



## Optech LMS Professional Core Modules (Airborne Users)

### Course Description

This self-paced training course is designed to provide learners with a good basic understanding of how to prepare, process and validate airborne data in Optech LMS Professional software.

Optech LMS (Lidar Mapping Suite) is a comprehensive data processing platform for the calibration, boresight and accuracy quantification of both active and passive imaging sensors. Designed to serve as a single central processing hub of raw lidar and image data, LMS combines powerful least-squares algorithms with batch processing methods and the latest in distributed and multi-threaded processing routines to automate sensor calibration, compute project-wide accuracies, and maximize data throughput. Embedded data quality assurance and control tools enable the user to comprehensively optimize and validate the accuracy of their data, without the need for external toolsets.

### Length

16 hours (estimated—completion time may vary based on experience)

### Audience

Anyone involved in airborne surveying who wants to learn about a complete lidar data processing workflow; and work with Optech LMS Professional software. This includes people who will be managing, surveying, and processing and outputting lidar data. It is also of interest to students or others wishing to learn about lidar data processing using Optech LMS Professional.

### Topics

#### **Module 1: Getting Started with LMS**

- ✓ Optech LMS Pro Overview
- ✓ Project Organization
- ✓ Coordinate Systems
- ✓ Blue Marble SDK Integration

#### **Module 2: Project Preparation for Standard Processing**

- ✓ Creating a Project in LMS
- ✓ Instrument Files
- ✓ Creating a Mission



### **Module 3: Project Preparation for Refined Processing**

- ✓ LMS Blocks
- ✓ Types of Blocks
- ✓ Setting Up Corrections for Lidar Airborne Blocks
- ✓ Types of Corrections
- ✓ Creating a Block
- ✓ Adjustment Options
- ✓ Block and Self-Calibration Tasks

### **Module 4: Results Analysis**

- ✓ Analysis Partway Through Block Processing
- ✓ Standard Processing Mean Values Scatterplot and Histogram of Differences
- ✓ Project Shapefiles Tie Planes Check
- ✓ Analysis After Block Completion
- ✓ Refined Processing Mean Values Scatterplot and Histogram of Differences
- ✓ Height Difference Map
- ✓ Point Density Map
- ✓ Absolute Height Accuracy (if Control is available)
- ✓ Roofline Analysis

### **Module 5: Control Points Handling**

- ✓ The use of control points in LMS
- ✓ What are they used for
- ✓ Preparing Control Points for LMS
- ✓ Creating a Control Site
- ✓ Control Points Properties and Buttons
- ✓ Accuracy Height Report

## **Course Materials**

This self-paced online training course makes use of different complementary types of materials including:

- ✓ Introductory webpages with text and screen captures
- ✓ Presentations with embedded video
- ✓ Practical step-by-step exercises with downloadable datasets
- ✓ Multiple choice quizzes to review what you have learned



## Prerequisites

This is an introductory training course. No previous experience working with Optech software is required. Ideally, all participants will:

- ✓ Be familiar with operating Windows computers and software including using an internet browser
- ✓ Have an understanding or previous working experience with lidar data
- ✓ Already have some basic knowledge of geodesy and statistical data analysis—this is helpful but is not required

## Software Requirements

Participants must have access to the following as these items are not included with access to the online course:

- ✓ The latest release version of the Optech LMS Professional software program
- ✓ A valid Optech LMS Professional software license
- ✓ High speed internet access and an internet browser

## Contact us

For more information about this self-paced online training course, please contact Teledyne Optech Technical Solutions:

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