

## Project Consortium

### Small and Medium-Sized Enterprises:

#### Simosol Oy

Finland [www.simosol.fi](http://www.simosol.fi)

Software for forest planning

#### Holzcluster Steiermark GmbH

Austria [www.holzcluster-steiermark.at/](http://www.holzcluster-steiermark.at/)

Cluster organization operating a round wood logistics platform at Styria

#### Azevedos Industria

Portugal [www.azevedosindustria.com/pt/](http://www.azevedosindustria.com/pt/)

Manufacturer of industrial equipment for the forest sector

#### Hohenloher Spezial Maschinenbau GmbH & Co.KG

Germany [www.hsm-forest.net](http://www.hsm-forest.net)

Manufacturer of forest machines

#### Wahlers Forsttechnik GmbH

Germany [www.wahlers-forsttechnik.de/](http://www.wahlers-forsttechnik.de/)

Manufacturer of software components for forest machines

#### Waldemar Fernandes da Silva SA

Portugal [www.wfscork.com/](http://www.wfscork.com/)

Natural cork stopper manufacturer

### Research and Technological Developers:

#### Inesc Porto coordinator

Portugal [www.inescporto.pt](http://www.inescporto.pt)

Software for forest-based supply chain planning and control

#### Bern University of Applied Sciences

Switzerland [www.bfh.ch/](http://www.bfh.ch/)

Forest planning methodologies and technological solutions

#### Research Studios Austria Forschungsgesellschaft mbH

Austria [www.researchstudio.at/](http://www.researchstudio.at/)

GIS, GPS-based solutions for wood transportation

#### University of Leuven

Belgium [www.kuleuven.be](http://www.kuleuven.be)

Biomass supply chain management

#### VTT Technical Research Centre of Finland

Finland [www.vtt.fi](http://www.vtt.fi)

Sensor technology solutions for advanced data collection

#### Landesbetrieb Wald und Holz NRW

Germany <http://www.wald-und-holz.nrw.de/>

Dissemination and training of forest practitioners

## Further information

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Advances in Forestry Control &  
Automation Systems in Europe

7FP SME target RTD collaborative project

EUROPEAN PROJECT REF.: 3302373

[www.focusnet.eu](http://www.focusnet.eu)



## FOCUS objectives

Long term sustainability of European forest-based industries and the development of rural areas require further improvements in the integration and automation of forest related processes, pushing forward precision forestry.

FOCUS will demonstrate how innovative sensor technologies and sophisticated software solutions can integrate control and planning processes across the forest-based value chains while assuring efficient communication mechanisms between the multiple enterprises.

**The goal of FOCUS is to improve sustainability, productivity, and product marketability of forest-based value chains through an innovative technological platform for integrated planning and control of the whole tree-to-product operations, used by forest-producers to industry players.**

For this purpose, FOCUS brings together leading SMEs, experts and organisations in the fields of precision forestry, sensors, automation and software development. Case studies will be set in Finland, Belgium, Switzerland, Austria and Portugal covering the four main forest-based value chains in Europe (lumber, pulpwood, biomass, cork), from forest planning and monitoring forest growth, harvesting, wood transportation and industrial processing.

## Main results

- **Improved sensors technologies** for monitoring environment conditions, raw materials traceability and machinery /operations productivity;
- **Novel software for planning, control and automation** of singular operations of the value chain, predicting future instructions for the workers and machineries based on the sensor data input;
- **New interoperable plug-and-play architecture for the integrated technological platform** for wide value chain planning and control;
- **New business models for collaboration** among players of the forest-based value chains;
- **Prototypes of the FOCUS technological solution** used in pilot cases in Europe for validating and disseminating project results.

## FOCUS technological platform

The platform has a **central system** for planning, monitoring and controlling the whole set of operations and linking with external systems. Inputs come from interoperable **decoupled control systems** tailored for detailed planning and control of specific operations from forest planning to industrial processing.

On-site information is collected manually with mobile **multi-touch devices** or automatically with **sensors technologies**, including Environmental sensors, Radio Frequency Identification Systems (RFID), Global Positioning Systems (GPS) and similar technologies embedded in forest machinery.

The information consolidated at the control systems is used by the decoupled **model-based controllers** to monitor and anticipate the performance of each set of operations. Control and automation technologies further provide precise instructions for guiding/automating site work in accordance to plans.

**Software for optimal operations planning** at the central and at the decoupled systems, sets-up targets, plans and schedules, assuring the best use of the available production resources.



### WHAT?

7 FP SME-target collaborative RTD project.  
From 1<sup>st</sup> January 2014 to 30<sup>th</sup> June 2016 (30 months)

### WHY?

Need for integrated processing and control systems for sustainable production in farms and forests.

### HOW?

New FOCUS technological platform that combines sensors and sophisticated software solutions for integrated control and planning of the whole forest-based value chain.

### WHO?

Consortium of 6 SMEs and 6 RTDs from Portugal, Finland, Belgium, Switzerland, Austria and Germany, combining expertise in of forestry, sensors, automation and software.

