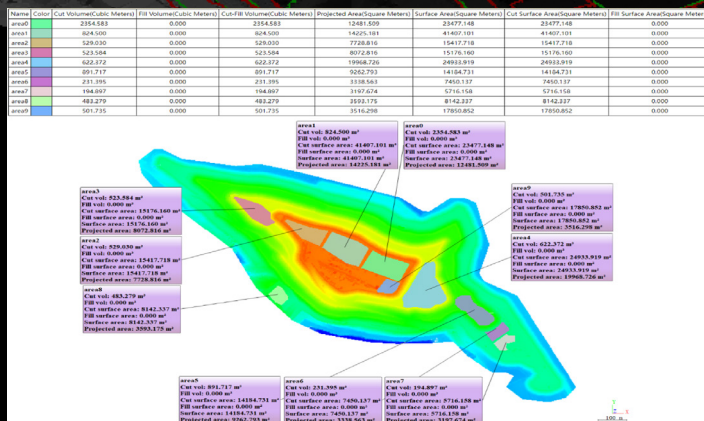
**Aspect**



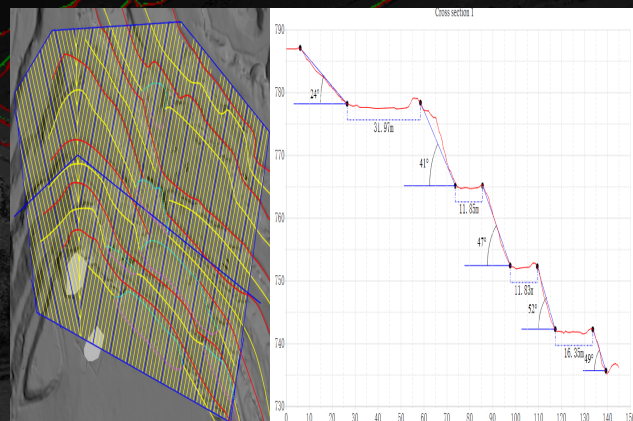
**Rose Diagram**

# 04 Mine Safety & Volume Analysis

In open-pit mining, the LiDAR360 Mining Module supports haul road design, bench design and slope stability analysis, stockpile volume calculation, and multi-period change monitoring, providing reliable data for safe and efficient production. In underground mining, it enables roadway modeling, section analysis, time-series deformation monitoring, and tunneling direction monitoring, helping users track structural changes in real time to ensure safety and construction quality.

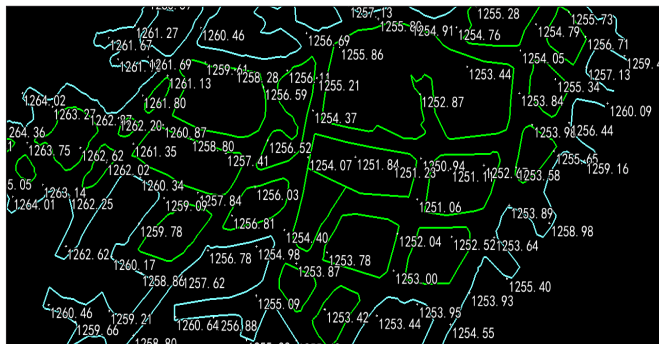


Volume Change Analysis

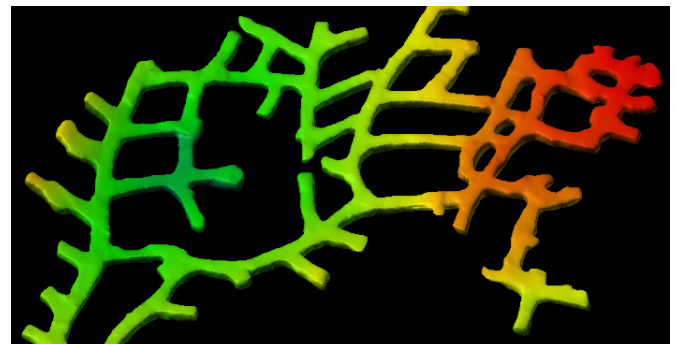


Slope Stability Analysis

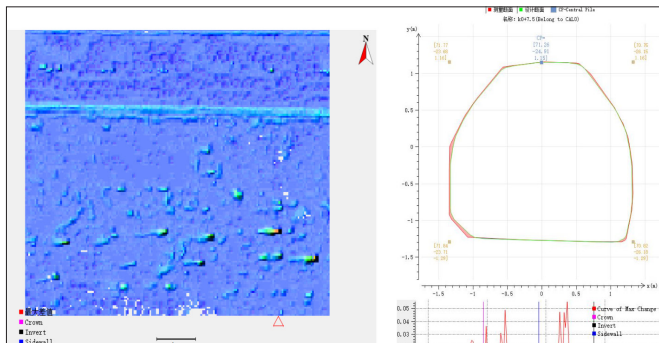
- **Open-Pit Mining Modeling & Slope Analysis** — Automatically extract toe and crest lines, perform slope stability analysis, enhancing safety and construction efficiency.
- **High-precision Underground Mine Modeling** — Precisely calculate tunnel volume, backfill volume, and structural changes, providing data support for underground mine production management.
- **Tunnel Design & Analysis** — Automatically extract centerlines, generate tunnel cross-sections, and calculate excavation volume and variations.
- **Volume Statistics** — Support multiperiod change, overbreak/underbreak, backfill volume, and other outputs, facilitating construction progress monitoring and project settlement.



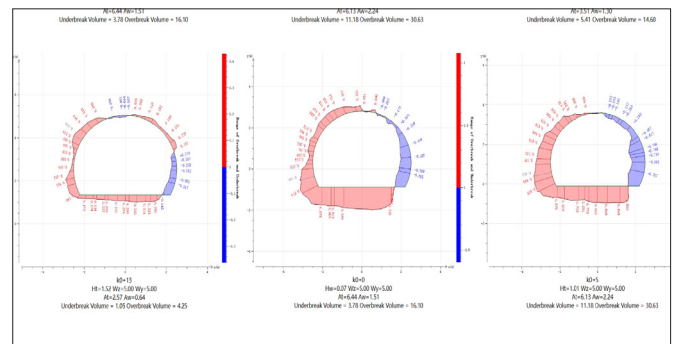
Underground Engineering Plan



Tunnel Model



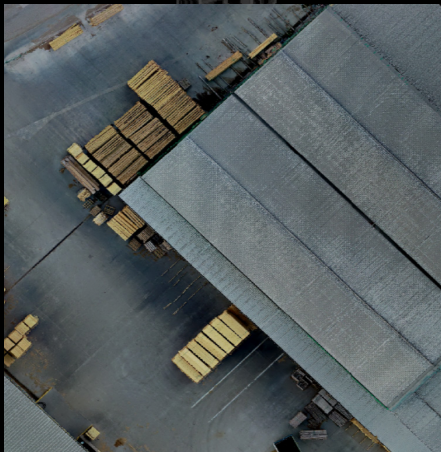
Tunnel Deformation Monitoring



Overbreak and Underbreak Analysis

# 05 *Imagery Processing & Reconstruction*

- **DOM Quality Enhancement** — Improves DSM quality to produce more stable and clearer orthophoto deliverables.
- **Expanded Photo Reconstruction Capability** — Support reconstruction of tens of thousands of photos under standard configurations, improving image input compatibility and reconstruction workflow adaptability for a broader range of project visualization outputs. Supports up to 50,000 photos with 64 GB of RAM.
- **Point Cloud & Imagery Synergy** — Imagery deliverables can be linked with point clouds, DSM, and vector results for surveying, inspection, forestry, and 3D scene representation.



DOM



Hyperspectral

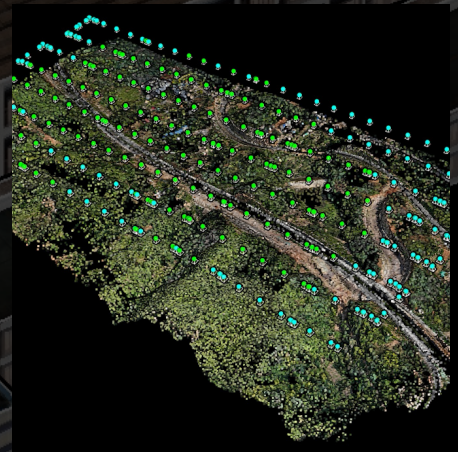


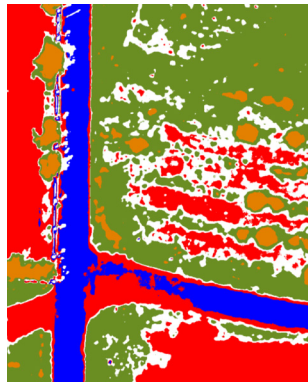
Image Project Construction

# Spectral Module 06

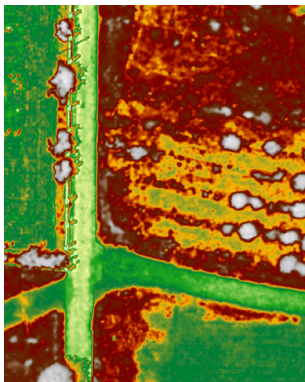
The LiDAR360 Spectral Module denoises, enhances, and classifies spectral data, fusing it with point clouds for rapid feature extraction and multi-source analysis, boosting efficiency and decision-making.



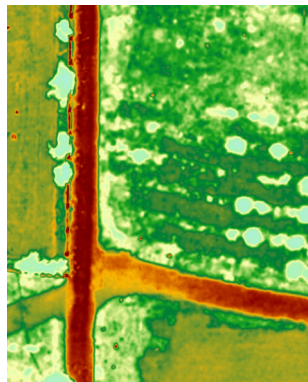
True Color



Classify by Spectral Angle Mapper



NDVI



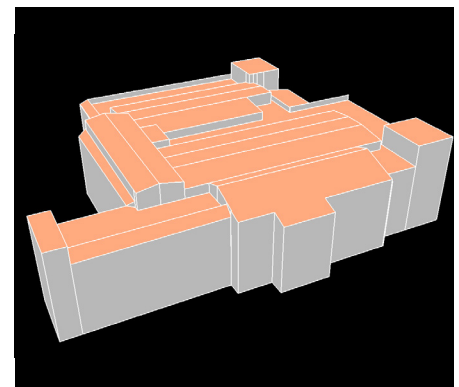
NDBI

- **Spectral Classification & Analysis** — Spectral angle classification based on spectral libraries, supporting 113 spectral indices such as NDVI and NDWI.
- **Multi-source Fusion** — Combine spectral and point cloud data for synchronized 3D spatial and physical feature analysis, strengthening decision-making.
- **Rapid Feature Extraction** — Through denoising, enhancement, classification, and index analysis, improve analysis efficiency in agriculture, forestry, ecology, and object recognition scenarios.
- **Multispectral Band Synthesis** — Automatically corrects positional deviations across bands and constructs a spatially consistent multispectral image, enabling more accurate and efficient feature interpretation and thematic analysis.

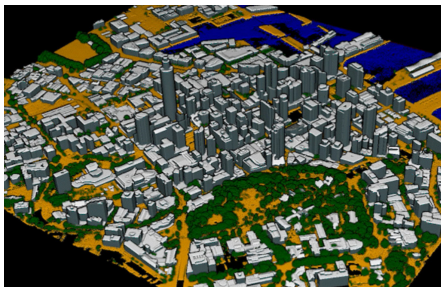
# 07 Digital Twin

LiDAR360 identifies ground, vegetation, buildings, and other feature targets from massive point cloud datasets, employing intelligent algorithms for terrain and feature scene separation, as well as instance segmentation and modeling of vegetation and building targets. It enables city-scale geographic scene and physical model reconstruction, supporting real-world 3D construction projects.

- **City-scale Building Modeling** — Generate 10,000+ LOD 2.2-level building models in 20 minutes, significantly improving large-scene modeling efficiency.
- **Diverse Texture Mapping** — Support oblique imagery, orthophotos, material textures, and custom textures, along with texture editing.
- **Automatic Attribute Calculation** — In addition to inheriting 2D footprint attributes, automatically computes 8 attribute types, such as footprint area and base elevation.
- **Deliverable-friendly Output** — Models, textures, and attributes can be managed centrally, facilitating digital twin, urban management, and engineering presentation applications.



Automatic LOD 2.2 Modeling



Large-Scale Rapid Modeling



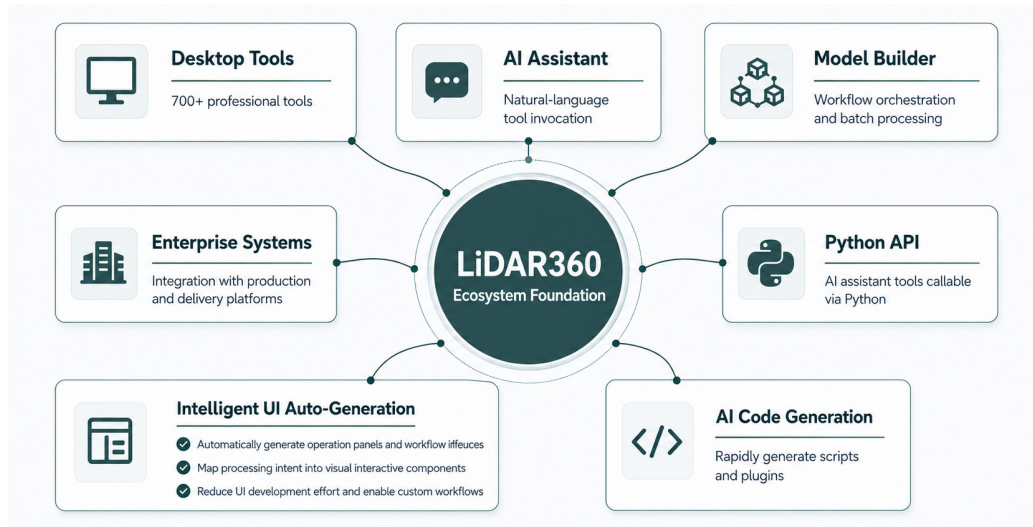
Model Texture Mapping

|    | BLDG HEIGHT | EAVE HEIGHT | BASE ELEV | ROOF DIR | ROOF AREA  | ROOF PERIMETER | FOOTPRINT AREA |
|----|-------------|-------------|-----------|----------|------------|----------------|----------------|
| 1  | 29.553      | 22.118      | -26.893   | 17.839   | 2172.66... | 214.488        | 2146.823       |
| 2  | 6.997       | 0.989       | -4.547    | 18.449   | 511.471... | 103.066        | 465.819        |
| 3  | 7.592       | 5.531       | -4.582    | 19.153   | 444.500... | 97.706         | 438.296        |
| 4  | 16.188      | 9.668       | -13.548   | 19.367   | 3177.99... | 248.167        | 2503.436       |
| 5  | 9.970       | 5.060       | 17.950    | 20.694   | 703.675... | 138.245        | 702.901        |
| 6  | 6.077       | 4.891       | 35.403    | 22.244   | 72.0405... | 31.415         | 71.499         |
| 7  | 14.179      | 3.620       | 16.291    | 45.930   | 1013.85... | 144.576        | 925.127        |
| 8  | 4.250       | 2.902       | 27.140    | 58.066   | 114.831... | 43.122         | 109.446        |
| 9  | 44.876      | 32.429      | -35.186   | 60.834   | 697.885... | 100.971        | 604.379        |
| 10 | 9.246       | 6.344       | -6.276    | 109.136  | 1354.19... | 175.665        | 1299.922       |

Model Attribute Management

# Custom Development

08



- **Seamless Tool Calling** — Software tools, AI assistant, and Model Builder form a unified capability entry point, facilitating expansion from interactive operation to automated production.
- **AI-Powered Coding** — Built-in Python editor combined with AI code generation enables script development, debugging, and batch processing extension within the software, lowering the barrier to custom development and improving script writing efficiency. Professional users can build efficient toolchains faster without leaving the platform.
- **Python API Access** — All AI assistant tools provide can also be called through Python APIs, facilitating enterprise system integration and process automation.
- **Intelligent UI Auto-generation** — Support automatic generation of operation panels and workflow interfaces, mapping data processing intent into interactive visual components in real time, significantly reducing interface development effort and enabling non-technical users to easily build custom processing workflows.
- **One-Sentence custom tool development** — Describe your needs in natural language, and the AI automatically handles code generation, UI building, and tool packaging, turning your business ideas into ready-to-use tools with zero technical barriers.



---

[www.greenvalleyintl.com](http://www.greenvalleyintl.com)   [info@greenvalleyintl.com](mailto:info@greenvalleyintl.com)

729 Heinz Avenue, Suite 9, Berkeley, CA 94710, USA

---



Welcome to scan  
the QR code for a trial.