Foresight

ARCTIC 2 Remote Timber Inventory

May 2016 - October 2019

Challenge:

Identify and commercialize innovations that dramatically reduces costs and improves accuracy of traditional forest inventory information collection processes in the forestry sector, including photo interpretation and ground-based surveys. These processes currently lack accuracy, presenting timing challenges for operational planning, are expensive at $25-100 per hectare, and are unsuitable for timber inventory.

Challenge Sponsor: FPInnovations
Challenge Facilitators: Delphi Group and Tessellate
Budget: $785,000
Finalist: Object Raku

Semi-Finalists:

Arbonaut Oy:
- Develops fully customized software solutions
- Mathematicians, software architects, foresters and GIS specialists

Lim Geomatics:
- Industry-leading GIS software development company

Object Raku Technology:
- Software development and analytics firm specializings in complex geospatial architectures and 3D spatial analysis
- Clients in aerospace, defense, and forestry

Environmental Benefits:

- Benefits to wildlife management, biomass and carbon volume estimates
- Planning for leaf tree retention or Old Growth Management Area candidate stands
- Benefits to assessing hydrologic disturbance and recovery

Outcomes:

Each participant was tasked with determining operational-scale forest inventory metrics using remote sensing information.

The results from Object Raku Technology's Timber Species Identifier (TSI) - a semi-automated GIS software system that analyzes LiDAR point cloud data to determine the location and attributes of individual trees - were very favourable when compared to the supplied cruise data.

Conclusion:

The project led to a number of opportunities to deploy Object Raku's remotely sensed timber inventory technology commercially, as well as investment and business development opportunities for the three semi-finalists. In June 2019, Object Raku was acquired for an undisclosed sum by Forsite Forest Management Specialists.