



ERIFORE

European Research Infrastructure
for Circular Forest Bioeconomy

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In January 2016, a consortium of 13 research organisations started the ERIFORE project with the mission to establish an open access research and innovation infrastructure network for circular forest bioeconomy in Europe. This two-year Horizon 2020 design study project is now in its final stage. The target is to submit a proposal for the next update of the European Strategy Forum on Research Infrastructures (ESFRI) roadmap.

Future Research Infrastructure for European leadership in Circular Forest Bioeconomy

The final seminar of the ERIFORE project was held at the European Parliament in connection with the 9th European Innovation Summit on 29th November 2017. The event was organised as a lunch debate hosted by Finnish MEP Sirpa Pietikäinen and had a full house with around 60 participants from 15 countries across Europe and Canada. The main goal was to relay the message to European policymakers of there being a strong need for research infrastructure (RI) collaboration and coordination in the field of forest bioeconomy.

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Lunch debate starting words by MEP Sirpa Pietikäinen and ERIFORE coordinator Mika Härkönen from VTT Technical Research Centre of Finland Ltd.

The ERIFORE project coordinator Mika Härkönen from VTT Technical Research Centre of Finland Ltd highlighted the growing research emphasis on biobased, value-adding products. Future biorefinery concepts will go beyond the current biomass uses, which are directly reflected in research infrastructure needs. Strategic cross-sector integration and networking of more specific infrastructures is needed, but it requires a supporting environment. Collaboration under the ESFRI framework could provide a coherent and strategy-led approach on RI development with the needed long-term financial support. This would provide a better basis for serving the needs of research organisations and industry, and consolidating European leadership in forest bioeconomy. **Let us take a closer look on the ERIFORE ESFRI plans.**

The future ERIFORE distributed infrastructure in a nutshell

In the future, the ERIFORE consortium aims to enter the ESFRI roadmap and operate as an open access distributed research and innovation infrastructure across Europe. The business plan will focus on forest-based chemicals, materials and novel production processes, leaving out the research infrastructures serving primarily research for forestry or bioenergy technologies.

The vision is to be a key contributor for European forest-based sector and to enable Europe to take the lead in the development and commercialisation of novel bio-based products.

The main objectives of the ERIFORE ESFRI project will be two-fold:

- 1. To plan, fund, consolidate and administrate a world class distributed research and innovation infrastructure on forest-based bioeconomy across value chains.**
- 2. To facilitate excellent scientific research and act as a science and innovation bridge in the field of forest-based bioeconomy.**

The distributed research infrastructure will be open for the scientific community, research organisations, small and medium sized enterprises, and industry. It will be committed to provide scientific excellence, new knowledge and up-to-date facilities with user services and training for the efficient execution of top-level European research.



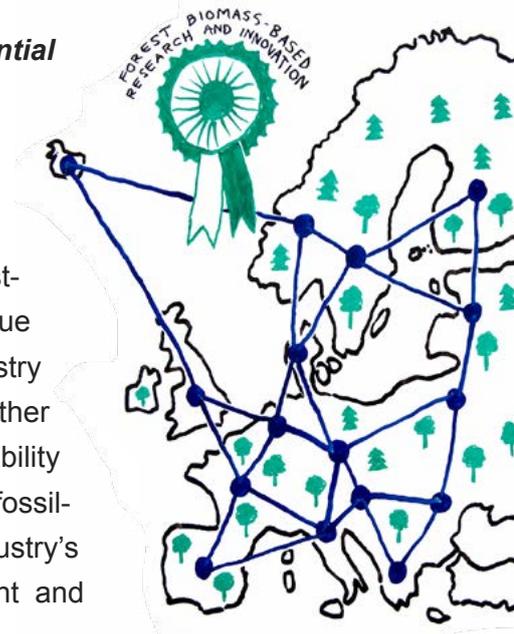
This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 654371

Pan-European relevance

The research field of ERIFORE ESFRI is well in line with the EU Bioeconomy Strategy with links to Circular Economy Action Plan. One of the global challenges is to move from the fossil-based economy to a sustainable, low carbon, resource efficient and competitive bioeconomy. Forest-based sector has the opportunity to take the lead here by linking the whole value chain from the management and use of natural resources to the delivery of products and services. Replacing a significant proportion of the conventional fossil feedstock by forest and plant-based alternatives would reduce greenhouse gas (GHG) emissions and help to reach the United Nations' Sustainable Development Goals and the 2015 Paris Agreement on climate change. Furthermore, the production of value added chemicals and materials from forest-based raw materials would provide impulses for jobs and growth in the bioeconomy sector.

ERIFORE ESFRI aims to ensure coherence and complementarity with relevant research programs conducted at European level. The European Union has been investing heavily in research and innovation programs to increase Europe's global competitiveness. Bio-Based Industries Joint Undertaking (BBI JU) for instance has 272 million EUR budget in H2020 for developing value chain demonstration projects for forest-based feedstock. In order to get the maximum benefit of the smart specialisations strategies that have recently been launched across Europe, cross-sectorial collaboration, knowledge sharing, and a permanent process of engagement are essential. Networking would foster scientific advancements along the value chains and accelerate the transfer of research findings to new business models and novel products.

ERIFORE ESFRI will work towards realizing Europe's potential as a world leader in forest-based bioeconomy research and innovations. Forest-based industries have great potential to become the main player in the European bioeconomy in the coming years. Forest-based industries provide altogether 3.5 million jobs, mostly in rural areas. The economic statistics of forest-based products represent ca. 8% of EU manufacturing added value with further potential.ⁱ The European forest fibre and paper industry is at the heart of bioeconomy with a value creation that amongst other things builds on its sustainable raw materials, combining renewability and recyclability to deliver innovative solutions that substitute fossil-based products. A significant share of added value from the industry's product segments is projected to come from the development and growth of new bio-based products (+ € 3.5 billion) by 2050.ⁱⁱ



ⁱ Thomas Arnold, Presentation: [A Bioeconomy for Europe](#). Think Forest Forum on "Building the Bioeconomy: Insights from European Strategies" 7.6.2016, Helsinki. Accessible at European Forest Institute web site: www.efi.int

ⁱⁱ Confederation of European Paper Industries (CEPI) publication: [The forest fibre and paper industry in 2050](#). Investing in Europe for Industry Transformation. 2050 Roadmap to a low-carbon bioeconomy. Accessible at CEPI web site: www.cepi.org



Next steps towards ESFRI

The main result of the ERIFORE design study project is the action plan to become a distributed research infrastructure on the ESFRI roadmap in 2020. The ERIFORE Infradev-1 project has produced the first drafts for (1) business plan and activities, (2) governance model and structure and (3) financing and investment plans of the distributed research infrastructure. Next phase of the ESFRI planning will more carefully address the preconditions for the RI long-term sustainability and secure formal commitments from both Members (countries) and Partners (RI owning RTOs and universities).



Schematic description of the main steps and tasks on the way towards ESFRI

Preparation for ESFRI Roadmap submission (2018-2019)

The plan is to submit an ESFRI project application for the next up-date of the ESFRI roadmap for 2020, presumably in mid-2019. The lead-up to submission has to be used to mature the business plan and in particular to ensure adequate commitments from the main stakeholders being national governments and other policy makers, partner organisations and related scientific and industrial interest groups. Scientific Partners need to sign a Memorandum of Understanding for the ESFRI project proposal. In addition, signatures in Expressions of Interest (EoI) and Expressions of Support (EoS) are needed from prospective Members by 2019.

ESFRI project: preparation phase (2020-2022)

Having achieved ESFRI project status, it will be a continuous task to build awareness through informing and engaging stakeholders. In the preparation phase, the human resource policy will be completed and put into use as setting up the Central Office and recruiting staff becomes topical. Preparations for establishing governance in the chosen legal form will proceed towards applying for European Research Infrastructure Consortium (ERIC) status. Preparation phase completes financing and investment plans.



From ESFRI project to landmark: implementation and operational phases (from 2023 on)

Eventually all legal and contractual arrangements are ready for the distributed RI to become operational. Open access and education and training activities as well as e-infrastructure are in action. Governance structure is fully in place, and funding for all operations is secured. Design and building of new infrastructure is also possible under the ESFRI collaboration. The aim is to ensure that the distributed RI remains at the forefront of science and technology to offer the European research community and industry best opportunities to stay competitive in transferring scientific discoveries into novel concepts, products and services.

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Key figures of the ERIFORE project:

19 public reports

3 open workshops

8 internal workshops

network of over 50 researchers

All public deliverable reports are accessible on the ERIFORE web page (www.erifore.eu).



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ERIFORE EU Project



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