



The challenges and necessity of rural innovation

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

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Summary

Rural regions make up roughly half of the territory of the EU-28, with just over one quarter of the population living in these areas.^{1 2} By building innovation capacity and implementing innovative solutions, rural and sparsely populated areas can overcome their inherent challenges and remain viable business locations. There are many aspects of rural innovation including the characteristics of innovation ecosystems, the conditions for the local business sectors, industrial diversity, access to physical and digital infrastructure, relations with urban counterparts and more. Rural development and rural innovation are high on the policy agenda, with links to cohesion, agricultural and digital policies to name but a few. In the Interreg Europe community there are also several projects tackling the issues of rural innovation, directly or indirectly. The Policy Learning Platform offers a range of services to promote inter-project and interregional cooperation and capitalisation services to reinforce the different approaches and identifying synergies and good practices to boost rural innovation.

Introduction

Rural regions face various challenges to stay attractive, competitive and maintain sustainable economic growth and promote viable communities. At the EU level a number of institutions have prepared various reports and policy papers highlighting the specific characteristics of rural regions and how their innovation capacity might be strengthened through policy improvements and targeted actions.

Apart from the overall desire to ensure territorial cohesion, a review of this material highlights three common and recurrent themes: designing **innovation support mechanisms** that are adapted to rural business needs; tackling the **needs of traditional industries** such as agriculture and ensuring the potential of **new technologies such as digitalisation** are harnessed to improve the competitiveness of businesses (access to HR Skills, research sources etc...) and the delivery of public services to meet the needs of rural populations.

In 2016, the European Conference on Rural Development was organised by the European Commission in Cork, Ireland during which current and future challenges of farming and rural areas, and potential policy responses were discussed. The main considerations of the [Cork 2.0 declaration](#) include:

- “Persuaded that urban centres and rural areas and their populations enjoy different but complementary assets [...]”
- “Expecting that the rural economy and rural businesses will depend increasingly on digitalisation as well as knowledge workers who make the most of the digital transformation [...]”
- “Persuaded that economic growth and sustainability are not mutually exclusive and can be fostered by innovation to which rural entrepreneurs, farmers, and foresters must have access [...]”
- “Concerned about rural exodus and youth drain and the need to ensure that rural areas and communities (countryside, farms, villages, and small towns) remain attractive

¹ European Commission (2016) “Facts and figures – rural development in the European Union” Available at: <https://ec.europa.eu/agriculture/events/2016/rural-development/fact-sheet.pdf>

² Eurostat (2018) Available at: https://ec.europa.eu/eurostat/statistics-explained/index.php/Statistics_on_rural_areas_in_the_EU



places to live and work by improving access to services and opportunities for rural citizens [...]"

There is also a specific point of policy orientation on boosting knowledge and innovation, stressing that “rural communities must participate in the knowledge economy in order to fully utilise the advances in research and development”.

The ESPON policy brief [Shrinking rural regions in Europe](#) highlights the demographic trend of rural depopulation. The population of predominantly rural regions is projected to fall by 7.9 million people by 2050 in EU-28 countries, as part of a global trend of urbanisation. The policy brief outlines the effects of this shrinkage, including a mismatch between supply and demand of services, scarcity of skilled labour, regions losing their attractiveness etc. in a downward spiral.

For local innovation systems, the loss of skills and talent disconnect them from the global economy. Small and medium-sized enterprises (SMEs) and micro-enterprises are typically more dependent on the availability of skilled workers, and rural regions in turn tend to be more dependent on smaller enterprises (38% average share of employment compared to 27% in urban areas).

Meanwhile the [OECD Policy Statement on Enhancing Rural Innovation](#)³ highlights the importance of the “**digital dimension**” and states that “innovation will be critical for the future competitiveness and sustainability of rural economies”. Improved connectivity between cities and rural regions will generate mutual benefits; **high-speed internet infrastructure** will connect people and business to new markets, provide educational opportunities, and allow for new services. Digital connectivity and new technologies will enable the collection and use of data that increases productivity and the delivery of better public services. The policy statement also underlines collaboration and partnership among public, private, not-for-profit and educational organisations as being important for rural innovation ecosystems to function effectively.

Why this policy brief?

The focus of this Interreg Europe policy brief is to highlight some of the different policy approaches, that address the three main themes identified above and help tackle the innovation challenges faced by rural and sparsely populated areas. This includes what can be considered as framework conditions for “rural innovation ecosystems”, i.e. how some characteristics common to these regions affect the opportunities and capabilities for innovation. This is closely linked to the impact that innovation has on the same regions and their development, whether it be through digital services, new transport solutions or modernising regional industry sectors.

For regions facing the innovation-related challenges that come with the rural identity, the approaches already employed by others may serve as inspiration for policy instrument improvement and implementation of concrete actions. Likewise, insights into how innovative solutions can accelerate regional development can influence the content and focus of future strategies.

³ Presented in connection with the 11th OECD Rural Development Conference (organised in Edinburgh 9-12 April, 2018).



European policy framework

The issue of rural innovation, is part of the bigger question concerning rural development including issues of growth, jobs and daily life in rural regions. Some policy instruments will therefore have a broader scope but will often include the innovation dimension as one of many aspects to improve the general outlook for these regions, e.g. policies concerning agriculture. Similarly, there are policies linked to technology development of value to both rural and urban areas, where the focus is on the technology rather than just the rural perspective. Increasingly, however policy makers are designing specific policy instruments that tackle the rural innovation dimension and notably those associated with **digitalisation, rural innovation support mechanisms** and responding to the **needs of traditional industries** such as agriculture/agri-food and forestry.

Modern digital infrastructure and the services it facilitates are crucial for rural regions to stay attractive to businesses and people alike, and function as a catalyst to innovation. Both the expansion and use of modern broadband is the subject of European wide and specific regional policies. The European Commission's [Digital Agenda for Europe](#) is one of the seven pillars of the Europe 2020 strategy, proposing the exploitation of ICT in order to foster innovation, economic growth and progress. Of particular relevance to rural regions are the specific broadband coverage targets included in the agenda: universal broadband coverage of speeds above 30 Mbps, and 50% broadband coverage of speeds above 100 Mbps, both by 2020.

Looking beyond the infrastructure dimension itself, the European Commission's [EU Action for Smart Villages](#) was launched in April 2017. The Smart Villages concept refers to “rural areas and communities which build on their existing strengths and assets as well as on developing new opportunities.” The document points to digital technologies and innovations as supporting quality of life, higher standards of living, public services for citizens, better use of resources, less impact on the environment, and new opportunities for rural value chains in terms of products and improved processes. Investments in infrastructure, business development, innovation support networks such as clusters, human capital, capacity and community building; along with good governance and citizen involvement, are key factors for Smart Villages. Together these approaches demonstrate how specific rural innovation support ecosystems can be tailor made to meet the needs of rural business and the local population.

Digital services aside, rural economies are traditionally associated with agriculture and food production. Although the modern economy has diversified also in rural areas, targeting innovation policies to the primary sector remain important. The EU [Rural development policy](#), under the [Common Agricultural Policy](#), addresses rural development measures through national and regional programmes. One of the six common priorities in the EU framework for rural development programmes is “fostering knowledge transfer and innovation in agriculture, forestry and rural areas.” The EU's rural development policy is funded through the European Agricultural Fund for Rural Development (EAFRD). The [European Innovation Partnership for Agricultural productivity and Sustainability](#) (EIP-AGRI) supports agricultural innovation through pooling of expertise and resources by bringing together public and private actors from all levels, combining supply and demand side measures.

Part of the rural development policy mix focuses on exploiting existing potential through the application of modern technology. The Horizon 2020 [work programme](#) for 2018-2020, includes a Rural Renaissance call aiming to enhance the natural, social, cultural and economic potential of rural areas. The topics of the call cover many thematics such as ICT innovation for



agriculture, strengthened flow of knowledge from research to promote innovation and circular bio-based business models for rural communities.

Similarly, the [Smart Specialisation Platform for Agri-Food](#) (S3P Agri-Food) supports EU regions developing joint investment projects, also involving stakeholders from industry, business, academia and civil society. Among the current five partnerships, innovation and new technology (not least digital technologies) in the agri-food sector are all key aspects. The projects also illustrate the nature of the regional partnerships that can be built around common S3 smart specialisation thematic priorities and review the scope for enhancing interregional cooperation around the theme of innovation and co-investment. Currently, there are some 50 regions involved in the S3P Agrifood platform projects and a number of these regions are also active in the Interreg Europe project community, including for example Andalucia, Emilia-Romagna, Lombardy and Limburg, just to name a few.

Finally, the diversity of rural regions is reflected by the policy approached that target the special group of rural regions made up of the European Union's nine Outermost Regions⁴, islands and archipelagos. For the 2021-2027 EU budget the European Commission has proposed measures to promote innovation, circular economy and blue growth. Already there is a Horizon 2020 backed initiative planned to start in 2019. Named FORWARD, the initiative will analyse innovation systems in these regions and mobilise local stakeholders around long-term innovation strategies based on their specific strengths.⁵

Experiences from Interreg Europe projects

This section of the policy brief focuses on five interesting Interreg Europe project examples:

- RUMORE
- P-IRIS
- RATIO
- ERUDITE
- Islands of Innovation

These five projects all focus on different components of challenges and opportunities linked to innovation in rural and sparsely populated regions. Additional projects are listed in Annexe 1.

Rural and sparsely populated areas are not necessarily far from urban areas and larger cities and fostering rural-urban links can prove beneficial to stakeholders in both areas. The [RUMORE](#) project is focused on the synergies that can be found between rural and urban areas, through the improvement of innovation chains between rural and urban stakeholders. The potential of the respective areas can be combined in smart specialisation strategies, sector value chains, improving the innovation capacity of the larger region and strengthening territorial cohesion.

The [P-IRIS](#) project highlights the challenge of young talents leaving rural regions because they lack attractive job prospects. In order to retain them, there is a need to boost innovation and develop knowledge-based or creative businesses, offering attractive jobs for well-educated

⁴ Located in the Caribbean basin, in the western Atlantic and in the Indian Ocean or landlocked territory in the Amazonian forest, the nine regions are: Guadeloupe, La Reunion, Mayotte, French Guiana, Martinique, Saint-Martin, Madeira, Azores, Canary Islands

⁵ European Commission (2018) "The new EU strategy for the outermost regions, one year on" Available at: https://ec.europa.eu/regional_policy/sources/policy/themes/outermost-regions/pdf/rup_2018/rup_eu_lands_world_1y_en.pdf



and creative young people. The partners are concerned with the challenges of creating dynamic, sustainable innovation systems in rural areas, often lacking a critical mass of actors. Triple-helix and quadruple-helix cooperation is at the core of the project, and improving the skills of public authorities and support systems as managers and mentors of networks, is an important part of the objective.

For SMEs located far from urban areas, a strengthened innovation capacity is essential to stay competitive. The partners in [RATIO](#) targets these SMEs and aim to help them overcome barriers to growth and competitiveness, whilst also reinforcing the regional innovation culture. The project looks towards clusters and networks as the means by which SMEs can consolidate and cooperate.



GO RURAL: Logistics services for rural areas (Good practice example)

The practice implemented in the Spanish region of Aragón targeted logistics services as a means to help SMEs in isolated, rural regions stay competitive. For providers of logistics services, serving rural regions may be time consuming and inefficient, causing a higher price on the services provided. SMEs buying these services are affected by the higher prices, losing financial resources and ultimately making less investments into building their own innovation capacity.

Running during the 2013-2015 period, the practice made use of existing resources that were coordinated through new ICT solutions. Through the help of a technology platform, transport, collection and distribution services in rural areas were supported through trip optimisation. The technology platform also contributed to generate new business models between rural SMEs. The practice showed how ICT solutions may facilitate cooperation between different sectors and groups of stakeholders.

More information is available in the Interreg Europe good practice database:

<https://www.interregeurope.eu/policylearning/good-practices/item/119/go-rural-logistic-services-for-rural-areas/>

The impact of ICT broadband infrastructure is enhanced when it enables the implementation of new services that helps justify the initial investments. The partners of the [ERUDITE](#) project focus on how communities design services through open innovation approaches to fulfil public, private and community needs. ERUDITE has been highlighted as one of the most relevant projects in digital innovation⁶, by the European Network for Rural Development ([ENRD](#)).

⁶ European Network for Rural Development https://enrd.ec.europa.eu/smart-and-competitive-rural-areas/smart-villages/smart-villages-portal/eu-networks-organisations-research_en



ERUDITE has developed a process to increase understanding of the design, operation and impacts of services among partners. The process is called Social and Economic Return on Investment (SEROI+) and covers four steps for service co-creation for smart rural communities and ecosystems, supporting more targeted investments. The four steps are:

- Define policy or practice goals for the services;
- Identify and engage relevant stakeholders and define their goals;
- Co-design the service;
- Set indicators and values, estimate and then monitor social, economic and environmental return on investment.

Island communities share the challenges of mainland rural regions, including loss of population and skilled talents, but their geographic characteristics adds a further dimension of isolation as well. However, the partners of the [Islands of Innovation](#) project focus on the advantages of their islands brought on by isolation – e.g. self-reliance, strong community involvement, and innovative mindset – in order to exploit opportunities to diversify the local economy. By transforming islands into innovation-promoting, experimental test-bed environments, the partners aim to keep and attract young, innovative and entrepreneurial people and activities on the islands.

Challenges for rural innovation

The challenges for rural innovation correlate to a high degree with those for rural development and European cohesion policies in general. Different challenges also amplify or feed into each other, creating a spiralling chain of cause and effect that needs to be broken in order for rural regions to stay attractive and competitive.

Depopulation and “brain drain”

By nature, rural regions have a lower population density compared to urban areas, which means there is often a lack of “critical mass” (population and businesses) to sustain the same level of services and institutions found around urban areas. Therefore, an overarching challenge concerns the depopulation of rural areas, and what measures can be taken to provide opportunities to live and work in order for people, especially the young, to stay or return to these areas and for businesses to have access to talents.

The project examples presented above all aim to improve the conditions for people and businesses in rural areas, directly or indirectly depending on the focus, and illustrate the multi-faceted challenges. This also shows there is a case for inter-project cooperation, finding ways to share and boost impacts through a combination of policy improvements that can help address issues of territorial cohesion and designing rural innovation support mechanisms.



How can the Policy Learning Platform support?

The Interreg Europe Policy Learning Platform's good practice database contains inspirational actions and policy initiatives that cover a wide range of topics relevant to a regions' attractiveness and living conditions. This may be related to business or industry support, measures to connect youth and recent graduates with the job market, innovative transport solutions, or strengthening the regional specialisation. Furthermore, through thematic workshops the Policy Learning Platform provides an opportunity for projects to meet and explore common challenges and initiate cooperation.

Critical mass of innovation actors

Compared to urban areas, the regional innovation eco-systems have fewer higher education institutions and specialised research facilities, resulting in fewer highly skilled researchers that can provide innovation input and interact with local businesses, via local clusters for example. Similarly, SMEs and entrepreneurs may be faced with a less developed business and innovation support infrastructure, or technology transfer actors. The lack of critical mass also means that cluster-supported innovation is less likely to be present in rural regions.

The rural-urban links addressed in RUMORE presents a way to expand a rural innovation eco-system by finding synergies that are attractive to urban innovation actors. The triple-helix and quadruple-helix networking approaches addressed by P-IRIS also aim to boost the performance of "sparsely populated" eco-systems. In addition, this project is looking into the possibilities of bridging the gap specifically to urban cluster networks as well. One concrete example of how this could be achieved, is suggested by the project's Norwegian lead partner. Through a "hub and node"-model, the idea is to connect incomplete, but strong rural innovation networks to mature clusters in order to complete the networks.

How can the Policy Learning Platform support?

The Interreg Europe Policy Learning Platform can assist project partners looking for inspiration on how to support the actors and infrastructure of their rural innovation eco-systems. There are several projects in the research and innovation topic concerned with different aspects of clusters and cluster management, as well as research infrastructure or innovation systems in general. The Policy Learning Platform can facilitate the exchange of experience, for example through webinars or peer review exercises and provide linkages to other EU programme initiatives.

Competitive industries

Rural regions often have industry specialised in the production of tradable goods within a few export-oriented sectors, challenged by higher transport costs that can leave them vulnerable to international competition. Hence, for these industries the innovation capacity can prove vital to stay competitive, something addressed by the partners in RATIO. Practices highlighted by



RATIO to strengthen the innovation capacity of SMEs range from voucher schemes stimulating innovation, to tech-transfer measures and support infrastructure like incubators and innovation centres. Likewise, in the agri-food sector, innovation can increase productivity and output and help respond to growing societal challenges linked to nutrition, traceability and production models.

Rural economies also depend on small (craft) businesses to a large extent. Predominantly rural and peripheral regions tend to have higher shares of employment in microenterprises (1- 9 employees) than urban and capital regions, the same goes for employment in SMEs (10-249 employees).⁷ As mentioned above, the business support infrastructure is often less developed or not as accessible in rural innovation eco-systems. However, P-IRIS is also concerned with the revitalisation of rural industry, broadening the representation with knowledge-based and creative sectors. Likewise, Islands of Innovation highlights the challenges faced by island communities heavily reliant on tourism or other single-sector economies, showcasing alternative innovation-oriented approaches. One approach is to pair the tourism market with complementary industries, e.g. creative or craft industries, or generating innovation through implementing circular economy or sustainability concepts.

How can the Policy Learning Platform support?

The Interreg Europe Policy Learning Platform can facilitate and promote networking between project partners and the partnerships of the S3P Agri-Food, for example by inviting representatives to joint events. There are a couple of Interreg Europe projects targeting food or agriculture value chains (e.g. Agri Renaissance, FoodChains4Europe, NICHE) who could develop synergies with the partnerships. The innovation dimension of S3P Agri-Food also makes it relevant to projects focussing on rural development or rural innovation in a wider sense.

The Policy Learning Platform is in contact with projects within four different thematic objectives. Outside the research and innovation topic, the SME competitiveness topic has many projects concerned with business support-related policy measures, some with a particular focus on rural conditions (e.g. RuralGrowth, RuralSMEs, INNOGROW).

Digital infrastructure

Digital infrastructure and services are key factors to facilitate the daily life of both urban and rural communities and for businesses to seize the opportunities of digitisation. A limiting factor to the implementation and widespread use of digital services is the access to modern broadband infrastructure offering sufficient speed and reliability. Among rural households only 40% (compared to 76% of total EU households) have next generation broadband access, i.e.

⁷ ESPON (2018) "Small and Medium-Sized Enterprises in European Regions and Cities" Available at: https://www.espon.eu/sites/default/files/attachments/SME_final-report_MainReport_20.pdf



broadband with at least 30 Mbps download speed.⁸ Many cohesion policies have included actions to enhance broadband access in rural and sparsely populated regions.

Again, the lack of critical mass can make it less attractive from a commercial perspective to invest in costly digital infrastructure projects. Also, the skills and knowledge needed to unlock the potential of digital technology may also be lacking in rural regions, thus resulting in a “digital divide” caused by shortcomings on both the supply and demand side.

As explored by the partners in ERUDITE, there are other ways to capture the value of digital infrastructure by investing in services based on the expected return on investment also in social terms, e.g. linked to elderly care or providing information access to citizens or attracting new businesses to rural digital hubs. This creates additional incentives to invest in the expansion of digital infrastructure as a means of driving the delivery of new innovative services.

How can the Policy Learning Platform support?

The Interreg Europe Policy Learning Platform can showcase the content and results from projects focussing on digital services, e.g. within health care, craft industries or tourism. This may inspire regions to explore new ways to exploit technology and strengthen the case for an expanded digital infrastructure. Through the expert support service, the platform can help projects identify relevant good practices and regional actors with particular experience of using digital services as a cross-cutting enabler to foster innovation. This could lead to the organisation of peer learning activities.

Way forward

The ongoing global trend of urbanisation means rural regions must reinvent themselves in order to stay competitive and attractive to both people and businesses. Innovation policy makers of these regions are tasked with the challenge to counter the effects of low population density and find sustainable solutions to increase the number of well-educated people, sustain and create new business opportunities and provide and maintain access to necessary and high-quality services.

The experiences of the Interreg Europe projects and the managing authorities highlighted in this policy brief, can provide the inspiration for policy makers to enhance framework conditions and improve the capacity for rural innovation policies to contribute to the economic growth and sustainability of their regions. Furthermore, recent policy and position papers produced by international organisation such as OECD and EU networks are helping to create the conditions for more interest and investment by policy makers into the specific challenges faced by rural areas. Key points include:

- Enhancing rural innovation is an exercise in targeting different underlying issues in parallel and that have the potential to reinforce each other – reversing the downward spiral of decreasing population and services;

⁸ European Commission (2017) "Broadband Coverage in Europe 2016" Available at: <https://ec.europa.eu/digital-single-market/en/news/study-broadband-coverage-europe-2016>



- Broadening the sources of economic growth, both through innovation in traditional industries and diversification of businesses and exploring new value chains and accessing new markets;
- Promoting and finding synergies with urban regions to expand rural innovation ecosystems, and to allow urban areas access rural opportunities;
- Designing and adapting business development and innovation concepts, such as clusters, to the specificities of rural regions; and
- Making the most of digital possibilities, including digital services for new modes of education and communication to build innovation capacity, and through the delivery digital services in all domains to facilitate daily life.

The challenges of rural development and innovation support remain high on the policy agenda, notably in terms of cohesion policies. There are a number of ongoing EU level policy instruments and actions associated with different aspects of the issue and supported by different EU Directorate General's such as the European Innovation Partnership in Agrifood. Interreg Europe can capitalise this knowledge and accelerate the uptake of good practices on the regional level by bringing together stakeholders with different perspectives on rural innovation challenges and encouraging them to exchange and complement each other's approaches.

Sources of further information

- European Commission, [Cork 2.0 declaration](#), 2016
- ESPON, [Shrinking rural regions in Europe](#), 2017
- OECD, [Policy Statement on Enhancing Rural Innovation](#), 2018
- European Commission, [EU Action for Smart Villages](#), 2017
- European Commission, [Rural development policy](#), 2014
- [European Innovation Partnership for Agricultural productivity and Sustainability](#)
- European Commission, [Digital Agenda for Europe](#)
- [Horizon 2020 work programme 2018-2020](#)
- [Smart Specialisation Platform for Agri-Food](#)
- European Commission, [Regional policy & outermost regions](#)
- [European Network for Rural Development](#)

Image credit: Photo by Matthew DeVries from [Pexels](#)



Annexe 1: Selection of relevant TO1 Interreg Europe projects linked to rural innovation

Project	Focus
RUMORE	Enhanced delivery of innovation by improving innovation chains between rural and urban stakeholders and by supporting the better use of synergies between urban and rural areas.
P-IRIS	Rural innovation systems, triple helix and quadruple helix cooperation to boost innovation in rural areas. Creating jobs in knowledge-based or creative businesses for young people.
RATIO	Improvement of innovation capacity in SMEs far from urban areas to secure growth and competitiveness. Reinforcing the regional innovation culture.
ERUDITE	Exploit the economic and social potential of high-speed broadband; sustainable business models for digital service development and deployment.
Islands of Innovation	Diversification of economies in insular regions; islands as innovation test-beds, building on islands' advantages.
NICHE	Innovative food value chains and effective open innovation systems.
STRING	Food industry as a driver for innovation and growth. Improving the innovation capacity of food clusters.
Agri Renaissance	Increased research and innovation resources and capacities of the agri-food sector.
FoodChains4EU	Innovation to create sustainable food chains.
REGIONS4FOOD	New economic opportunities based on information, data and cognitive technologies in food value chains; promote innovation-driven growth. Interconnection of regional innovation ecosystems.
INNOTRANS	Transport innovation and its contribution to tackling major social challenges.
RECORD	Investment in innovation activities by SMEs in the railway sector.
HoCARE	Innovative solutions for home care.

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