



LiDAR360 MLS

Point Cloud Feature Intelligent Extraction and Analysis Software

V7.1.0-2023.12.21

- Added point cloud brightness contrast setting function
- Added screenshot position setting
- Added project organization functionality
- Added import point layers from tables
- Added image file update functionality.
- Added data transformation functionality.
- Added detection and correction for lateral jumps in trajectories
- Added railway detection feature.
- Added functionality to add XYZ to the attribute table.
- Added the ability to export point layers in CSV format.
- Added layer styling with support for styling based on attributes.
- Added functionality for individual tree orientation measurement.
- Added functionality for exporting individual tree reports.
- Optimized volume measurement algorithm, supporting category filtering and calculation based on selected vectors.
- Fixed the issue of not being able to copy when exporting to DXF.
- Optimized software interface, distinguishing between Chinese and English prompts.
- Optimized feature reports, differentiating between Chinese and English reports.
- Fixed the issue of updating imagery data in aerial strip stitching
- Optimized control point correction function, supporting tie points on RGB information
- Optimized point cloud coloring algorithm.



- Optimized functionality for extracting linear features.
- Optimized operations for functions like line-to-point conversion, point-to-line conversion, and surface construction.
- Enhanced interactive operations for functions such as move, parallel copy, etc.
- Expanded the line-to-point conversion function to support converting all nodes of a line vector to a point layer.
- Optimized the algorithm and process for individual tree segmentation.
- Enhanced the functionality for creating thematic maps in ecological landscape analysis, now supporting the independent generation of thematic maps for multiple files.
- Fixed other bugs in the software

V7.0.0-2023.11.04

****Software version upgraded to 7.X****

➤ Platform

- Added point cloud data format batch conversion
- Added configurable project templates
- Added export functionality for geojson data format
- Added orthophoto window, supporting display, measurement, and mapping of orthophotos.
- Added multi-window display modes for point cloud data based on different attributes.
- Added Additional attributes for trajectories.
- Added a tool for selecting within surfaces.
- Added volume measurement reporting.
- Added volume measurement functionality for two phases.



- Added point cloud reprocessing functionality.
- Added functionality for Additional operations on point cloud attributes.
- Added Point Cloud Tool Module Added SOR filtering.
 - Added noise filtering.
 - Added point cloud resampling functionality.
 - Added point cloud merging functionality.
 - Added functionality to normalize based on ground points.
 - Added de-normalization functionality.
 - Added point cloud normal calculation functionality.
 - Added GPS time conversion functionality.
 - Added projection definition functionality.
 - Added coordinate transformation functionality.
 - Added functionality to extract based on Additional attributes.
- Preprocessing
 - Added colorization functionality for mobile laser scanning point clouds.
- Point Cloud Classification and Extraction
 - Added classification pre-training models for indoor, outdoor, underground parking garagescene point cloud data obtained by SLAM device.
 - Added custom deep learning classification functionality.
 - Added plane detection
 - Added cylinder detection
 - Added classify by cover
 - Added region growing functionality.
- Feature Extraction
 - Supported automatic extraction of all types of road markings
 - Supported merge to lane
 - Added Pole Seed Point Transformation Functionality.
 - Added Pole Seed Point Update Functionality.
 - Added Pole Seed Point Editing Functionality.



- Added individual segmentation of cars and buildings functionality.
- Vector Editing
 - Added image (panoramic, planar, orthophoto) based vector drawing and editing.
 - Added radius circle and diameter circle drawing function.
 - Added Bezier and B-spline curve drawing modes.
 - Added tracking drawing mode.
 - Added point-to-line conversion functionality.
 - Added line-to-point conversion functionality.
 - Added polygon-to-line conversion functionality.
 - Added line-to-polygon conversion functionality.
 - Added layer interrupt layer function
 - Added construction surface function
 - Added multi-part to single-part feature
 - Added topological edge editing
 - Added auxiliary line mode .
 - Added field calculator.
 - Added object photo database storage .
 - Added attribute quality check tool.
 - Added geometry quality check tool.
- Road Analysis
 - Added custom clearance analysis.
 - Added intersecting lines clearance analysis .
 - Added bridge height limit analysis and analysis report.
 - Added urban power distribution line analysis and analysis report .
 - Added road damage detection.
 - Added pavement condition index(PCI) calculation and report generation.
 - Added longitudinal section analysis.
 - Added model key point extraction.



- Added road TIN generation.
- Added vehicle collision simulation analysis .
- Added Urban Forestry Module
 - Added seed point transformation functionality.
 - Added seed point update functionality.
 - Added seed point editing functionality.
 - Added tree height and diameter calculation based on seed points functionality.
 - Added measurement of urban tree parameters.
 - Added point cloud extraction based on TreeID.
 - Added measurement of parameters including DBH, Height, Crown Width, Crown Length, Crown Diameter, Crown Diameter SN, Crown Diameter EW ,CBH, Angle, Area, etc.
 - Added ecological landscape thematic map , supporting green viewing ratio(GVR), green volume, sky view factor(SVF), etc
 - Added generation of ecological landscape reports.
 - Added ecological landscape simulation analysis functionality.
- Expanded orthophoto export based on intensity, height and RGB attributes
- Optimized image and vector linkage setting
- Fixed other bugs in the software

V2.0.5-2023.06.28

- Fixed other bugs in the software



V2.0.4-2023.03.17

- Optimized node editing function, Supported “Z value” and “move to” function for quick modification by picking Z
- Supported various vector selection tools to change the line direction, and Optimized shortcut keys and tips
- Supported Riegl MMS panoramic image file import and Optimized Orbit format
- Supported for South-North crown diameter (SN), East-West crown diameter (EW), crown length (CL) and crown width (CW) in the calculation of individual tree parameters
- Updated trajectory data
- Fixed the problem of Ligeo and LiFuser-BP project opening failure
- Fixed the problem of strip adjustment
- Fixed the problem of invalid horizontal section dragging
- Fixed other bugs in the software

V2.0.3-2023.02.08

- New 2D mode
- Optimized horizontal section function
- Optimized edit vertices function
- Optimized drape to ground function
- Optimized vector objects and the corresponding panoramic image window linkage jumping
- Fixed other bugs in the software



V2.0.2-2022.12.30

- Added new project from template
- Added import gpkg function
- Added road damage report export function
- Added clearance analysis report export function
- Added DXF and KML import and export functions
- Added dashed line batch drawing mode
- Added custom template drawing method for cross walk and parking spot
- Added line smoothing function
- Supported lane line and road edge detection with shortcut keys to switch between semiautomatic and manual modes
- Supported layer renaming
- Supported vector objects and the corresponding panoramic image window linkage jumping
- Fixed other bugs in the software

V2.0.1-12/30/2022

- Optimized the field selection limit when import trajectory
- Optimized the right click menu of the directory tree
- Optimized the interface of vector export function
- Optimized the emptying tips of the directory tree layers
- Fixed the problem of database storage



V2.0.0-2022.11.25

****The software was renamed as LiDAR360 MLS****

In order to develop the software into a general terrestrial mobile laser scanning (MLS) point cloud processing software platform, the software name was replaced with LiDAR360MLS.

- New Construction
 - Supported drag and drop point cloud to create a new project, and save as to the specified path
 - Supported for importing original projects of LiFuser-BP and LiGeo
 - Supported point cloud and panoramic data entry software for more than 90% of mobile surveying devices on the market in formats such as Trimble MX9, Leica Pegasus, Orbit Pos, etc.
- Database
 - Supported database for vector storage
 - Supported Adding, deleting, modifying and querying layers in the database
- Basic Platform
 - Added point cloud and vector projection conversion function
 - Supported point cloud format conversion
 - Supported basic tools such as point cloud selection and cropping
 - Supported vector data format conversion
 - Supported category display 0255 categories
 - Supported cross-sectional export of color orthophotos
 - Supported for mobile measurement device travel direction arrows and default view settings
- Vector Editing
 - The right-click menu has been added to the movement function, which



Supported moving in a specified distance and direction

- Added arbitrary polygon, circle selection, ball selection, random selection, three-dimensional selection, and cylinder selection
- Added polygon combination and split functions
- Added one-to-many interrupt function

➤ Symbol library and labels

- Added feature symbolization function
 - Supported domestic standard road facility symbol library
 - Supported for common symbol libraries
 - Supported symbol number storage
 - Supported to set symbols for collected point features
 - Supported for modification of symbols
- Added annotation function
 - Supported for annotation layers
 - Supported for annotations to independent objects
 - Supported for annotations to object nodes and edges
 - Supported 3D, elevation annotation
 - Supported annotation style modification
- Added layer label function
 - Supported all layer properties for label display
 - Configurable styles for labels
 - Facilitate operations such as attribute entry
 - New vector line object direction display

➤ Road feature extraction module

- Added the template extraction function of strip features
- Added single segmentation function
- Added individual editing function
- Added single parameter extraction function
- Added AI-based road surface marking recognition function



- Added batch processing function for road surface marking recognition
- Added AI-based batch extraction of road facilities
- Point cloud classification
 - Supported point cloud deep learning classification
 - Supported polygon-based point cloud classification
 - Supported point cloud classification based on vector lines
 - Supported air noise classification
 - Supported subsurface classification
 - Supported above ground point classification
 - Supported for separating lows
 - Supported outlier classification
 - Supported proximity point classification
 - Supported ground point classification
 - Supported classification by attribute
 - Supported classify by cluster size
- Point cloud extraction
 - Supported extraction by category
 - Supported extraction by elevation
 - Supported extraction by intensity
 - Supported to extract by GPS time
 - Supported extraction by echo times
- Planar camera browsing measurement
 - Added planar camera data and point cloud overlay browsing display
 - Added planar camera measurement
 - Added planar camera calibration
 - Added planar camera undistort
- Vehicle point cloud preprocessing
 - Supported trajectory segmentation
 - Supported laser boresight



- Supported track quality check and repair
- Added control point correction function
- Added strip adjust
- Road Analysis Module
 - Added road damage detection function
 - Added headroom analysis function
 - Added visual field analysis function
 - Added road section analysis function
 - Added road cross section parameter extraction function

V1.2-2022.07.23

- Added Facade Measurement Module
 - Supported vertical vertical
 - Supported horizontal guide line drawing
 - Supported range line drawing
 - Supported taking a section based on a reference/extent line and making adjustments
 - Supported the drawing of the basic elements of the facade
 - Supported for construction line drawing
 - Supported array drawing
 - Supported translation and rotation
 - Supported for exporting DXF and orthophotos
 - Added shortcut key configuration function
 - Added layer manager function
 - Added combined display function
 - Added cross drawing and vertical drawing functions
 - Added capture module



- Optimization function
 - Optimized the drawing method of rectangular traffic signs

V1.1-2022.03.10

- Added data block module
 - Supported track segmentation
 - Supported area block node editing
 - Supported region block merging
 - Supported point cloud segmentation based on block
 - Supported area block selective display
 - Supported display and hide of area blocks and their labels
- Added more road feature template symbol library
 - Supported all types of arrow reticle drawing
 - Supported for manhole covers, parking spaces, and drainage grate to be drawn according to templates
 - Supported traffic signs to be drawn according to templates
 - Supported Chinese and English character drawing
 - Supported nonmotor vehicle signs, no Uturn signs are drawn according to the template
- Added template matching function
 - Supported automatic vectorization matching based on default templates
 - Supported custom feature templates and auto-vectorization or manual-vectorization
- Added multi-type vector editing function
 - Supported for modifying the shape of line features
 - Supported tracing other vectors when drawing vectors
 - Supported point break line, line break line, line break surface



- Supported vector stickers
- Added attribute table calculation and predefined functions
 - Added attribute batch filling function
 - Added line feature length calculation function
 - Added character replacement function
- Added node editing function
 - Supported for individually modifying node coordinate values
 - Supported batch modification of node Z value
- Added the function of modifying the project
- Added layer vector copy function
 - Supported copying of elements on the same layer
 - Supported vector geometry copy between different layers

V1.0-2021.09.10

First version release of LiStreet