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TREEMETRICS – THE INTERNET OF TREE

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Treemetrics is a software company founded in 2005 to develop a new technology to replace traditional forestry methods with a more sustainable, innovative and dynamic one.

The Forest HQ technology facilitates interventions in three domains through three modules: manage, measure, and harvest. By using satellite technology, mobile application and artificial intelligence (AI) to store data collected in a unique platform and provide advices for a more precise and efficient forestry management, it optimises the value of wood production and improves the preservation of the environment and natural resources.

The Irish state forestry company, Coillte, as an example, approached Treemetrics six years ago to develop harvest monitoring solutions which would help to overcome their difficulties of timber production. Treemetrics provided them with extensive training and support for all staff and developed a solution to integrate Forest HQ with their existing software and systems. The harvest module has helped Coillte to improve harvest monitoring efficiency by over 30%, reduce losses, help driver performance and improve their safety, and automate some tasks. With the same objective, Treemetrics has also worked with the Irish Farmers' Association, the Forestry Company, and the Romanian timber harvesting company Silvador.

"I believe it's going to be an absolute game changer, it's going to revolutionise how Coillte carries out it's harvesting operations."

- Mark Carlin, Coillte

Application scenario

Forest Management and Information System (FMIS)

Digital technologies

Mobile applications, artificial intelligence, satellite imagery and communications technology, aerial drones, LiDAR, GIS

Socio-economic impact

- Economic: harvest operation efficiency, better log yield, reduced costs, improve the profits of the forest industry
- Environmental: environmentally-sensitive ecosystems protection
- Social: improved forest management, ecosystem services, worker safety

More info: http://www.treemetrics.com/

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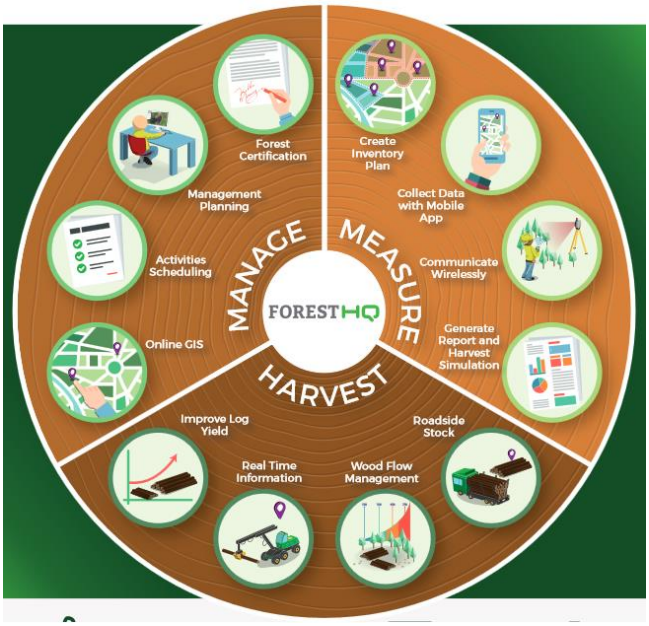
Purpose of the tool

Forest HQ is a digital solution embodied in a cloud-based management platform that offers the possibility of centralising all the data collected from the different devices used in forestry, which communicate together in real-time over multiple locations. This technology makes forest management simpler and more precise, thanks to digital data capture and integrated systems delivering intelligent data mining in control operations, advanced analytics, operation monitoring, and log yield improvement. This tool was co-created with foresters (owners and managers), consultants and organisations across the world, in order to preserve the environment and ensure sustainable use of natural resources. The objective of its two founders was to replace traditional forestry methods with a new one, which utilises recent technological advances to improve the forestry industry's benefits and protect environmentally-sensitive ecosystems.

Description of the tool

Forest HQ combines mobile applications, remote sensing, intelligent data mining and satellite communications technologies into a sophisticated software system to deliver accurate forest appraisals and live harvest control. Forest HQ is divided into three modules: **manage** to efficiently plan and control the operation from one central platform which integrates all the LiDAR, drone, satellite imagery and GIS data collected; **measure** to provide greater efficiency and precision for inventory planning, data collection, analysis and reporting; and **harvest** to monitor harvest operations and wood flow in real-time over multiple locations to improve log yield and profits, reduce costs and improve customer service.



Source: TreeMetrics

Areas of socio-economic impacts (benefits and challenges)

Social	Good forest management protects ecosystem services.
Economic	Improve management and decision-making, enhance harvest operation efficiency, develop a better tools interoperability and interconnectivity to improve log yield and profits, reduce costs and improve customer service.
Environmental	Preserve environment and ensure sustainable use of natural resources through precision forestry and a better efficiency of harvesting operations.