

V9 Release Notes EN

V9.0- 9/2/2025-EN

1. Preprocessing

- a. Add UAV LiDAR accuracy quality calibration
 - i. Equipment calibration records
 - ii. Point cloud accuracy check
- b. Data Registration
 - i. Add support for more data formats, extending support to formats such as tables, spectra, and models
 - ii. Add control point target recognition
 - iii. Add automatic matching of control point pairs
- c. Add X-type target for automatic target recognition, with corresponding functions including support for 3D control points, strip adjustment, image control points, registration, etc.
- d. Optimize density quality inspection to support adding quality inspection ranges

2. Data Management

- a. Point Cloud Tools
 - i. Add point cloud attribute calculator tool to enable more feature calculations using the attributes contained in the point cloud
 - ii. Add spectral attribute assignment for point clouds
 - iii. Optimize point cloud tiling to support merging and tiling of multiple files
 - iv. Optimize polygon-based clipping to support inner ring polygon clipping
- b. Add Raster Tools
 - i. Define Raster NoData Value
 - ii. Clip Raster by Polygon
 - iii. Clip Raster by Rectangle
 - iv. Clip Raster by Circle
 - v. Extract Raster by Mask
 - vi. Extract by Attributes
 - vii. Extract Multi Values to Points
 - viii. Composite Bands
 - ix. Create Color Composite
 - x. Optimize the raster calculator to support multi-band calculation, and add range settings and calculation formulas, etc.
- c. Add Vector Tools
 - i. Clip Vector by Polygon
 - ii. Merge Vectors
 - iii. Remove Duplicate Vertices
 - iv. Attach to Raster
 - v. Split by Attributes
- d. Add Model Tools
 - i. Merge 3D Tiles
- e. Add Model Conversion
 - i. Convert LiModel to S3M
 - ii. Convert LiTin to 3D Tiles
 - iii. Convert LiTin to LandXML/J-LandXML
 - iv. Convert OBJ to 3D Tiles
 - v. Convert LiBIM to 3D Tiles
 - vi. Convert LiBIM to OSGB

- vii. Convert LiTree to OBJ
- viii. Convert LiTree to CityJSON
- ix. Convert LiTree to 3D Tiles
- x. Convert LiTree to OSGB
- xi. Convert 3D Tiles to S3M
- xii. Convert 3D Tiles to OSGB
- xiii. Convert 3D Tiles to OBJ
- xiv. Convert OBJ to 3D Tiles
- f. Add Raster Conversion
 - i. Convert TIFF to USGS DEM
 - ii. Convert TIFF to ASCII
 - iii. Convert TIFF to IMG
 - iv. Convert ASCII to TIFF
 - v. Convert USGS DEM to TIFF
 - vi. Convert IMG to TIFF
- g. Add Convert Vector to LandXML/J-LandXML
- h. Point Cloud Conversion
 - i. Optimize convert point clouds to 3D Tiles
- i. Projection and Coordinate Conversion
 - i. LiTree supports defining projection information
 - ii. Optimize reprojection to expand supported formats, adding obj, LiBIM, LiTree, and spectral data
 - iii. Expand supported formats for coordinate conversion, adding obj and LiBIM. Currently, it supports point cloud, vector, table, and model formats
 - iv. Update the projection interface and add options for the coordinate reprojection process

3. Classification

- a. Add Classify Ground by Deep Learning
- b. Add Classify Top Surface
- c. Add Classify by Mask
- d. Optimize CSF filtering effect and support parallel computing
- e. Optimize building extraction and support generating mask files
- f. Optimize road extraction and support generating mask files
- g. Custom deep learning tools can be added to the toolbox
- h. Classify Editing
 - i. Add Smart Classification function can significantly reduce the workload of manual editing.
 - ii. Add vector tools to support copying, moving, etc.
 - iii. Optimize editing experience and reduce memory usage
 - iv. Supports the use of SAM combined with images for point cloud classification of spectral data

4. Forest

- a. Add Individual Tree Crown Segmentation, supporting general scenarios and palm tree scenarios
- b. Add Trunk-based Tree Segmentation for ALS forest.
- c. Add TLS Spatial Structure Quantification
- d. TLS Seed Point Editor
 - i. Merge tree species identification, allowing marking in a single tool

- ii. Tree species marking supports selecting tree species from the tree model library
 - iii. Optimize editing user experience
- e. Support TLS forest canopy cover height range setting
- f. Tree Model Management supports 3D preview
- g. Forestry Settings in Platform Settings
 - i. ALS Forest, the tree position supports prioritizing the selection of DBH (Diameter at Breast Height) position
 - ii. Change the DBH fitting from cylinder fitting to optional cylinder fitting priority to solve the problem of fitting failure due to missing tree trunks
- h. Optimize the drawing effect of the stand analysis canvas thematic map
- i. Optimize the Auto Registration by Tree Locations
- j. Remove Tools
 - i. Remove extracting eucalyptus tree trunks tool
 - ii. Remove the tree species marking tool and merge it into the TLS seed point editing tool

5. Terrain

- a. Add Contours Sheet Join
- b. Add Breaklines Sheet Join
- c. DEM\DSM support generating formats such as IMG, USGS-DEM, and ASCII, and supports accuracy settings
- d. LiTIN expands support for the 2DTIN format of 3D Tiles, using the suffix .2DTIN.json
 - i. Support large data construction and storage
 - ii. Support large data editing
 - iii. Support conversion to other formats supported by LiTIN
 - iv. Support generating contours, DEM, etc.
- e. Section Analysis
 - i. Support cross-section generation from multi-file point cloud data
 - ii. Support exporting cross-section reports in PDF format
 - iii. Support exporting cross-sections to LandXML/J-LandXML
- f. Expand Hydrologic Analysis Tools
 - i. Fill sinks
 - ii. Flow Accumulation
 - iii. Flow direction
 - iv. Channel Network
 - v. Upgrade Flooding Analysis
- g. Optimize LiModel Editing
 - i. Add brush selection tool
 - ii. Optimize the interaction process, support multiple applications of the editing area
 - iii. Support selecting existing vector results as the editing area, supporting single selection and batch selection
 - iv. Support using maximum, average, minimum, and percentage elevation values for the elevation of the editing area, facilitating batch application
- h. Optimize LiTin Editing
 - i. Support large data editing
 - ii. Optimize support for importing breaklines from external sources

6. Mine

- a. Optimize surface reconstruction, expand support for large 3D Tiles format data
- b. Optimize mesh editing, support 3D Tiles editing

- c. Optimize the multi-period volume change analysis report, support the 3D Tiles (2D TIN) format
- d. Section Analysis
 - i. Synchronize terrain section functions
 - ii. Add multi-period tunnel cross-section deformation analysis and generate analysis reports

7. 3D Building

- a. The building attribute table supports geometric object calculation
- b. Upgrade the LiBIM version to support case-sensitive attributes
- c. Split the building vector model coloring into two tools: one based on orthophotos and the other based on image projects

8. Photo

- a. Add Texture Mapping for 3D Mesh
- b. Add a camera grouping tool, which can split the SFM calculation of large-scene image projects into multiple sub-scene image project calculations
- c. Add a tool for merging camera groups, which merges multiple sub-scenes into a single image project for fusion adjustment
- d. Optimize alignment to point clouds and provide a more robust feature calculation solution
- e. Optimize SFM efficiency by more than 30%

9. Add Spectra Analysis Module

- a. Add a toolset with 113 spectral indices
- b. Add Classify by Spectral Angle Mapper
- c. Add spectral library storage
- d. Add Show Spectral Profile
- e. Add Build Mask
- f. Add Minimum Noise Fraction
- g. Add Savitzky Golay
- h. Add Principal Component Analysis
- i. Add Wavelength Manager

10. Batch Processing/Distributed Computing

- a. Add a model builder that supports combining over 200 tools and enables model definition and command-line calling
- b. Add distributed computing for the SFM process of oblique imagery
- c. Optimize distributed logic control, support dynamic addition of computing nodes

11. Vector Editor

- a. Move the image annotation tool to the classification module as an independent tool
- b. Supports polygon fill rendering
- c. Optimize text prompt control to support hiding and size setting
- d. Supports vector extraction from spectral data using SAM

12. Platform

- a. Add X-Ray rendering effect
- b. The data snap tool is supported on all platforms, moved to the console, and supports the shortcut key F3
- c. Add skybox display for the rendering scene
- d. Add coordinate origin display
- e. Upgrade Catalog Management
 - i. Expand support for rendering, point selection, measurement, and cropping of model formats such as 3D Tiles

- ii. Expand support for rendering, point selection, measurement, and band selection of spectral formats such as dat and img
- iii. Expand the data source list and edit list
- iv. Add "Create Group" in the window list; multiple types of data can be selected and grouped together for easier movement and viewing
- v. When closing a window, the window data list can be retained for convenient re-opening
- vi. Multiple datasets can be selected in bulk and directly imported into a new window
- vii. Support wavelength setting for spectral data, identification and marking of bad bands, and wavelength import based on sensors
- viii. Support right-click information statistics for selected multi-point cloud data
- ix. Support right-click export of trajectory data in formats such as SBET.out and *.txt
- x. Support deletion of tie points in image projects for convenient recalculation
- xi. Optimize the export of treedb table data to shp/gpkg formats by exporting according to the displayed geometry
- xii. Optimize the right-click information display of data, enabling direct export of the information page
- f. Upgrade project file saving to restore the scene state and support scene snapshots for easy project file retrieval
- g. Upgrade data clipping, support 3D Tiles format data
- h. Optimize point cloud rendering strategy
- i. Optimize the scene display of contour lines with elevation annotation points
- j. Optimize the rendering efficiency of point clouds and models and reduce memory usage
- k. Attribute Table Operations
 - i. Supports batch modification and deletion operations for attribute tables (tables, vectors, and models)
 - ii. Adds tools for inverse selection, displaying only selected rows, and deleting selected rows
 - iii. For export, only supports the export of selected data
- l. Support batch modification and deletion of attribute tables (tables, vectors, and models)
- m. Upgrade Display Mode
 - i. The point cloud display settings interface supports point size setting
 - ii. The model display settings interface supports transparency setting
 - iii. The vector display settings interface supports point size, line width, and transparency settings
 - iv. The table display settings interface supports point size setting
 - v. Support displaying raster mask files by category labels
 - vi. Support setting the size of image function connection points

13. Add New AI Intelligent Q&A Assistant

14. Data publish and share

- a. Support converting models to 3D Tiles for large data display

V9.0.1 - 11/28/2025-EN

1. Data Management

- a. Fixed coordinate shift issue in the "Convert 3D Tiles to OBJ" conversion tool.
- b. Fixed the failure of naming outputs using vector data attributes in the "Clip by Polygon" tool.
- c. Fixed the failure of the "ICP Point Cloud Alignment" tool within the registration tools.

2. Classification

- a. Fixed an issue where the progress bar in the "Smart Classification" tool during classification editing would get stuck at 50% when GPU memory exceeded 8GB.

3. Terrain

- a. Fixed a crash issue in the "DEM Accuracy Assessment" tool.
- b. Fixed an issue where the "Contour Consistency Check" tool failed to execute properly.
- c. Fix the problem of too few road section extraction points in the "Section Analysis" function

4. Forestry

- a. Fixed abnormal display of imported CSV table data after executing the One-click ALS forestry workflow.
- b. Fixed an issue where the single-tree attribute table on the directory tree did not update directly after executing the "Tree Biomass Estimation" tool.

5. Imagery

- a. Fixed failures in DSM/DOM generation and unclassified point clouds in the imagery processing workflow.
- b. Fixed the issue where a quality report could not be exported after image alignment (SFM).
- c. Fixed an incorrect target projection error when selecting different projections during image project creation.
- d. Fixed the loss of feature matching information after updating image alignment.

6. Model Builder

- a. Fixed processing failure when using the folder control to connect to the "Composite Bands" tool.
- b. Fixed the issue where the input file path was not displayed after connecting the "Convert ASCII to TIFF" pre-processing function.
- c. Fixed the issue of no default output path after importing data in the "REM" function.
- d. Fixed the issue where the "Clip Raster by Rectangle" tool did not support input of negative coordinates.
- e. Fixed execution failure of the "Surface Reconstruction" workflow when run directly from the model list.
- f. Fixed the failure of dragging newly created and saved vector files into the canvas.

7. Distributed Computing

- a. Fixed the issue where some data blocks failed to execute when processing multiple datasets with a "Model Builder" model.

8. Platform

- a. Added support for NVIDIA's newly released "RTX 50 Series" graphics cards (Blackwell architecture)[Please note to update the graphics card driver to the latest version before use].
- b. Optimized the layout display of the "Volume Measurement Report".
- c. Achieved compatibility with Windows Server 2022.
- d. Expanded tutorial videos for V9.0 on the start page.
- e. Fixed the issue where tutorial videos on the Start Page could not be viewed (International version).

9. Licensing

- a. "TLS Forestry" and "ALS Forestry" modules now support individual licensing.

V9.0.3- 12/30/2025-EN

1. Data Management

- a. Fixed an issue where the projection of the original file was altered after using the Reproject function.

2. Classification

- a. Fixed an unresponsive issue when using the SAM classification tool within the Classification Editor to process large image datasets.

3. Forestry

- a. Fixed an issue where individual trees could not be deleted in the Individual Tree Editor.
- b. Fixed a crash that occurred when closing the preview window in the Tree Model Manager.
- c. Fixed a flickering issue in the profile window of the Individual Tree Editor.
- d. Fixed the misclassification of adjacent trunks in dense forest scenarios during Trunk-based Tree Segmentation.

4. Mine

- a. Fixed an issue where the translation (pan) operation could not be selected in the Triangulation Modeling (Poisson) preview window.

5. Platform

- a. Fixed inconsistent display issues when adding certain parameter-less functions in the Batch Processing module.
- b. Fixed a software crash that occurred when enabling the Profile View after the X-Ray view was already active.

V9.1.0- 01/30/2026-EN

1. Preprocessing

- a. Accuracy Check: For LiGeo projects upgraded with new calibration files, this feature can now auto-populate relevant data.
- b. Fixed an issue in the "Registration" Tool where running ICP multiple times would cause an error.
- c. Fixed an issue in the "Registration" Tool where coordinate selection during manual point-pair picking was inaccurate.

2. Data Management

- a. Coordinate System: Expanded support to include Russian coordinate systems. Requires Russian authorization control.
- b. The "Convert OBJ to 3D Tiles" function now supports texture compression.

3. Terrain

- a. Section Analysis
 - i. Added support for adding left and right longitudinal profiles.
 - ii. Added support for extracting point cloud data based on cross-section intervals.
- b. Fixed an issue where the "Generate TIN" tool would fail to run.

4. Forestry

- a. Added "Extract Girth at Breast Height" and "Extract Crown Contour" tools within the Seed Point Editor, complete with reporting capabilities.
- b. Added "Calculate Forest Metrics by Polygon" and "Calculate Forest Metrics by Forest Stands" functions.(TLS)
- c. Optimized the "Individual Tree Statistics" tool, improving its efficiency by 50%.
- d. Optimized the results of "Individual Tree Crown Segmentation".
- e. Fixed a filtering error by tree height within the Individual Tree Point Cloud Editor.
- f. Fixed an occasional issue where adding individual tree attributes would fail.

5. Photo

- a. Optimized the "New Project" function. When creating imagery, users can now select the primary band.

6. Spectrum

- a. Added a new "Extract Spectral Subset" function.

7. Distributed Computing

- a. Added support for automatic detection of compute nodes.
- b. Fixed a crash issue that occurred when running multiple classification tools.

8. Platform

- a. Added a new "Bookmarks" function.
- b. Optimized the "Volume Measurement" function by adding calculations for pile density, weight, void volume, and surface area.
- c. OBJ model data now supports both polygon rendering and triangle rendering.
- d. Optimized tree attribute rendering to support the rendering of all tree attributes.

e. The “smart classification” large model is now bundled with the software, eliminating the need for separate download and replacement.

f. The AI Assistant now supports being hidden by the "Display" menu.

g. Fixed an issue in the "Density Measurement" tool where density values were calculated incorrectly when using the "Arbitrary Area" method.

9. Other

a. Updated all Chinese and English tutorials for Version 9.0.

b. Added multi-language support: new support for Traditional Chinese, Turkish, Italian, and Polish. Updated support for Russian; Japanese; Korean; German; Spanish; and French.