



REPORT

Joint event
OptFor-EU mid-Term Conference
 and the
6th Edition of the Forest Innovation Workshop
**“Building a sustainable Forest Future through
 regional Cooperation and Innovation”**

February 11-12, 2025
Brussels

The 6th Edition of the European Forest Innovation Workshop was jointly organised with the mid-term conference of the Horizon Europe project OptFor-EU and was supported by the Horizon Europe project Forest4EU. It took place on February 11-12, 2025, at the Representation of the Free State of Bavaria to the European Union in Brussels.

With more than 220 registrations and 150 participants, the event offered an important occasion for discussing the needs and challenges related to innovation in the forestry sector from a regional perspective. Over the course of this two-day event, participants had the opportunity to engage with policymakers, forest owners, practitioners, researchers, associations, and NGOs. Together, they explored the latest innovations, exchanged views on regional priorities, and fostered collaboration within the forest-based sector. Discussions focused on the current state of innovation in the European forestry framework, as well as practical and scientific insights related to the "Forests of the Future" and the broader innovation agenda. The event also featured parallel sessions showcasing insights from ongoing Horizon Europe research projects and innovative practices from EIP AGRI Operational Groups in forestry and agroforestry. It included a roundtable discussion with regional authorities on the key priorities and supportive frameworks needed to drive future innovation. The event was co-organized by the European Forest Institute (EFI) and its Bioregions Facility, the ERIAFF network (European Regions for Innovation in Agriculture, Food and Forestry), the European Confederation of Forest Owners (CEPF), the European State Forest Association (EUSTAFOR), the European Farmers and Agri-Cooperatives (COPA-COGECA), the European Landowners' Organization (ELO) and Euromontana, the projects FOREST4EU and OptFor-EU, the Representation of the Free State of Bavaria and the Region of Tuscany. The [event webpage](#) provides comprehensive information on the agenda and presentations.

Welcoming speeches and opening remarks

Verena HESS (Representation of the Free State of Bavaria to the EU in Brussels) recalled the current “stormy times” (climate change, US tariffs ...) and that forests are in the focus of society today. She briefly introduced the forest sector in Bavaria (700.000 forest owners, 2.6 Mio. ha, sustainable forest management, ...) and



emphasized that forests differ largely across Europe. She concluded that we are united in our concerns about forests and the commitment to sustainable forest management. In this context, innovation is of utmost importance.

Juan Carlos SUAREZ-QUINONES (Regional Minister for the Environment, Housing and Landscape Planning, Castile and Leon, Spain) introduced the forest sector of Castille y Leon which is the largest region in Spain and the third biggest in the EU. Forests with 3 million ha cover half of the regions' territory and provide 220 million m³ wood, recreational services, nuts, mushrooms and many other services. This also contributes to the creation of jobs in the region. There are over 170.000 forest owners with an average size of 1.6 ha for private forests. The region has adopted a smart specialisation innovation strategy that includes the forest sector. It is the result of a cooperation between government, businesses, universities, research centres, and civil society. It is supported by regional, national and EU funds. Several EU research projects support the forest sector such as HoliSoils, SUPERB, Small4Good, SMURF. There are also projects financed by INTERREG and the "Regional Innovation Valley Initiative". Innovation in the forest sector can support the fight against forest fires, depopulation and deserted rural areas. Innovation is essential to find solutions to overcome the main challenges that our forests are facing.

Dorota DOBROWOLSKA (Deputy Director Forest Research Institute, Poland) represented the incumbent Polish Presidency of the Council of the European Union with its motto "Security Europe". She emphasized that forests and forestry should contribute to build a safer and prosperous Europe. This encompasses many dimensions, including the environment. On May 28 and 29, the Presidency will organise an international conference on forests. It will address among others the contribution of forests to security in Europe via the protective functions of forests against extreme weather events. Forests cover more than 40% of Europe's landscape. Sustainable forest management requires close cooperation between national and international projects. She recalled the value of national forest inventories to effectively monitor forests and take appropriate measure. Thanks to them, we can monitor changes and implement adaptation measures. Modern technologies can enable better management of forest resources. These aspects are discussed under the ongoing work on the EU forests monitoring framework. The future of forests will depend on innovation. Science and innovation are the foundation for healthy and resilient forests for future generations. The Opt4EU project aligns with important targets of the Polish Council Presidency. Together, we can contribute to a safe and prosperous Europe.

George PREDOIU (European Research Executive Agency, OptFor-EU Project Officer) emphasised that this kind of meetings are important because this is what we want: to promote synergies and collaboration. He presented an [overview on forest related projects in Cluster 6](#) of Horizon Europe. This includes seven ongoing projects on forest resilience. The outcomes of these projects should be combined with those of other projects. We need to work together.

Elisabetta CECCHI (Agriculture and Rural Development Directorate of the Regional Government of Tuscany, Italy; Chair of the Communication Working Group in ERIAFF-the network of European Regions for Innovation in Agriculture, Food and Forestry) reminded on the establishment of ERIAFF in 1992 in Tuscany. It gathers 92 regions from 29 countries. It is a dynamic framework for discussion, exchange and promotion of good practices. ERIAFF has 11 thematic groups. One of the most active is the Forested Regions Working Group. Forests are our heritage and common good which requires responsible management. Today's event is an important opportunity to identify common priorities. ERIAFF published a position paper on the European Network of Forested Regions views on the EU's future forest-related policy initiatives. It was signed so far by 17 regions. Other regions are invited to sign the document. ERIAFF is now engaging with the European Commission to bring these messages forward. The 2025 ERIAFF annual conference in Barcelona from 7 to 9 of April will focus on bioeconomy and the role of forestry in the bioeconomy.



European framework for innovation in the forest-based sector

Three keynote speakers presented relevant aspects of the research and innovation supporting framework at EU level, and insights into the work of EIP AGRI Operational Groups on forest topics.

Pedro Miguel NAVES (Support Facility for Innovation and Knowledge Exchange including EIP-AGRI) informed in his presentation [The role of EIP in supporting innovation in the forest sector](#) on the European Innovation Partnership for Agricultural Productivity and Sustainability (EIP AGRI) that is now part of the EU CAP Network. It finances Operational Groups (OG) that are based on the interactive innovation model. Currently 199 OGs work on forestry innovation, addressing many different topics. This number should be higher. Several Horizon Europe research projects involve OGs. Such involvement is strongly promoted.

EIP-AGRI workshops, seminars and networking events bring together researchers and different stakeholders to identify research needs which can act as basis for future research projects. The report “Research needs from practice” (2023) is available, a new report will come out soon. Open calls on research and networking events are published on the EU CAP Network webpage and in the newsletter. They are also active on social media, with many videos, for example on Youtube. He invites to subscribe for the newsletter on their website. EIP AGRI Focus Groups were very active in the past and are still existing. Their outputs are important. The results from the breakout sessions of this event are relevant for the establishment of future Focus Groups.

Laura LIEPINA (DG AGRI, Research and Innovation unit) informed in her presentation [EU Framework for forestry related research](#) about the EU policy context for forest related research. She emphasized the multiple functions of forests in contributing to European Green Deal objectives, including the 3 billion tree planting pledge. She informed about the many forest-related research projects receiving financial support in Horizon Europe. She reminded on the call for stakeholders to join the Working Group on Primary Producers in the Circular Bio-based Europe Joint Undertaking (CBE JU). She informed on the upcoming call topic for a European Partnership Forests and Forestry for a Sustainable Future in the 2025 Horizon Europe work programme. The consortium development for this partnership is supported by the SCAR Forest Strategic Working Group. The ongoing Horizon Europe project EUFORE is developing a draft Strategic Research and Innovation Agenda (SRIA) for this partnership. The elaboration of the Horizon Europe work programme for 2026 and 2027 is ongoing. The results from today’s breakout sessions are relevant for the definition of research needs to be addressed in these work programmes.

Francesca GIANNETTI (University of Florence, Project Coordinator FOREST4EU) presented an [Overview on Operational Groups on forest-related topics](#). Forest4EU is a Horizon Europe multi-actor approach project for the forestry and agroforestry sectors. It aims to link existing OGs in different European countries to foster the transfer of knowledge and good practices between experts in the field. They collected detailed information from 86 OGs on 175 innovations in forestry and agroforestry. For the analysis, they use 5 innovation topic hubs and different types of innovation. Innovations addressed by the OGs are often technological and process oriented. There are differences between EU regions regarding the main types of innovation. In many cases, OGs introduce new services and products. Many innovations are met with interest across countries. Multilingual collaboration enhances knowledge exchange. OGs want to take part in research and innovation activities, and in sharing the knowledge across countries. Forest owners, forest managers, and researchers are all needed to facilitate innovation.

OptFor-EU Project Mid-Term Conference



The mid-term conference consists of one session with presentations on preliminary results, followed by two panel discussions. A [detailed comprehensive report](#) is available on the project webpage.

OptFor-EU Project: Presentation of preliminary results

Moderator: Sorin CHEVAL (National Meteorological Administration in Romania, Project Coordinator OptFor-EU)

Sorin CHEVAL (Meteo Romania) introduced in his presentation [OPTimising FOrEst management decisions for a low-carbon, climate resilient future in Europe: a brief introduction about the project](#) this 4-year project with the primary objective to co-develop a Decision Support System (DSS) to support a science-based optimization of forest ecosystem services, with a special focus on de-carbonization. The main target groups are forest managers and practice stakeholders. The project covers all the 14 European forest types. The DSS should support the implementation of the EU forest strategy and improved mitigation and adaptation in European forests. Forest managers and other forest stakeholders were included from the very beginning. The project wants to bridge the strategic priorities of the EU with robust science and with stakeholders' needs.

[Co-creation of Forest-Climate nexus data](#) was presented by **Nicu Constantin Tudose** (National Institute for Research and Development in Forestry „Marin Drăcea”). The methodology used to engage stakeholders in the collection of information and to build trustful relationships was presented, and facilitate the e data in the 8 case studies: bilateral meetings, online tools and interviews. Main stakeholder perceptions and needs address climate, forest management and socio-economic aspects. Also, information was collected on obstacles stakeholders see in optimizing climate protection for forests. Based on the key findings of the project so far, some conclusions were presented. There is a real need for increased funding, improved forest management information and enhanced forest resilience.

[Innovativeness of Essential Forest Mitigation Indicators](#) was presented by **Stefanie LINSER** (BOKU University). The aim is to develop a set of novel Essential Forest Mitigation Indicators (EFMIs) with open access code. More than 100 experts were involved in the condensation from 130 potential indicators down to 21 final indicators. The work accomplished so far is innovative on several aspects, for example regarding concept and design, alignment with policy, comprehensive scope and scalability. This method is a pioneer because it introduces the first set of indicators explicitly designed to optimize forest management for decarbonization and resilience at the local level, not at national level. The indicator set was co-developed with active involvement of forest managers and stakeholders and local, but also with international experts. For each indicator, fact sheets will provide comprehensive information. At the end of the project, there will be an extensive open access OptFor-EU database.

Mauro MORICHETTI (Consiglio Nazionale delle Ricerche) informed on [Integrating Climate, Forest, and Land Surface Models to Enhance Sustainable Forest Management Practices and Carbon Sequestration](#). The modelling framework of OptFor-EU uses a combination of forest, land surface and climate models to quantify the forest climate direction under various socio-economic and climate scenarios. One aim is to better integrate the European forest in the global and regional models. Two different types of climate models are used and applied in two phases, first on European scale and second, with higher resolution at the national level. Another important step is to integrate the new forest management practices in the models by using four regional climate models and three management scenarios. In land surface model, different methods of forest management are compared regarding their impact on carbon and water fluxes.

[From science to practice: the Decision Support System \(DSS\) for forest managers](#) was presented by **Harald VACIK** (BOKU University Vienna). Forest managers need new tools and methods to address the demands on different ecosystem services to be provided under climate change. These tools include new techniques on



uncertainty analysis and ecosystem models, and some different ways of analysing flash data sets. Today, multiple decision processes need to be managed. Different actors work together in developing a DSS by balancing three main factors: the play, the meaning, and the reality. The DSS has to capture the reality, some purposeful meaning, but it also has to allow to make choices. A toolbox approach might be the best way of allowing a low barrier access, the integration of different knowledge types, and addressing different needs of stakeholders. Using the toolbox approach, OptFor-EU so far designed a first prototype of the DSS, including an Explorer and an Evaluator component. Visualization is a key issue to bring complex information to the end user.

OptFor-EU Project: Panel 1- Predicting the Future of Forests - the Scientific Perspective

Moderators: Francesca GIANNETTI (BlueBiloba) and Mauro MORICETTI (Consiglio Nazionale delle Ricerche)

- Razvan PURCAREA (Simavi) OptFor-EU project
- Marcus LINDNER (EFI) RESONATE project
- Aleksi LEHTONEN (LUKE) HoliSoil project
- Alexander PINTER (Holzcluster Steiermark) FOREE project
- Rebecca HOLLIDAY (Met Office Hadley Centre)

The panel explored how scientific advancements and research projects are forecasting and managing forests amid climate change. The panellists highlighted the importance of advanced tools like Decision Support Systems (DSS), collaboration between scientists and stakeholders, and put the accent on visualising future scenarios through 3D modelling, enhancing forest resilience, and understanding management impacts on soil. Panellists also addressed the challenges regarding knowledge transfer, and of balancing usability with scientific complexity. The impact of bioeconomy demands, and climate disruptions was emphasised, alongside the need for forest diversification and both short and long-term adaptation strategies. The panel thus underscored the critical role of scientific innovation and collaborative efforts in navigating the uncertainties of future forest management. The integration of advanced technologies, effective knowledge dissemination, and a proactive approach to adaptation are essential for ensuring the health and resilience of forests in the face of climate change.

OptFor-EU Project: Panel 2-Policy making challenges and opportunities

Moderator: Alice LUDVIG (BOKU University) and Nicu Constantin TUDOSE (National Institute for Research and Development in Forestry „Marin Drăcea”)

- Giuseppe CARDELLINI (VITO) ForestPaths project
- Laure-Lou TREMBLAY (IEEP) ForestNavigator project
- Elisabeth SCHATZDORFER (EFI) SUPERB project
- Hardo BECKER (Estonian State Forest Management Centre)

The panel addressed policy obstacles and opportunities in forest management, restoration, and climate mitigation. Panellists stressed the importance of closing stakeholder knowledge gaps and of projects co-designing mitigation pathways while considering biodiversity and bioeconomy needs. They also discussed assessing climate mitigation potential, demonstrating ecosystem restoration, and the implications of the new EU Nature Restoration Law, while improving forest monitoring, considering carbon leakage, and the need for social innovation to engage the public. The panel highlighted the complex interplay between policy, science, and societal needs in shaping the future of forests. Effective policy frameworks must be grounded in robust scientific evidence, incorporate diverse stakeholder perspectives, and address the multifaceted challenges of climate change, biodiversity loss, and economic sustainability. The need for adaptive governance and continuous monitoring is crucial for ensuring that forest policies remain relevant and effective in a rapidly changing world.



Breakout sessions-Presentation and discussion on innovation initiatives

Two rounds of breakout sessions were organised with four discussions tables, each dedicated to one overarching innovation topic. Rotation between the two rounds allowed participants to learn about two of these four topics. At each table, there was a presentation by one or two research projects on the main topic, followed by 2 to 3 presentations by OGs presenting concrete innovation cases on the respective topic.

In the discussion after these presentations, participants had the opportunity to

- 1) improve their understanding of the cases presented;
- 2) identify opportunities to spread the idea or establish cross-border cooperation through relevant EU initiatives, for example activities within the European CAP Network, but also through other programmes/instruments at national or regional level;
- 3) propose other ideas related to the topic/innovation challenge, in addition to the aspects of the presented cases including identifying research needs.

Topic A – Adopting decision support tools for small-scale forestry

Chair and note taker: Danijela Šarić BARTOLOVIC (CEKOM) and Riccardo CASTELLINI (CESEFOR)

This table had around 36 participants along the two rounds of discussion.

Presentations

[SMURF Project](#) Alvaro PICARDO (CESEFOR)

It is a forest owners' project focused on creating a sustainable and profitable European forest-based value chain, with emphasis on small forest owners. They need professional support, also to motivate them to actively manage their forests. Money is not the main driver for maintenance of the landscape. A new communication campaign at EU level would help supporting practical collaboration. Furthermore, it is necessary to improve the land register, also at regional level. We have to find ways to register forest properties which are often ignored by the owners because they have no value for them. Information and knowledge transfer are essential to move things forward. Collaboration is the basis for the improvement. All forestry actors can learn from the experience of each other.

[GO SURF Operational Group \(Italy\)](#) Francesca GIANNETTI (University of Florence)

This OG aimed to create a Decision Support System (actually a web GIS platform) in pilot areas based on spatial modelling to support sustainable forest management at company scale. As an example, in Tuscany the main problem is the abandonment of forests and the small forest ownership (generally smaller than 5 ha). They learned that the actors in research, informatics and the forest managers need to dialogue. The tool is useful, but some specific training is needed.

[eGOZD Operational Group \(Slovenia\)](#) Matevz TRIPLAT (Slovenian Forestry Institute)

This OG aimed to increase digitalization and reduce administrative burdens on farms by optimizing forest-wood value chains and intensifying private forest management. We need a real market for the forest value chain and not only a system of payments for ecosystem services. The OG researched on advantages of previously implemented projects, extracted element relevant for the eGOZD OG, and created a unique tool which is used as a testing surrounding. The OG struggled with the expansion of the tool usage due to the reluctance of potential users to share confidential information necessary for personalisation of data and reports created within the application.

[PRI.FOR.MAN Operational Group \(Italy\)](#) Luca CADEZ (University of Udine)

Effective forest management is critical for balancing ecological, economic, and social objectives. The OG presents an innovative approach to addressing this challenge. A [web GIS](#) forestry decision support system has been developed that is very easy to use. It is conceived especially to facilitate the dialogue between technicians, companies, administrations and owners. Integration between



various tools is needed, including already existing successful EU platforms such as the METSA in Finland, la Forêt Bouge in France or Waldwirt in Germany. The next objective would be to have a single tool, applicable for entire Europe, taking into consideration the differences between ecosystems. A lot of data has been gathered and analysed in recent years using the new technology. The challenge is to create a tool which will not offer a great deal of options for the practitioner but delivers advice based on data analysis. It is essential to create tools easy to use and understand by practitioners. GO SURF and PRI.FOR.MAN developed DSS tools which are taken to the national level as a unique tool to be applied on greater areas (not only local/regional).

Outcomes from the discussion

Challenges:

- DSS adapted to local level conditions/needs
- Lack of communication and linkages between sectors (private forest owners, forest practitioners, R&D sector, policy level)
- Data overload (focus on data, not on advisory role)
- Low level of awareness among stakeholders on DSS tools
- Abandonment of forest properties
- Lack of EU level forest related policy (Common Forestry Policy)

Measures:

- Development of EU level DSS tools
- Development of an EU level forest communication strategy
- Improvement of data usage/digital skills
- Implementation of awareness raising campaigns on innovation in forestry
- Improvement of the land register at regional level
- Cross-border and cross-sectoral collaboration on development of joint strategy development and practitioners' involvement

Lessons learned/recommendation for future steps:

- Money is not the main driver for the maintenance of the landscape
- Communication & information exchange between researchers, ICT, private forest owners, forest managers
- Key factor is PEOPLE, therefore experience and knowledge transfer is needed
- Introduce a balance between timber market and new forest related markets (carbon sequestration and storage, biodiversity, other ecosystem services)

Topic B - Forest restoration in a changing climate

Chair and note taker: Benjamin CHAPELET (CNPF) and Francois MORNEAU (CNPF), and Kathrin BÖHLING (LWF) and Mikael LILIUS (ELO).

This table had around 50 participants along the two rounds of discussion.

Presentations

SUPERB Project Elisabeth SCHATZDORFER (European Forest Institute EFI)

Project goals are demonstration, testing and monitoring of restoration strategies on the ground, and creating an enabling environment for restoration. It is the forest-related project with the largest EU funding in Horizon Europe (20 Mio €). 90 associated partners give the project access to land (demonstration areas) and people working there on restoration. This was decisive for the acceptance of the project proposal. It follows a broad view on "restoration": not backwards, but forward-looking to include the need for climate adaptation and ecosystem services into strategies. There is not one restoration goal that fits for all but many. Half of the project funding goes into implementing and monitoring of restoration strategies. The project starts from



existing management practices. Overarching principles are integrative management (incl. stand and landscape level) and prestoration (i.e. integrating highly needed climate change adaptation into forest restoration). Researchers are supposed to make information easily digestible and well searchable on the “Forest Restoration Gateway”. A recent policy paper informs on two different pathways for active management in forest restoration (EFI Policy Brief 11). The EU Nature Restoration Law does not provide an answer on how to adapt to climate change; it is “quite ignorant” to climate change. One big challenge to restoration across Europe is browsing of forest seedlings and trees by ungulates.

[BIOSEIFORTE/SlideForMap Operational Group](#) Ilenia MURGIA (University of Florence)

The OG is based in the Italian Apennine. It focuses on forests protecting against natural hazards and how to integrate biodiversity into forest management. SlideForMap builds on BIOSEIFORTE and focuses on monitoring of natural hazards. It represents a software that uses data on land cover and slope stability analysis to produce results on the probability of landslides according to three scenarios: without vegetation cover, past scenario (1954), current scenario (2021). Often, it is difficult to find input and output data, also their quality varies. SlidForMap organizes courses to train potential users (lay people) to use this tool. Different species have different effects for stability because of the root systems and other factors.

[EUROFORNORM Operational Group](#) Eric HINCELIN (CNPF)

The OG was initiated and led by the Norman foresters’ community’s association in which more than 1.000 elected officials take role as forest representatives of their community. The OG was concluded two years ago but the network is still active. It is a multi-actor partnership consisting of eight partners. The OG provides support to adapt to climate change in forest management, mediates between residents and foresters and seeks to imagine and test information and dialogue tools. There is awareness that adaptation strategies are criticized. Therefore, different views are respected and collaboration promoted. Some people think that forest managers should wait that the forest dies and to then act. This is not the perspective of the OG. Inside groups, debates can be intense, but we always try to find solutions that are respectful. Not everything is perfect, and debates continue. Creating trust is vital for the success of an OG. To synthesize information, games for children are organised. The “theatrical forest excursion” they organise are not available on the internet because of limited resources.

[OG Bee forest](#) Judith TREIS (Comunis Projektbüro)

The OG was established as a response to forest dieback, storm and bark beetles that forest owners in Hesse (and other “Länder”) in Germany are faced with. Two farms are involved as in the regions there are many farms that also own forests. To improve habitats for bees, they created different types of bee forests using three concepts. Public funding was available for one of them. Criteria for tree species selection were quality as food source for bees, allowing for timber harvesting, and adaptation to climate change. For example, willows are first blossoming tree in spring and a very valuable food source for bees. Acacia is well-adapted to climate change. The current forest advisory system didn’t know what to do and could therefore not provide advice. Bee forest is interesting for beekeepers because they can harvest special honey without the need to have more bee colonies, which is risky.

Outcomes from the discussion

1. Links between OG and EU Projects

We are protecting forests but also forests are protecting us.

It is difficult to relate to people because people tend to have an understanding of forests that does not really reflect the real situation.

Communication with society is very important because 50% of the population live in cities and live far away from nature.



It is important to engage with society. Bee forest offers visits for school classes and communities. EUROFORNORM has a network and tries to work with it. Personal relations are important but need to be built up over many years. SUPERB offers a “Transformative narrative guide” including a stakeholder mapping methodology.

For forest restoration, locally found solutions are important. There is no general solution. You need to find practical solutions at local level. There is no copy and paste from one context to the other, but there can be inspiring examples.

2: Gaps/research needs

For a farmer, there should not be any funding without economics (consider: 1 ha afforestation = 30.000€). More and better data is needed to improve modelling. The problem is not necessarily that data is not there but not in a sufficient quality. There is much land observation data and potential for synergies. Artificial intelligence (AI) is limited in modelling for extreme weather.

Need for research on social acceptance of climate adaptation strategies in forest management (sociological research).

An important question is on the reference point for what we want to achieve with forest restoration (EU Nature Restoration Law).

Replicability and upscaling of restoration strategies. In forestry, we need to find local solutions and have to adapt solutions to local contexts. Three factors are important: biogeographical zones, people who are ready to implement strategies, and the legislative contexts.

3: Knowledge transfer and advisory systems

Platforms and AI tools still do not replace professional knowledge and scientific research. Existing platforms should be developed to be more targeted and searchable.

We have to reform the advisory system. Challenges include hierarchy, different knowledge forms do not have the same weight, should be more participatory, practitioners do not want to be the last in the information chain.

World café is a useful format to bring different groups together and to promote participation, because everyone is both a speaker and receiver.

4: Potential for cross-border collaboration

Seed database for tree species in SUPERB is well connected with research community

5: Financing cooperation

Financing for assisted tree migration beyond Europe is needed, including countries south of Italy and Spain. Nativeness of tree species tends to be contested and is really also a question of how it is perceived.

In Hungary, beech will disappear. The real problem is that people in Brussels do not understand the speed of [climate] change.

CAP strategic plans can be amended every year. This needs to be done by national and regional authorities.

Topic C – Valorizing non-wood forest products for healthy consumption patterns

Chair and note taker: Aida RODRIGUEZ (CESEFOR) and Mercedes CARON (EFI)

This table had around 27 participants along the two rounds of discussion.

[INCREDIBLE Project](#) Inazio MARTINEZ DE ARANO (European Forest Institute EFI)

It is a thematic network focused on creating economic, social, and environmental value through improved production, collection, processing, and marketing of Mediterranean non-wood forest products (NWFPs). The project built a bi-directional channel to connect science and practice in the production, processing and trade



channels of five different groups of Mediterranean NWFPs: cork, resins, mushrooms & truffles, wild nuts & berries, aromatic & medicinal plants.

BBionets Project Patrizia BORSOTTO (Consiglio per la Ricerca in Agricoltura e l'Analisi dell'Economia Agraria CREA)

The project aims to stimulate economic growth in agriculture and forestry by valorising biomass. It established a thematic network to further the work of EIP-AGRI OGs, particularly in the management and processing of agricultural and forest biomass using bio-based technologies (BBTs).

GORESINLAB Operational Group Blanca VALVERDE (COSE)

The OG elaborated innovations on improving the mechanization of resin extraction and establishing a data observatory to enhance transparency and knowledge transfer.

PLATISOR Operational Group Luis Filipe P. BOMIFACIO (Instituto Nacional de Investigação Agrária e Veterinária)

This OG developed a management technique for cork oak forests to combat the Pinhole borer (*Platypus cylindrus*) and activities to transfer the technique to practitioners.

Outcomes from the discussion

Collaboration between OGs and Horizon Europe projects could prove advantageous. Specifically, OGs could provide valuable on-the-ground insights and practical innovations, while Horizon projects could scale them up at the supranational level. The role of Horizon Europe Thematic Networks was highlighted, particularly in disseminating innovations and good practices developed by OGs across borders. However, participants expressed concern about the growing number of OGs and the decreasing number of Thematic Networks, which may hinder collaboration. The role of projects with cascade funding to support smaller initiatives was also emphasized, particularly in disseminating OG resources and fostering new connections through network creation.

Concrete activities to foster cooperation would include cross-border conferences, seminars, invited speakers, and living labs that promote in-person interactions. These activities would allow for the exchange of easily understandable information and demonstrate successful practices. Language barriers should be addressed as they might pose an impediment. Important is also interregional cooperation, particularly international study visits, to facilitate peer-to-peer learning and strengthen relationships among participants while empowering the partners in OGs that develop concrete innovations for the sector. Highly adaptable tools that foster interaction, deliver clear messages, and share practical examples and experiences are recommended to promote interregional cooperation.

OGs face challenges due to the limited duration of many projects, particularly in the forestry sector, where practices and innovations often require years to be designed, implemented, and tested. Providing longer-term funding for high-performing OGs could ensure both the sustainability and further development of these innovations. Developing clear evaluation criteria is essential to identify which OGs deliver the best results. Once the most impactful OGs are selected, available resources can be optimized, thereby directing financial support where it can have the greatest effect. There is also a growing need for accurate cost-benefit evaluations of innovations in forest management practices. The private sector emphasized the importance of identifying niche markets or developing certifications to increase the value of non-wood forest products and compete with alternative sources, such as imported pine nuts or hydrocarbon resin. Community or alternative certification processes should be explored to increase the value of products. Additionally, given the shared challenges many member states face regarding non-wood forest products, cross-border OGs were proposed to address common issues by leveraging diverse experiences and approaches.

Research needs and new ideas related to valorising non-wood forest products include advancing knowledge on scaling up innovations, testing replicability, and increasing impact. The role of thematic networks in



developing and testing such approaches was also highlighted, along with the potential for international study visits and the development of applied methodologies to host them to secure their success and impacts and methods to assess innovations and evaluate their applicability in different contexts. Social sciences have a central role in advancing the non-wood forest product sector. Social conflicts, such as outsourcing fieldwork, should be addressed through social innovation and research. Improved connections between forest owners, producers, and users are needed, as well as a renewed alliance with European citizens, focusing on a holistic approach to forests and their use.

Topic D – Agroforestry innovations

Chair and note taker: Rosa Maria MOSQUERA-LOSADA (USC) and Ana VENTURA (Solutopus)

This table had around 50 participants along the two rounds of discussion.

[AFINET Project and AF4EU Project](#) Maria Rosa MOSQUERA-LOSADA (University of Santiago de Compostela) AF4EU (Agroforestry Business Model Innovation Network) is based on AFINET (Agroforestry Innovation Networks) innovation outcomes, which are used to design strategic and local business models to support farmer decisions, considering the value chains. Spreading the knowledge and results is needed.

[FORESTCELTA Operational Group \(Spain\)](#) Ivan RODRIGUEZ PAZ (ASOPORCEL)

It deals with an automated feeding system for autochthonous breeds (pigs). The innovation has to be spread to new regions, enhancing the system and application.

[NEWTON Operational Group \(Italy\)](#) Jacopo GORACCI (Tenuta di Paganico) and Francesco MARINI (PEFC Italy) It deals with the certification of agroforestry products and management, based on soil, forest, animal and carbon components. A life cycle assessment (LCA) is associated with extensive grazing systems. It needs to be combined with international trends (e.g., on behalf of FAO).

[FERTIPINEA Operational Group \(Portugal\)](#) Pedro SILVEIRA (ANSUB)

It deals with nutrition of stone pine (*Pinus pinea*) in rainfed and irrigated systems. Based on soil and leaf analysis, recommendations and reference values for fertilisation to new and mature stands were elaborated. Also, they established biometric and eco-physiological indicators to evaluate environmental stress. The approach needs to be used also for other species.

[ECOMONTADO XXI Operational Group \(Portugal\)](#) António REIS PEREIRA (UNAC)

Field testing of new techniques and innovative approaches to soil restoration and water use based on the Keyline method (a topographic line contouring the relief resulting in water accumulation). It is an early nature-based solution, coupled with technology, to balance water retention and soil moisture. Continuity of the application and credible solutions in the forest are needed.

Outcomes from the discussion

1: Potential cross-border collaboration and financial cooperation

Resources efficiency is a key aspect to be considered in all projects and initiatives. In this regard, there is a need for improvement of the technical standard methodologies and results circulation. The use of existing networks (e.g. ERIAF, COPA/COGECA, among others) can add value and spread the word and application of results in similar conditions. Strengthening the role and funding of dedicated Thematic Networks will be a recurrent topic with proved efficiency in this cooperation domain.

The related Policies and regulations, at the first moment, are considered at the national level and there is frequently the need for their adaptation and update, to allow collaboration and not competition among institutions and regions. The national CAP frameworks and research financing instruments are pushing for



collaboration between the OGs at regional and national levels but not among countries. This is against the intended cross-border cooperation.

2: Opportunities

The knowledge transfer and advisory systems should be at the core of the opportunities for agroforestry innovations. In relation to the knowledge, the complementarity between new technologies and ancient practices is very relevant in forest and agroforestry. Similarly, the use of international knowledge complementarity is envisaged. However, a constraint emerges frequently and influences negatively the impact of the work done in research and subsequent actions: the time frame for agroforestry and forest-related projects and OGs is commonly short, limiting seriously the results, reliability and use. The available materials (documents, others) resulting from OGs work is considered enough for the national dissemination. As for the international purposes, the most common is the absence of exchange and of exploitation of the available material beyond borders, even when covering suitable themes for more than one country. Language barriers and lack of communication are the main reasons. The advisory system could eventually support the knowledge transfer. However, in the presented OGs, it was not very relevant. Only in the AF4EU project was the advisory system deployed. Indeed, knowledge transfer is limited by the resources and by the type of partners' collaboration (mainly for the OGs).

3. The future

It is mandatory to monitor the results of OGs, projects and other initiatives before subsequent funding, adopting essential steps:

- 1st- Monitoring the project execution or OG development.
- 2nd- Results evaluation (self and external) beyond mandatory documents, keeping the field connection and goals in mind.
- 3rd- The usefulness of the work and research is the primary concern, as well as being connected with the end users.

Agroforestry has the potential to be extended across EU biogeographical regions, supported by credible business models. Here, the dissemination of the technology (coupled with a realistic ground basis), ancient practices, and nature-based solutions (all in accordance) may contribute to enhancing the role of agroforestry systems, with relevant social, economic, and environmental gains.

Reports from the breakout sessions

Main outcomes of the discussion on the four overarching innovation topics addressed in the breakout sessions were presented.

Topic A: [Adopting decision support tools for small-scale forestry](#) Daniele SARIC BARTOLOVIC

Topic B: [Forest restoration in a changing climate](#) Benjamin CHAPELET

Topic C: [Valorizing non-wood forest products for healthy consumption patterns](#) Aida RODRIGUEZ

Topic D: [Agroforestry innovations](#) Ana VENTURA

EUFOR Project: Driving Innovation in Forestry: Barriers, Solutions, and Future Opportunities

The Horizon Europe project EUFOR is developing a draft research and innovation agenda that will guide the work of the future European research partnership "Forests and Forestry for a Sustainable Future". In this session, the EUFOR project informed about the progress it has made on this agenda and invited participants to contribute to this process. The session was moderated by **Ivana ZIVOJINOVIC** (BOKU University Vienna, European Forest Institute Forest Policy Research Network).



Block 1-[Mapping forest innovation activities in Europe: factors, barriers and solutions](#) **Ivana Zivojinovic & Stojan Ivanovic** (BOKU University Vienna)

Main aims of this work in the EUFORE project were an overview and analysis of recent research and innovation activities, trends and factors affecting the innovation development in Europe related to the forest-based sector. It includes literature review, EU project database analysis, expert interviews, and surveys with companies, governments and interest organisations. The highest number of research projects related to the forest-based sector in the period 2013-2023 was found in Italy and Spain. Germany is leading in academic output. Finland, Sweden and Austria are leading on technology innovations and patents. Process and product innovations are dominating versus other types of innovation (social, marketing, organizational, etc.). Factors fostering innovation slightly differ for companies and other institutions. Market demand dominates for companies. For other institutions, knowledge transfer, regulation and financial access dominate. The most important hindering factors are ineffective bureaucracy, regulatory barriers and lack of funding with almost equal relevance for both companies and other institutions. A set of conclusions was elaborated, including fostering stronger collaboration between regions and promoting innovation systems that support SMEs. Some Eastern European public forest companies are reluctant to bring innovations into practice as this would reduce the number of people employed. Funding support, skills, and initiatives are key for realizing projects. In the period used for the literature review there was a noticeable trend towards more focus on social innovations. The reasons for different amount of innovation and involved companies in the western countries versus Austria/Finland/Sweden are not elaborated. In many countries the forest-based ecosystem is smaller.

Block 2-[Exploring opportunities through the open innovation ecosystem](#)

The open innovation ecosystem and the EUFORE Innovation Working Group were introduced. Participants contributed via Mentimeter to a number of concrete questions. On the question “What is the most frustrating aspect of applying for EU forestry innovation funding?” answers addressed too much bureaucracy, mismatch with real needs, elitism, and slow approval times.

Introduction to the Regional Authorities Roundtable Discussion

Kathrin BÖHLING (Bavarian State Institute of Forestry, Forest4EU project work package “Policy learning from innovation practice in EIP-AGRI OGS”) informed in her presentation [Administration of innovation in forestry and agroforestry: Enabler, barrier or both?](#) about the role of administrations in innovation in forestry and agroforestry. Building on the evidence collected by the Forest4EU project from OGS, she concluded that the interactive innovation model seems to take hold in forestry and agroforestry. Innovation in the forestry sector is not primarily about technological fixes but about managerial and institutional changes. Regional administrations can support these changes with a reliable innovation system that sustains interactive learning over time and allows for exploration. As many OGS only last for 2-3 years, the challenge is to sustain innovation, but also to spread ideas to start-ups. The multi-actor partnerships in OGS could be used as a breeding ground for new initiatives and collaboration.

Regional Authorities Roundtable discussion on priorities for innovation and a supportive framework

In the following roundtable debate, moderated by **Fabio BOSCALERI** (Permanent Representation of Italy to the EU, former secretary general of ERIAFF), four representatives from EU regions and one from DG AGRI discussed the priorities for forest innovation:

Bavaria: **Maximilian MUNINGER** (Bavarian Ministry for Food, Agriculture and Forest, Germany)

Castile and Leon: **Javier EZQUERRA** (Deputy Director on Natural Heritage and Forest Policy in Junta de Castilla y León, Spain)

Croatia: **Zdenko BOGOVIC** (President of Croatian Union of Private Forest Owners’ Associations)



Tuscany: **Toni VENTRE** (Agriculture and Rural Development Directorate-Forestry Sector, Regional Administration Tuscany)

Elin JOHANSSON (Policy Officer on Rural areas & networks, DG AGRI)

Bogovic informed about the system for payments for forest ecosystem services & biodiversity established in Croatia for 30 years. All companies pay less than 2% of their annual income for the support of ecosystem services. This money is used to finance the elaboration of national forest management plans and fire prevention. Bureaucracy and lack of capacities pose challenges. Careful use of remote sensing with satellites is needed as analytical models are not suitable for natural regenerated forests. Ground truthing by fieldwork and controls is crucial.

Ezquerria informed about the funding, enhanced practices and digital tools directed towards developing a system for mushrooms in forests. Foresters are more traditional than innovative. This makes change of practices difficult. They face an increasing number of fires and disturbances. Some forest-relevant EU regulation go in the direction that forests should be left alone, but this is a wrong idea. They used diverse funding opportunities. The frame of the OGs is required to create growth and join different stakeholders. The discussion highlighted the strong forest innovation ecosystem in Europe. Innovation in the forest sector has to address changing minds, breaking inertias, reorienting policies and eliminating administrative burdens and barriers. Transferring and interchanging knowledge and experiences is crucial in order to accelerate the effectiveness of innovation progress. A wide scope in the forest-related policies of the EU is needed, recovering a balance between environmental issues and other perspectives as goods production, employment or bioeconomy. Non-intervention is clearly not an option to be considered in a general way, neither from an ecological point of view nor regarding wildfire prevention.

Muninger recalled as last real innovation in the early 90s the start of a new level of mechanized harvesting and logging. His region also uses a new app with all relevant forest, soil and decision-making data for forest owners. A fully digital funding solutions will come next summer. Also, digital maps on soil and water balance are coming up. Innovation is hardly happening in the forest space. Real innovation would be to change the mindset of forest owners in order to promote better sustainable and adaptive management of forests. Different funding options at different levels are beneficial as they help to select the right one for the right situation. Timing and the duration of applications processes are also important.

Ventre informed about a project to govern and monitor forests in Tuscany. Another project explored the multifunctional roles of forests and the use of forest therapy for mental health issues. For innovation to be effective, it is necessary that all the actors are involved and made protagonists: from universities to businesses, from local administrations to communities and associations. The Region of Tuscany has for many years promoted and supported participatory processes in forest management and in the governance of rural territories. To promote sustainable forest management, all 110 000 hectares of regionally owned forests are obtaining certification under both the FSC and PEFC schemes. With this, public property can set an example for the promotion of the entire sector and for an effective enhancement of the multifunctionality of forests. In the next CAP programming period, a push more toward projects with a high level of consistency between innovative content and application level is needed with an increasing demonstration character of projects and projects that generate close-to-market mechanisms. Forestry enterprises should be placed as the pivot of project development and not just as project extras. A clear and defined framework for applying payment for ecosystem services is needed to systematize an increasingly chaotic framework that threatens to undermine a huge opportunity for rural areas and beyond. Regional administrations should hold a kind of innovation database and able to guide innovation toward specific regional goals. International and cross-border cooperation is important for the transfer of practices and methodologies, creating shared tools, methods and mechanisms and if possible applied in similar forms. Currently it is easier for research to work



and share innovation mechanisms than to apply them in different countries. Return the negotiation of rural development programs to the regional level for greater effectiveness and adaptability to different local contexts but also to stem the sense of remoteness that citizens and businesses feel toward European institutions. The entire forestry sector has deep ties with the land, the landscape and the communities, and it will have to redouble its efforts to finally see its key role recognized, so that it can effectively face the environmental, climatic, economic and social challenges.

Johnsson: A good amount of forest innovation exists. The challenge is to upscale outcomes. The EU through the CAP plays a key role in supporting forest innovation, which is essential for promoting sustainable forest management, mitigating climate change, and contributing to economic growth and rural development. EIP-AGRI with its Operational Groups help to speed up innovation also in the forestry sector. A study on OGs highlighted several success factors (composition of OG projects with a balanced mix of complementary expertise; Bottom-up approach based on actual needs on the ground; Co-creation and active involvement of the farmer/foresters). One of the most efficient dissemination tools is peer-to-peer activities and on-farm demonstrations. Management Authorities, advisors, national networks, and innovation support services are essential for a successful innovation project. It is too early for concrete information about the CAP next programming period. The Vision of Agriculture and Food will give a first direction and will recommend ensuring better access to and use of knowledge and innovation, but also to simplify reporting obligations, payment times, and funding constraints. Increasing cross-border and transnational projects and targeted support to upscale project results will be addressed.

Conclusions and next steps

Sorin CHEVAL (OptFor-EU project coordinator) thanked all contributors to the organisation of the event. He recalled that central-eastern, and south-eastern Europe are less represented in EU research projects. OptFor-EU and other projects have demonstrated that the countries in these regions are determined to participate in the European effort to advance the forest innovation.

Francesca GIANNETTI (Forest4EU project coordinator) emphasised that the event created a fertile environment for exchanging ideas and discussing the challenges and future opportunities for innovation in the forestry and agroforestry sectors. Innovation in these sectors arises from social processes and needs effective communication and dissemination approaches, like peer-to-peer exchange. Innovation also requires time, perseverance, and collective efforts.

Samuele PII (ERIAFF Coordinator) thanked the founders of the European Forest Innovation Workshop, Harald Mauser and Fabio Boscaleri, and all the organisations contributing to the current edition. He confirmed the commitment of ERIAFF to organize future editions of the workshop. He announced the opening of the registration to the XI Annual Conference of ERIAFF, in Vic (Catalunya) from 7th to 9th of April, dedicated to “Transformative Innovation: Circular Bioeconomy for Rural Development and Resilient Landscapes”. He also informed on a position paper elaborated by the ERIAFF working Group “Forested Regions” on the EU’s future forests that was already signed by 17 regions. The position paper provides some guidelines and new policy initiatives for implementing a multifunctional forestry in Europe. If the EU intends to continue playing a global role in the forestry sector it, has to invest more on innovation. Stakeholders need is to promote new workshops like this one and also more effective communication of the potential of the forestry sector in Europe.

The event moderator **Harald MAUSER** (European Forest Institute) recalled that the event brought together more than 220 registered participants, 13 research projects and 14 OGs, all dealing with forest topics. This is unique as in Brussels there never was such a meeting of researchers, practitioners and regional



administrations to discuss forest innovation. He informed on the availability soon on the [event webpage](#) of all presentations and a documentation of the discussions. The [OptFor-EU](#) and [Forest4EU](#) projects will elaborate deliverables according to their project grant agreements. Some of these deliverables will refer to the discussions of this event. The elaboration of these deliverables will take some time. They will be made available on the project webpages. He invited all participants to engage in innovation activities in their regions and come up with new initiatives within the rural development programmes, the European CAP Network and other programmes and instruments at EU, national and regional levels that support forest innovation. The already ongoing debate on the next period of the CAP and the next framework programme for research and innovation (FP 10) should be used. The stronger the advocacy, the more likely there will be strong support for forest innovation.

Sincere appreciation is extended to all co-organizers and their representatives for their valuable contribution in coordinating and delivering the 6th Forest Innovation Workshop and the OptFor-EU mid-term conference. Gratitude is also extended to the Free State of Bavaria for generously hosting the event, and to the Tuscany Region for its continued support. Appreciation is likewise expressed to all speakers who enriched the workshop with their insights, expertise, and active engagement in the discussions. Special thanks are due to the individuals who contributed to the smooth and effective preparation and running of the event: Andrea Arancibia, Claudio Bondi, Siebe Briers and Franciszek Kaczmarek (EFI Bioregions Facility); Riccardo Castellini, Elena Moreno, Tiina Paakkari, Alvaro Picardo and Veera Ylipieti (ERIAFF); Tim Hartl, Diana Kojic and Fanny-Pomme Langue (CEPF); Roberto Strelsta (EUSTAFOR); Mikael Lilius, David Montoro, Ona Neagu and Emilia Oita (Copa-Cogeca); Ana Rocha (ELO); Beatrice Bellavia (Euromontana); Duccio Calussi, Adele Peschi and Filippo Bechi (Tuscany Region); Solaria Anzilotti, Irene Frattoretto and Giuliano Secchi, and Ilaria Zorzi (University of Florence); Hanny Bratu, Magda Constantin, Roberta D’Angiolella, Elpida Filippaiou and Orieta Hulea (OptFor-EU project); Kathrin Böhling and Francesca Giannetti (Forest4EU project); Christoph Härle, Verena Hess and Janina Merziglod (Permanent Representation of the Free State of Bavaria to the EU).