



V5.2.1.0 -2021.12.1

1. Fix the "show field" crash bug in the right-click menu of vector files.
2. Fix the bug that the viewer status is incorrect in some cases after profile editing.

V5.2.0.0 -30/11/2021

1. Breakline

- 1.1 Point cloud profile editor supports breakline drawing
- 1.2 Improve LiTIN editor breakline drawing
- 1.3 Support adding breaklines to DEM and contour lines

2. Add extract water area tool

3. Support point clouds in PCD format

4. Section Analysis

- 4.1 Support create section by adding model data
- 4.2 Support adding section at any position
- 4.3 Optimize create section by point cloud and fix the missing section caused by the missing point cloud
- 4.4 Optimize export of section to meet production requirements

5. Optimize projection and coordinate conversion, add support for storage of user-defined conversion models, parameters can be created and applied directly

6. The measurement tool supports unit setting

7. Optimize the efficiency of the control point report function with an average increase of 40%

8. Generate CHM function to support big data processing

9. Strip alignment supports SBET format trajectory data

10. Contour function supports class selection

11. Roaming tool supports pause during roaming

12. Add trial application on start page

13. Point cloud data GPS time conversion supports selecting date for conversion



14. Mutual conversion between shp and kml supports geographic coordinate system
15. Subdivision tool supports buffer setting
16. Support report custom settings
17. Optimize the bit rate of the screen recording tool to provide a default value based on the system resolution

V5.1.4.0 -02/11/2021

1. Updated Spanish translation;
2. Fixed the bug that the terrain change detection report resource file path is incorrect;
3. Fixed the bug that the contour line generation function does not include projection information when batch processing;
4. When merging data, if the RGB range is inconsistent, it will be unified to the 65535 range.
5. Support export contour to dxf (2004) format.

V5.1.3.0 -16/09/2021

1. Added Spanish;
2. Fixed the problem of CHM segmentation crash on some computers;
3. Modify the problem that the reprojection cannot be successfully invoked;

V5.1.2.0 -09/09/2021

1. Fixed the problem that the CSV result of the terrain change detection function is not correct;
2. Modify the manual translation and rotation function to import and export the matrix as a world coordinate matrix, add rotation center display;

V5.1.1.0 -02/09/2021

Fix the trajectory adjustment failure problem.

V5.1.0.0 – 24/08/2021

- **New Features :**

- * Add mine module
 - Extract tunnel points
 - Compute normal vectors
 - Triangulation modeling



- Triangulation modeling (poission)

- * Vector editor

- Support 3D vector drawing

- Add tools for shaping elements

- Add split polygon tool

- Add semi-automatic extraction of building outlines

- Add semi-automatic extraction of road shoulders

- Add intersection drawing line

- Add section auxiliary drawing

- Add associated window to assist drawing

- Add selection file editing

- Add temporary draft editing

- Support 3D capture

- Support 3D selection

- Support shortcut key setting

- Support rollback and redo

- * Add the hover mode, support the use of hover mode under measurement point

selection

- * Add cutting by straight line

- * Add dividing by polygon

- **Enhancement**:

- * Profile editing classification

- Select tool support category settings, to be individually set and recorded

- * Select cutting to support cutting of the triangulation model

- * Tree segmentation point cloud editing supports directory tree control display and

hidden

- * Cut by polygon, support inner and outer cutting options

- * Manual translation and rotation support X\Y\Z component progress control

- * Directory tree



- Support right-click to open the folder
- Vector data supports dxf format

V5.0.13.0- 11/8/ 2021

1. Added support for GPS time conversion of trajectory data.
2. Optimize the GPS time conversion method of point cloud data.
3. Fix the bug that failed to determine week, second, and standard time of GPS time of point cloud data.
4. Fix the bug that failed to read projection information of LAS data.
5. Fix the bug of reading failure caused by blank lines in the ASCII format of Ply data.
6. Fix the problem that failed to activate the software online under certain computer environments.

V5.0.12.0 -14/7/ 2021

1. Fixed the issue that the contour line was crossed because of the large missing ground points
2. The national standard code of contour line type is written in contour line generation from point cloud.

V5.0.11.0-7/7/ 2021

1. Fixed errors in the operating environment of ALS forest regression analysis.
2. Fixed errors of incorrect echo reading of las file.

V5.0.10.0 – 1/7/2021

1. Fix the crash of ToolBox search function.
2. Fix software crash caused by reading wrong PLY file.
3. Adjustment of the dxf file exported by the section analysis.

V5.0.9.0-17/6/ 2021

1. Fix the problematic default parameters of the "Remove Outliers" tool.
2. Add the options of generating cross-section profiles at the corner point and the endpoint.
3. Fix the point cloud misalignment problem caused by the loss of accuracy in reading the dxf file.



4. Fix the display problem when filtering seed points in ALS Seed Point Editor.

5. Fix the parameter setting window display problem when editing the profile.

V5.0.8.0 -2/6/ 2021

Modify the projection library environment issues and License expiration issues

v5.0.7 – 28/5/2021

Bugs Fixed:

Fixed the bug that CRS reprojection custom geoid model failed

v5.0.6 – 24/5/2021

Bugs Fixed:

Optimize the efficiency of CHM segmentation

Fixed the bug that the header of POS and the seed point files was not automatically recognized when being opened

Fixed the bug in TLS seed point editor that seed points were not displayed in the profile view

v5.0.5 – 6/5/2021

Bugs Fixed:

Improve the calculation method of volume measurement, and add three-point fitting plane

Fixed the bug of section analysis

v5.0.4 – 20/4/2021

Bugs Fixed:

Fixed the bug of exporting LiTower file error

Fixed the bug of getting the most recently used projection information

Fixed the bug that some functions cannot change the output path

v5.0.3 – 14/4/2021

Bugs Fixed:

The trajectory adjustment function supports user-defined pos attribute field

Fixed the bug of crashing when exporting to LAS 1.4

Fixed the bug in the coordinate convert tool

Fixed the bug that the point cloud is not displayed in ALS and TLS seed point editor



v5.0.2 – 8/4/2021

Bugs Fixed:

Improve the performance of point classification in the profile tool

Improve the Geological module to avoid crashing

v5.0.1 – 1/4/2021

Bugs Fixed:

Fixed the crash bug of user defined coordinate projection

Fixed the bug of add and merge point cloud data when loading large amounts of data

Fixed the bug that the pos file information cannot be viewed

Fixed the crash bug of display by additional attributes

Fixed the bug that the seed point cannot be delete in TLS Seed Point Editor

v5.0 -15/03/2021

New Features

Add geology module

Add flow direction funtion

Add flow accumulation function

Add fill function

Add slope/aspect query function

Add data IO API for software development

Support creating LiData point cloud file

Support reading LiData point cloud file

Support modifying LiData point cloud file

Add powerline module

Add deep learning classification of powerline function

Add danger point detection function

Add customization of the danger point detection

Support danger point visualization

Add point cloud smoothing function

Add trunk extraction function



Add elevation annotation points generation based on contour lines function

Add new format transform tools

shp to kml

kml to shp

Support background grid display in viewers

Support extracting point cloud by Tree ID

Support clear individual tree record and segmentation by Tree ID

Add calculating forest metrics

Enhancement

UI

Brand new Ribbon user interface style

Support free dragging of child windows

Support customization of UI pages

Supports automatic hiding of docked window

Support one-click industry application processing

Strip alignment

Add strip adjustment function

Support clipping trajectory by quality and selecting with brush on trajectory

Directory tree

More comprehensive point cloud information display

Support selecting version of LAS file when right-clicking to export

Support right-clicking to add additional attributes of point cloud

Support right-clicking to rename files

Support setting the point size of table data

Expand the projection library to support more projections and geoid

Optimize PCV efficiency and support more point cloud calculations for PCV

Optimize ALS automatic individual tree segmentation

Improve point cloud attribute extension of individual tree, slope and altitude information is added.



- Optimize individual tree seed point editing
- Improve method of profile selecting
- Improve method of adding and deleting seed points
- Add viewpoint position and direction for easy positioning of trees
- Real-time update of attribute table corresponding to seed point modification
- Support undo and redo
- Support setting profile view point distance
- Optimize individual tree point cloud editing
- Improve method of profile selecting
- Support creating individual tree by specifying a chosen tree
- Support setting profile view point distance
- Automatically save configuration
- Optimized profile point cloud editing
- Improve the efficiency of block editing by more than 50%
- Support mouse position tracking in profile window
- Support data exporting
- Add section comparing analysis function in section analysis
- Upgrade LiModel format to solve the problem of coordinate accuracy loss
- Reduce the GPU usage rate of point cloud display by 20%
- Support multiple calls to the same function in batch processing
- Fix the bug when using cross selection and clipping tool simultaneously

v4.1.5 – 18/11/2020

Bugs Fixed:

- Fixed a bug in calculating forest metrics by polygon
- Fixed the bug of the reprojection tool that the reprojection process fails when the value of dZ is customized
- Fixed the bug of the TLS forestry module that manually added seed points were not participated in the individual tree segmentation process

v4.1.4 – 3/11/2020



Bugs Fixed:

Fixed the bug of Control Point Report

Fixed the error in data display control of directory tree

Fixed the bug in exporting section view in PDF format

Fixed the bug of incorrect display of MultiPolygon vector files

Fixed the bug that profiles cannot be drawn in the ALS seed point editing mode

Fixed the bug that the from data type cannot be chosen in filtering tool under the profile window

Revise the tool of calculating forest metrics by grid by remove the restrictions on the size of X Size and Y Size

Fixed other bugs

v4.1.3 – 12/8/2020

Bugs Fixed:

Fixed the bug of using all points for Volume Measurement

Support multi-window mode in the Volume Measurement tool

v4.1.2 – 3/8/2020

Bugs Fixed:

Fixed the bug that the attribute of point source ID is lost after converting to .LAS from .LiData

Fixed the bug of volume measurement

Fixed the bug of without displaying data in the drop-list in the Convert LiModel to TIFF

Fixed the bug of generating forest metrics, maximum and minimum file name incorrectly in TIFF

v4.1.1 – 23/7/2020

Bugs Fixed:

Fixed the bug of noise filter

Fixed the bug of loss of scan angle accuracy when converting between LiData V1.9 and V2.0

Fixed the bug of loss of projection information when converting from LAS point cloud data



in the geographic coordinate to LiData

Fixed the bug of loss of additional attributes after elevation adjustment

v4.1.0 – 8/6/2020

New Features:

Add three-point angle measurement

Add registration of UAV and backpack forestry point cloud data

Add individual tree attribute information expansion

Add detection of forest structure changes

Add DBH measurement

Help menu

Add software usage problems and demand feedback channel

Add FAQ, quick start, official website link, etc.

Enhancements:

Optimize the efficiency of loading multiple files

Improve color rendering of point cloud attributes

Additional attribute management

Support deleting

Support component combination rendering

Improve profile editing and classifying

Support grid scale display in profile window

Support directory tree to manage point cloud tiles in memory

Support import boundary of measurement area with SHP file in volume measurement

Improve the efficiency of filtering function and the density of ground points

Support directory tree to manage point cloud tiles in memory in individual tree point cloud editing function

Support combined calculation in forestry metrics

Support extract point cloud by tree ID, support export the extracted point cloud to LAS and LiData format

Support attribute filtering in ALS seed point editing



Improve LiTIN editing, support 3D view editing, and support the setting of starting height of broken line

Add tunnel cross-section in cross-section analysis

Window layout supports multiple layout modes

Newly designed UI icons

v4.0.9 – 22/6/2020

Bugs Fixed:

Fixed the bug of software crashing when performing CHM segmentation without projection

Fixed the bug of re-projection failure

v4.0.8 – 15/5/2020

Bugs Fixed:

Fixed the bug of generating DSM and contour in batch processing mode

Fixed the bug of displaying control points

Fixed the bug of naming problem for imported DXF files in the function of section analysis

v4.0.7 – 7/5/2020

Bugs Fixed:

Fixed the bug of reading ASCII files

Fixed the bug of reprojecting files with geographical coordinates

v4.0.6 – 28/4/2020

Bugs Fixed:

Fixed the bug of Remove Outliers crashing

Fixed the bug of Classify by Height Above Ground

v4.0.5 – 22/4/2020

Bugs Fixed:

Fixed the bug of failure of Regression Analysis

Fixed the bug of incorrect conversion from .LAS to .LiData in batch processing mode

v4.0.4 – 9/4/2020

Enhancements:

Improve the function of Statistics of Individual Tree Attributes



Bugs Fixed:

Fixed the bug of Regression Analysis crashing

Fixed the bug of class update in the memory mode

Fixed the bug of Forest Metrics in Batch Process mode

v4.0.3 – 27/3/2020

Bugs Fixed:

Fixed the bug of Point Cloud Segmentation from Seed Points in TLS Forest module

Fixed the bug of data missing when opening files in PLY format

v4.0.2 – 18/3/2020

Bugs Fixed:

Fixed the crash bugs in the function of Batch Processing including Normalize by DEM, Remove Outliers and Noise Filter

Fixed the bug of Leaf Area Index in ALS Forest module

v4.0.1 – 5/3/2020

Enhancements:

Added the function of Classify Closeby Points in batch processing

Fixed the bug of Individual Tree Editor crashing

Fixed the bug of Classify Low Points crashing

Fixed the bug of Batch Fitting DBH by Classification

Fixed other minor bugs

v4.0 – 30/12/2019

New Features:

Add denormalization tool

Add classify close points tool

Add manual rotation and translation tool

Add convert ASCII to BLH tool

Add individual tree editor tool. Support to create, merge, and delete tree

Add statistics individual tree attributes tool

Add TLS leaf area index tool



Add ALS forestry metrics calculation in give area tools

Add deviation analysis tool for two data of the same area collected in different times.

Add change detection tool

Add transform GPS time tool. Support to transform GPS time between GPS coordinate time and GPS week second

Enhancements:

Support online update checking and installing

Upgrade the version of LiData to 2.0. Support all the features of LAS 1.4 (except the waveform information) and support the additional attribute of the point cloud file

Support the color rendering for all the attributes of point cloud data

Support the rotation of 2D view

Support fast mode and precise mode in volume calculation and providing the information of the measuring area

Support zooming to the layer by double-clicking the file in the directory tree

Support recovering the data association in the same path for the project file path

Support EDL effect in render to file and save to video tools

Support generating automatic alignment report and clearing the data alignment information

Improve the profile editor. Support customizing hot keys. Solve the problem of profile buffer settings

Improve the EDL effects in orthogonal projection

Improve the cross selection tool. Support data clipping when being used with selection tool, or 2D drawing when being used with vector editor.

Improve data interaction experience:

Improve browsing fluency

Support automatically picking the rotation center

Improve point picking experience

Support measuring components in the measurement tools

Support measuring points number in the density measurement tool

Support recording the original Z value in normalization tool



Improve the data formats supported

Support E57 point cloud format

Support additional attributes for LAS, PLY, and ASCII format point cloud files

Support choosing the version of las file when exporting point cloud in las format (las 1.2, las 1.3, and las 1.4)

Support converting version of LiData (LiData 1.9 and LiData 2.0)

Support converting point cloud in Geographic Coordinate System to projected LiData

Improve the calculation method of individual tree crown volume

Improve the efficiency of the calculation of forestry metrics

v3.2 – 6/6/2019

New Features:

Add brightness settings tool

Add ICP registration function

Support exporting TIN in DXF format

Add raster statistics tool

Enhancements:

Optimize EDL display effect in profile editing mode

Optimize the ground point filter

Optimize the efficiency and effect of “Classify Buildings” tool

Support rectangular/circular interactive area selection tool in clipping function

Change band calculator to raster calculator; support custom formula

Support hot keys and right-clicking menu in ALS individual tree segmentation editing tool

Support position uncertainty optimization mode in regression analysis

Support corresponding multiple point cloud files to one trajectory in “cut point cloud based on trajectory” tool

Profile editing and classifying:

Add the lasso selection tool

Add the plane detection tool

Support clearing the triangular network already been built



Support setting the size of brush selection tool

Support setting the step length of the profile translation

Optimize the efficiency of triangular network generating

TLS individual tree segmentation editing:

Support ignoring the Z-values of the input seed file

Support right-clicking menu and hot keys

Support hot keys in single tree attributes measuring

Support display of LiBackpack trajectory file

Manual registration:

Support inputting/outputting coordinate transformation matrix

Support the preview of transformation

Raster and table data:

Support color settings

Support highlighting objects when they are selected

Support centralizing the objects when they are double-clicked

Bug Fixed:

Fix the bug that the order of the vector and table data's attribute table is wrong.

Fix the bug that only the displayed data will be used in "batch extraction DBH" tool

Fix the bug that profile selection will disappear in the main window if users edit point cloud in profile window

v3.1 – 31/12/2018

New Features:

Profile edit and classify:

Support block editing and classifying

Support multiple windows selecting and classifying

Add the brush selecting tool

Block editing mode supports to undo/redo

Add the automatic timing/automatic saving function

Add multiple selecting area filter classification/classification setting tools



Support hot key switch function

Block editing mode supports RAM usage warning

Boundary extraction adds convex hull and concave hull mode

Add check for updates function

Enhancements:

Improve the efficiency of LiData generating

Support to recalculate the histogram of point cloud intensity and elevation

Move the rectify to reprojection and transformation module

Multiple point selecting tool supports to customize the extended attributes

Support projected coordinate systems in JGD2011 coordinate system

Support POS files in more formats. Now support POS file with projected coordinates.

Support converting length units for las and LiData files.

v3.0.1 – 10/12/2018

New Features:

TLS data editing tools:

Add circle selection tool

Add profile translation tool

Add DBH inspector tool

Enhancements:

Optimize the color rendering for individual tree segmentation.

Optimize the segmentation of the vector boundary of crown in CHM individual tree segmentation.

Support the .shp file in section tool.

Bugs Fixed:

Fix the bugs already known

v3.0 – 16/10/2018

New Features:

Save users' parameter setting as default, prompt the information about each parameter when putting mouse on it



Support the spike-free TIN generation algorithm

Add the random forest regression model

Add the regression predict analyze

Add the Projections and Transformations toolset:

Seven parameters solution

Four parameters solution

Vertical datum transformation

Add noise classification function

Support to convert raster data to LiData

Enhancements:

Improve the ground point filtering algorithm

Improve the accuracy and efficiency of the TLS individual tree segmentation tool

Upgrade the LiTIN format to support saving the corresponding LiDAR point classes in LiTIN data and display LiTIN data by classes

Improve the editing and flattening TIN data in LiTIN format

Tile by range supports buffer setting and vector exporting

Support subdivisions of Graticules

Support to generate multiple files when performing polygon clipping

Support to select RGB range when convert data to las format

v2.2 – 20/06/2018

New Features:

Multi-threaded batch processing support

Measurement of individual tree attributes (total height, crown base height, stem straightness, diameter at breast height (DBH), etc.) from TLS data

Enhancements:

Improved regression analysis which allows for the importation of independent variables from external sources

Output elevation and intensity variables as .tif formatted files

Individual tree segmentation from a selected point cloud class



Improved TLS data editing tools that allow users to (1) batch process data to extract DBH measurements and (2) fit DBHs to point clouds selected in the profile view window

Add crown diameters, crown areas, and crown volumes to the outputs of the TLS individual tree segmentation tool

Functionality added to the Section Analysis Tool in the Terrain Module allowing users to now: (1) analyze .dxf formatted files, (2) import more than one file at a time and draw multiple section lines. (3) define a step value to simplify sections. (4) export multiple section files

Output contour feature as 2D polylines (.shp)

Edit for vector dataset attributes

Bugs Fixed:

Tree heights now updated for tree filtering after tree segmentation tool has been run

Projection information of las data can now be read

v2.1.2 – 24/04/2018

Enhancements:

Improved batch extraction function for DBH (Diameter at Breast Height)

LiData upgrade

30-day trial for power line module

Bug Fixed:

Strip alignment function

v2.1.1 – 08/04/2018

Enhancements:

Supports LAZ/LAS 1.4 file formats

Recognize intensity information with ply data

v2.1 – 05/02/2018

New Features:

Automatic calculation of flight strips matching parameters

Median ground point clouds classification

Supervised classification based on machine learning



Support to revise ground point filtering results of a defined region

Support cross section analysis

Support vector editing

Support selected region extends from both end in profile viewer

Support point cloud partitioning based on the number of points

Support to generate TIF images with projection information

Enhancements:

Improved DEM/DSM interpolation algorithm

Improved the efficiency of generating contour lines

Improved the efficiency of individual tree segmentation algorithm(individual tree segmentation from point cloud and individual tree segmentation based on seed point)

Supports richer terrain product formats, including a new ASC format for raster data and a new DXF format for the contour line

Bugs Fixed:

De-redundant function

Multipoint selection

Classification by attribute

v2.0 – 30/10/2017

New Features:

New License Key: The software could be activated by month or by module

Forest Module (divided to ALS module and TLS module):

ALS Module:

Seeds generation algorithm: generate segmentation seed layer based on CHM, Point Cloud Segmentation and Layer Stacking

Seeds edition: add/delete seeds,select seeds and segment individual tree based on seeds

Batch-processed segmentation based on input seed layer

TLS Module:

Ground Classification using TLS data

Batch-processed segmentation based on input seed layer



Calculate DBH of tree

Generate and edit segmentation seed layer

Classification Module:

Improve performance of ground points filter algorithm

Classification for key feature points. By identifying the key surface points, this allows the down-sampling of relatively flat areas thus improving processing efficiency without sacrificing quality

More user input parameters and options

[Power Line Module:](#)

Create vector output for power line and tower classifications

Real-time measurement of the distances from any given point to the closest power line and tower

Set point cloud display point size for individual layers

Automatically identify point cloud center point and set it as rotation center

Improved the visual effects of TIN

Display shapefile layer attribute table

Identify and locate the corresponding individual tree in the viewer by double-clicking a row in the segmentation result list table

Cross selection tool supports more accurate adjustment of the boundingbox

Display parameter in LOG viewer. The LOG file still stays at system's TEMP folder

Support information collection when the software crashes. You can send crash information in the pop up interface to the mailbox.

The cut results for multiple data sources can be saved separately or be merged into a file

[v1.5 – 14/07/2017](#)

[New Features:](#)

Added power line module. The main functions include marking tower position, cutting the point cloud data based on the tower position, automatic classification of power line and tower, dangerous points detection and report generation

Added selection toolbar. It includes polygon selection, rectangle selection, sphere selection,



in cut, out cut, save cut and cancel selection

Added editing point cloud classification with real-time TIN

Support to merge multiple files into one

Support undo to profile editing and selection function by Ctrl+Z

Enhancements:

CHM segmentation algorithm improvement. Users can adjust more parameters and generate the shape file of tree boundary

Add the residual report to the registration function. Users can choose the points for coordinate transformation

Cross selection result can be export

The parameters setting for batch processing for multiple files and multiple functions can be imported and exported

Improved profile editing efficiency

Users can choose whether to generate minor, basic and major contour when using “point cloud to contour” and “TIN to contour” functions

Add seven parameters transformation for reprojection function

The results of Clip by Circle and Clip by Rectangle can be exported as one file, or save as individual files according to the extent of circle or rectangle

The real-time coordinates in the status bar are more accurate

Improved user experience of navigating

v1.4 – 31/05/2017

New Features:

Added “generate TIN”, “TIN edit”, “TIN to Contour”, “TIN to DEM” functions

Added Grid Volume Statistics function

Added “Camera Roam” and “Save to Video functions”

Fix the bug for memory leak when loading .ply data

v1.3 – 17/04/2017

New Features:

PLY data import and export added to I/O module



Elevation difference, overlap and density quality reports added to strip adjustment module

Add “Subsampling based on octree” and “point cloud convert to DXF” to data management module

Power line classification

Support for mix and glass coloring modes in rendering

Batch process for multi-files and multi-functions

Geometric correction (support point cloud registration based on points or sphere targets)

Enhancements:

Speed improvements for contour generation based on point cloud

Users can set the properties of minor, basic and major contours for “point cloud to contour”.

The elevation attributes can be read

Show the boundary of concave polygon for area measurements

The resolution of surface model is not limited to 0.5m

Bugs Fixed:

Fix the bug of file opening error when there is an invalid file in multiple .csv files

Fix the bug of window flash caused by EDL effect in windows 10

Bug fixed for stepwise regression

Bug fixed for software crash caused by opening old version of LiData

Bug fixed for software crash when opening the point cloud with unstandardized projection

Lite – 04/02/2017

Free version of LiDAR360, main functions including data visualization and grid statistics

v1.1 – 22/12/2016

New Features:

Software platform update: 2D&3D integration, multiple window linkage, rolling screen, display order changed by drag, cross selection,etc

Strip quality check function

Generate contour lines based on point cloud

Chinese software version

Bug fixed for raster image subdivision and LiModel with texture



GreenValley International

v1.0 – 11/10/2016

First version release of LiDAR360