INNOVATION NETWORKS

A Policy Brief from the Policy Learning Platform on Research and innovation

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Table of Contents

Summary

Innovation networks are central to the innovation process as they facilitate mutual learning and knowledge transfer among members. This policy brief explores the role of innovation networks within regional innovation ecosystems. Regional policymakers are designing and implementing innovation networks not only to promote learning and knowledge exchanges but also **to reduce fragmentation** in their innovation ecosystems. Due to different needs for regional interactions, there is no 'one-size-fits-all' innovation network policy intervention. The regional approach to find effective policy solutions for **strengthening innovation networks** makes Interreg Europe projects the ideal space for policy learning. This policy brief features **five policy recommendations** using the experience of Interreg Europe projects dealing with innovation networks to offer regions a path towards better regional innovation policymaking.

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Forewords

Why are innovation networks important for research and innovation?

Pirita Lindholm - Director - European Region Research and Innovation Network – ERRIN, Brussels

This year, the COVID-19 pandemic has underlined the importance of excellent research, innovation, and education in Europe. Alongside public authorities, a variety of research and innovation actors are at the **heart of the rapid response**—spanning from RTOs, universities, and, industry, to start-ups, fablabs, and clusters—which reinforces the strategic importance of networks and partnerships in driving innovation and the economic recovery.

Innovation networks play an essential role as connectors between stakeholder groups and sectors as well as different levels of government, thus breaking the (still existing) silos. As one of these networks, **ERRIN**'s key mission is to bring different actors together to work towards common objectives, creating long lasting cross-border partnerships and building consortia.

We believe that collaboration between a range of stakeholders–academia, industry, the public sector, and civil society–is key to stimulate innovation and to develop sustainable and impactful products, services, and solutions. This collaboration is place-based and depends on specific local conditions that create and make such ecosystems flourish.

The importance of innovation ecosystems is also becoming more visible in the next Multiannual Financial Framework through various new support schemes such as **European Innovation Ecosystems** (Horizon Europe), **Interregional Innovation Investments** (Cohesion Policy), and **Digital Innovation Hubs** (Digital Europe). Through its mission-oriented approach and revamped European Partnerships, Horizon Europe will also be crucial to **boost ecosystem collaboration**. Similarly, the relaunch of the European Research Area, offers the opportunity to provide a framework to embed this ecosystem approach, and to engage different stakeholders in its design and implementation.

Innovation networks, with their multi-sector and multi-level make-up, are also strategically placed to concretely explore synergies between different programmes such as Horizon Europe and Cohesion Policy. They can ensure that an ambitious impact of EU research and innovation policy is achieved and further leveraged for example through coordination between research and innovation agendas at different governance levels.

1. Innovation Networks in the Innovation Process

The innovation process is non-linear as it involves multiple feedback loops and interactions among quadruple helix actors and knowledge structures. **Innovation networks** are 'usually formal collaboration of partners aiming at increasing the competences and innovativeness of the partners and to generate innovations' (**Cunningham and Ramlogan**). **Innovation**

networks accelerate the innovation process by promoting interactions, the acquisition, diffusion, and exploitation of knowledge, learning processes, the reconfiguration of relationships—such as with suppliers or with producers of knowledge—and collaboration on a diverse range of issues including training, technological development, product design, marketing, exporting, and distribution (OECD). **Innovation Networks** are not only tools for knowledge transfer, but they also have **an important social function** to build-up common **social capital and trust** between and among network partners.

Innovation networks and knowledge transfer

The presence of innovation networks facilitates knowledge transfer. Innovation networks improve firms' search space and limit both **bounded rationality and bounded vision**. Antonelli points out that innovative actors can acquire four types of knowledge inputs, namely internal and external, tacit and codified knowledge to generate new technological knowledge. Innovation networks have an important role for members to access the four types of knowledge. They allow their members to identify, acquire and exploit the most relevant **external knowledge**, which, when recombined with internal knowledge, is a source of knowledge creation.

They also foster the formal and informal interactions that support the exchange of **tacit and codified knowledge**. Tacit knowledge, especially, plays a fundamental role in generating innovative activities. Tacit knowledge refers to the knowledge, ideas, concepts, shared beliefs, skills, competences, or insights that individuals possess but cannot be fully expressed since tacit knowledge is ill-defined, context-dependent, uncodified, unpublished, but can, nonetheless, be to some extent shared with collaborators and colleagues who have a common experience. In contrast, codified knowledge, which can be accessed and exploited at no cost, is widely available in the public domain in the form of patents, publications, and blueprints. Innovation networks are thus platforms for exchanges among partners of tacit and codified knowledge.

Formal and informal innovation networks

Innovation networks can range from formal contractual agreements allocated by actors to the creation of strategic networks (such as multi-actor research cooperation, joint ventures, clusters…) to **loosely coupled informal networks** that operate on trust, common rules, norms, and shared social capital to foster knowledge exchanges, negotiations, and collaboration. **Social Network Analysis (SNA)** can be a tool to visualise and analyse formal or informal innovation networks (see Box 1).

Formal and informal networks are important routes for the transfer of complex knowledge between innovative actors. Policies can promote the creation of formal innovation networks. In the 1970s, for instance, regional policies to create formal inter-firm networks contributed to transform Emilia-Romagna into one of the most innovative regions in Europe (Cunningham and Ramlogan). AnnaLee Saxenian shows that informal innovation networks based on trust, common rules, and norms were essential to create the shared entrepreneurial culture leading to the success of Silicon Valley in the United States. As a result, formal networks are well complemented with informal networks since 'the real business of knowledge exchange, dialogue and mutual cooperation often operates at the informal level – largely through a process of incorporating tacit knowledge into the participants' learning processes' (Cunningham and Ramlogan).

The strength of the innovation networks is also relevant. Indeed, Granovetter points out that weak ties in which innovative actors cultivate a more extensive set of loose ties with multiple different actors, is more likely to produce innovation than strong ties among a smaller

number of like-minded people. Highly embedded social networks may delay innovation since they can promote groupthink and conformity, which reinforces routines, suppresses new ideas, and creates inertia and rigidities.

Interregional innovation networks

Regional innovation ecosystems that are well-linked to interregional innovation networks have enhanced learning capacities, innovativeness, and competitiveness, facilitate the exploration of complementarities, and allow for enhanced connectivity with other regions. **Interregional linkages** can take various forms, such as formal networks, informal networks, industry networks, production value chain networks, global networks, university-firm networks, geographic clusters, international trade, foreign direct investments (FDI), and international R&D (**Aghion et al.**).

Interregional innovation networks can be leveraged to build-up European value chains and/or to promote co-investment in key smart specialisation niches. The European Commission has promoted the establishment of such interregional innovation networks with **Thematic smart specialisation (S3) partnerships** to support the creation of European value chains among regions with complementary S3 priorities. Moreover, the European Commission will, in the next programming period 2021-2027, launch the **Interregional Innovation Investment initiative**, (also called I3 or **Component 5**), to promote interregional co-investment and bring innovation to the European market.

Box 1. Social Network Analysis (SNA)

A social network can be defined as 'a set of nodes or actors (persons or organizations) linked by social relationships or ties of a specified type. A tie or relation between two actors has both strength (the level of interactions) and content (the type of interactions). The content might include information, advice, or friendship, shared interest or membership, and typically some level of trust' (**Castilla, Hwang, Granovetter, & Granovetter, 2000**). **Social Network Analysis** **(SNA)** is the study of the collection, management, analysis, interpretation, and presentation of relational data to analyse entire social structures (complete networks) or local networks (ego-centered networks). A social network, for instance, can include nodes (organizations or projects) and ties (interactions between the nodes) that connect them. SNA can inform **network centrality measures** such as degree centrality (number of edges per node), betweenness centrality (nodes bridging position between other nodes), closeness centrality (distance between nodes), and eigenvector centrality (nodes connected to highly connected nodes).

2. Innovation Network Policies

Rationale for policy intervention

Regional innovation policies that promote innovation networks aim to foster and strengthen interactions among innovation actors. The underlying premise of innovation systems is that **interactions** among many different actors that cooperate and learn from each other, are central to the process of innovation (**Lundvall, 1992**). Innovation systems refer to

the idea that innovation by firms cannot be understood in terms of independent decision-making at the level of the firms but rather, as a system of complex interactions among innovation actors prone to 'system failures', which often require policy interventions to offset the less than optimal interactions that result from the system. As a result, **regional policymakers will aim to design policies to improve and optimise systemic interactions among innovation actors to facilitate the innovation process in their regional innovation systems.**

In a regional innovation system, **interactions** among innovation actors must rely on securing the right balance between weak and strong innovation networks. While weak innovation networks can hinder the exchange of useful knowledge because of fragmentation, strong innovation networks within a regional innovation ecosystem can promote regional lock-in and path-dependencies. One way of ensuring such balance is to promote **innovation networks** both within regions and between regional innovation ecosystems.

Innovation networks for regional development

Since the 1990s and the work of **Michael Porter on clusters**, regional innovation policies have aimed to **strengthen innovation networks** to promote inter-firm knowledge exchange and mutual learning. **Networks** are characterised by the following features:

- Trust between the participants,
- Relations usually designed in a long-term perspective,
- Redundancies within the network, i.e. options and absence of hierarchy,
- Openness, dynamics, and flexibility,
- Competition between the network actors,
- Independence and voluntary cooperation,
- Scale economics through cooperation (**Koschatzky & Kulicke, 2001**).

Regional policymakers have regularly included support to innovation networks in their policy-mix, adopting different models and approaches. Innovation networks have incorporated new concepts such as **cluster policies,** highlighting the importance of inter-firm networks at the local level to support competitiveness. The **triple helix model of innovation** points out the importance of interactions among universities, the private sector and public institutions for regional development (**Etzkowitz & Leydesdorff, 2000**). The **open innovation model** stresses the importance of knowledge transfer to build internal capabilities for companies with research and development (R&D) needs (**Chesbrough, 2006**). More recently, the civil society is increasingly involved in innovation policies, thus forming the **quadruple-helix model**, to favour citizen participation and open innovation (**Carayannis & Campbell, 2009**). For instance, living labs are open-innovation networks, which bring experimentation out of companies' R&D departments to real-life environments with the participation and co-creation of users, partners, and other interested parties (**Chesbrough and Appleyard**).

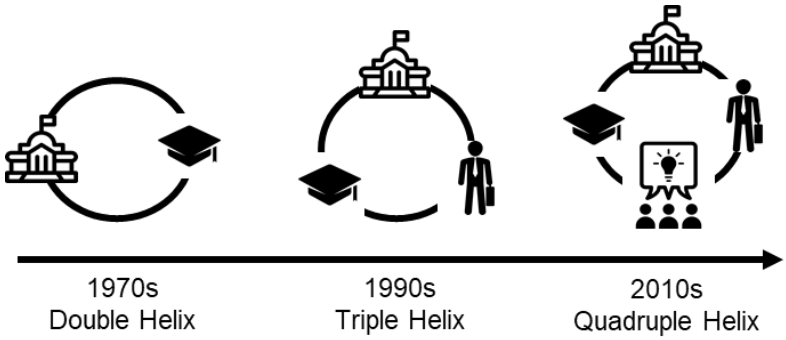


Figure 1. From double to quadruple helix. Source: authors.

Innovation network policies

Innovation network policies can be grouped into three broad categories (see table 1):

- Network formation and development
- Overcoming network barriers
- Forms of supporting actions

As with all public funding support, it is important that these policies are evaluated to assess their relevance, efficiency, effectiveness, and sustainability in time. This requires, for example, the establishment of action plans and of targeted Key Performance Indicators (KPIs) that can be monitored.

Formation and development	Overcoming network barriers	Forms of supporting activities
Facilitate formation or initiation of network	Enhance mutual trust	Introduce knowledge-sharing framework (IPR, etc.)
Encourage expansion of network	Assist in partner searches	Organise governance processes, appoint governing boards, etc.
Develop network relations (formalisation of tacit arrangements)	Ensure compatibility of partners (setting of selection criteria)	Provide administration of the network (centralisation of data, communications, organisation of activities)
	Promote awareness of network (develop network branding)	Provide meeting spaces, for a (physical or virtual), workshops, etc.
	Promote awareness of networking benefits	Coordinate (higher-level) networking activities
	Finance network activities	Provide an advisory role
	Finance R&D project costs (partially or selectively, i.e. academic partners only)	Offer channels for member-to-member communication
		Participate as a network partner (e.g. via government agencies and laboratories) – other public or private partnerships
		Governments acts as customer for network outputs

Table 1. How government may intervene in the support of networks. Source: **Cunningham and Ramlogan**.

Box 2. How can the Policy Learning Platform support?

The **Interreg Europe Policy Learning Platform** can help regional policymakers to better design policies to support innovation networks by facilitating the exchange of experience from different institutional contexts and showcasing success stories via the **Policy Learning Platform good practice database**. In addition to the good practice database, the **Policy Learning Platform** can provide a forum for direct discussions among partners from different projects – either in thematic workshops, peer reviews, matchmaking sessions or in webinar and online discussions, and provide expert advice through our on-demand **policy helpdesk service**.

3. Selected Innovation Networks for Research and Innovation

There are many innovation networks in the European Union to support regional policymakers and regional innovation stakeholders dealing with research and innovation policies, among which:

EARTO (European Association of Research and Technology Organisations) promotes **Research and Technology Organisations (RTOs) in European policy circles** and supports their operational practices and business performance through the exchange of information and learning.

ECCP (European Cluster Collaboration Platform) provides **cluster organisations** with tools to make efficient use of networking instruments, develop collaboration networks, access relevant regional innovation ecosystem actors, support the emergence of new value chains through cross-sectorial cooperation, access the latest quality information on cluster development, improve their performance and competitiveness. During the COVID-19 crisis a subnetwork European Cluster Alliance has played a key role in connecting regions, clusters and businesses around real life challenges and business opportunities.

EIT (European Institute of Innovation and Technology) supports **knowledge innovation communities (KICs)** to **bring together leading business, education and research organisations to find solutions to some of the most pressing global challenges**, from climate change to the sustainable supply of raw materials. The **EIT** has created eight **KICs** focusing on different sectorial challenges such as Climate, Digital, Food, Health, InnoEnergy, Manufacturing, Raw Materials, and Urban Mobility, bringing together over 1,000 partners from leading business, education, and research organisations across Europe. The **KICs**' main objective is to strengthen Europe's ability to innovate by overcoming the fragmented European innovation landscape to form dynamic cross-border partnerships. The **KICs** organise activities such as training and education programmes, and incubation and acceleration to support the development of innovative products and services, to start new companies, and to empower entrepreneurs and innovators.

ENRD (European Network for Rural Development) was established by the European Commission, Directorate-General for Agriculture and Rural Development (**DG AGRI**), to support the effective implementation of **EU Member States' Rural Development Programmes (RDPs)** by generating and sharing knowledge, as well as through facilitating exchange and learning on rural European initiatives.

ERRIN (European Region Research and Innovation Network) aims to strengthen the regional and local dimension in EU research and innovation policy and programmes. **ERRIN** promotes **collaboration and project development**, provides inputs to **European research and innovation policies**, and supports **13 Working Groups** where members can exchange knowledge and best practices in different thematic areas. They also regularly assist regional policy makers respond to new EU policy developments and develop common responses to consultation requests.

EURADA (European Association of Development Agencies) supports **economic development practitioners** to promote regional development agencies and the exchange of 'best practice' in regional economic development, to deliver territorial development programmes and support programmes to SMEs, to reinforce collaboration with European institutions, and to promote collaboration within and outside the EU.

The **Joint Research Centre (JRC) Seville S3 Platform** is the European Commission's science and knowledge service on **Smart Specialisation Strategy (S3).** Its experts provide advice to EU countries and regions for the design and implementation of their S3. In 2015, the European Commission services launched three **thematic smart specialisation (S3) platforms** related to Agri-Food, Energy and Industrial Modernisation to provide an interactive and participatory environment supporting interregional cooperation. **Thematic smart specialisation (S3) partnerships** support regions to improve their **regional knowledge base, leading to new paths of development and a better position in global value chains and to transnational joint strategies of innovation**.

Other relevant networks for research and innovation are **EBN** (European Business and Innovation Centre) to support the development and growth of innovative entrepreneurs, start-ups and SMEs, **ENOLL** (The European Network of Living Labs) to promote Living labs as creators of attractive innovation ecosystems following the quadruple helix innovation model, **IASP** to support the development of science parks and areas of innovation, **TAFTIE** (the European Network of Innovation Agencies) to support the implementation of national technology Programmes, or **TCI** to promote successful clusters and innovation ecosystems internationally.

4. Selected Interreg Europe Projects

Many Interreg Europe projects aim to develop and deliver better innovation network policies, which are **transversal policy tools** relevant for many topics in research and innovation (see Annex 1 for a selected list of Interreg Europe projects). Indeed, innovation networks are one of the main features of well-functioning regional innovation ecosystems. Regional development agencies can also play an important role in connecting to European and global innovation support networks

Innovation network policies are essential to foster well-functioning clusters. **CLUSTERFY** aims to foster clusters' interregional collaboration and integration into global value chains (GVCs). The project specifically focuses on policies to enable clustering of SMEs in Key Enabling Technologies (KETs). Innovation network policies, for instance, are used to accelerate the introduction of **KETs in the agricultural sector in Romania**.

Innovation network policies can be transformative for rural areas. In **P-IRIS**, which focuses on designing and delivering better innovation policies for rural areas, rural innovation networks have been used in **Croatia**, **Norway**, and **Spain** to boost rural innovative capabilities.

Innovation network policies are being adopted in the context of the Smart Specialisation Strategy (S3). **RELOS3** focuses on implementing regional Smart Specialisation Strategies (RIS3) in a local context by actively involving triple helix actors, namely local authorities, innovation actors and companies in a truly bottom-up approach. Innovation network policies are used to boost the **innovation capabilities of S3 priorities**.

Innovation networks can be used to accelerate the adoption of responsible innovation practices. **MARIE** aims at aligning the concept of Responsible Research and Innovation (RRI) with the S3 concept.

Innovation networks are essential to accelerate the innovation process at the sectoral level. **TITTAN** fosters technological innovations in the European healthcare sector. **University networks** are being used to **promote healthy habits** in Spain.

Innovation networks are also widely used in **Interreg Europe projects related to SME Competitiveness**. In **FUTURE ECOM**, which aims to exploit digitalisation to increase B2B e-commerce, innovation networks are used to strengthen the **integration of clusters into international value chains**

Box 4. Interreg Europe projects bring policy changes

In **ERUDITE**, **FabLab Network Slovenia** facilitated the creation and design of services of **Slovenian Digital Innovation Hubs.** The Network was initiated and coordinated by the Faculty of Electrical Engineering, University of Ljubljana, in cooperation with the Information Society Directorate, Ministry of Public Administration. The FabLabs are financed by the national operational programme. The funds were mobilised thanks to the work done by the partners in the project ERUDITE, in particular following the visits to partners' regions and the discovery of 4 **ERUDITE** good practices related to FABLABs. These are:

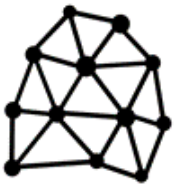
- The **Lormes Digital Lab** in France inspired the Slovenian partner to establish FabLabs in rural environments.
- The **Lab Altobello-Family Lab** in Italy was an inspiration to involve children in FabLabs and introduced the concept of family lab to the FabLab Network.
- The **TEAK Centre** in Finland inspired the Slovenian partner to design effective digital training for companies.
- The **Co-lab/Letterkenny +Aislann Centre** in Ireland was an inspiration to create an interregional FabLab network.

FabLabs, or **Fabrication Laboratories**, are open and non-commercial creative places equipped with advanced digital technology equipment such as 3D-printers, CNC machines, laser cutting and engraving machines. The good practice points out that FabLabs can contribute to raise awareness on new technologies and retrain or upskill workers. Moreover, FabLabs can contribute to place-based innovation challenges and respond to regional S3 priorities. The main objective of the network is to **share best-practices and to provide technical knowledge and expertise on FabLabs**.

5. Policy recommendations

This policy brief provides five policy recommendations, from more general to more specific advice depending on the regional contexts. They are illustrated with interesting good practices coming from Interreg Europe projects.

Policy recommendation 1. Use Social Network Analysis (SNA) to map network interactions



The first policy recommendation is for **regional policymakers to use social network analysis (SNA)** to map and visualise interactions across time within and between regional innovation networks (see box 1). SNA is especially useful to map regional scientific and technological capabilities and the most central actors and projects within an innovation ecosystem.

Social network analysis (SNA) informs policymakers on network centrality measures, which can be used to identify the most central actors in the regional innovation ecosystem and the innovative actors who act as knowledge brokers and gatekeepers. SNA can facilitate the design and implementation of policies to strengthen knowledge flows across innovative actors within and between regional innovation ecosystems.

Box 5. Social Networks for analysing and mapping clusters

In ECORIS3, V-LINC is a tool developed by researchers at the School of Business at the Cork Institute of Technology to **map, visualise, and analyse relational data within cluster ecosystems**. Based on Social Network Analysis (SNA), **V-LINC** can inform on the most important actors and projects within a cluster. Social Network Analysis (SNA) based on primary data that are collected through face-to-face interviews are time-consuming thus secondary data are to be preferred. SNA and tools such as V-LINC can offer an evidence-based approach and policy insights for regional policymakers to design and implement better regional innovation policies.

Figure 2. Mapping Systematic ICT Cluster's linkages. Source: V-LINC.

Policy recommendation 2. Structure innovation networks around societal challenges.

The second policy recommendation is **to use innovation networks to respond to societal challenges**. Innovation networks can be quickly **mobilised to rally regional quadruple helix stakeholders** around a common vision and respond to regional societal challenges.

In the next programming period 2021-2027, the European Commission stresses the importance to respond to '**Grand Challenges**'. The **European Green Deal**, **powering recovery and resilience from the COVID-19 crisis** with the **EU Recovery plan**, and the next research and innovation framework program for the period 2021-2027 with its focus on missions, **Horizon Europe**, offer regional governments the opportunity to update their Smart Specialisation Strategies (S3) to respond to societal challenges. Innovation networks have the advantage of being easily mobilised to rally relevant quadruple helix stakeholders around regional societal challenges.

Box 6. Mobilising innovation networks around regional societal challenges

In **CLUSTERFY**, the **Northern Netherlands Provinces Alliance** (SNN) has updated its Smart Specialisation Strategy (S3) for the next programming period 2021-2027 to respond to regional societal challenges. The region mobilised regional innovation networks to select its strategic objectives to respond to societal challenges such as clean energy or healthy ageing. The **New Energy Coalition (NEC)** is a network and cluster, which was created from the joint public-private leadership to respond to increase competition from external actors in the energy market, that has for mission to respond to the societal challenge of energy transition in the regional S3—Reliable, Clean and Efficient Energy. The **Healthy Ageing Network Northern Netherlands (HANNN)**, which was created to offer cluster services, aims to respond to a regional societal challenge of healthy ageing.

Policy recommendation 3. Create information systems for innovation networks

The third policy recommendation is to **create information systems and observatories** to continuously inform actors within innovation networks. Indeed, a well-designed information system can guide actors within an innovation network to ease decision-making processes, to prioritise objectives, and to design the most adapted actions.

Box 7. The Circular Economy Observatory

In **S34GROWTH**, the **Circular Economy Observatory** is an information system to screen potential opportunities and to collect regional initiatives through technological watch and competitive intelligence in the circular economy in Catalonia, Spain. The **Circular Economy Observatory** targets various actors to diffuse the collected information, such as citizens, companies, research and technological centres, schools and universities, civil society, and public organizations. Such observatory initiative not only allows to share information, knowledge, and best-practices among actors within and outside an innovation network but also strengthens ties among actors within an innovation network.

Policy recommendation 4. Build innovation infrastructure to promote informal networking opportunities.

The fourth policy recommendation is for regions **to build innovation infrastructures to promote informal networking opportunities**. The policy recommendation is especially relevant for regions that lack physical spaces for informal networking opportunities. Informal networks offer a strong basis for the establishment of more formal or policy-led networks.

Vibrant regional innovation ecosystems are characterised by local buzz, which is defined as 'the information and communication ecology created by face-to-face contacts, co-presence and co-location of people and firms within the same industry and place or region' (**Bathelt, Malmberg, and Maskell**). Buzz allows for continuous upgrading of information through constant formal and informal face-to-face interactions between users and creators of information.

Box 8. Innovation spaces to promote the creation of informal networks

In **URBAN M**, **STEAMhouse** is an innovation space that combines co-working spaces and makerspace supporting **an environment for learning, knowledge exchanges, and networking**. It focuses on developing science, technology, engineering, art, and mathematics (STEAM) skills to create innovative products and services in Greater Birmingham and Solihull (GBS) city region. In **RELOS3**, the **SPARK Demo** allows to anchor innovation within downtown Tartu, Estonia. The innovation space works as a meeting point for regional innovative actors such as start-ups, educational institutions, R&D organisations, business support organisations.... **SPARK Demo** includes meeting rooms to organise workshops, seminars, networking events, and prototype testing and demonstrations. The innovation space engages with civil society on research and innovation topics such as S3 priorities and to promote **informal networking opportunities for entrepreneurs.**

Policy recommendation 5. Create formal innovation networks around S3 priorities.

The fifth policy recommendation is to **create formal innovation networks around S3 priorities**. The objective of such formal innovation networks is to increase members' competence and innovative capacities within specific S3 priorities. Network organisations like **EURADA** or **ERRIN** can give insights to policymakers and regional development agencies in structuring such formal innovation networks.

Box 9. Innovation networks for Smart Specialisation Strategies (S3)

In **RELOS3**, the **Emilia-Romagna High Technology Network** was created to generate efficient systemic interactions among actors of the quadruple helix in S3 priorities of Emilia-Romagna, Italy. The innovation networks rally laboratories, innovation centres, technopoles around the six thematic platforms selected for the regional S3, which are agri-food, constructions, energy environment, ICT and design, life science, and mechanics materials. The Regional High Technology Network aims to promote university-industry collaboration and technology transfer through a **database mapping the regional offering of industrial research and diffusing research results**.

Sources of further information and relevant research and innovation networks

- European Business and Innovation Centre - **EBN**
- European Commission – **Support Measures to Innovation Networks**
- European Association of Research and Technology Organisations - **EARTO**
- European Association of Development Agencies - **EURADA**
- European Cluster Collaboration Platform – **ECCP**
- European Cooperation in Science and Technology - **COST**
- European Institute of Innovation and Technology - **EIT**
- European Regions Research and Innovation Network - **ERRIN**
- European Network for Rural Development – **ENRD**
- Joint Research Centre (JRC) – **S3 Platform**
- The European Network of Living Labs - **ENOLL**
- OECD – **Innovative Networks**
- Urban Innovative Actions - **UIA**
- University Industry Innovation Network - **UIIN**
- Vanguard Initiative – **Vanguard Initiative**

Annexe 1: Selection of relevant Interreg Europe projects dealing innovation networks.

Project	Policy Objective
BEYOND EDP	To improve the design and implementation of the Entrepreneurial Discovery Process (EDP).
CLUSTERFY	To support Key Enabling Technologies (KET's)-related clusterisation processes.
CLUSTERIX2.0	To improve regional cluster policies.
CREADIS3	To involve cultural and creative industries (CCI) in S3.
ECORIS3	To promote policies and measures to generate solid interactions between key stakeholders.
ERUDITE	To enhance rural and urban digital innovation territories.
FUTURE ECOM (TO3)	To exploit digitisation to increase B2B e-commerce.
MARIE	To align the concept of Responsible Research and Innovation (RRI) with the S3 concept.
OSIRIS	To improve the design, delivery and implementation of open and social innovation policies.
PASSPARTOOL	To develop tools to assess and improve soft innovation policies.
P-IRIS	To improve policies related to triple and quadruple helix cooperation in rural innovation systems.
RELOS3	To implement regional Smart Specialisation Strategies (RIS3) in a local context.
S34GROWTH	To promote new industrial value chains through interregional cooperation.
TITTAN	To improve the quality and performance of the European regional healthcare systems in relation with the healthy and active ageing.

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Thematic experts:

Arnault Morisson & Marc Pattinson

a.morisson@policylearning.eu m.pattinson@policylearning.eu

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