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Poster ABSTRACTS

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A European perspective of the institutional and governance factors for enquiring climate mitigation measures in forest management

Forests, which cover globally 31% of the land area, are a key component for ensuring essential ecosystem services to society. With a fundamental role in mitigating climate change, forests absorb large amounts of emissions and act as a carbon reservoir. Preserving their functions and enhancing their resilience is essential for achieving climate ambition and sustainable forest management. This ambition should be a priority for forest owners and managers but request a bottom-up approach and redesigning the policy frameworks of forest management.

In this respect, we have developed an expert survey that aims to create a comprehensive map of the institutional and governance factors that impact the uptake of climate mitigation strategies. The survey which comprises almost 40 questions enquires the contextual factors and possibilities for policy support as well as the hindering factors for uptake at different levels (EU, national, regional, landscape). The survey was designed for forest managers from eight case studies across all European forest types (14). The targeted forest managers are from all geographical/administrative levels (EU, national, regional, local) and occupy administrative, functional, and decision taking responsibilities concerning climate adaptation and mitigation along the forestry sector, including the forest-based value chains (also non-wood forest products), as well as biodiversity and environmental protection.

The outputs of 160 answers emphasize that information and awareness about forest management are available and extremely important and represent a priority for institutions/organizations interested in improving current forestry management activities and have a long-term vision, plans, and strategies regarding the future of forest management.

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AGROTWIN, A drone DSS based

The AgroTwin project aims to exploit 3D point clouds (big data) generated by consumer-grade RGB drones in order to develop a Decision Support System (DSS) based on innovative AI computer vision algorithms, that automatically analyse vineyards digital twin and assess for canopy biometrics and field parameters, to create vigor and prescription maps for optimized variable rate pesticide treatments. The proposed DSS will help farmers to reach the EU Green Deal targets, that aim to reduce the use of pesticides by 50% by 2030, decreasing economic, social and environmental impacts in agriculture.

The challenges of the proposed project involve developing the computer vision AI algorithms, ensuring data accuracy and reliability and effectively reaching end-users in rural areas. These challenges will be addressed by testing and validating the solution in a real winery with real working conditions, also comparing results to field manual measurements, in order to minimize the risks, collect farmer/technicians feedback and maximize the quality of the DSS output.

The technology employed in the solution includes the use of consumer-grade drones equipped with RGB cameras, open-source photogrammetry software to generate 3D point clouds, AI computer vision algorithms to analyse big data and assess canopy biometrics, as well as vegetative indices (LAI, LWA, TRV) and DSS models to assess the optimal pesticide and water doses for treatments.

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Bioregions Facility

The Bioregions Facility is a knowledge-led platform on forest-based circular bioeconomy dedicated to achieving inter-regional co-learning and cooperation, supporting and accelerating the development of a sustainable regional bioeconomy in Europe.

We work across three lines of action:

1. Policy learning - Support networking and policy learning to identify and replicate successful actions through webinars, bioeconomy strategies, technical reports and field visits
2. Innovation - Catalyse bioeconomy business and innovation to accelerate progress and knowledge uptake through open innovation challenges, forestry matchmaking and strategic partnerships
3. Awareness and engagement - Improve understanding of perceptions and attitudes towards the bioeconomy and strengthen stakeholder engagement, through targeted surveys, exchange of best practices and co-creation of cutting-edge approaches.

Member regions guide the development of the Facility and benefit directly from joint actions designed to make an impact at regional and European levels. A wide range of regional stakeholders gains access to the Facility's activities, from industrial clusters and business development support to public agencies, research centres, academia and civil society. This helps create a rich regional bioeconomy ecosystem — aligning visions and efforts — towards a sustainable forest bioeconomy.

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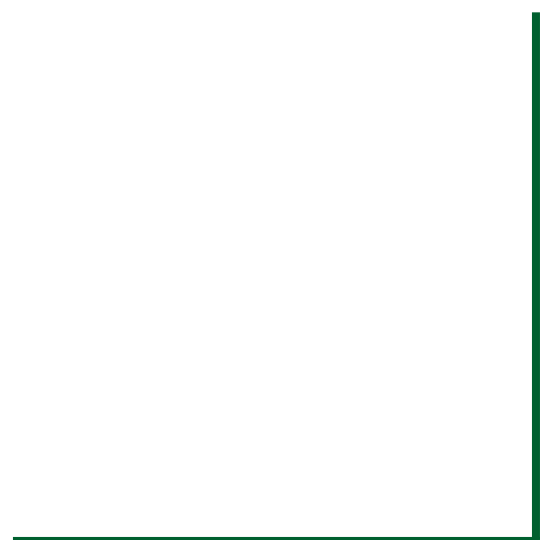
CER – Care's Ethical Resturant: The first international certification for sustainable restaurants

CER – Care's Ethical Resturant is a certification that aims to evaluate and proof the sustainability of the restaurants.

CER rises from the experience in sustainable gastronomy of Norbert Niederkofler (Chef awarded with 3 Michelin Stars and Green Star for the sustainability) and Paolo Ferretti (entrepreneur in the communication field). With their holding, Mo-Food, they have been trying for more than 10 years to inspire and engage the rest of the world by setting the goal of innovating and promoting positive change in the gastronomic filed. Going beyond the widespread notion that relates restaurant sustainability only to purchase, management and disposal of raw materials.

Sustainability in gastronomy is a hot topic in the industry today but reductively interpreted and communicated: the careful choice of raw materials does not make a restaurant green unless these choices are included in a much broader and more complete picture.
From this gap, develops CER. Hence, the first certification that assesses the sustainability of restaurant operations at 360° considering all the aspects of a restaurant: from employee wellbeing to restaurant architecture via management and communication. CER's assessment is divided into 7 categories, namely: Working Conditions, Environment, Menu Design, Supply, Communication. Structure and Management.

CER's impartiality and credibility is guaranteed trough Vireo Srl, an accredited certification body that is responsible for conducting the audits in the various restaurants.

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Digitalization in the food system

The measures of the Sustainable Twin Digital Transition project (covering two megatrends: the green and digital transitions) will strengthen the development of the Seinäjoki urban ecosystem into a functional environment for experimentation and innovation. The aim is to adapt the region's food system in accordance with sustainable and digital opportunities towards a more sustainable and responsible food system. The implementation of information through various pilots, events, and trainings, as well as the study of the digital and technological level of the current state of the region, divide the project into four different work packages.

As a result of the project, the urban ecosystem of Seinäjoki will develop into a functional environment for experimentation and innovation that makes innovative use of the strengths of the Seinäjoki region as part of a sustainable digital twin transition. The project builds and deepens new and existing networks nationally and internationally. The project's measures can be utilised by citizens, companies, research organisations and the third sector. The project is co-financed by the European Union (60%) and the Seinäjoki Ecosystem Agreement (20%). The total budget of the project is 217 011 €.

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East Netherlands offers innovative solutions for sustainable food systems

In East Netherlands, we are working together on innovative solutions for a sustainable food system. Knowledge institutions, two provinces, city/suburban/rural subregions, cluster organisations and many companies are investing in innovations in the field of safe and sustainable food.

The strength of East Netherlands lies in the diversity of its' vibrant business community and its internationally recognised knowledge institutions, with Wageningen University & Research as frontrunner. In addition, our innovative startups, SMEs and large(r) companies, and agricultural cooperatives are important suppliers to the entire global food system. We are strongly committed to enhance international connections to maximise the impact of research and innovation.

East Netherlands has an important position in the global food system, and from this position we are able to make a significant contribution to new solutions for societal challenges. The region has a large number of field labs in which we can quickly test and share new developments. It offers room for implementation of nature-inclusive circular agriculture solutions as well as the development of high-tech innovations such as AI, sensor developments and robotisation in agriculture and food industry. Next to that, protein transition (including precision fermentation and cellular agriculture), upcycling and healthy food are main drivers for innovation in our region.

The partners of Think East Netherlands have a lot of experience in European project development and implementation: both at Interreg A and B level as well as in Horizon Europe and I3 (Interregional Innovation Investments). Contact us when looking for a European project partner!

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Emilia Romagna CLUST-ER Agrifood promoting regional and international research and innovation strategies

The Agrifood Clust-ER is an association of public and private organisations: companies, research centres, training institutions that share skills, ideas and resources to support the competitiveness of the sector. Agrifood Clust-ER is one of the seven thematic clusters set up by the Emilia-Romagna Region to support collaborations in strategic R&D sectors to boost the regional innovation potential.

Clust-ER is a Digital Innovation Hub stakeholder in the Horizon 2020 SmartAgriHubs project and is partner of several EU project mainly addressed to the CLUSTERS integration in the innovation EU framework The operative units of the CLUST-ER are the so-called Value Chains, starting from the primary production (SOSFARM) through the processing and packaging (PRIMPACK), the quality and food nutrition (INQUAN) towards the valorization of by-products and waste (SPES). The EU project and S3 platforms where the CLUST-ER is partner are focused on new healthy ingredients, sustainable packaging, precise and sustainable farming, valorization of food by products, olive oil production and other topics.

Furthermore, the associations is promoting exchange activities with different countries all over the World, in order to give to the regional partners the ability to exploit their potential on the international markets and to be in touch with the technical and scientific realities in the World context.

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Epidemiological tools for cork oak forests (I): Early detection of decline disease (*Phytophthora cinnamomi*)

Cork is a forest resource with a great economic, social and ecological impact in the regions where it is produced and processed. Its natural origin, renewability and the low carbon footprint of its industrial processing, make cork an increasingly in-demand material. However, its production is being reduced given the growing threats that fall on Iberian cork oak forests, with *Phytophthora cinnamomi* being one of the main agents involved in its degradation and mortality.

ACICORK project (*) aims to respond to this question by developing tools for early diagnosis of decline due to Fitóftora, with the ultimate objective of implementing a Climate-Smart Management Model that increases the resilience of these forests at the same time than its cork production.

Molecular, physiological or morphological markers with the capacity to diagnose the disease will be identified through trials on seedlings inoculated under controlled conditions and field sampling on trees at different stages of age and degree of infection. The selected parameters will undergo a validation analysis of their predictive capacity, determining their sensitivity, specificity and selectivity.

Once the indicators have been tested, a protocol for early diagnosis of the disease, technically and economically affordable, will be drafted for use in the field. Early detection using effective tools will allow technicians and managers to intervene in time to implement integrated control measures, reducing the spread and minimizing losses.

* Climate-Smart Cork Oak Forests (ACICORK): Tools for forest management and monitoring, cork characterization and fighting against the Iberian cork oak decline disease (*Phytophthora cinnamomi*) PID2022-141973OR-C31

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EU chefs network

The goal of the European Chef's network is to bring plant-based food more to the attention of European consumers by creating a European Chef's Network. Chef's from all over Europe can show as ambassadors of plant-based, sustainable, local, seasonal food, what that could look like on our plates and how tasty and healthy it is.

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Exploring collaboration between diverse actors in a network of Food System labs

The poster will present 52 case studies of co-creation in the Food System. It will present successful co-creation cases and showcase some recommendations for engaging private parties.

Additionally, it will present the European Knowledge Hub, composed of a network of FS-LL, aiming at foster collaboration and knowledge exchange.

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Farmers' peer learning and group councelling on climate smart farming

Improving farm-scale climate adaptation, climate actions, soil quality, carbon sequestration in practice in Southwest Finland. Sharing experiences and knowledge of science-based practices through effective communcation. Using the methods of group advisory services, peer support, and learning together with farmers, specialists and researchers. The Carbon Fields (Hiilipelto) project is implemented in 2022-2024 and funded by Catch the Carbon programme/Ministry of Agriculture and Forestry of Finland

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FIRESTORM – project on information dissemination about wildfires and storms for farms

There have always been wildfires and storm damage as a part of the global forest ecosystem dynamics. However, the climate change has resulted in long-time drought periods, that has caused serious wildfires in Southern Europe and in Canada during the last years.

The administration has "woken up" to prevent the risk of wildfires. Recently, storm damage has occurred in central Europe and in Sweden. It is assessed that the climate change will gradually increase the amount of wildfires and storms in Finland, when climate become warmer.

South Ostrobothnia is a very important food production region in Finland. The security of food chain and animal-welfare is important. Due to national security of food supply, the farms should work without interruptions and accidents. Thus, the farms should have resilience as well as preliminary protection against wildfires and storms. The battle against the risks and threats is needed.

In this project, information dissemination about wildfires and storms for farms will be given in the region of South Ostrobothnia. First, information about emergency planning will be given for the farms to get ready for wildfires and storms. Secondly, information about the crisis actions during the fires and storms will be given. Third, instructions for after-care of the accidents will be given for the target group.

The project includes the following work packages (WPs) for the information dissemination:
WP1 Emergency planning
WP2 Actions in crisis during wildfires and storms
WP3 After-care
WP4 Project management and communication

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FOODPathS project – Towards funding of food system R&I for impact

The FOODPathS project aims to co-create the prototype 'Sustainable FOOD Systems PArTnersHip", which will be launched in June 2024 as a co-funded Partnership under Horizon Europe. One activity of FOODPathS (WP3) follows the overall aim of "Building a Food System co-funding network and aligning funding strategies". This implies thinking and working towards a transformation from established funding schemes and designs towards more co-creation based funding approaches respecting the needs of public authorities and researchers as well as providing the necessary room needed for stakeholder engagement and participation following the idea of a food systems approach. The main target group of this WP are thus funders, both public and private, on regional and national scales and from different sectors of the food system.

The activity (WP3) is structured around 4 tasks that are interconnected and include mapping of public and private potential co-funders as well as connecting and engaging with funders and stakeholders in so called „Funders Forum events" in order to gather insights, experiences, needs and challenges from different perspectives of the funding cycle. Moreover, interviews, analysis and surveys are being used in order to capture valuable knowledge and good practices for alignment of transnational call procedures and funding strategies in a systems approach. Support measures towards R&I projects with regard to capacity and community building are also targeted. These insights and lessons are being translated into guiding aspects and recommendations towards the future funding within the upcoming Sustainable Food System Partnership.

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Foodvalley - Shaping the Future of Food Together

In 2050 the food system needs to offer food security to 10 billion people worldwide. Tasty, affordable, healthy and sustainable food, produced with respect for animals and our planet. It is a major challenge but one that is achievable if we join forces to shape the future of food together.

Our role is to guide parties from thoughts and ambitions into practice. As an independent organisation, we drive collective action with frontrunners across sectors and countries.

We provide access to the right people, financial resources, shared facilities and best practices. The result: viable businesses and new healthy sustainable sectors.

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Forest Sharing® an innovative platform to support sustainable forest management and ecosystem services enhancing

Climate change mitigation and rural areas abandonment is critical in Italy and in the whole Europe. Forests are always more fragmented, Italy counts 6 million ha privately owned, and this implies problems in effective forest management. In order to restart managing abandoned forests to enhance forests climate mitigation capacities and to strengthen forest ecosystem services, a new management method has been introduced. The implementation of the Forest Sharing® platform serves as a tool to offer a solution for forest fragmentation basing their management on shared and circular economy, using a bottom-up approach. This implies the funding coming for active forest management to support rural areas. Moreover, restarting managing abandoned forests can lead to the reestablishment of the wood supply chain, as Italy is one of the biggest wood importer in Europe.

Sharing forest management practises helps in maintaining the territory reducing costs and using precision forestry techniques, implementing the best practises for sustainable for management towards multifunctional forests for mitigating climate change and help in the always more needed decarbonisation.

The Forest Sharing platform has nowadays 23.000 hectares subscribed owned by 850 forest owners, spread around the whole Italy. Moreover, the platform has been implemented by public administrations aiming in aggregating small holders close to their properties to implement a sharing and collaborative management. The application of the new management method, based on the aggregate approach, shows the first positive results in the planning phase. thanks to the simplified registration process it is possible to have an overall vision and address the enhancement chain. The projects developed in this first phase are demonstration pilot projects for the recovery of abandoned forests. Management aims at multifunctionality and maximizing ecosystem services. Future developments are the expansion of the size of the properties involved in the pilot projects and the direct involvement of forestry companies and consultants.

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Future Frami Food Lab

The international protein market is growing strongly for both animal and plant proteins. The South Ostrobothnia region has significant potential in protein production, and increasing value added can bring significant revenue growth to the region. This requires the development of expertise in enriching protein fractions. The accumulation of knowledge activities in the region, the creation of high-quality human capital and the provision of high-quality experimental and piloting environments are key measures for the development of the region.

The main objective of the Future Frami Food Lab project at Seinäjoki University of Applied Sciences is to strengthen the position of South Ostrobothnia as a food region and a leading expert in food technology and to strengthen the role of the SeAMK Food Labs laboratory environment as a well-known center of expertise in the field. The aim is to develop sustainable plant and ready-to-eat food technologies, but also animal-based production methods. The measures include the development of a networked operating model for the food system, the introduction of new technologies in the design and pre-testing of product concepts, and advocacy activities.

As a result of the project, South Ostrobothnia will become a pioneer in European food systems, and permanent cooperation models will be built in the area between business and education and research institutions. In addition, the project will strengthen the food technology competence center's brand and create a piloting and innovation environment for food technology in the area. The longer-term result of the project is an increase in strategic cooperation with business and industry as well as an increase in international competence levels.

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Identifying Drivers and Barriers to Improve SFS Education

The aim to improve education in sustainable food systems (SFS) requires input from educators on methods currently in use and drivers and barriers for improvement. In 2023 and 24, a series of six online and face-to-face workshops with 25 educators from around Europe working at educational levels from primary through lifelong learning explored SFS education drivers and barriers. Workshop participants categorized their drivers and barriers using seven categories previously defined as required for a transition or "greenshift" in sustainability education. Number of ideas in each transition category were compared with Chi squared analyses and word clouds aided visualization.

Word cloud analyses of the 190 SFS education drivers and 140 barriers raised at the workshops from all educational levels showed Garden, Activities, and Involvement, as the most common driver words. The three most common barrier words were Time, Curriculum, and Lack. Analyses of transition categories identified "Teacher skills & capacity" and "Students" with significantly more drivers than "Other", all at the Bachelor/Master level. For barriers, despite overall significance, there were no differences between any two categories. Yet, in discussion at the face to face workshop, rigid curricula and lack of time were mentioned as important barriers. Workshop participants proposed 65 overall solutions for the 140 identified barriers.

In conclusion, although there is a lot to improve in SFS education, there are improvement ideas and two programs currently in progress at the Bachelor/Master level (Ecotrophelia and Uniworld) were identified as exemplary real examples of how good SFS education can be.

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Intervention on "Precision farming practices" set up by the Tuscany Region under the CAP 2023-2027 to support a more resource-efficient and data-driven agriculture

The Region of Tuscany has been the promoter and coordinator at national level of the agri-environment-climate intervention named ACA 24, which is aimed at promoting the adoption of precision farming practices. The digitalisation of agriculture and the use of Decision Support Systems (DSS) aim to support a correct use of resources for the sustainability of agricultural production, allowing to manage rapidly changing conditions also in relation to climate change.

With the November 2023 regional call, Tuscany intends to support the adoption of precision farming practices for sustainable production, allowing farmers to reduce the risk of pollution and environmental degradation related to the use of plant protection products and fertilisers and promoting the rational use of water for irrigation.
ACA 24 provides for an annual premium per hectare of Utilised Agricultural Area (UAA) to individual or associated farmers or public bodies managing agricultural farms who voluntarily undertake to adopt at least one of the following precision farming practices: Precision Fertilisations, Precision Pest Management, Precision Irrigation.

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LCA of digital and connectivity solution for agricultural application

In order to develop environmentally friendly connectivity solutions and to understand how far they can contribute to climate mitigation and other sustainability targets, COMMECT will rely on the application of LCA methodology to quantify the environmental impacts of the solutions and their application in the Living Labs. LCA methodology is standardised (ISO 14040/44) and allows the identification of potential impact transfer between life cycle stages or environmental indicators. As recommended by the ETSI standard ES 203 199 v1.3.1 and the ITU-T L.1410 recommendation, both the first order effects (environmental load due to the physical existence of the ICT service) and the second order effects (environmental impacts and opportunities created by the use and application of the ICT service) will be characterized. In the first case, the different components of the user terminals, servers and network will be identified, and the impacts related to their production, use and end-of-life assessed. Inventory data will be collected from the relevant partners and complemented with literature or database data.

To assess the second order effects, the difference of environmental impacts before and after implementing the connectivity solutions in the Living Labs will be quantified. Partners contributing to project will provide inputs regarding the changes induced by the connectivity solutions, such as the reduction of transport, pesticides use or the increase of yield. Larger uncertainties can affect such evaluation and they will be treated via sensitivity and uncertainty analyses. The alignment between the obtained environmental benefits and sustainability.
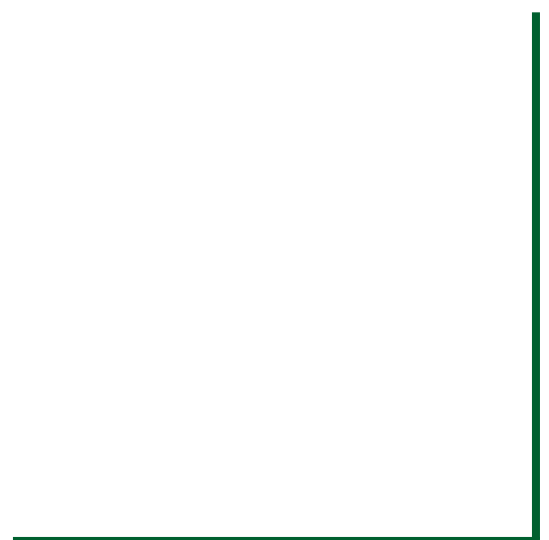
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Model Forest in the World - Canada's Global Forest Leadership Program - Committment to sustainibility of IMFN and MMFN

in 2023 the Government of Canada announced funding over three years, starting in 2023- 24, to support a resilient, innovative and environmentally-sustainable Canadian forest sector by catalyzing innovation from seed to market, providing continued support for Indigenous projects, improving climate-related knowledge around forests, enhancing international engagement, and expanding innovative use of wood in construction as a low-carbon-building material. This includes support for initiatives that contribute to:

advancing the international forest policy agenda, including on climate, biodiversity, sustainable forest management, the bioeconomy, and wildland fire management; strengthening partnerships with like-minded organizations and countries through sharing expertise and forest stewardship assistance; and decreasing market barriers for sustainable forest products. The IMFN and MMFN are implementing a significant part of those in 64 Model Forests in the world

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Overview of the innovations of the EIP-AGRI Operational Groups in the forestry and agroforestry sector

In 2023 the Government of Canada announced funding over three years, starting in 2023- 24, to support a resilient, innovative and environmentally-sustainable Canadian forest sector by catalyzing innovation from seed to market, providing continued support for Indigenous projects, improving climate-related knowledge around forests, enhancing international engagement, and expanding innovative use of wood in construction as a low-carbon-building material.

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The IMFN and MMFN are implementing a significant part of those in 64 Model Forests in the world

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Paludiculture and restoration to produce carbon credits on cutaway peatlands

The need to reduce Finland's and the European Union's greenhouse gas emissions increases the pressure to direct areas to land use forms that preserve carbon reserves and to build systems where the landowner receives compensation for reducing emissions. Preservation of the peat carbon stock might offer long-term carbon credits either in state-led or voluntary compensation systems.

The aim of the project is to find out the scientific and technical, legal and administrative, and economic conditions for obtaining value for the landowner and the rest of the local economy from the preservation of the peat carbon stock and from carbon sequestration through paludiculture and restoration at former peat extraction sites with thick residual peat layer.

The project produces information on the climatic effects of the high-water-level land-use forms and compares them with the business-as-usual scenario based on the current land use. The project aims to create climate-friendly land-use models that generate financial benefits for the landowner and for the local entrepreneurs.

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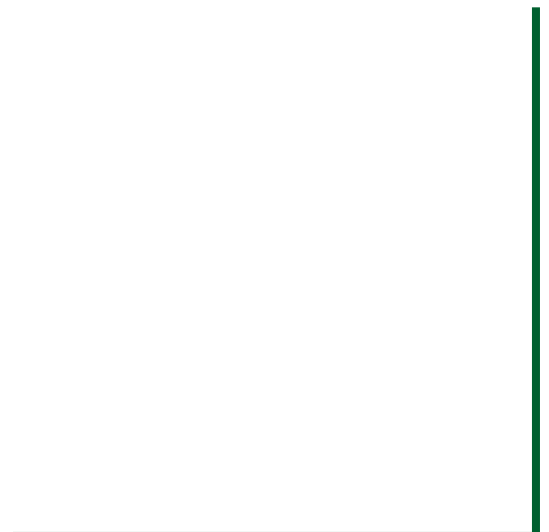
Peat-free Food Chain

The shutdown of peat production will have a significant impact on the entire food chain in South Ostrobothnia in Finland. On animal farms, peat is used as bedding, especially on broiler, cattle and horse farms. Peat is also the most common growing medium in greenhouse production, so gardens also need new sustainable and domestic alternatives to peat.

The Peat-free Food Chain project focuses on exploring the role of peat in the food system and finding sustainable alternatives to peat. The aim is to develop domestic environmentally friendly materials suitable for bedding use for animal farms, as growing media for gardens or as insulation materials for the construction industry.

In addition, the project will examine whether sustainable methods can be used to grow plants suitable for peat substitutes in areas released from peat production.

The project examines the entire peat-free food chain and the value chains of peat substitutes, taking into account their environmental and socio-economic impacts. The aim of the project is to support the construction of a peat-free business ecosystem.
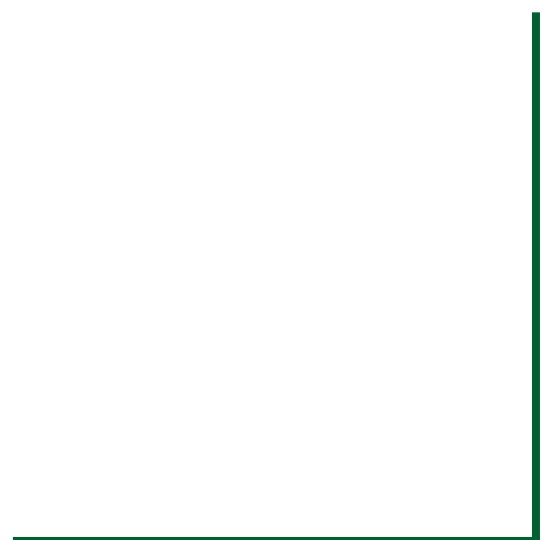
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PhotonHub EU Project: a photonics innovation hub to promote photonics technology for innovation in agrifood

Photonics helps to supply safe, nutritious and affordable food for all and establish a sustainable value chain from farm to fork. By using ever more precise sensors and measuring devices, farmers, technology providers, food processors and consumers will be able to monitor and certify the safety, quality, content and even the origin of food – anytime and anywhere. Photonics technologies can monitor soil health and hydrology, predict protein levels in grain harvests, determine when to pick fruit, map water quality to check the health of fish stocks, and more.

In this framework, PhotonHub project (https://www.photonhub.eu/) provides European photonics and non-photonics companies, in particular SMEs and mid-caps, with open access and guided orientation to a broad range of services and capabilities covering:
- "test-before-invest" innovation support capabilities along the full TRL and MRL value chain such as expertise, design, prototyping, experimentation, engineering and pilot manufacturing with further
guidance to manufacturing in Europe;
- training and upskilling opportunities for both technology- and application-specific learning using lecture-based tutorials and hands-on lab-based training within the hub's competence centres, and even extended to virtual classrooms;
- business support services including IP advice, business coaching, and support to find investment from venture capital and other public and private regional and European sources of innovation funding.

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PROMISEANG: Alternative PROteins from MIcrobial fermentation of non-conventional SEA sources for Next-Generation food, feed, and non-food bio-based applications

PROMISEANG is a 48-month project focused on developing innovative alternative proteins from underexploited marine sources, including marine invertebrates, macroalgae discards, and industrial biowastes. Using advanced biomass fermentation techniques (solid-state and submerged processes), the project aims to generate new microbial protein biomass suitable for food, feed, and non-food applications (biomedicine, pharma, and cosmetics). The project will demonstrate a technically and economically viable biorefinery for microbial-based protein production, ensuring higher yields, shorter production periods, reduced environmental impacts, decreased imports, and lower production costs.

PROMISEANG supports the Circular Bio-based Europe Joint Undertaking (CBE JU) with a translational, multidisciplinary, and multi-actor approach, fostering collaboration between industries and academia across the EU to achieve a greener bio-based Europe. By adopting a zero-waste strategy, the project will also recover and biosynthesize valuable non-protein bio-compounds (e.g., polysaccharides, lipids, polyphenols, PHA) for diverse applications. Researching novel protein streams from sustainable sources will enhance protein availability in the EU and reduce dependency on imports.

The project encompasses the upcycling of marine food wastes (WP2), application of innovative and sustainable technologies (biotechnology, biochemistry, microbial fermentations, digital tools, and machine learning) (WP3), validation of the nutritious, safety, and bioactivities of protein products (WP4), valorization of fermentation side streams through nanotechnology (WP5), and the design, development and validation of food, feed and non-food products in relevant environments (WP6). Additionally, PROMISEANG aims to improve environmental, economic, and social aspects, and production-efficiency (WP7), supported by comprehensive and strong communication, dissemination, and exploitation plans (WP8).

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Smart decisions for sustainable forest management and climate resilience in Europe

Significant reductions in anthropogenic CO_2 emissions and increases in CO_2 sinks are needed to meet the 1.5 °C threshold for global warming set out in the Paris Agreement and reach the climate-neutrality goal of the European Green Deal (EGD) by 2050. The CO_2 sink provided by forests partially offsets the rise in anthropogenic CO_2 emissions, providing a large-scale buffer to climate change.

Depending on their characteristics and local circumstances, such as management practices or ecosystem services, forests may range from net CO_2 sinks to sources. The project 'OPTimising FORest management decisions for a low-carbon, climate resilient future in Europe' (OptFor-EU) builds a Decision Support System (DSS) to provide forest managers and other relevant stakeholders with tailored options for optimising decarbonisation and other Forest Ecosystem Services (FES) across Europe.

Based on exploitation of existing data sources, use of novel Essential Forest Mitigation Indicators, European Forest Types, forest responses and ecosystem services, OptFor-EU (1) provides an improved characterisation of the forest-climate nexus and FES, (2) utilises end-user focused process modelling, (3) empowers forest end-users to make informed decisions to enhance forest resilience and decarbonisation, (4) develops a novel DSS service, and (5) achieves measurable benefits towards the EGD objectives.

Based on a supply demand approach, OptFor-EU provides a ready-to-use service using methodology that combines an iterative process of data consolidation, modelling, and co-development of solutions alongside stakeholders, designed and tested at 8 case study areas across Europe.
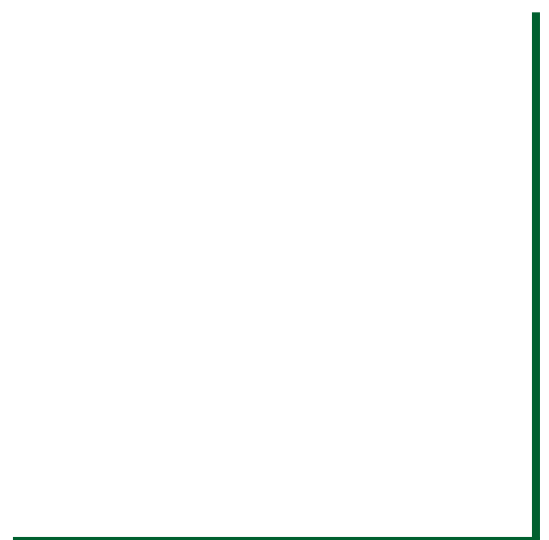
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Smart Grape 2: non-destructive evaluation of wine grape maturity with photonics technology

The goal of this activity is the application of a new optical sensor for the non-destructive evaluation of wine grape maturity.

The chlorophyll fluorescence excitation screening (ChlFES) method, is a technique based on the measurement of chlorophyll fluorescence. It was used to provide optical indices of compounds responsible for the color of grapes such as anthocyanins as well as chlorophyll itself. These compounds are related to the phenolic and technological maturity, respectively and can then be used as indices of ripening. This method is more sensitive and specific in measuring pigment concentrations in fruits non-destructively than other available methods based on light reflectance measurements, such as colorimetry.

At Cnr-Ifac, the ChlFES technique has been widely applied during the last 20 years as laboratory fluorescence spectroscopy in both plant science and agriculture applications, and through developing a sensor for in situ research activities.

This prototype was employed as proximal sensing to detect anthocyanins accumulation in wine grapes in the vineyards, to predict phenolic maturity and the best harvest time or mapping the spatial heterogeneity of the anthocyanin berry content.
Despite the high potential of ChlFES method in the wine grape sector, its technology transfer to the end-users (i.e. agronomist, farmers) is hindered by the lack of cheap and user-friendly devices.

Here, we aim at the development of a new generation of devices which combine the potential of the ChlFES method with the most innovative photonics technologies in terms of efficiency and compactness of light sources and detectors, to bring innovative and cost-effective non-destructive techniques into the market.

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STRATUS – AdviSors neTwork foR OptimAl ferTisisers USe

STRATUS, aims to connect advisors across Europe for accelerating knowledge creation and sharing on Integrated Fertilization Management, supporting farmers to bring this knowledge into practice to achieve the ambition of the Farm to Fork and Biodiversity.

Strategies, thus reducing nutrient losses to the environment while maintaining soil fertility. STRATUS will create an EU-wide advisory network through the creation of three transnational sub-networks (Fertilization Innovation Networks - FIN) on Precision farming, Bio-based fertilisers and Soil quality (SQ) in which trained advisors will collect a total of 104 Good Practices (GPs) and Research Innovations (RIs) on optimal fertiliser use and will identify at least 48 Best Practices (BPs) as the result of the systemic feasibility assessment of the GPs and RIs. STRATUS will also ensure the integration of the advisors in the MS AKIS as well as the adaptation of the project work to the local conditions through the creation of 10 Communities of Practices (CoPs), in 10 partners countries, established with local AKIS actors, following the MA approach. Based on these BPs, STRATUS will develop 60 demonstrations and training material that will facilitate advisors to exchange knowledge, experiences and key challenges for advisory practice through Cross Visits in all MS and CoPs

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Supporting responsible and low-carbon food production in micro companies in South Ostrobothnia

The aim of the Responsible and Low-Carbon Food products (VHH) is to assist micro and SME companies in South Ostrobothnia in developing more sustainable and low-carbon food and beverage products, taking into account consumers' needs. Additionally, the project aims to accelerate growth in the region's food sector and enhance companies' innovation efforts.

To achieve these objectives, the project implements various tailored measures. These measures include improving the low-carbon footprint of food products, enhancing companies' expertise in low-carbon and responsible food production, and integrating consumer perspectives into product development. De minimis funding is granted to eight companies to implement these measures.
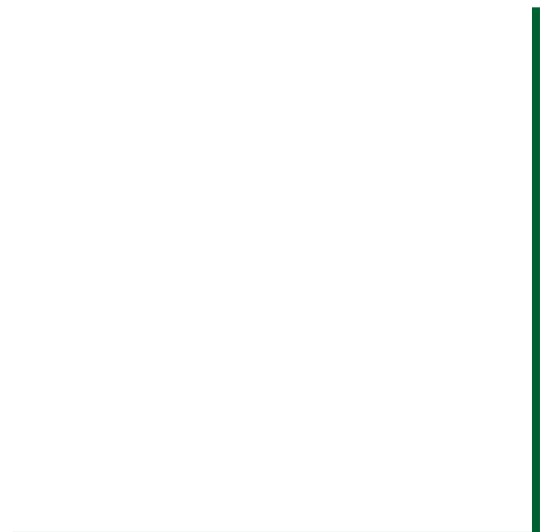
These actions promote sustainable development in the region's food industry, and the project plays a key role in strengthening South Ostrobothnia's position as a significant food region, known as the Food Province.

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Sustainable Use of Peatlands Competence Cluster (SUP Competence Cluster), Finland

Peatlands are utilised in agriculture and forestry, peat production, nature tourism and other industries. Peatlands also play an important role in the protection of peatland habitats, biodiversity and waters.

The main objective of the project is to support the operations of the competence cluster for the sustainable use of peatlands, which operates especially in Southern and Central Ostrobothnia in Finland, but also nationwide. The cluster was established in 2023. The activities of the cluster are characterised by the multiple optimization of various aspects of sustainability and by taking the perspective of the landowner into account in the development of the sustainable use of peatlands.

The project implements communication based on research data, coordinates information sharing and initiates solutions related to the sustainable use of peatlands. The project will make the competence cluster more efficient and create new projects.

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The agricultural icon map of Noord-Holland

This map displays the agricultural 'pearls' of our region. It shows our most impotant regional networks regarding agriculture and horticulture. Furhtermore it shows 11 interesting fieldlabs/experiments, suchs as precision agriculture, smart farming and circular agriculture.

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The FARCLIMATE project: empowering local communities for climate resilience

FARCLIMATE is a groundbreaking Horizon Europe project (No. 101112860) that aims to implement transformative and pioneering solutions on the path to climate resilience, aligned with the EU Strategy on Adaptation to Climate Change.

The project actively engages European regions and local communities to set up case studies to drive innovations in climate resilience and climate change adaptation within the agriculture, silviculture, and fishing sectors. The case studies will be implemented as living labs: open innovation ecosystems where different stakeholders co-create solutions tailored to relevant challenges in their communities.

By working closely with these communities, FARCLIMATE will study their local sectors' key social, economic, and sectoral characteristics. This project aims to assist them in developing innovative, Nature-Based Solutions for local forestry, fishing, and agriculture. In parallel, FARCLIMATE will provide training programs to empower their citizens and key stakeholders, fostering a cooperative spirit in tackling climate change adaptation.

As the project progresses, FARCLIMATE will also develop tools and strategies to sustain climate-resilient communities after the project. Local, community-driven initiatives are a powerful force in advancing Europe's climate change adaptation efforts. FARCLIMATE's mission is to empower case studies to establish successful living labs within their local communities, equipping them with the skills and knowledge to create innovative climate resilience. Ultimately, the project's goal extends to creating a European network of climate-resilient communities.

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Tuttincampo – a method of cooperation between public and private to develop social agriculture

The project intends to improve the quality of life of n. 5 young adults with disabilities between 18 and 40 years old in various aspects: physical, economic, social, emotional, through the implementation of agricultural practices social.

The model involves the involvement of a partnership made up of universities, foundations, social cooperatives, non-profit organisations, companies that deal in an effective way synchronized achievement of common objectives.

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"VTskills – Cooperation for Upskilling and building Regional Ecosystems in sustainable precision viticulture"

VTskills wants to enhance synergies among all relevant actors within the viticulture industry, with a particular emphasis on Mediterranean countries, and increase their impact of Sustainable Precision Viticulture (SPV), that enabling efficient technological use while maintaining a healthy agricultural environment. The project aims to develop a training course that addresses the identifiable skill gaps within the viticulture industry via green, digital, and resilience skills and to create a virtual hub for viticulture stakeholders can access innovative training and information.

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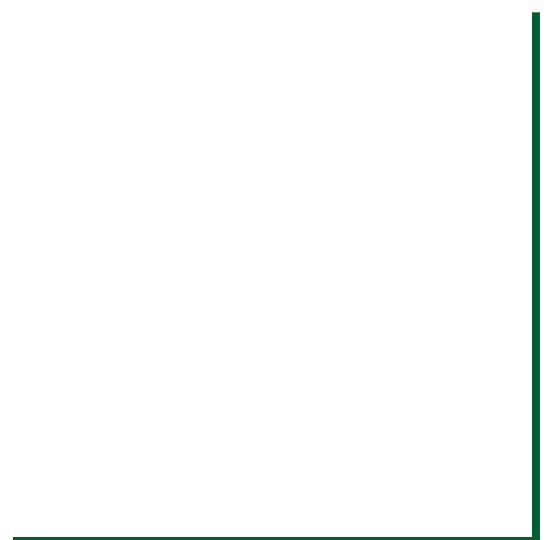
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