Monitoring forest supply chains in remote areas using FPInnovations' FPSuite platform

Jean-François Gingras, Research Manager[1]
Harvesting/Precision forestry Programs,
FPInnovations, Canada

Martin Castonguay, Group Leader
Precision Forestry, FPInnovations, Canada

Jean Favreau, Program Manager
Value Maximization & Decision Support Tools,
FPInnovations, Canada

Keywords: datalogger, on-board computer, harvesting, productivity, efficiency, supply chain

Conference Theme: Implementing Precision Forestry concepts for improved wood supply chains

The Canadian forest sector is facing many challenges in trying to recover from one of the worst economic downturn since the Great Depression. One of these is high fiber costs when compared with most other regions of the world. Harvesting operations in particular have several constraints that affect the performance and agility of the supply chain: remote operations and long hauling distances, lack of communication infrastructure, highly variable operating season and a road network that still needs to be fully developed. These constraints make it difficult to implement value chain optimization concepts that are being adopted more rapidly elsewhere. In order to generate more value and profitability from a flexible and agile supply chain, we need precision forestry tools to monitor effectively production and fiber flows throughout the links of the chain.

A few years ago and at the request of its industrial members, FPInnovations launched an important technology development initiative, which resulted in the FPSuite monitoring platform. The platform is made up of three major components: FPDat, FPCom and FPTrak. The tools allow for data acquisition in the operations, efficient communications and reporting. The platform combines multiple key features that make it unique: time and performance tracking, machine navigation, GPS tracking, production monitoring, as well as automated communications and reporting. Moreover, the platform suits the needs of various operation types, such as cut-to-length and full tree. A full description of the FPSuite monitoring platform was presented at the Precision Forestry 2014 Conference in South Africa.

One of the key attributes of this platform is its ability to monitor machine activities and wood flows in real time over a wide geographic area even where no cellular telephone coverage is available, as is typical in Canada and other remote locations elsewhere in the world. Spatially-explicit log/stem assortment tracking is obtained either from extraction machine operator inputs or through the leveraging of StanFordD production files from harvester computers. Having an accurate and up-to-date picture of log pile location and volume can be used to optimize inventories in the forest, plan optimal trucking schedules, react rapidly to end-user changes in product requirements and adjust harvest work orders in semi-real time.

The presentation will further describe the key features and benefits of the FPSuite platform, as well as functional links with value chain optimization tools developed by FPInnovations and others.

[1] Presenting author