INNOVATION GOVERNANCE

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

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Interreg Europe

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Summary

This policy brief explores the importance of **regional innovation governance**. The green and digital twin transitions, disruptive events, and novel policy paradigms—such as mission-oriented innovation policies (MOIP), transformative innovation policies (TIP), responsible research, and innovation (RRI)—require regional policymakers to experiment with new governance models. Governance is highly context-specific thus making Interreg Europe projects the ideal space for policy learning. This policy brief features five policy recommendations using the experience of Interreg Europe projects to inspire policymakers to adopt more effective regional innovation governance.

Acknowledgements: The authors would like to particularly thank our external contributors, Kevin Morgan, Karin Nygård Skalman, Luc Hulsman, Lucie Vaamonde, and Xabier, Hualde Amunárriz for their insightful contributions into some of the key policy issues regarding innovation governance.

Foreword

Kevin Morgan, Professor of Governance & Development, Cardiff University

The framing of regional innovation governance (RIG) has evolved rapidly in the past twenty years. Time was when it was framed in very narrow terms and taken to refer to the governance arrangements for coordinating the relationships between the so-called triple helix partners in research, business, and government within the region. Today this narrow framing is deemed to be totally inadequate for two reasons.

Firstly, a RIG needs to be framed in such a way that it is embedded in and attuned to the national and supranational levels of the multilevel polity - meaning that place-based policy should be understood as a multi-scalar endeavour rather than a purely local or regional responsibility. Secondly, the traditional innovation policy landscape, geared as it was to a narrow science and technology conception, has been overtaken by far more capacious conceptions of innovation that aim to address societal challenges, like the SDGs - meaning that social innovation partners should have parity of esteem with technological partners.

The latest generation of place-based policy in the EU is the Partnerships for Regional Innovation (PRI) programme, an evolution of Smart Specialisation Strategy (S3). The PRI programme is a good example of the new, more capacious framing of regional innovation strategy because it is explicitly multi-scalar in design and its definition of innovation and development is unmistakably framed in terms of societal challenges like the SDGs. The PRI aims to overcome two types of fragmentation that have stymied the EU innovation system: the costly fragmentation of territorial funding and policy instruments and chronic misalignments between subnational, national, and supranational levels of the multilevel polity.

The Interreg policy community is ideally suited to help the PRI programme to overcome the twin challenges of fragmentation and misalignment because it nurtures place-based partnerships that are locally embedded and transnationally engaged.

1. Introduction

What is regional innovation governance?

Regional innovation governance is all the processes of interactions among various actors that together determine the priorities, strategies, activities and outcomes in research and innovation at the regional level. Governance is not government. **Governance** is the "challenge of steering and positioning complex organisations. It is about the handling of complexity and the management of dynamic flows. It is fundamentally about interdependence, linkages, networks, partnerships, co-evolution and mutual adjustment" (**Science, Technology and Governance**). Regional innovation governance consists of a large view of the rules, actions and institutions meant to coordinate the regional innovation ecosystems.

Regional innovation governance implies the adoption of institutional arrangements to favour systemic interactions among different innovation actors within the region with for instance the **triple-helix model of innovation** or between policy hierarchies with improving policy coordination through **multi-level governance**. The **triple-helix model of innovation** aims to promote interactions between universities, the private sector and public institutions in order to accelerate the innovation process (**Etzkowitz and Leydesdorff**). At the regional level, the civil society is increasingly involved in triple-helix arrangements, thus forming the **quadruple-helix model of innovation**, to favour citizen participation and open innovation (**Carayannis and Campbell**).

Regional innovation governance is a complex process that involves some degree of autonomy, financial resources, inclusive and effective coordination with different regional innovative actors, multi-level governance, and European funds. **European regions** have different levels of competences to design and implement place-based policies. Regions operate in specific economic, political, and social environments that affect the range of possible actions shaping the innovation governance.

Why is innovation governance important?

The importance of regional innovation governance was put forward with the literature on regional innovation systems (RIS). **A regional innovation system (RIS)** is defined as the "institutional infrastructure supporting innovation within the production structure of a region" (**Asheim and Coenen**), where universities and intermediary organisations are, among others, part of the institutional infrastructure, while firms represent the main actors in the production structure. RIS scholars stress that interactions among different regional innovative organisations and actors are central to the innovation process (**Laranja, Uyarra, and Flanagan**). **Regional innovation governance** aims thus to promote collective learning, systemic interactions, and to limit dysfunctional interactions. In many regions, regional innovation agencies have been created to facilitate interactions and to coordinate their regional innovation systems (**Morisson and Doussineau**).

In addition to coordinate and to promote interactions among innovative actors, **regional innovation governance** arrangements are increasingly aiming to address non-linear and systemic societal policy challenges. Complex policy issues or those spanning the remit of multiple organisations, jurisdiction or regions require rethinking existing problem-solving mechanisms and governing structures. Moreover, novel policy paradigms such as **Mission-Oriented Innovation Policy (MOIP)**, **Responsible Research and Innovation (RRI), Smart Specialisation Strategies for Sustainable and Inclusive Growth (S4+),** and **Transformative Innovation Policy (TIP)** also imply more inclusive and experimental governance models (read our policy brief on **Open, Social, and Responsible Innovation**). The rise of societal grand challenges require transformative changes beyond research and innovation to also include institutional, social, and organisational changes towards inclusiveness and sustainability (**Uyarra et al.**).

Box 1. Achieving Cross-Border Government Innovation

The **OECD observatory of public sector innovation (OPSI)** published a report titled **Achieving Cross-Border Government Innovation**. Societal challenges are often cross-border and require new governance mechanisms to enable systemic cross-border government collaboration. They are, however, many barriers to cross-border innovation governance due to cultural, political, or linguistic differences. The report illustrates an example of successful cross-border governance with the **Kvarken Council**, which is a Nordic cross-border co-operation body composed of representatives from sub-national governments in Finland and Sweden. Its mission is to leverage the power of cross-border collaboration to stimulate growth and innovation in the Kvarken region and to strengthen the regions' competitiveness, internal connectivity and attractiveness for foreign visitors and investors. Moreover, the report gives 5 recommendations to foster effective cross-border governance:

- To secure political and leadership commitment and advocacy from the highest levels of government.
- To pursue cross-border efforts only where these make sense and involve all stakeholders in establishing a clear vision and strategy for cross-border collaboration.
- To ensure structural enablers are in place and explore relevant systems dynamics that can better connect partners and collectively guide work.
- To share costs and benefits related to collaboration, and be aware that benefits may take time to be realised and may not be distributed equally.
- To be a good partner and build trust by fostering strong relationships over time (**OECD**).

2. Insights from S3 Governance and Partnerships for Regional Innovation

The **smart specialisation strategy (S3)** and the **entrepreneurial discovery process (EDP)** gave the opportunity for regional policymakers to experiment with novel regional innovation governance arrangements. **Smart specialisation strategy (S3)** is a place-based innovation policy concept to support regional prioritisation in innovative sectors, fields or technologies through the 'entrepreneurial discovery process (EDP)', a bottom-up approach to reveal what a region does best in terms of its scientific and technological endowments (**Foray, David, and Hall**). The design, implementation, and the monitoring of the S3 with the selection of priorities and projects recognise the importance of tailored inclusive and continuous regional innovation governance arrangements.

S3 governance refers to how the **whole process of designing and implementing S3 is governed**, including the players involved, the structures that are put in place and how decisions are taken (read our policy brief on **Smart Specialisation Strategy**). **Governance stakeholders' participation and ownership** are some of the main policymakers' challenges. The experience with S3 appears to have contributed to more methodical planning, more effective coordination, and more inclusive regional innovation policy governance (**JRC**). The **JRC Seville S3 Platform** has identified seven principles of good governance (see Figure 1).

Figure 1. The seven principles of good governance. Source: **JRC Seville S3 Platform**.

In the programming period 2014-2020, European regions have established S3 governance arrangements to conduct the **entrepreneurial discovery process (EDP)**, to select priorities, to monitor and evaluate the strategy. Often, **regional S3 governance was established through strategic and operational governance levels**. **Strategic governance** level oversaw the S3 vision and priorities while the operational governance was conducted through thematic groups involving quadruple helix stakeholders that oversaw **the identification of the right sectoral granularities** to pursue. S3 thematic groups have been positive tools for regions to engage with a diverse range of regional stakeholders (see Box 2). However, S3 has been dominated by a narrow understanding of innovation emphasising R&D and knowledge-intensive firms, coordination failures, lack of continuous EDP, and a horizontal silo approach in government (see **Partnerships for Regional Innovation**).

Building on the experience of S3 regional governance and stakeholders' engagement, the **Joint Research Centre (JRC)** published a playbook for **Partnerships for Regional Innovation** that explores new scientific paradigms of innovation governance from transformative government to experimentalist policies. **Partnerships for Regional Innovation** aspire to become a strategic framework for innovation-driven territorial transformation, linking EU priorities with national plans and place-based opportunities and challenges. In May 2022, 63 regions, 7 cities and 4 Member States **were selected in the pilot project for Partnerships for Regional Innovation**. They will consider the needs of the territory through the lens of transition; they will adopt a broader framing of innovation and unlearn loaded framings; they will work backwards from goals with broad coalitions of stakeholders; they will complement, strengthen and reform governance; they will diagnose development bottlenecks and deploy a tailored policy mix that goes well beyond project-funding.

The partnerships are designed over a multi-level perspective, paying attention to the needs of local, regional, and national policymakers and opening pathways for their closer alignment and cooperation. **They aim to address two types of fragmentation that affect the EU innovation ecosystem**: the fragmentation of funding instruments and policies in territories, and misalignments between regional and national with EU initiatives. **Partnerships for Regional Innovation** must:

- align multiple funds/policy domains for the green and digital twin transition;
- be suitable for various levels of governance (not just regions);
- deploy various support instruments (not just projects);
- allow linking with European missions and partnerships (e.g. through mission hubs).

To achieve these policy objectives, **Partnerships for Regional Innovation** has three 'building blocks':

- A **Strategic Policy Framework** that lays the foundation for action in the following two 'building blocks' and allows broader and dynamic planning using the concept of **Whole-of-Government approach** that allows broader and dynamic planning.
- The **Open Discovery Process**, which enables engagement, deliberation and path co-creation with variable sets of stakeholders, repurposing the established participatory governance approach of smart specialisation towards sustainability, and also introducing new ways of working across silos, working backwards from desired economic, societal and environmental goals (see Figure 2).

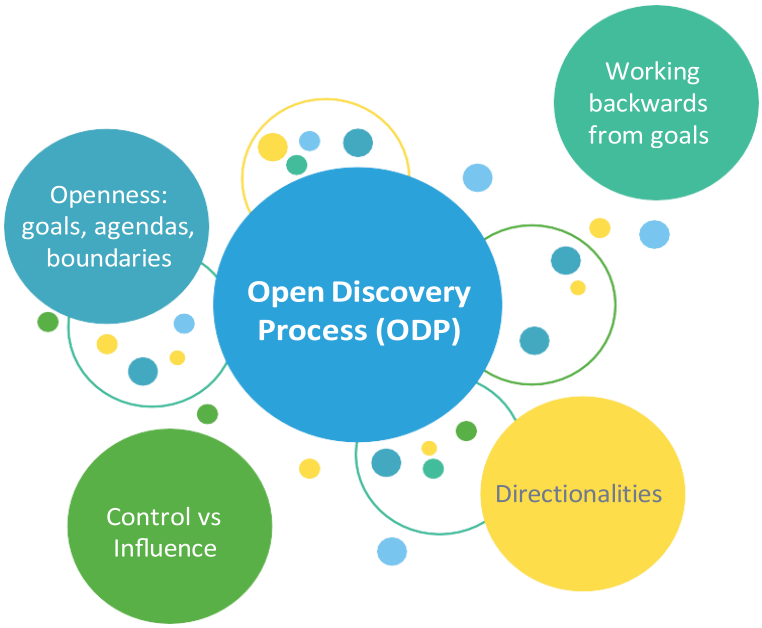


Figure 2. Open Discovery Process (ODP). Source : **Partnerships for Regional Innovation.**

- The **Policy and Action Mix** that includes the possibility to mobilise additional instruments to publicly-funded projects, as necessary for the desired outcomes, including private sector co-investments with a view to solve societal challenges.

3. Emerging models of innovation governance

Box 2. Smart Specialisation Strategy Governance – Good Practices

Many Interreg Europe projects are dedicated to developing and delivering better policies regarding S3 Governance and the entrepreneurial discovery process (EDP). S3 Governance often consists of strategic and operational governance arrangements (see below some good practices).

At the strategic governance level, it is important to define the vision and priorities. For instance, the **Mazovian Innovation Council** (**COHES3ION**) is an advisory body consisting of triple-helix stakeholders that monitor, assess, and evaluate the strategy thus allowing **to update and revise Mazovia's S3 in a continuous manner**.

At the operational governance level, it is important to engage quadruple stakeholders to continuously redefine the granularity of priorities. For instance, the **RIS3 thematic working groups**, (**Beyond EDP**) in Extremadura, Spain, points out to the importance of motivating quadruple stakeholders to participate in the working groups **through empowering them to co-create actions and policies**.

This chapter has selected three emerging governance models that are gaining momentum, namely anticipatory innovation governance, transformative governance, and Whole-of-Government (WoG).

Anticipatory innovation governance

The **OECD observatory of public sector innovation (OPSI)** introduced the concept of **Anticipatory innovation governance**, which they define as "the broad-based capacity to actively explore possibilities, experiment, and continuously learn as part of a broader governance system". Governance must increasingly recognise the importance of a governance approach that considers the nature of complex problems, the importance of systems thinking, and the roles of innovation and foresight due to disruptive technologies—automation, digitalisation, disruptive events—Covid-19, Russian invasion of Ukraine, and societal grand challenges—climate change, ageing. **Anticipatory innovation governance** is an approach to adopt non-linear policymaking processes to embrace uncertainty and complexity (see figure 3).

Governments need to learn to anticipate–that is, create knowledge about the future ahead–but also make that actionable through implementing real innovation on the ground. **Anticipatory innovation governance** must support future-oriented learning and action based on empirical experimentation. **Innovation governance must have space for:**

- effective and efficient products and services (**enhancement-oriented innovation**),
- directed innovation to solve societal challenges (**mission-oriented innovation**),
- undirected entrepreneurial discovery (**adaptive innovation**).

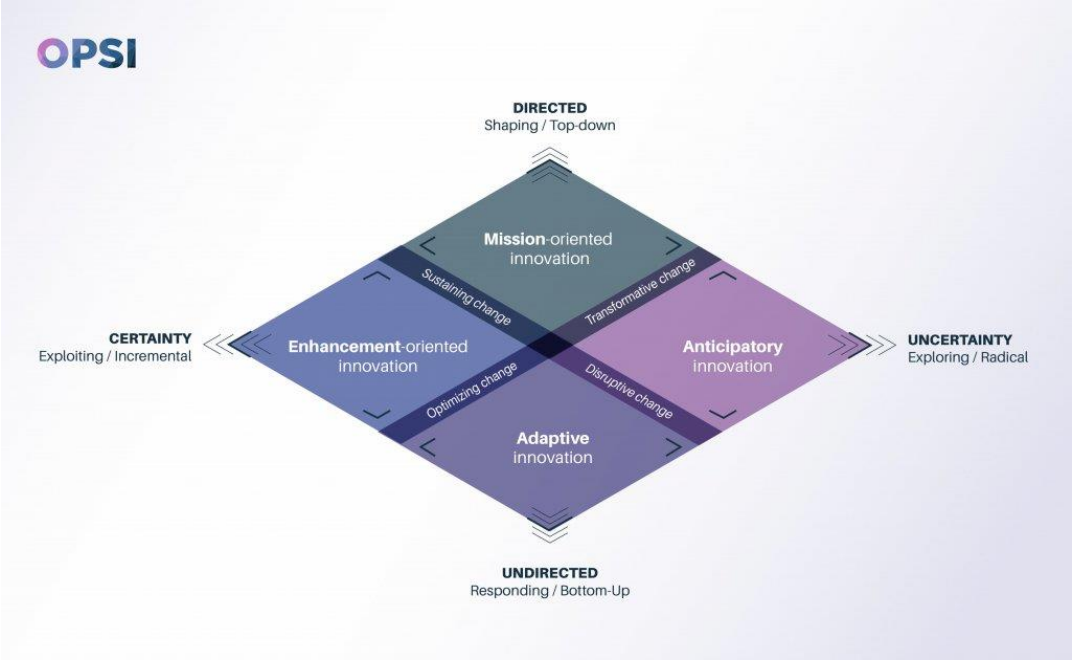


Figure 3. A balanced Approach to Innovation Governance. Source: **OECD-OPSI Anticipatory Innovation Governance**

Transformative government

Transformative government focuses on solving societal problems by orchestrating socio-technical transformation (read our policy brief on **Open, Social, and Responsible innovation**). **Transformative government** requires the organisational capacity to execute transition tasks, defined as the ability to anticipate and influence change, make informed and intelligent policy decisions, attract, absorb, and manage resources, and evaluate current activities to guide future actions. Transformative governance emphasises the questions of **directionality, legitimacy, and responsibility** (**Schlaile et al.**). In other words, innovation requires policymakers to address not just how to get there (which policies) but also fundamental issues of **directionality** (what future do we want), **legitimacy** (why do we want this future, who defines it), and **responsibility** (transformation by and for whom). A transformative government acts on multiple plans and performs tasks that can be synthesised in five broad categories:

(1) give direction; (2) create governance; (3) support the new; (4) destabilise the unsustainable; and (5) develop internal capabilities and structures (**Braams et al.**). Lastly, transformative government emphasises long-term sustainability and strong civil society engagement while taking an experimentalist policy approach seen as temporary spaces for multiple actors (government, business, knowledge producers, users, etc.) to work together on a variety of new pathways, accepting uncertainty and failure as part of the learning process.

Whole-of-Government

Whole-of-Government (WoG) is a governance approach to improve collaboration and coordination among government levels. The governance approach is a comprehensive way to assemble resources and expertise from multiple agencies and groups within and outside the government to solve problems. Guiding the **Partnerships for Regional Innovation**, the following principles can support the implementation of the WoG approach: (1) perform a thorough assessment of existing obstacles to cooperation and identify possible solutions that may require a staged approach, (2) understand the causes of 'silo mentalities' and the factors explaining their persistence, (3) allocate adequate time and resources, address unintended risks and consequences (4) balance accountability and risk management, (5) acknowledge the politically sensitive nature of WoG actions and promote incentives for all parties, and (6) WoG needs a bottom-up and cooperative approach involving policymakers from different levels—municipalities, departments, organisations—rather than high-level politics.

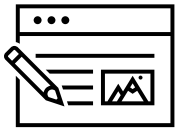
Box 3. The Policy Learning Platform can help you with regional innovation governance

The **Interreg Europe Policy Learning Platform** can help regional policymakers to experiment with novel regional innovation governance arrangements by facilitating the exchange of experience from different institutional contexts and showcasing success stories via the **Good practice database**. The **Policy Learning Platform** can provide a forum for direct discussions among partners from different projects – either in thematic workshops, **matchmaking sessions**, **peer reviews**, or in webinars and online discussions, and provide expert advice through our on-demand **policy helpdesk service**.

4. Policy Recommendations

This policy brief provides five policy recommendations, from more general to more specific advice focusing on policies to promote better innovation governance. They are illustrated with good practices and policy changes coming from Interreg Europe project partners.

Policy recommendation 1. To understand the regional institutional context



Regional innovation governance is highly context specific and there is no 'one-size-fits-all' governance arrangement. Indeed, regional innovation governance operates in specific institutional contexts with the aim to design place-based and place-sensitive policies to respond to regional innovation specificities. A place-based policy is defined as 'a long-term strategy aimed at tackling persistent underutilisation of potential and reducing persistent social exclusion in specific places through external interventions and multilevel governance' (**Barca**). As a result, regional policymakers must design policy tools to understand their institutional contexts while having the appropriate regional innovation governance to respond to regional innovation weaknesses.

The shift of innovation policies in responding to societal grand challenges implies that **regions must assess their readiness to address such challenges**. Indeed, a challenge-oriented approach requires specific public sector capacities to coordinate and provide directionality, while having an innovation ecosystem with sufficient scientific and technological capabilities to address the grand societal challenges effectively. When pursuing challenge-oriented policies, regional innovation governance must also assess the regional capacity to address societal challenge (**Cappellano et al.**).

Box 4. Innovation Monitor

In **BEYOND EDP**, the **Innovation Monitor** is an initiative developed through the collaboration between the University of Groningen and the Northern Netherlands Alliance (SNN) to enhance innovation policies and contribute to a more effective use of subsidies in the Northern Netherlands (NNL). The project aims to map and measure innovation activities, investments, and performance of SMEs, through the analysis of indicators-based questionnaires completed by participating companies on an annual basis. Specific reports are presented annually, providing insights into the trends of the NNL innovation ecosystem. Participating companies are provided with individual benchmark reports on their performances, as well with an overview of the most relevant subsidy instruments they can use for their business activities. **The Innovation Monitor** mechanism offers interesting insights in the field of innovation policies, providing useful tools that could be adopted for other projects and in other countries both for monitoring regional innovation activities and for helping SMEs analyse their performances and identify the most effective subsidies opportunities to make their business grow.

Recommendations from the Interreg Europe community

Luc Hulsman, SNN – Northern Netherlands Alliance, says "**don't do it on your own**". The Northern Netherlands Innovation Monitor is all about partnership and reciprocity: a joint initiative between a public authority and a university. We had a need for better insights into innovation characteristics of SME's and the university for research data. The collaboration evolved into a much larger partnership, where each partner contributes with something (contact information of SME's, expertise) and gets something in return (influence over research topics, exposure). The monitor is fuelled by a yearly survey. Participating SMEs also get something in return: a benchmark report, which compares their performances to others.

Policy recommendation 2. The importance of universities in governance arrangements.

Universities have an important to play in governance. They are not only responsible for developing human capital (Education – the first mission) and for producing new knowledge (Research – the second mission) but they must also engage in regional development (Regional development – the third mission). This third mission hints towards increased participation of universities in governance arrangements and towards the importance of a greater impact of regional universities on their regional innovation ecosystems (read our policy brief on **university-industry collaboration**). Indeed, universities have many assets that must be mobilised to address place-based challenges.

Box 5. Regional universities must have impact on their regional innovation ecosystems

In **INNOHEIS**, **Minding the gaps** is an initiative that illustrates a way forward for universities to have a greater impact on their regional innovation ecosystems. Universities have an important role to play to strengthen local innovation capacities through translating and brokering extra-regional knowledge to reinforce local absorptive and innovation capacities. The initiative focuses on university-municipalities collaboration to respond to local policy challenges. Mid Sweden University (MiUn) and local municipalities have signed formal agreements for strategic partnerships enabling scientific activities for local and regional development. The strategic partnerships were first signed with the two largest towns, Sundsvall and Östersund, where municipal officials were coordinating internal municipal R&D initiatives while academic researchers were adapting their research projects to respond to local challenges. The initiative offers a path towards greater impact of regional universities on their regional innovation ecosystems.

Recommendations from the Interreg Europe community

Karin Nygård Skalman, Project Manager at Mid Sweden University, gives four recommendations regarding ”Minding the gaps”, they are:

1. Start by building trust and respect among university researchers and intermediate officials in relevant public organisations, municipalities or regions. Get to know each other.
2. Try to find a public challenge that is of interest for researchers. Based on common interest, try to stimulate research questions benefiting both parties.
3. Try to act quickly, but in small steps. It takes time to build consensus.
4. The management of expectation is key and failures a prerequisite for success.

Policy recommendation 3. To reduce fragmentation of the regional innovation ecosystem.

Regional innovation governance has an important role to play to reduce fragmentation and coordination failures in regional innovation ecosystems. Regional fragmentation and coordination failures result when regions have a highly developed organisational infrastructure of public research and educational institutions and a dense supply of (often commercialised) knowledge transfer services but lack networks and interactive learning among companies and between universities and industries. **Regional innovation governance** aims thus to promote collective learning, systemic interactions, and to limit dysfunctional interactions. In many regions, regional innovation agencies have been created to facilitate interactions and to coordinate their regional innovation systems (**Morisson and Doussineau**). **Cluster organisations** can also promote greater interactions between universities and industries and among companies in specific sectors (read our policy brief on **Clusters**).

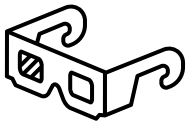
Box 6. Intermediary organisations can promote greater coordination of the regional innovation ecosystems.

In **ITHACA**, the partner from the region of Nouvelle-Aquitaine in France introduced a policy change to reduce the fragmentation of its health innovation ecosystem. The region created two organisations, namely Gérontopôle, an organisation that aims to promote research and innovation in the active and healthy ageing domain, and ALLIS NA, a cluster organisation regrouping 6 regional entities and clusters that animate the health cluster representing more than 250 companies and 36 research and training establishments and numerous healthcare establishments. The partner benefited from peer evaluations and exchanges in ITHACA and was inspired from good practices such as **STIP 2020** from the Basque country, the **SLIMMER LEVEN 2020** from Eindhoven, the **e-health cluster** from Liverpool, and the **Cluster Agency** from Baden-Württemberg.

Recommendations from the Interreg Europe community

Lucie Vaamonde, European Department Manager at Gérontopôle, highlights that the merger of the three former regions into one large region (Nouvelle-Aquitaine) gave the possibility to strengthen synergies between quadruple helix stakeholders involved in the active and healthy ageing (AHA) and health sectors in a more efficient and coordinated way to achieve greater and larger project impacts on the territory. However, bringing together quadruple helix stakeholders and working together implies to first create an umbrella organisation that can act as an intermediary to rally important regional actors and to coordinate regional actions in a structured manner. It is important that such an initiative not only involves a willingness from the political side but also from the bottom-up (from the regional stakeholders) to design organisations adapted to the place-based needs. The quadruple helix regional stakeholders could be involved in the co-creation through the organisation of dedicated workshops (before the creation of the structures) to share needs and ideas to create the most suitable initiatives.

Policy recommendation 4. To promote governance arrangements for responding to local societal challenges



Regional policymakers can introduce flexible and project-based governance arrangements to respond to local societal challenges. Challenge-oriented innovation policies aim to respond to societal demands or even to the "Grand Challenges of our time" and participate to the shift towards transformative changes. Regional policymakers can design challenge-based policies such as competition for start-ups or students to find new solutions to regional societal challenges. An increasing popular policy tool that can be used in a diverse range of regional contexts is the use of **challenge-based contests to address regional societal challenges.** The challenge-based competitions usually involve start-ups and/or students working towards responding to some local societal challenges. A governance arrangement involving quadruple-helix stakeholders can support the implementation of this tool.

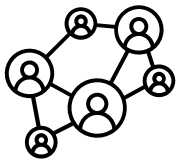
Box 7. Good practices on Living Labs for transformative changes

In **URBAN M**, the Municipality of San Sebastián has modified the governance structure of the **Donostia Innovation Campus**, a programme to diffuse an innovation culture to the youth in San Sebastián, Spain. This change refers to a new collaborative platform with a close collaboration among educational institutions, students, and start-ups to find practical solutions and prototypes to challenges proposed by the Municipality and the business sector. The programme has three main action lines: (1) dissemination and familiarisation activities, (2) the Donostia Innovation Challenge, and (3) co-financing of innovation. Ultimately, the programme aims to generate positive social attitudes towards entrepreneurship and technological and scientific activities. The policymakers were inspired to strengthen the quadruple helix governance of the initiative by learning from **URBAN M** good practices such as **Steamhouse** from Birmingham, **Start-upper School Academy** from Lazio Region or **Fab-Lab Lisbon**.

Recommendations from the Interreg Europe community

Xabier Hualde Amunárriz, Fomento de San Sebastián, points out that the main factor that led to successfully develop this initiative has been the alignment of the public initiative with the concerned local stakeholders, namely, the educational centres and the local innovation ecosystem (R&D centres, technological centres and private companies). Sharing and critically exploring with them the analysis and objectives behind the initiative, has been key to develop a strong community (now perennial with at least 30 entities taking part each year). The other key factor has been to work with the students around a city challenge-based methodology. This way, they feel empowered to give their best efforts along the process.

Policy recommendation 5. To introduce RRI in innovation governance



Regional innovation governance can be informed by Responsible Research and Innovation (RRI), which is defined as "a transparent, interactive process by which societal actors and innovators become mutually responsive to each other with a view to the (ethical) acceptability, sustainability and societal desirability of the innovation process and its marketable products (in order to allow a proper embedding of scientific and technological advances in our society)" (**Von Schomberg**). In other words, the aim of RRI policy is to create a societally beneficial impact of research and innovation.

RRI can lead to better governance as it emphasises the need for research and innovation to be anticipatory, ethical, reflexive, engaged (with publics and stakeholders), open and mutually responsive in terms of their agendas and trajectories. Anticipation refers to the possible consequences of research and innovation. Reflection implies for researchers to reflect on the research questions they ask and the implications of their findings. RRI is an approach that anticipates and assesses potential implications and societal expectations over its development. It implies that societal quadruple helix actors work together during the whole research and innovation process to better align both the process and its outcomes with the values, needs and expectations of society (read our policy brief on **Open, Social, and Responsible Innovation**).

Box 8. To introduce RRI in governance

In **MARIE**, the partner from the region of Galicia in Spain has introduced a number of measures to align its innovation policies to RRI principles. For instance, the Galician Strategy on the Digital Innovation Hub (DIH) explicitly mentions that its governance structures will follow RRI principles. Moreover, the Civil UAVs Initiative (Uninhabited Aerial Vehicles) that aims to promote innovative solutions based on UAVs is also following RRI principles such as: (1) to increase the capabilities of students and their chances to access a fast growing and promising sector, (2) to raise awareness about STEM careers, and (3) to increase the number of women accessing STEM careers in general, and aeronautics innovation jobs. The region of Galicia benefited from exchanges with MARIE partners namely learning and getting inspired from good practices such as the **Broadening the Scope of Impact** Initiative by the Science Foundation Ireland to learn how to include specific measures to broaden the impact of innovation projects and initiatives. This initiative is a tool for the Foundation to request information on and to monitor impacts in areas going beyond the more traditional research sector,, economy and industry. These include impact on education and on areas of special social interest such as environment, citizens' safety, welfare and heritage.

Sources of further information on innovation governance

- European Commission – **Regional Governance Matters**
- European Commission – **Regional Innovation Governance**
- European Commission – **Partnerships for Regional Innovation**
- European Commission – **Partnerships for Regional Innovation Concepts and Rationales**
- Interreg Europe Policy Brief – **Clusters**
- Interreg Europe Policy Brief – **Open, Social, and Responsible Innovation**
- Interreg Europe Policy Brief – **Smart Specialisation Strategy**
- Interreg Europe Policy Brief – **University-Industry Collaboration**
- OECD – **OECD observatory of public sector innovation (OPSI)**
- OECD – **Anticipatory innovation governance**

If you have any additional policy questions regarding innovation governance, do not hesitate to contact us through our on-demand **policy helpdesk service**.

Annexe 1: Selection of relevant Interreg Europe projects dealing with innovation governance

Project	Objective
BEYOND EDP	To improve the design and implementation of the Entrepreneurial Discovery Process (EDP).
BRIDGES	To enhance industry-led Centres of Competence (CoCs) as RIS3 implementation units.
COHES3ION	To align sub-regional innovation policies with regional S3.
ECORIS3	To support knowledge transfer from RTOs and HEIs to regional private companies.
ERUDITE	To enhance rural and urban digital innovation territories
IMPROVE	To better manage and implement Structural Funds Programme.
INNOHEIS	To encourage higher education institutions (HEIs) and their research and innovation infrastructures (RIIs) to participate as enablers of S3 and the EDP.
MARIE	To align the concept of Responsible Research and Innovation (RRI) with the S3 concept.
OSIRIS	To solve real-life societal challenges through open social innovation methods - stimulating a bottom-up co-creation process for regional development
PASSPARTOOL	To develop key tools to assess and improve soft innovation policies, namely related to social, organisational, institutional, and open innovation
RELOS3	To implement regional Smart Specialisation Strategies (RIS3) in a local context.
TRACS3	To support regional innovation infrastructures to build research excellence.

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