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Overview

In November 2013, 28 organisations from 11 countries (Belgium, Finland, France, Germany, Ireland, Netherlands, Portugal, Slovenia, Spain, Sweden and United Kingdom) began the European collaboration FP7 project **SIMWOOD (Sustainable Innovative Mobilisation of Wood)**.

This four-year project seeks to provide solutions on how to mobilise forest owners, promote collaborative forest management and ensure sustainable forest functions in order to mobilise the present unlocked wood resources in Europe.

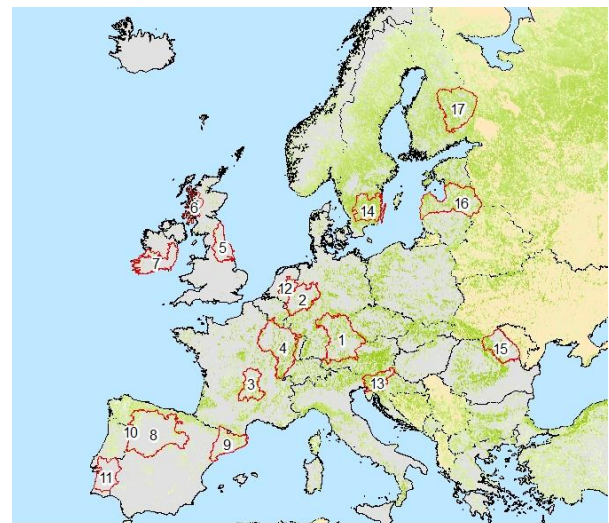
We work in **17 regions across Europe**, selected for their high relevance to Europe's wood mobilisation challenge. In our model regions, we've made a detailed analysis of the present situation, and the barriers and challenges for wood mobilisation which currently exist. Now we are working on identifying objectives, developing possible tailor-made solutions, and selecting some to be tested in a series of pilot projects.

In the regions, we have Regional Learning Laboratories (RLLs) as an integral part of the research process. This is linked to existing initiatives in the region, and is collaborative: teaming up with regional stakeholders to obtain fresh findings on the region's specific status quo, chances and proposed solutions.

In this issue, we focus on our work in two regions of France:

- **Auvergne**
- **Grand Est**

We also have a roundup of news from our regions.



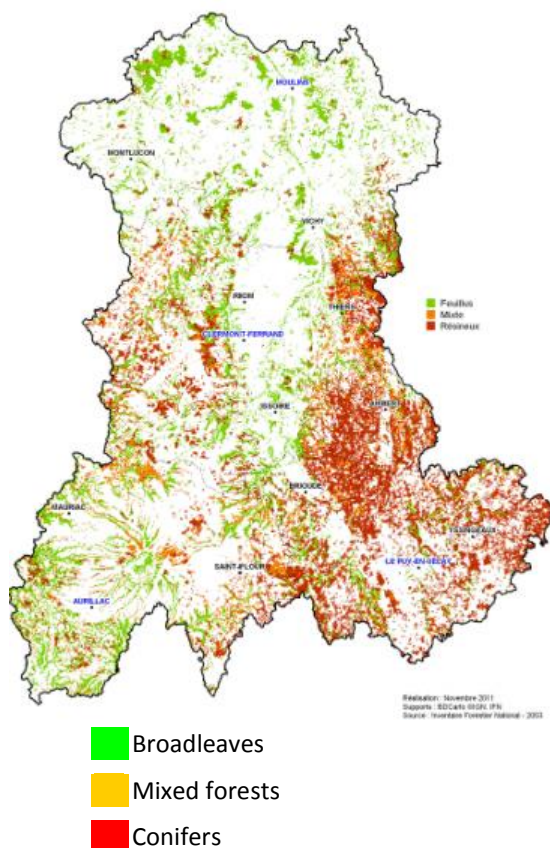
1. Bavaria, GER 2. North-Rhine Westphalia, GER 3. Auvergne, FRA 4. Grand-Est, FRA 5. Yorkshire & North East England, UK 6. Lochaber, UK 7. South Eastern Ireland, IRE 8. Castile and León, ESP 9. Catalonia, ESP 10. Nordeste, PRT 11. Alentejo, PRT 12. Overijssel & Gelderland, NLD, 13. Slovenia, SVN 14. Småland, SWE 15. North-East Romania, RO 16. Latvia, LV 17. E Finland, FIN.



Focus on Auvergne (France)

Background

The Auvergne is one of the former 22 administrative regions of France (metropolitan area). It is located in the central part of the country and it is known for its mountain ranges and dormant volcanoes. An agricultural and stockbreeding region, Auvergne is also a place for forest operations with 720,000 ha of forest.



National Forest Inventory 2003

The forest coverage in Auvergne includes broadleaves, conifers and mixed forests. The main species are fir, spruce, douglas-fir, pine, oak and beech. Since the 19th century the region's forest cover has increased quite strongly, especially during the second half of the 20th century (from 1960) thanks to national incentives in favour of forest plantations (usually coniferous ones, spruce especially).

Over 600,000 ha (85%) of forests are privately owned, in the hands of over 210,000 individuals.

About 2.1 million m³ are harvested and put on the market annually, with conifer representing 85% of this volume. The forest-based industry (from forest management to wood processing) is dense in the region with over 10,000 jobs in about 2,500 companies, all committed to boost wood mobilisation in order to reach the regional 2020 target: an annual harvest of 3 million m³. Local authorities strongly support initiatives aiming at stimulating forest management and wood mobilisation in private forests.

Diverse forest types can be found in the region including some in which delivering wood products demanded by the market is difficult. Reasons for such differences between available resources (in theory) and market demand can be inherited from different barriers:

- Vast old softwood areas (fir and pine) are now overgrown and became too large to be processed by the sawing industry in usual conditions
- Part of the hardwood resource has low market value which can not balance costs associated with wood mobilization
- Challenges can sometimes be combined when difficult terrain adds up to low market value.

In addition, the usual barrier of fragmented ownership is an issue. The average size of private properties is below 3 ha. This results in forest owners being mostly non-professional forest managers. In such a context, small private owners sometimes feel lost and mistrustful confronted with the large number of local forest management companies and timber buyers with whom they may be in contact only once or twice in their lifetime as an owner.

SIMWOOD's work in the region

The current challenges and barriers limiting wood mobilization with regard to actual forest production and industrial demand for wood

material were already well known in the Auvergne, and were being addressed by regional sectorial governance before the SIMWOOD project started.

In 2010, two national institutions (ADEME and Ministry for Agriculture & Forests) decided to test, in a given perimeter and in respect to sustainable management principles, measures to increase the supply of wood to the different value chains. The chosen target of this PPMB programme was innovative organizations and tools within the chain of actors, namely owners of small and fragmented forests, industries and local publicly-funded forest councillors who act as an interface between the former populations.

In 2015, new methods, tools or reports were made available to the stakeholders, such as:

- A tool kit for the agents of the extension program, including a report on consolidated methods to activate forest owners (best practices handbook for the councillor/extension agent) and a technical report on property exchange service and the dedicated software used by the councillor;
- Cost-effective and trustworthy method to evaluate the impact of forest owner activation by the forest councillor;
- Experimental protocol to test alternate organization schemes in the chain of actors: Forest Owners – Extension agent - Forest companies;
- Detailed specifications of an IT-platform to support information exchange between the regional forest-stakeholders.

But one specific resource still remains almost untapped for now in Auvergne: forest growing in steep terrain.

The forests which currently stand on such terrain are a critical mass (over 150,000 ha stocked with usually over 200m²/ha) as a resource for additional wood which could potentially be put on the market in a short and mid-term future provided that professional practitioners would

know how to actively deal with them. Steep slopes require specific working methods (and equipment), for harvesting to be carried out in an effective manner (in terms of cost, health and security, environment).

SIMWOOD's work in the region has involved the development of a pilot project.

Pilot project

This aims to increase professional know-how in steep-terrain conditions, building capacity about sustainable logging practices and related forest management requirements.

The stakeholders in the group are forest companies (SME or larger) who already mobilize wood in steep terrain or who wish to broaden their activity towards these specific areas. For some stakeholders, logging operations are the core activity, while for the others it is part of the service-mix which also includes forest management. The aim is to:

- share current knowledge about what works and what are the limits
- improve stakeholders' confidence in what can be done (working methods, operational conditions)
- turn this knowledge into a capacity to launch more logging operations in steep terrain.

The choice of target group and respective objectives was motivated by the recent and positive conclusion of the former regional initiative EXPLOIT'MC in Massif Central (Auvergne plus neighbouring regions). Participants were very satisfied with the collective deliverables, some of which motivated changes of practices in local forest-based companies, but underlined that specificities of steep terrain conditions remained a grey area. Based on these expectations and while taking into account the status of other – less logging operation focused (such as PPMB mentioned earlier) – initiatives in Auvergne, FCBA decided to channel SIMWOOD efforts in the region towards this target.

The first meeting of the Regional Learning Lab (RLL) in September 2014 enabled the local stakeholders to share their understanding of the status quo, confirm the relevance of the chosen target and discuss the priorities for the next steps. The event was also the official launch of the working group “GT Pentes” (*Groupe Technique Pente* in French).

Discussions continued outdoors with a visit to a logging site of interest of the group: a team of three working with a cable-yarder on steep (> 70%) terrain.



Photo: FCBA

After the meeting, participating companies identified logging operations, which fitted the pilot project 'specifications', to be monitored, analysed and discussed within the working group. Over 2014 and 2015, 8 logging operations were monitored and analysed by FCBA for that purpose.

The second RLL meeting was held in September 2015, with indoor discussions focusing on pilot project outputs, and adjusting the implementation plan. Several options were proposed for the stakeholders to choose: i) initiation of a collaborative observatory of logging interruptions in steep terrain (human safety and prevention of machine breakdown); ii) training session on tools available to plan a cable yarding operation (How to use decision-support system such as SIMULCABLE or CARTOMOB).



Onsite discussions with the logging company experimenting with a new organisation. 2nd RLL, September 2015. Photo: FCBA

Dialogue continued outdoors on a logging site: a team of 4 working with harvester and forwarder equipped with synchro-winch on 50 to 70% steep terrain.

An open event about forest operations in mountain and steep terrain areas was held in November 2015 in Grenoble. More than 90 local and national stakeholders came together to hear presentations on logging technics, mountain-specific logistics and collaborative innovation.

Experiences from diverse contexts (e.g., the French Alps, Italy as well as the Massif Central) and different stakeholder perspectives were shared and discussed during the afternoon roundtable.

In May 2016, members of the Regional Learning Lab met again to share the progress made. A visit was organised to one of the companies' logging site where the use of a new material was being tested and analysed for the pilot project.

Who to contact in the region

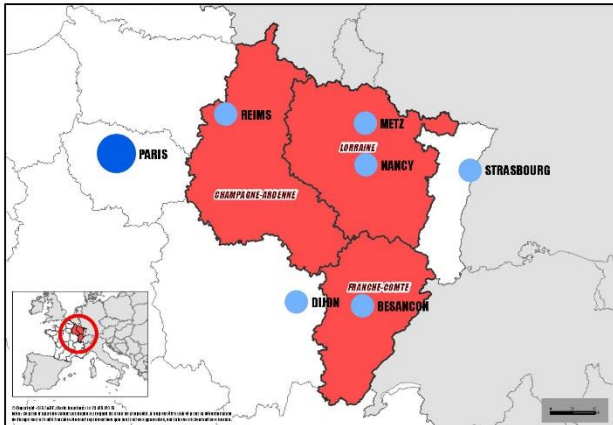
The SIMWOOD local team is led by FCBA: Paul Magaud and Morgan Vuillermoz

To get involved in SIMWOOD's activities, please contact: Morgan Vuillermoz (morgan.vuillermoz@fcba.fr)

Focus on Grand Est (France)

Background

The Grand Est model region covers three French metropolitan areas: Champagne-Ardenne, Franche-Comté and Lorraine. Together they cover 65,335 km² in the north-east of the country.



There are 2,274,000 ha of forests (35% of land cover). Broadleaf forests (oaks and beech) are very common in this part of France. The timber can be of high quality, but the stands are often located on fragile soils (i.e. sensitive to compaction) due to the fact that the climate is quite wet. Coniferous stands are located in two mountainous sub-regions (Jura and Vosges) and also on poor soil (limestone/chalky soils) in the sub-region Champagne.

Two storms struck the area in the last 20 years, which resulted in un-balanced forest age-classes.

The timber industries are well represented all over the region and part of the timber is processed outside the region.

Privately owned forests represent 46% of the productive forest area, and there are around 112,000 private forest owners. There is (or was) a real forestry tradition in this region but private forest owners are becoming less and less rural. Private forests are managed by different structures: cooperatives (like Forêts et Bois de l'Est (F&BE)), forest owners associations and

forest experts. Public forests are all managed by the state company, ONF. Most of unused resource that is potentially harvestable is located in deciduous forests owned by private individuals.

Among the usual barriers preventing wood mobilisation, there are three specific issues:

- Fragmented ownership (the mean size of private properties is around 2 ha). Private forest owners are numerous and they often don't know how to manage their forests or who can help them.
- Reluctance towards (mechanized) forest operations in deciduous forests due to the uncertain economic balance and expected damage to the soil.
- Questions on proper silviculture schemes for deciduous forests, especially young or poor forest stands in the context of climate change.

SIMWOOD's work in the region

Within Grand Est area, the SIMWOOD project has been focusing on two territories.

The **Champagne Crayeuse natural region** is characterized by intensive open field agriculture established in the middle of the 20th century by deforested poor forest stands. Forests are seen as unproductive land by farmers and are under-exploited. Nevertheless, many stands have a real potential and this has to be explained to the forest owners.

The other territory is mainly in **Franche Comté** but also concerns areas in the other regions where forest soils are particularly sensitive to soil compaction. In these areas private forest owners are often reluctant to harvest because of the fear of soil damage.

Pilot project 1

Challenges and alternatives in management and harvest of “poor” forest stands

In the Grand Est area of France, superficial limestone soils cover an important part of the territory. Forest owners are reluctant to improve forest stands in this area because of low incomes from wood products, the cost of any improvement actions and uncertainty concerning their results. Our regional profile for Grand Est highlighted the need to find solutions to develop efficient silvicultural schemes (for both the costs and the incomes).

The current private forest area in *Champagne crayeuse* is 45,000 ha. This forest has various origins (old pine plantation, recent reforestation of agricultural land, natural stands), and generally the quality of the trees is very bad. The 1999 storm deteriorated the stands, and many forests have not been cleaned since this event - the windfalls are hardly valuable. Therefore, the replacement of these stands is very expensive.



Landscape of Champagne Crayeuse. Photo: F&BE

Until recent years this forest resource was not considered valuable. But the relatively new development of wood boilers in the area gives an opportunity. The development of efficient mechanical tools allows the harvesting of these stands in a cost-efficient way. The SIMWOOD pilot project aims to demonstrate, document and disseminate current possibilities for harvesting and improvement of forest stands.

The first meeting of the Regional Learning Lab (RLL) in January 2015 aimed to enable local stakeholders to share their understanding of the status quo and identify possibilities to improve wood mobilization. The RLL tried to take into account all the forest stands diversity known by the RLL members (hunting federation, forestry companies, forest owners’ regional centre, forest owners, farm bureau and forest managers).

The SIMWOOD team then found owners motivated by field trials and characterized the stands and the technical possibilities for improvement. During a second RLL meeting, participants gave their perception of the different possibilities and a schedule for field trials was established.

Two field trials were realized by F&BE between summer 2015 and spring 2016 and two others are planned before winter 2016. A third RLL meeting is planned in July 2016 to discuss the technical and economical results of the field trials and to formalize dissemination tools and events for forest owners in the autumn of 2016.

Pilot project 2

Enhanced environmental friendly logging systems on sensitive soils

Forest owners are often reluctant to let traditional machines (harvester, skidder and forwarder) work in their forest: they fear the impacts of these quite heavy machines (15 T for a skidder to 30-40 T for a loaded forwarder) on the trees, on the soil and on the landscape. There is a real need to find solutions which have low impacts on sensitive soil.

Harvesting machines have to be adapted to perform high environmental logging operations, moreover improvement of the preparation of the harvesting work (e.g. marking trees, organization of the skidding trail...) has also to be taken into account.

The first RLL meeting took place in January 2015 in Besançon. Three different forestry companies,

the PEFC regional chapter, forest managers (F&BE – ONF) and institute of technology (FCBA) were represented. This group was deliberately focused on practitioners. This meeting aimed to enable the local stakeholders to share their understanding of the status quo.



Tracks tested in the Pilot Project. Photo: F&BE

Step two involved the identification of relevant technical equipment (for example synthetic tracks or large tracks on a forwarder), followed by experimental actions in the field with forestry companies. These tests were performed by a private company working for F&BE in different forest properties.

In January 2016, the RLL members came together again to discuss the results of the different field trials, and the technics proposed in order to improve the set-up of skidding trails. New field trials operations were also agreed and also to use the PRESS BOOK dialogue tool.

The third meeting of the RLL takes place in June 2016, with a presentation of all the results of the different field trials and studies. Based on these results participants will prepare some dissemination events and documents for autumn 2016.

A training session for the technicians of F&BE is planned, in order to improve the satisfaction of forest owners concerning this topic (using the PRESS BOOK and the different technics used in the project). These results will be widely spread in the forestry sector.

Who to contact in the region

The SIMWOOD local team includes staff from FCBA and F&BE

To get involved in SIMWOOD's activities, please contact:

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The logging PRESS BOOK

(PRESS for Performance and Results Environmentally Super Satisfactory)

A survey carried out in France stressed that three main conditions are necessary to motivate a forest owner to harvest: the price of course, but also trust in professionals and the quality of the logging operation.

The satisfaction of the forest owner, in compliance with sustainable management of the forest, has to be the prime objective of a logging operation.

A satisfied forest owner is an owner who will dare to launch other logging operations in the future and he will speak about it positively to his circle of acquaintances.

The objective of this SIMWOOD focus study was to build a dialogue tool. The logging PRESS BOOK is a support document which facilitates the dialogue between the forest technician and new forest owner (for whom a logging operation is a first), by enabling the identification of individual "High Environmental Quality" criteria.

The PRESS BOOK is for the forest technicians and managers who are in touch with forest owners.

Its objective is to be able to identify clearly expectations (and also fears) of the owner, to reassure him/her and explain to him/her what is going to take place in his/her forest.

The document also highlights preventive measures that might be relevant, and how to take them into account, because they can definitely have an impact on the financial balance of the operation.

The PRESS BOOK was tested during the summer of 2015 by three Simwood partners in different regions:

- South-Eastern Ireland by the company Irish Wood Producers
- Grand Est by the cooperative Forêts et Bois de l'Est
- Bavaria and Lower Saxony by the German Centre of Forest Work and Forest Technology KWF.

The book will now be disseminated to forest technicians.

Regional news

SIMWOOD in Brussels

The work of the SIMWOOD project was presented at a Club du Bois meeting at the European Parliament in Brussels on 20 April.

The meeting was organised by the European Organisation of the Sawmill Industry (EOS), the European Panel Federation (EPF) and the European Confederation of Woodworking Industries (CEI-Bois), and included MEPs and stakeholder representatives.

Andreas Kleinschmit von Lengefeld from SIMWOOD partner FCBA gave an overview of the project, and highlighted the growing demand for wood.

[>> More information](#)

Investing in the forest sector

The Nordeste Forest Council (CFNor) met on 20 April in Bragança. CFNor is an informal group of people linked to the forest sector in the Nordeste Transmontano region of Portugal, and was created under the SIMWOOD project in 2015. The group aims to contribute to the promotion of forestry in this region, increasing the supply of goods and services from the region's forests and promoting sustainable development.



Photo: IPB

Sixteen participants attended from a variety of organisations, including the Portuguese Forest Service (ICNF), the Intermunicipal Community of Trás-os Montes, the National Centre of Competences in Dried Fruits, the Association of Wood and Furniture Industries of Portugal, and several companies.

The audience heard the latest results from the CIMO/IPB SIMWOOD team, including tools to support management, evaluation of logistics costs and decision-making on planning and management of forest resources in the Nordeste region. These tools were considered essential, and should be used in the review of the Regional Forest Management Plans now begun, especially in the integrated management of forest stands and in the distribution and marketing of products.



Photo: IPB

The priority areas for the promotion of the forest sector in the Nordeste region and the mechanisms that can promote it were discussed. The high diversity of forests, forest products and services in the region represents an equally diverse set of opportunities for the development of economic initiatives related to the production, processing and distribution of forest products, with the potential to create jobs and wealth and for fixing population in the region.

The production of energy at local and municipal levels from forest biomass based on efficient processes and low environmental impacts, wood processing in sawmills or other units in the forest and in the region and the payment of ecosystem

services to forest owners contributing to their supply were the most discussed topics.

There was however, a trend to consider multifunctional forest management a priority, combining the production of the woody material with the production of non-wood forest products such as mushrooms, resin and others, and provide other services such as the production and regulation of water quality, carbon sequestration and maintenance of the aesthetic and cultural value of forest landscapes.

The meeting established concrete links between decision-makers, businessman, industrials, forest producers, technicians and scientists, facing real opportunities for the development of a strong forest sector in the Northeast of Portugal.

Training of Forest Service managers

On 7 April the local SIMWOOD team organized a one-day training session in Bragança (Nordeste Transmontano, Portugal) for managers from the Portuguese Forest Service (INCF). Four managers attended the session, two of them from the Bragança office of ICNF, all directly involved in forest planning and management in the North region.

The session's objective was to introduce the major tools developed within SIMWOOD regarding the management of forest stands and forest landscapes in the region, and to receive some feedback on them. These tools include a forest growth and yield simulator (FlorNExt©), a landscape forest management simulator (FlorNExtPro©) and a transport cost and emissions calculator (WRoute©).

The tools operate at local and regional scales defining optimal forest management practices and extractable volume and are the core of the decision support system (DSS) to be implemented and tested in the Nordeste Pilot Project.

>> [Access the FlorNExt© application](#)

Recent project publications

Fernando Pérez-Rodríguez, Luís Nunes, João Azevedo

[A software tool for accurate assessment of costs and CO₂ emissions in wood transport using OpenStreetMap®](#)

Mathematical and Computational Forestry & Natural-Resource Sciences 8(1):35-53

Costs and environmental impacts are key elements in forest logistics and they must part of decision-making. The evaluation of transportation fuel costs and carbon emissions depend on spatial and non-spatial data but in many cases the first type of data are difficult to obtain. On the other hand, the availability of software tools to evaluate with rigor transportation fuel quantities and costs and emissions of carbon dioxide is limited.

We present a software tool that combines two empirical validated models of truck transportation using DEM and an open spatial data tool, specifically OpenStreetMap®. The tool provides outputs such as maps with distribution of transport performance (relation between beeline and real road distances), cost and CO₂ emissions for four types of truck. These outputs can be successfully included in forest decision-making support systems. Finally, in this work we applied the tool in a particular case of forest logistics in northeastern Portugal.

Press round up

SIMWOOD's work in its 17 regions has been featured in the media over the last few months.

The project's work in the [Småland](#) region was highlighted in the county of Kronoberg's monthly newsletter:

>> [Månadens innovativa exempel: SimWood](#) ('The regional innovative example')



Regional events

30 May, Seminarium - Sol, vind, vatten och bio (Sun, wind, water and bio).

Linnaeus University, Växjö, Sweden

Regional seminar (in Swedish) on the future of renewable energy. Results from the SIMWOOD project were presented in the context of bioenergy.

>> [More information](#)

>> [Download the programme \(in Swedish\)](#)

9-12 June, 17th KWF-Tagung

Roding, Bavaria, Germany

Forests, People, Markets – Sustainable Synergies

Sunday is traditionally reserved for small private forest owners 'Waldbauerntag'. Additional events and presentations focused on the need of small forest owners to manage their forests.

>> [Download more information](#)

Who to contact for more information

If you would like to become involved in our Regional Learning Labs, please contact the coordinator for your region. You can find them on the SIMWOOD website: www.simwood-project.eu/contacts.html

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