

General Workflow for SLAM Processing

1. Import a Handheld Dataset
2. Perform SLAM Processing
 - a. Trajectory Processing
 - b. Geocoding
3. Generate Walking Path Lines (akin to flight lines for Drone data) - Optional
4. Post-Processing – Optional
5. LAS Registration

SLAM Processing Dialog



TrueView GO Processing in LP360



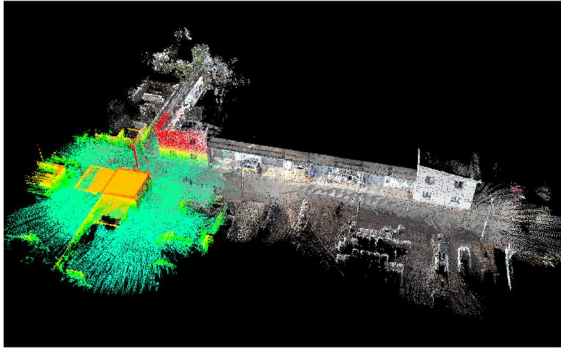
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SLAM Processing in LP360

In this exercise, we will review the workflow for SLAM processing of Handheld datasets.



LP360



About SLAM Processing

Handheld sensors, like the TrueView GO, allow for flexible, accurate surveying that can scan indoor, outdoor, and subterranean environments. This workflow simplifies field operations and enhances the reliability and quality of the data collected.

The SLAM Processing dialog in LP360 allows users to configure settings for Trajectory Processing and Geocoding for TrueView Handheld scanners.

This functionality requires an *LP360 Land Basic* or *Land Standard* license.

SLAM Processing Settings

Trajectory Processing: Users may select the desired processing mode and specify any TGCP (TVGO Control Points) that were collected during the data collection process using the handheld scanner. **Processing Modes** include:

- **SLAM** – Indoor scans. Can use a local or global CRS
- **GNSS** – Outdoor scans where RTK corrections are not available.
- **RTK** – Outdoor scans with RTK corrections during data collection.
- **PPK** – Outdoor scans with base station observations to correct the trajectory.
- **Realtime** - Display real-time point cloud data output obtained during the collection.

Geocoding: These settings were previously referred to as the TVGO Advanced Settings in LP360 versions 2025.1 or older. **Scene Types** for **LiDAR Processing** include:

- **Indoor (No GNSS)**
- **Outdoor (GNSS)**
- **Mixed Indoor and Outdoor**
- **Narrow, Closed Spaces** - Recommended for indoor corridors or narrow spaces.
- **Sparse in Features** - Recommended for datasets with few vertical objects and empty spaces



Optional Steps

LP360 can be used to reproject the data to various coordinate reference systems and clean up LiDAR data, plus utilize the extensive capabilities of LP360 for classification, vectorization, and LAS Registration.



Post-Processing Tool: The purpose of this tool is to prepare the data for later processing (classification, derivate products, etc.) by creating a trajectory file for each of the desired Path lines specified, then generating a new LAS layer. This tool can be helpful when processing large datasets.

LAS Registration Options:



LAS to LAS Auto Registration - performs an automatic alignment once two LAS Layers are close to each other or it refines their alignment.



LAS to LAS Manual Registration - performs a rigid registration where the user manually aligns multiple LAS.



LAS to Control Manual Registration - performs a rigid registration where the user manually aligns a LAS to Control Points.

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