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Defining the ERA FABRIC Project: Building Frameworks and Implementing an Innovative ERA Hub's Concept for More Advanced Knowledge Ecosystems Across Europe

The ERA Hub's initiative has been designed by the ERA FABRIC Project to provide a definitive, populated and validated structure for an "interconnected knowledge space". The aim is to better leverage information and incentivize ecosystems in research and development spaces, both at regional and multi-regional levels across Europe. It's time to meet and surpass established R&D common compliance criteria for the benefit of tomorrow.

The ERA FABRIC Project sets policymaking as a structural principle, requiring three core principles to build a solid community and cultivate ecosystems that simply perform.

Principle One: Era Hubs Build Vast Knowledge Ecosystems

In order to build a broad network across Europe, groundbreaking ERA Hub's will be dynamic spaces for sharing innovative research and development specializations. There will be a receptive and intuitive approach to bringing knowledge comprehension to entrepreneurs, small to medium-sized businesses and larger firms across Europe, regardless of culture, to better align focused research and meet network, industry and global demand.

Principle Two: ERA Hub's Act as Multi-Stakeholder Platforms

Bridging gaps and connecting representatives across interest groups, ERA Hub's provide easy-to-use, uninterrupted portals for information sharing and discussion. These spaces will provide a safe haven for multiple stakeholders to build strategies, define priorities, evaluate results and open up deliberations for the betterment of frameworks, sustainability, financial incentives, research and development and more.

Principle Three: ERA Hub's Become a Unique Policy Co-Creation Toolbox

Frustrations arise when information and access to tools and measures are disjointed. ERA Hub's are transformative in their ability to define and delineate distinct spaces for users across the EU, in Member States and at regional levels. No longer will "ad hoc" sets of instruments be difficult to search and navigate, as Framework Programmes for R&I, Structural and Investment



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Funds, Interregional and Cross Border Cooperation Programmes and more will be easily accessible from respective ERA Hub's.

The geographic scope currently covers 9 regions in 8 European countries: Austria, Croatia, the Czech Republic, Italy, Norway, Poland, Portugal, Romania and Spain. The target areas are:

- Lower Austria
- Jadranska Hrvatska
- Jihovzchod
- Emilia Romagna
- Trondelag
- Mazovia
- North Portugal
- North-West Romania
- Catalonia

Methodologies of the ERA FABRIC Project

There are multiple facets to the methodologies behind the ERA FABRIC Project, covering aspects such as mapping, needs analysis, research and innovation governance, R&I main policies and strategies and the main programmes financing R&I.

Mapping

Mapping acted as the initial phase for ERA FABRIC. Extensive research was undertaken to identify the main stakeholder groups and define their roles within their respective ecosystems. Initial information, such as contact details and a short description, was compiled once groups and subgroups were outlined. They were then categorized based on active knowledge contribution, innovation, policy creation within R&D spaces, their implementation of R&D activities and those with dedicated R&D departments.

Needs Analysis

Needs analysis acted as an in-depth research protocol. Functioning under the purpose of highlighting potential challenges when compiling and accessing knowledge flows and reshaping these into industry growth, potential job opportunities and more for the relevant ERA Hubs.



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Research and Innovation Governance

The methodologies behind research and innovation governance focus on how each ERA FABRIC country will implement its innovation systems and embed them into national ERA Hub's. This is where the main policies, strategies and programmes will be introduced.

Research and Innovation main policies and strategies

The ERA FABRIC regions/countries will need to outline not only their main policies and strategies, but also define their target sector, focusing on the three thematic domains of sustainable manufacturing, bio-based circular economy, or clean renewable energy. As part of this, information should also be provided discussing the main programme's financing which will be marked as either national, regional, or local (this will include any government financial incentives supporting innovation).

Objectives Behind the ERA FABRIC Project

Regional development through interconnected R&D ecosystems is the future of sustainable manufacturing, a bio-based circular economy and clean renewable energy. 11 partners representing 8 member states and 1 associated state are already on board. These have been used to map and define thematic working groups and bring actionable, deep insights into how regional collaborations are formed and will subsequently perform for the development of highly-functioning interoperable R&D capabilities. The ERA FABRIC Project and ERA Hub's concept are reaching almost half of the EU27 territory.

The main aim of the ERA FABRIC ecosystem is to establish the main characteristics of R&I policies on both regional and national levels. Focusing on the three thematic domains of sustainable manufacturing, bio-based circular economy and clean renewable energy, it has been able to so far define key objectives to enhance the overall operation and quality of regional K&I ecosystems, including:

- Cooperation for knowledge and innovation across EU regions
- Streamlining how knowledge is both shared and utilised
- Obstacles hindering both current and potential ERA Hub's for collaboration
- Determining areas for improvement and creating actionable strategies to fulfil requests via institutionalised incentives and policies



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Important Industry Frameworks for Highly-Functioning Knowledge Ecosystems

Based on current research and data, innovation systems typically function according to the following structure:

1. Policy and regulated frameworks
2. Institutional settings and governance
3. Entrepreneurial ecosystems and access to finance
4. Human capital
5. Technical and research and development infrastructures

Using this foundation, we can assume that in order to meet the needs of (1), incentives should be provided to both established and new firms across Europe to promote investment in learning, knowledge and innovation. The ERA FABRIC aims to approach a new way of sharing, learning and operating, while encouraging risk-taking. (2) requires legal rules, standards and societal norms to align with organisational settings and governance mechanisms to ensure the right regulations are set, maintained and enforced. Institutions are encouraged to incentivize actors to invest and discourage social or political manipulation that will hinder the generation of new wealth (known as rent-seeking).

In order to drive business and innovation growth for entrepreneurs and small and medium-sized businesses (3), access to financial support will be key. This should include easier access to financial instruments and relevant value propositions. When governments establish stable regulatory frameworks, building policies and practicing organisational skills will become simpler.

Human capital (4) requires a different approach, facilitating the need for education in areas such as research and development, design and engineering, technology brokerage, networking and technical skills. Governments should focus on technical and vocational educational pathways alongside basic and higher education, with a focus on science, mathematics, technology, ICT and engineering. In recent years, there has been a growing need for soft skills such as problem solving, critical thinking, creativity, and leadership skills - and these are likely to be pivotal to leveraging the human capital of European countries that will boost sustainable development.

When considering technical and R&D infrastructure (5), building a technical infrastructure will act as a foundation for innovation. With access to transport, urban structures, energy, water, technology, information exchange and knowledge can be promoted in physical spaces; not only on a local but also international level.



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Overall, defining and enforcing policies that include R&D programmes, which can range from science and technology fields to industry and trade, regional development, education and training, as well as the wider areas of energy, agriculture, health and transport, will help to bridge gaps, identify missing information for place-based knowledge ecosystems, improve public research and present better opportunities for financing, feedback and knowledge synthesis.

The ERA FABRIC project recommends that setting the focus on the three thematic domains will provide gap analysis between partner regions, encourage regional workshops to be performed by partner organisations and refocus research and innovation policies across all levels of development, regardless of social, economic and environmental challenges.

Key Takeaways from the ERA FABRIC Project

The ERA hubs initiative, as defined by the ERA FABRIC Project, is bringing focus back to policymaking, and transforming how knowledge is shared. The technological advancements of the past decade have led us to a point where traditional approaches are no longer able to meet the needs of various industries across Europe, and research and development now needs to prioritise accessibility and innovation to remain at the forefront of growth, maturation and future success.

We understand that each country and region will have its own core focuses, direction and capabilities, and that there will be unique social, economic and environmental challenges to overcome. R&D has the potential for market failure, so it is imperative to transition into a new era and prioritise innovation system models while reorienting policies to ensure that research and development compliance criteria are better defined, better regulated and optimally utilised on regional and multiregional levels across Europe.

The ERA FABRIC Project ensures that vast knowledge ecosystems can be built and that governments, stakeholders, firms and entrepreneurs alike will have the necessary information and resources to reshape the current climate. This will operate under the three thematic domains of sustainable manufacturing, bio-based circular economy and clean renewable energy.