

V9.0 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