



INFORMATION ON AN ONGOING PROJECT CONTRIBUTION AGREEMENT

Making Forest Inventories Easier Through Technology

The reliance on traditional field measurements in forestry limits efficiency and accuracy, demonstrating the need for innovative laser imaging, detection, and ranging (LiDAR) mobile laser scanning (MLS) technology to enhance data collection and support sustainable forest management practices.

PROJECT TITLE

Improving and Expanding Forest Inventories and Allometry With the Use of Mobile Laser Imaging, Detection, and Ranging (LiDAR) Scanning

ORGANIZATION

University of Sherbrooke
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START DATE

December 1st, 2023

END DATE

March 31st, 2026

This project focuses on testing LiDAR MLS systems, which use advanced simultaneous localization and mapping (SLAM) technology to perform detailed assessments of forest structure. MLS technology allows for fast and accurate data collection, making it perfect for operational inventories that assess how forests change over time. The researchers aim to create methods to estimate various tree features using MLS data, including height, diameter at breast height, stem shape, crown size, and canopy density. The project also seeks to develop new ways to estimate tree volume, biomass, and analyze the 3D arrangement of forest understory and vegetation layers.

Traditional methods of measuring forests can be costly, labour-intensive, and limited in what they can capture. In contrast, MLS technology has the potential to transform forest management practices by providing a more efficient approach to gathering detailed information. The primary goal of this project is to increase efficiency in field surveys and expand the range of forest attributes that can be measured. This will help forest agencies and companies make better-informed decisions about forest management. Ultimately, these advancements aim to improve sustainable forest management practices, supporting Canada's commitment to environmental conservation and current forestry research efforts.