



D2.3 Rural-urban data analysis



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Brief abstract	This report presents a comprehensive analysis of rural-urban linkages and opportunities across Europe, focusing on economic, social, and environmental dimensions and the effects of COVID-19. It reviews relevant data sources, models, and standards to ensure interoperability and supports evidence-based policy through an interactive dashboard enabling "what-if" analyses. The study integrates literature reviews, stakeholder consultations, and cross-pilot data evaluation to identify challenges, best practices, and strategies for strengthening territorial cohesion. Findings inform the development of Regional Action Plans (RAPs) under the PoliRuralPlus framework, enhancing foresight, governance, and sustainable development capacities for balanced, inclusive, and resilient rural-urban communities.

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Abbreviations

AI	Artificial Intelligence
CLLD	Community-Led Local Development
DL	Deep Learning.
DoA	Description of Action (Annex in the GA).
EAFRD	EAFRD
ENRD	Rural Network for Rural Development
GA	PoliRuralPlus Grant Agreement
GenAI	Generative AI
GIS	Geospatial Information System
H2020	Horizon 2020 EU funding programme
HE	Horizon Europe EU funding programme of this project
LAG	Local Action Groups
LEADER	EU Programme, Liaison Entre Actions de Développement de l'Économie Rurale
LTVRA	Long Term Vision for Rural Areas
NGO	Non-Governmental Organisation
NRN	National Rural network
OECD	Organisation for Economic Co-operation and Development
RAP	Regional Action Plan
PM	Person Month
SDM	System Dynamic Modelling.
SME	Small and Medium sized Enterprise
WP	Workpackage

Executive Summary

This Deliverable D2.3, Rural–Urban Data Analysis, presents a comprehensive synthesis of the PoliRuralPlus project’s cross-pilot findings, integrating foresight-based methods, data analytics, and participatory governance to strengthen rural–urban linkages across Europe. Its core purpose is to provide directly actionable insights for the nine pilot regions — Ireland, Slovakia, Greece, Italy, Finland, the Czechia-Bavaria border, Spain, Latvia, and Malta — while offering transferable approaches for other rural and peri-urban territories engaged in similar transitions. Building on the participatory foresight methodology defined in WP3, D2.3 combines the analytical outputs of WP2 with the digital intelligence developed in WP4 and the pilot implementation work under WP5. It moves beyond data aggregation to deliver a dynamic, user-oriented framework for evidence-based decision-making and co-creation, aligning regional action with EU strategic priorities such as the European Green Deal, the Long-Term Vision for Rural Areas (LTVRA), the New European Bauhaus (NEB), and the Common Agricultural Policy (CAP). The report consolidates the revised Regional Action Plans (RAPs, November 2025), identifying common challenges, key enablers, and innovation pathways across the PoliRuralPlus pilots.

The analysis demonstrates that integrated foresight, digital intelligence, and multi-actor participation can translate complex territorial interdependencies into practical, implementable policies. Each pilot applied a shared set of principles — stakeholder-centred foresight, participatory digital tools (MAATool, Advisor, Jackdaw), and KPI-driven monitoring — to address local challenges in governance, finance, digitalisation, and sustainability. The results show that rural–urban regions can institutionalise foresight, build cross-sectoral partnerships, and scale innovation through multi-level governance and blended financing models.

In its conclusions, D2.3 emphasises that the PoliRuralPlus model delivers value not only as a research framework but as a practical instrument for regional planners, policymakers, and communities. It provides evidence-based recommendations across key policy domains — including governance integration, digital transformation, circular economy, and NEB-inspired cultural innovation — offering a blueprint for replication in other European contexts. The report stresses the importance of embedding data-driven foresight and participative AI into the regular cycles of planning, implementation, and monitoring to strengthen territorial resilience and inclusivity.

Ultimately, D2.3 shows that sustainable rural–urban development requires not only technological advancement but also institutional transformation and social participation. This deliverable is intended as a living, practical tool for PoliRuralPlus pilots, their stakeholders, and other European rural–urban regions — supporting local innovation, fostering mutual learning, and advancing the EU’s vision of strong, connected, resilient, and prosperous rural areas.

Section 1: Introduces D2.3 and its aims.

Section 2: Describes the PoliRuralPlus Supports, Approach and Innovative AI Tools

Section 3: Discusses Rural-Urban Linkages, the New European Bauhaus and the impacts of COVID19

Section 4: Explores the pilots’ current Regional Action Plans

Section 5: Analyses the pilots’ experience, key learnings and insights

Section 6: Draws conclusions and makes recommendations for the project.

Annexes: Learning examples for pilots’ use of Advisor and other AI tools for their covering (A) improve RAPs (B) Evaluate AI Services, (C) support project work and policy, and (D) produce papers using the References Database and Knowledge Space.

1 Introduction

The PoliRuralPlus project aims to improve the quality of life for people living in urban and rural areas across the EU by promoting coordinated and collaborative development within the regions. It is doing so by fostering a sustainable, balanced, equitable, place-based and inclusive development of rural and urban areas through improved connections, governance arrangements, and integrated territorial policies that prioritise experimentation and innovation in domains that favour bi-directional urban-rural synergies and the development of a well-being economy, driven by foresight, planning and implementation of integrated urban-rural strategies.

Following on from [D2.1](#) and [D2.2](#) in WP2, and based on the work of the [PoliRuralPlus project](#) in its first 2 years, the objectives this deliverable, as defined in the DoA, are:

1. To provide a comprehensive analysis of the economic, social, & environmental linkages between rural & urban areas in the 9 pilot areas
2. To identify:
 - a. The connections to the New Bauhaus Initiative.
 - b. The key sectors & activities that drive rural-urban linkages & opportunities.
 - c. The challenges & bottlenecks that hinder the realization of these linkages & opportunities,
3. To draw conclusions & recommendations:
 - d. Insights to inform future strategies & actions for fostering rural-urban synergies & regional development.

In addition, based on the pilots' and stakeholders' feedback (discussed in section 4), this report focuses on short usable analysis, that the pilots can apply directly, not just a comprehensive theoretical report for external stakeholders. So the focused annexes are intended to be learning and improvement tools for the pilot regions, rather than descriptive outputs.

1.1 WP2 - [“Analysis of the rural-urban linkages & opportunities + Impact of COVID 19”](#)

This report is the third of 4 deliverables from WP2 “Analysis of the rural-urban linkages and opportunities + Impact of COVID19”, as described in the DoA. WP2 is the foundational phase of the project. It is establishing the groundwork by forming the multi-actor community and conducting thorough research on rural-urban linkages. Its research will identify strengths, weaknesses, opportunities, and challenges within these linkages, setting the stage for subsequent activities. The outcomes of WP2 help define the direction and objectives for the rest of the project (WPs 3,4 and 5). The outputs of WP2 so far include:

1. [D2.1 Stakeholders Identification](#): - Comprehensive [database structure for stakeholders](#) across 9 pilots
 - o 158 / 53% listed - Facilitates diverse representation, collaboration, & EU policy alignment
2. [D2.2 Rural-Urban Linkages & Opportunities Post COVID-19](#): - Resource for RAPs in [Advisor](#)
 - o Extensive repository & analysis of rural-urban linkages & prior R&D, policies, pilots etc
 - o Data-driven foundation for RAPs focused on resilience & adaptability
3. [References Data base](#) - over 2,500 sources for the pilots & their RAPs. In [Advisor](#) & [Website Knowledge](#)
 - o Examples of using the References Database are outlined in Annex A.
4. [PoliRuralPlus Advisor](#) custom GPT & [Knowledge Space](#) of all public project outputs & references
5. Data Analysis to provide [PoliRuralPlus Strategic Transition Plan](#) structured framework aligned with PoliRuralPlus goals, current RAPs are in the WP5 RAPs directory
6. Initial definition of the PoliRuralPlus [Dashboard service](#) to support pilots with their RAPs

A core element of WP2 is its partners' monthly meetings which have become a cornerstone of coordination, reflection, and adaptive management within its work. Initially, these meetings served a primarily operational role — ensuring timely delivery of milestones and alignment of pilot activities with D2.1 and D2.2 outputs. Over time, their function has evolved into something more strategic and integrative: they now act as a knowledge exchange and policy-learning forum, where pilots, WP leaders, and technical partners collectively refine methodologies,

address cross-cutting challenges, and translate field-level insights into project-wide improvements. Through these sessions, WP2 has moved from simply monitoring progress to curating collective intelligence — harmonising data, stakeholder feedback, and AI-driven analyses to build coherent narratives on rural–urban linkages. As the project advances into its synthesis and exploitation phase, the monthly meetings will continue to evolve as decision-support and innovation labs, guiding the finalisation of deliverables, such as this report, and ensuring that lessons learned are embedded into the broader PoliRuralPlus policy and foresight framework. For instance, at the monthly meeting on 28 October 2025, the pilots agreed that this D2.3 should focus on usable analysis — something pilots can apply directly, not just a theoretical report for external stakeholders. So that they can use this report as a learning and improvement tool for the pilot regions, not merely a descriptive output. With relevant and high-quality analytical annexes, based on the November 2025 final pilot RAP updates and stakeholders’ feedback.

So in addition to the main D2.3 report itself, four varied but extensive annexes are provided, as actual practical examples that were developed over the last few months, mainly using the Advisor service, as it is currently the most developed of the PoliRuralPlus AI-driven services at this stage. The Annexes’ examples cover using Advisor to (A) improve RAPs and address issues, (B) Structured Evaluation of the PoliRuralPlus Services, (C) Use of Advisor for project and policy support, and (D) a series of papers produced by using the PoliRuralPlus References Database and Knowledge Space.

All examples used the Advisor service as a collaborative foresight and drafting partner to co-develop the content through a process of iterative dialogue between the user (as the domain expert and policy analyst) and the Advisor AI assistant (acting as a collaborative foresight and drafting partner).

1.2 PoliRuralPlus Participative AI

In line with the **PoliRuralPlus Participative AI principles**, described in Annex D.2, this report was co-developed through a process of iterative dialogue between the user (as the domain expert and policy analyst) and the Advisor AI assistant (acting as a collaborative foresight and drafting partner). The AI’s role was not to replace human judgement but to **augment expertise**, providing structure, synthesis, and analytical consistency across diverse project materials—including the RAPs, foresight reports, WP deliverables, and EU reference frameworks. By continuously integrating user feedback, contextual cues, and PoliRuralPlus methodological standards, the AI facilitated a transparent, traceable, and ethically guided co-creation process aligned with **responsible and explainable AI** principles.

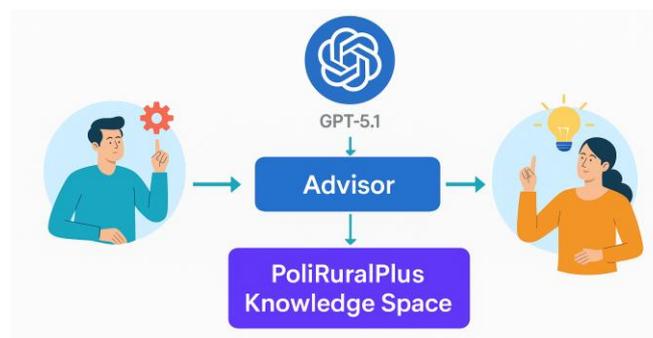


Figure 1: PoliRuralPlus Advisor Service

This participative approach reflects the core PoliRuralPlus ethos: **AI as a partner in inclusive knowledge generation**, ensuring that digital intelligence supports—rather than dictates—human-led decision-making. Each section of this report was collaboratively shaped, with the AI synthesising cross-document evidence, harmonising style and terminology, and embedding policy coherence, while the user provided validation, critical insight, and final editorial control. The result is a shared human–AI output that mirrors PoliRuralPlus’ vision of *foresight in action*—where technology amplifies human creativity, inclusivity, and collective intelligence for rural–urban transformation.

2 PoliRuralPlus Supports, Approach and Innovative Tools

The PoliRuralPlus project adopts a participatory and user-driven methodology, empowering regional communities to co-create and implement **Regional Action Plans (RAPs)** that optimise **Rural–Urban (RU) linkages**. These plans focus on harnessing the synergies between rural and urban areas, enhancing sustainability, inclusion, and resilience in line with European Union (EU) strategies such as the **Long-Term Vision for Rural Areas (LTVRA)**, the **European Green Deal**, and the **New European Bauhaus (NEB)**.

PoliRuralPlus engages regional stakeholders through structured foresight, digital innovation, and participatory governance to identify key challenges and opportunities for integrated RU development. This includes examining the potential for integrated RU strategies, assessing post-COVID-19 transformations, strengthening partnerships, and identifying investment and collaboration opportunities.

2.1 PoliRuralPlus Foresight Methodology and RAP Framework

The foresight methodology defined in WP3 provides a structured and adaptive framework for co-creating regional transformation pathways. Each pilot region works with a dedicated “Buddy”—an expert facilitator guiding the foresight process, ensuring methodological consistency and knowledge exchange across pilots. The Pilot RAP Diagnostic Form (Figure 2) acts as a standardised baseline tool capturing the strategic and operational status of each

<p>Basic Information</p> <p>Region: Title or Theme of the RAP:</p> <p>Names and Email Addresses of Key People</p> <ul style="list-style-type: none"> ● The Buddy: <ul style="list-style-type: none"> ○ Has the buddy done any form of Work Activity Journaling (WAJ) ? ○ Has the buddy contributed to tool co-design? ● Contact person for the pilot <ul style="list-style-type: none"> ○ Is that person doing any form of WAJ? ● Lead author on the RAP <ul style="list-style-type: none"> ○ Is that person doing any form of WAJ? ○ Have they contributed to tool co-design? ● Other contributors to the RAP <ul style="list-style-type: none"> ○ Are they doing any form of WAJ? ○ Have they contributed to tool co-design? <p>Alignment of RAP with National or Regional Policies</p> <ul style="list-style-type: none"> ● How will it contribute to implementing the National CAP strategy? ● How will it contribute to implementing the National Plan for Recovery and Resilience? ● How will it contribute to other national or regional strategies? <p>Alignment of RAP with EU Policies</p> <ul style="list-style-type: none"> ● How will it contribute to the LTVRA <ul style="list-style-type: none"> ○ How will the RAP contribute to the region being ‘strong’? ○ How will the RAP contribute to the region being ‘connected’? ○ How will the RAP contribute to the region being ‘resilient’? ○ How will the RAP contribute to the region being ‘prosperous’? ● How will it contribute to the Green Deal? ● How will it contribute to the NEB (New European Bauhaus)? ● How will it contribute to the EU missions? ● How will it implement urban-rural policy integration and coordination? <p>How will the Different Measures of the RAP be Financed?</p>	 <p>The graphic shows a 3D cube composed of various colorful icons representing different data points and processes. Below the cube is a legend with checkboxes for 'Data collection', 'Stakeholder', 'Engagement', 'Regional', and 'Regional integration'. To the right of the legend, it says 'PACK COLLECTION FLOW DIAGRAMS'. At the bottom, the text reads 'PoliRural Plus PILOT RAP DIAGNOSTIC FORM'.</p>
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pilot.

Figure 2: PoliRuralPlus Diagnostic Form

The diagnostic form records key data including stakeholder roles, work activity journaling (WAJ), alignment with national and EU policies, and links to broader frameworks such as CAP, RRF, the Green Deal, and NEB. This harmonised approach ensures coherence across pilots and enhances policy relevance.

2.1.1 Regional Action Plan (RAP) Template 3.0

The **RAP Template 3.0** provides a structured guide for developing local action plans that translate regional foresight into practical action. Each RAP contains sections on context analysis, visioning, strategic objectives, and implementation planning. It links local actions to EU policy frameworks and identifies funding opportunities across CAP, Horizon Europe, and Interreg. The template ensures that planning transitions seamlessly into execution, embedding monitoring, evaluation, and sustainability mechanisms.



Figure 3: Structure of the RAP Template

The template’s logical flow—context, vision, actions, and evaluation—supports adaptive governance. A sustainability checklist in the annex helps assess ownership, financial viability, and long-term resilience, ensuring that regional strategies contribute to EU-level missions such as climate adaptation, soil health, and rural prosperity.

2.1.2 PoliRuralPlus Foresight Process

The **Integrated Concept Matrix** combines foresight methodology and digital intelligence into a hybrid, iterative system for regional innovation. It operates through four main phases:

1. **Preparation & Scoping:** Identifying regional challenges, actors, and priorities.
2. **Diagnosis & Exploration:** Using data-driven foresight tools to analyse drivers, trends, and scenarios.
3. **Vision & Action Planning:** Co-developing shared strategies and roadmaps through participatory processes.
4. **Implementation & Learning:** Monitoring progress, evaluating KPIs, and embedding adaptive learning.

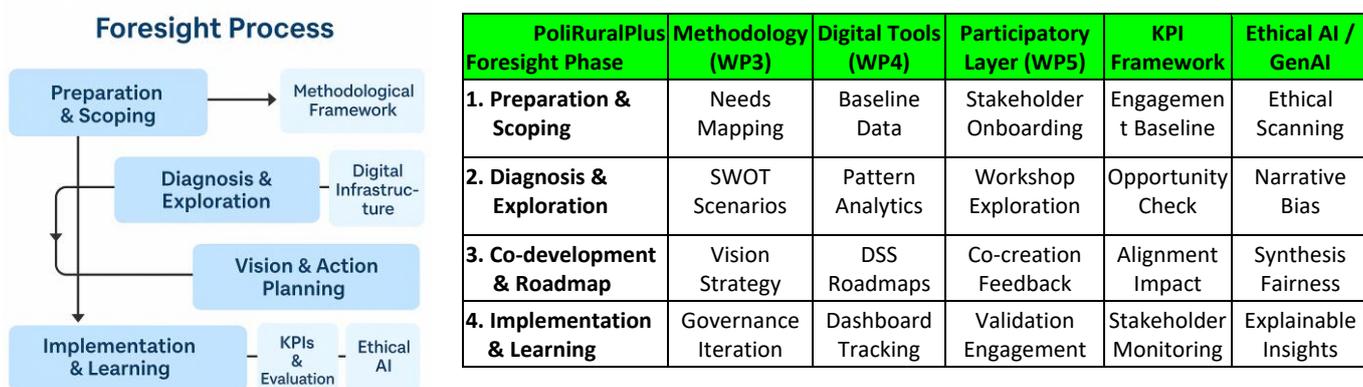


Figure 4: PoliRuralPlus Foresight Process

The foresight ecosystem integrates three main layers:

- **Methodological Framework (WP3):** Provides structure and systems thinking, as well as “Buddy” support for each pilot¹.
- **Digital Infrastructure (WP4):** Supplies computational and analytical tools.
- **Participatory Layer (WP5):** Ensures co-creation and stakeholder legitimacy.

Complemented by **KPI tracking** and **ethical AI**, these layers form a continuous feedback loop linking evidence, vision, and action.

2.2 Funded Sub-Projects

In **WP6**, PoliRuralPlus supports third-party sub-projects that operationalise the RAPs through participatory innovation. These initiatives follow a phased approach (Table 1), evolving from grassroots idea generation to applied tool enhancement.

¹ Buddy support = a structured mentoring, peer-learning, and methodological guidance framework within WP3 of PoliRuralPlus that connects experienced partners with pilot regions to co-develop RAPs through foresight, funding identification, interregional knowledge exchange, and related Buddy Meetings, as described in D3.1 Methodology.

Phases	24 Q4	25 Q1	25 Q2	25 Q3	25 Q4	26 Q1	26 Q2	26 Q3	26 Q4	Description
Outreach	X	X								Challenges & ideas, based on grassroots initiatives
Mobilise		X	X	X	X					Open innovation & validation challenges conducted through co-design activities like hackathons and ideathons
Develop			X	X	X	X	X	X	X	Additional use cases through innovative actions - developing solutions linked to PR+ tools
Enhance					X	X	X	X	X	Test and validate the PoliRuralPlus flagship - jackDaw tool

Table 1: PoliRuralPlus Sub-Project Phases

These sub-projects extend PoliRuralPlus beyond analysis into tangible experimentation, providing actionable pathways for scaling innovation.

2.3 PoliRuralPlus Dashboard of Innovative Services

The **PoliRuralPlus Dashboard** is an integrated digital interface providing centralised access to all project tools and services. It combines six core internal tools with fifteen complementary external resources, forming a comprehensive ecosystem for data-driven foresight and policy design.

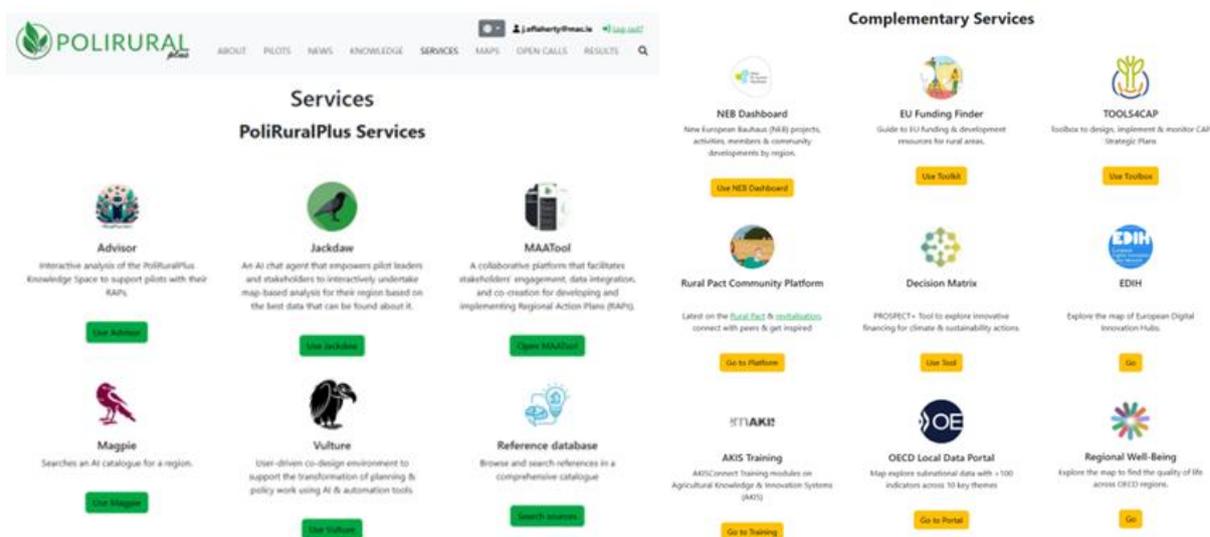


Figure 5: PoliRuralPlus Dashboard of Services

The Dashboard services, which are described in D7.4, include the following:

- **Core PoliRuralPlus developed Services**
 1. **Advisor:** Interactive analysis of the PoliRuralPlus Knowledge Space to support pilots with their Regional Action Plans (RAPs).
 2. **Jackdaw:** An AI chat agent that empowers pilot leaders and stakeholders to interactively undertake map-based analysis for their region based on the best data that can be found about it.

3. **MAATool:** A collaborative platform that facilitates stakeholders' engagement, data integration, and co-creation for developing and implementing Regional Action Plans (RAPs).
 4. **Magpie:** Searches an AI catalogue for a region.
 5. **Vulture:** User-driven co-design environment to support the transformation of planning & policy work using AI & automation tools.
 6. **Reference database:** Browse and search references in a comprehensive catalogue.
- **Complementary External Services**
 1. **NEB Dashboard:** New European Bauhaus (NEB) projects, activities, etc by region.
 2. **EU Funding Finder:** Guide to EU funding & development resources for rural areas.
 3. **TOOLS4CAP:** Toolbox to design, implement & monitor CAP Strategic Plans.
 4. **Rural Pact Community Platform:** Rural Pact & revitalisation, connect with peers & get inspired.
 5. **Decision Matrix:** PROSPECT+ Tool to explore innovative financing for RAP actions.
 6. **EDIH:** Explore the map of European Digital Innovation Hubs.
 7. **AKIS Training:** AKISConnect modules on Agricultural Knowledge & Innovation Systems (AKIS).
 8. **OECD Local Data Portal:** Map explore subnational data with > 100 indicators & 10 key themes.
 9. **Regional Well-Being::** Explore the map to find the quality of life across OECD regions.
 10. **RRF Funding:** Map of projects funded by the EU recovery & Resilience Facility (RRF)
 11. **Regional Statistics Explorer:** Definitive EU regions' socio-economic & territorial data
 12. **Smart Specialisation Platform:** Regional innovation strategies & priorities across the EU.
 13. **EMODnet Map & Data Server:** Environmental, spatial & climate data for land use & bioeconomy
 14. **Climate Solutions Simulator:** How your RAP aligns with climate commitments like Green Deal
 15. **Regional Innovation Scoreboard:** Assess research & innovation perf of your region & RAP

The Dashboard supports multiple user groups—from pilot leaders and stakeholders to policymakers and researchers—enhancing collaboration, transparency, and impact tracking.

Service	Role	Primary Use	Best For
Advisor	Interactive AI assistant for interpreting data, synthesizing insights, & supporting decision-making.	Supports RAP drafting & interpretation, stakeholder dialogue, & foresight navigation.	Decision-makers, planners, foresight teams.
Jackdaw	Extracts & summarizes structured information from documents to support evidence-based planning.	Feeds documents into the knowledge space for RAP development & analysis.	Researchers, knowledge managers, analysts.
Vulture	User-driven co-design environment to support the transformation of planning & policy work using AI & automation tools..	Scans emails & communication channels to detect trends, signals, & emerging issues.	WP leaders, project buddies, innovation leads.
Magpie	Captures quotes, ideas, & qualitative insights from stakeholder interactions & workshops.	Collects & organizes qualitative data for RAP content & validation.	Facilitators, engagement coordinators, policy designers
MAATool	Facilitates stakeholder engagement, mapping, reflection, & co-creation using a structured approach.	Builds & strengthens the stakeholder ecosystem through participatory planning.	Stakeholder facilitators, regional planners, community leads.

Table 2: Characterisation of PoliRuralPlus Services

2.3.1 References Database



The PoliRuralPlus references database of relevant information, facilitating informed decision-making and consultation.

Reference database

Browse and search references in a comprehensive catalogue



The References Database and Knowledge Space was assembled by first analysing core sources such as the Call that funded the PoliRuralPlus project, i.e. HORIZON-CL6-2023-COMMUNITIES-01-2and its background documents, and key studies such as the OECD report “Networks and rural-urban linkages for rural innovation”. Then following the relevant references and themes cited in each report, each of their reports was in turn analysed and their relevant references and themes identified, and so on, resulting in the current 2,500 domain references. Further relevant references are being continuously added as they are identified.

The references are structured into the indicated themes as per the specification of W2 and refined by the data sources, with the current status being as follows:

Sheet No	Subject	Refs.	Dist
1	PoliRuralPlus D2.2	405	16%
2	Rural-Urban Linkages	506	19%
3	Rural-Urban Linkages & innovation	203	8%
4	Influence of COVID-19 on Region	223	9%
5	Nature Based Solutions	482	19%
6	New European Bauhaus	71	3%
7	Urban Rural Divide	151	6%
8	Foresight	197	8%
9	Trust	150	6%
10	EU funded NBS projects	89	3%
11	Climate Adaptation	119	5%
	TOTAL	2,596	100%

PoliRuralPlus References Database

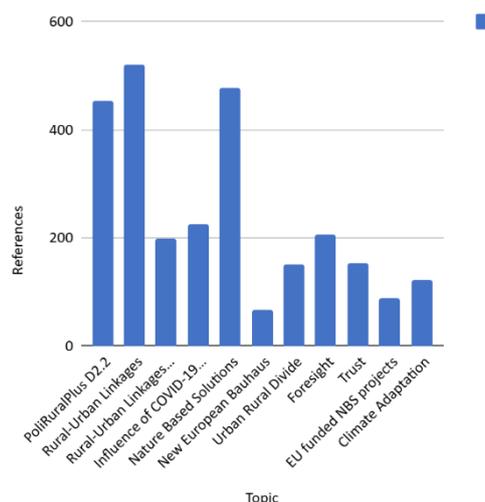


Figure 6: PoliRuralPlus database of references

The Dashboard services are integrated as follows:

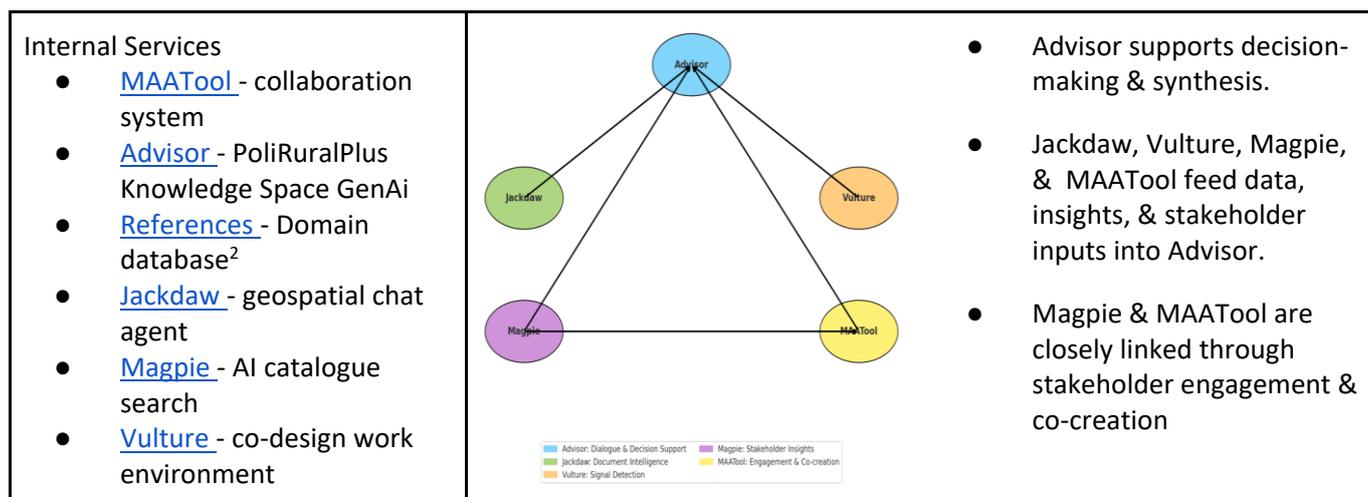


Figure 7: Integration of PoliRuralPlus Dashboard Services

The Dashboard enables evidence-based decision-making by linking foresight, governance, and data analytics within a single platform, ensuring that each pilot’s RAP remains dynamic and context-aware.

2.4 Synergies with the New European Bauhaus (NEB)

Task T2.3 ensures that NEB principles—**sustainability, aesthetics, and inclusion**—are embedded in all PoliRuralPlus activities. Each pilot integrates NEB concepts into its regional vision, as summarised in Table 3.

Pilot Region	Sustainability	Aesthetics	Inclusiveness
Finland – Mallusjoki	Smart tourism, circular economy	Art, culture, village identity	Stakeholder ecosystem
Ireland	Nature-based solutions, climate	Heritage regeneration	Rural-urban governance
Spain – ADESIMAN	Renewable energy, biodiversity	Cultural tourism, archaeology	Multi-municipality platform
Greece – Central Greece	Green infra, agritech	Landscapes, historic identity	Digital skills, AKIS
Malta	Regenerative agriculture	Human-centred rural revival	Youth & women inclusion
Slovakia – DigiStake	Green digital tools	Digital quality of life	Online engagement platform
Italy – Puglia	Local food, ethical trade	Zero-mile, agri-food aesthetics	Community-led development
Latvia – Vidzeme	Smart specialisation	Smart territorial design	Data-driven collaboration
Czechia-Bavaria Border	Precision farming, climate	Heritage innovation ecosystem	Cross-border innovation

Table 3: NEB Features across PoliRuralPlus Pilots

The NEB framework connects cultural and ecological values, ensuring that innovation respects identity, aesthetics, and local meaning.

Innovation Title	Primary Impact Sphere	Commercial Model	Notable Pilots
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² Described in Annex A

1. Inclusive Regional Design Guidelines	Policy Making	Policy Toolkit & Training	Ireland, Greece, Slovakia
2. Cultural Identity & Rural Landscape Integration	Societal & Social	Civic Engagement & Design Grants	Spain, Czechia-Bavaria, Latvia
3. PoliRuralPlus 5 Spheres Strategic Framework	Governance Integration	Strategic Planning Consultancy	All Pilots
4. Green Infrastructure and Nature-Based Solutions (NBS)	Climate Resilience	Public Sector Investment Model	Malta, Finland, Spain
5. Circular Design Hubs for Community-led Architecture	Business Innovation	EU Cohesion/NEB Grant Funded Programs	Italy, Monaghan, Malta

Table 4: Potential NEB-Driven Innovations within PoliRuralPlus

PoliRuralPlus offers a replicable model for integrating NEB values into territorial foresight and policy. Thus empowering policymakers to prioritize NEB-aligned co-design processes, fund community innovation, and scale successful pilot actions for sustainable and inclusive rural-urban development.

2.5 Summary and Strategic Outlook

The PoliRuralPlus approach represents a paradigm shift in territorial development—linking **foresight**, **digital intelligence**, and **participatory governance** into an adaptive ecosystem for sustainable change. Through its innovative tools, dashboards, and NEB integration, PoliRuralPlus has established a model for co-creative, evidence-based, and inclusive regional transformation across Europe.

As implementation progresses now in Period 2, the focus shifts from planning to scaling: embedding foresight in policy, sustaining stakeholder engagement through institutional platforms, and refining AI-enabled tools for participatory governance. In doing so, PoliRuralPlus positions itself as a benchmark for integrated rural–urban innovation aligned with Europe’s green, digital, and inclusive transitions.

3 Rural-Urban Linkages – Literature Review³

In the context of urban-rural linkages, there is no universal definition of what is urban, and the global data is based on each country defining what it considers urban, and the population within it⁴. The definition can vary from a cluster of five households or more to an administrative boundary defined by population density and built-up area. In addition, the definition of urban within a country can change over time.

To address geographical or rural-urban inequalities to integrate the social, economic and environmental dimensions of development more effectively with regard to populations and sectors in a given geographical area, territorial policy approaches are most appropriate⁵. They can help coordinate and concentrate efforts to address the spatial concentration of poverty and food insecurity in some less developed areas, reflecting vast spatial inequalities. Given widely differing conditions across regions within countries, territorial approaches provide tools to recognize the spatial dimensions of development and to better understand the great diversity of people and resources across territories and use these to define development goals that address this diversity. Moreover, as they embrace both

³ To illustrate direct usefulness for the pilots, this section was developed using the Advisor service and Database of References described in section 2.3, mainly the 700+ sources in the “Rural-Urban Linkages” and “Rural-Urban Linkages & innovation” sections of References Database in the DashBoard of Services on the PoliRuralPlus website at poliruralplus.eu/references/

⁴ “Better Food Systems For Better Rural-Urban Linkages”, [Rural21 4 2018.Pdf](#)

⁵ [Territorial approaches, rural-urban linkages and inclusive rural transformation \(ifad.org\)](#)

urban centres and rural areas in an area, territorial approaches provide valuable opportunities to bring the rural dimension into debates surrounding urbanisation and promoting a more sustainable urbanisation.

To avoid trying to define a “one size fits all” definition of what are urban or rural areas, following the recommendations of the European Commission’s Thematic Working Group for Regional Development Programmes⁶, and the fundamental approach of PoliRuralPlus of being user-driven by the regional stakeholders in each pilot, the project uses the local stakeholders' own definition of which of their local regions they consider to be rural or urban⁷.

3.1 Global Rural-Urban Context

Rural–urban linkages represent the multifaceted economic, social, environmental, and spatial interactions between rural and urban territories. These interdependencies form the foundation of regional resilience, territorial cohesion, and sustainable development. The COVID-19 pandemic, globalisation, and ongoing digital and green transitions have further underscored the need to strengthen these linkages through integrated place-based policies. In the context of the European Union (EU) and initiatives such as PoliRuralPlus, understanding and enhancing rural–urban linkages is central to achieving balanced territorial development and fostering mutual prosperity across regions.

The concept of rural–urban linkages has evolved significantly over the past decades. Early theoretical frameworks emphasised functional economic relationships, such as labour mobility, commuting, and market exchange. Later scholarship extended the notion to encompass flows of knowledge, services, and ecosystem functions, as well as cultural and governance interactions⁸. The OECD defines rural–urban linkages as the “reciprocal flows of people, goods, services, capital, and information that connect urban and rural areas within a functional territory”⁹.

A systematic review of three empirical papers examining rural–urban interactions across global, regional, and local contexts in 2021, 2022 and 2025¹⁰, from a screening of 500 relevant papers with the Elicit AI search engine (Semantic Scholar + OpenAlex) using criteria focused on (a) Interactions between rural and urban areas (not just one side), (b) Empirical evidence (quantitative or mixed) and (c) Clear definitions of “rural” and “urban” to categorize: Interaction types: physical, economic, service, spatial, resource, communication, found:

a. Types of Rural–Urban Interactions

All three studies identified multi-dimensional interactions:

- Physical: transport, road access, travel time to cities.
- Economic: trade, markets, employment.
- Service provision: health, education, agricultural support.
- Spatial: catchment areas, urban fringe transformation.
- Resource flows: food, labour, materials.
- Communication: ICT links, policy coordination.

⁶ "Building Blocks for a Revised Typology of Rural Areas", [D438E7EF-0810-7B5E-49F2-8DA65CD7F698.pdf \(europa.eu\)](https://ec.europa.eu/eip/rlp/wp-content/uploads/2014/07/D438E7EF-0810-7B5E-49F2-8DA65CD7F698.pdf)

⁷ See discussion in section 1 of D2.2 “Rural-Urban Linkages & Opportunities post COVID-19”,

⁸ OECD. (2020a). *COVID-19 and Regional Development: Implications for Rural Areas*. Paris: OECD Publishing. <https://www.oecd.org/coronavirus/policy-responses/policy-implications-of-coronavirus-crisis-for-rural-development-6b9d189a/>

⁹ OECD. (2021). *Tackling the mental health impact of the COVID-19 crisis: An integrated, whole-of-society response*.

¹⁰ Cattaneo, A., Nelson, A., & McMenomy, T. (2021). *Global mapping of urban–rural catchment areas reveals unequal access to services*. *PNAS*, 118(42), e2011990118. <https://doi.org/10.1073/pnas.2011990118>

Mao, Q., & Tian, Y. (2025). *Spatial structure evolution and ecosystem service relationship changes in urban-fringe–rural areas of megacities: Evidence from Suzhou, China*. *PLOS ONE*. <https://doi.org/10.1371/journal.pone.0300125>

Shafieisabet, N., & Mirvahedi, N. (2022). Benefits of rural–urban interactions for sustainable food security in Iran. *Human Geographies – Journal of Studies and Research in Human Geography*, 16(1), 37–50. <https://doi.org/10.5719/hgeo.2022.161.3>

b. Population Distribution and Access

- ~25 % of the world’s population lives in peri-urban or small-city areas, not major cities.
- 64 % of low-income populations live within or near small and intermediate cities.
- These smaller centres offer better proportional service access for rural dwellers than large urban hubs.
- Accessibility to urban centres remains high globally, but inequality persists: low-income countries have more rural populations far from cities.

c. Spatial Transformation and Ecosystem Services

- 1 In Suzhou, China, 69 % of rural areas became urban fringes (2010–2022); 50 % of fringes turned into urban land.
- 2 Urban expansion produced synergies (connectivity, infrastructure) but also trade-offs — degradation of ecosystem services, weaker spatial coordination.
- 3 Result: rural-fringe areas face both opportunity and environmental stress.

d. Food Security Benefits

- 1 Rural–urban linkages (especially transportation, packaging, market access, ICT) positively influenced food security, with a regression coefficient = 0.583.
- 2 The most significant benefit came from product transport and farmer training.
- 3 Agricultural services alone were less impactful without infrastructure and ICT.

e. Factors Influencing the Success of R-U Linkages

Category	Enhancing Factors	Hindering Factors
Infrastructure	Road access, transport networks, warehousing	Poor road quality, distance to markets
Geography	Proximity to cities, water sources	Terrain constraints
Economic	Market access, broker removal	Land-use conflicts, price volatility
Policy	Integrated institutions, local policy support	Centralized urban focus, neglect of fringes
Technology	ICT, spatial datasets, innovation	Limited rural digital access

Table 5: Factors that affect the success of RU linkages

3. Synthesis & Conclusions

Key Synthesis Points

- Scale-Dependent Dynamics: Global data show general access inequalities; local cases reveal *specific mechanisms* (ecosystem and food systems linkages).
- Development Stage Effects:
 - Low-income regions: prioritize transport + market infrastructure for small/intermediate cities.
 - Rapidly urbanizing regions: balance economic expansion with ecosystem protection.
- Trade-offs in Urban Expansion:
 - Gains in infrastructure may degrade ecological foundations unless coordination mechanisms exist.
- Policy Implications:
 - Intermediate and peri-urban spaces are underrepresented in policy.
 - Integrating ecosystem services and food systems in regional frameworks improves sustainability.
 - Urban–rural policy integration should replace single-sector planning.

4. Relevance to PoliRuralPlus and Its RAPs

PoliRuralPlus Area	Relevance of Findings
Rural-Urban Linkages (WP2, WP3)	Confirms importance of <i>intermediate and small cities</i> as anchors of territorial cohesion — aligns with PoliRuralPlus aim to strengthen peri-urban functional zones.

PoliRuralPlus Area	Relevance of Findings
Regional Action Plans (RAPs)	RAPs should address connectivity, food systems, ecosystem services, and digital links — not only agricultural support.
KPIs	Supports indicators on access to services, transport connectivity, food-security outcomes, and ecosystem health.
Foresight and Policy Innovation	Suggests scenario analysis should include <i>urban expansion trade-offs</i> and <i>synergy indices</i> to guide balanced transformation.
Pilot Implementation	Practical for pilots like Latvia, Greece, and Finland, where secondary cities and peri-urban zones mediate rural vitality.

Table 6: PoliRuralPlus relevance of the findings

Main learnings for PoliRuralPlus

1. Intermediate and small cities are key engines for rural prosperity and balanced territorial development.
2. Infrastructure + ICT + governance integration outweighs sector-specific interventions.
3. Urban expansion can yield short-term economic gains but long-term ecosystem trade-offs if uncoordinated.
4. Food system linkages (training, logistics, markets) are a major channel for sustainable rural-urban synergy.
5. RAPs should explicitly include spatial coordination metrics (catchment-based or ecosystem-service-based) to track sustainable interactions.

3.2 Overview of recent Rural-Urban Linkages in Europe

From a European policy perspective, these linkages have gained growing attention through the **Territorial Agenda 2030** and **Cork 2.0 Declaration**, both emphasising the need for stronger territorial integration and the recognition of interdependencies between urban and rural spaces¹¹. The **OECD Rural Development Policy 4.0** framework further underscores the importance of networked rural areas connected to dynamic cities, where collaboration rather than competition shapes regional growth trajectories¹².

Rural-urban linkages encompass a broad spectrum of relationships between urban centres and their surrounding rural areas. These relationships involve the movement of people (commuting, migration), exchange of goods and services, capital flows, and knowledge transfer. Their significance lies in their ability to:

- Promote balanced regional development and territorial cohesion.
- Reduce economic disparities between urban and rural areas.
- Enhance social inclusion and access to services.
- Support climate adaptation and sustainable practices in land use.

Functional and Spatial Dynamics

Rural–urban linkages operate across multiple scales and dimensions. Functionally, they include commuting and migration flows, supply chains for food and materials, and service dependencies such as education, healthcare, and cultural amenities¹³. Spatially, they are shaped by accessibility, infrastructure networks, and digital connectivity¹⁴.

¹¹ European Commission. (2020). *The New European Bauhaus: A vision for a sustainable and inclusive future*. https://new-european-bauhaus.europa.eu/about/about-initiative_en & ESPON - The European Observation Network for Territorial Development and Cohesion | ESPON

¹² [OECD Principles on Rural Policy](#)

¹³ ESPON - The European Observation Network for Territorial Development and Cohesion | ESPON OECD Publishing. https://www.oecd-ilibrary.org/social-issues-migration-health/tackling-the-mental-health-impact-of-the-covid-19-crisis-an-integrated-whole-of-society-response_0cca0b-en

¹⁴ OECD. (2020b). *Rural Well-being: Geography of Opportunities*. OECD Rural Studies. Paris: OECD Publishing. <https://doi.org/10.1787/d25cef80-en>

The increasing prevalence of hybrid lifestyles—enabled by digitalisation and flexible work—has blurred traditional distinctions between rural and urban areas, giving rise to new settlement patterns and “intermediate spaces”¹⁵¹⁶.

Environmental and ecological linkages are equally critical. Rural areas provide vital ecosystem services such as food, water, biodiversity, and carbon sequestration that underpin urban sustainability¹⁷. Conversely, urban areas drive innovation, investment, and consumption that influence rural livelihoods and land use. Strengthening circular bioeconomy models and sustainable food systems has become an essential mechanism for closing the rural–urban loop^{18 19}.

Governance, Policy, and Integration Frameworks

Effective governance of rural–urban linkages requires multi-level coordination, participatory mechanisms, and adaptive policy design. The **OECD Principles on Rural Policy** and the **New Leipzig Charter** advocate for functional territorial approaches that transcend administrative boundaries. The **Territorial Agenda 2030** highlights “balanced territorial development” as a key European objective, calling for integrated governance models that support collaboration among municipalities, regions, and national governments²⁰.

PoliRuralPlus aligns closely with these frameworks by integrating foresight methodologies, knowledge platforms, and participatory engagement tools to address systemic interdependencies between rural and urban contexts. Its **Regional Action Plans (RAPs)** and **MAATool** enable the co-design of strategies that connect local priorities to EU-level objectives, including the **European Green Deal** and the **Long-Term Vision for Rural Areas (LTVRA)**²¹.

Socio-Economic and Digital Transformations

The digital transition has emerged as a key enabler of stronger rural–urban linkages. Improved broadband access, digital literacy, and remote work possibilities are transforming spatial relations and economic structures²² (Eurofound, 2022). Rural areas increasingly serve as living and innovation spaces that contribute to smart specialisation strategies, renewable energy production, and sustainable tourism. Conversely, cities depend on rural hinterlands for resources, recreation, and ecosystem balance.

However, disparities persist. Digital divides, demographic decline, and underinvestment continue to limit the full integration of rural territories. Bridging these divides demands coordinated investment in digital infrastructure, education, and place-based innovation ecosystems²³.

Implications for Territorial Cohesion and Resilience

Strengthened rural–urban linkages contribute directly to the EU’s cohesion objectives by fostering economic diversification, improving service accessibility, and enhancing social inclusion. As demonstrated during the COVID-19 crisis, regions with strong rural–urban connectivity—supported by diversified economies and robust governance—exhibited greater adaptability to shocks²⁴. Future territorial development must thus integrate foresight, inclusivity, and resilience-building into the management of rural–urban systems.

¹⁵ OECD Principles on Rural Policy

¹⁶ ESPON - The European Observation Network for Territorial Development and Cohesion | ESPON

¹⁷ The European environment — state and outlook 2020 | Publications | European Environment Agency (EEA)

¹⁸ FAO & UN-Habitat (2020). 'Covid-19 through the Lens of Urban-Rural Linkages – Guiding Principles and Framework for Action'.

¹⁹ European Commission (2021). Nature-Based Solutions for Climate Resilience and Green Recovery.

²⁰ ESPON - The European Observation Network for Territorial Development and Cohesion | ESPON

²¹ European Commission (2021). Nature-Based Solutions for Climate Resilience and Green Recovery.

²² OECD. (2021). Tackling the mental health impact of the COVID-19 crisis: An integrated, whole-of-society response.

²³ OECD Principles on Rural Policy

²⁴ OECD. (2021). Tackling the mental health impact of the COVID-19 crisis: An integrated, whole-of-society response.

3.2.1 Factors Influencing Rural-Urban Linkages in Europe

1. Economic Policies and Market Forces

Economic policies, such as the EU's Common Agricultural Policy (CAP) and regional funding programs, significantly impact rural-urban linkages. Market forces, driven by demand and supply, also shape employment patterns, business investments, and innovation ecosystems.

2. Infrastructure Development

Infrastructure, particularly transport and digital connectivity, is fundamental in fostering rural-urban interactions. The expansion of broadband and improved road and rail networks facilitate mobility, enabling rural businesses to integrate with urban markets and promoting remote work opportunities.

3. Governance and Policy Frameworks

Multi-level governance and coordinated policy frameworks ensure the effectiveness of rural-urban linkages. The EU's Cohesion Policy, European Green Deal, and LEADER Program are among the key frameworks supporting rural-urban integration.

4. Environmental Considerations

Sustainability is increasingly central to rural-urban development. Strategies such as Nature-Based Solutions (NBS) and the New European Bauhaus (NEB) promote environmental resilience, circular economy practices, and land use efficiency.

3.2.2 Challenges in Strengthening Rural-Urban Linkages

1. Economic Disparities

Urban areas attract more investment and economic activities, often leaving rural regions with fewer job opportunities and declining populations. Addressing these disparities requires targeted regional development programs.

2. Inadequate Infrastructure

Limited transport connectivity and digital access hinder integration between rural and urban areas. Investments in high-speed internet, smart mobility, and renewable energy projects are crucial for bridging these gaps.

3. Policy Fragmentation

Lack of coordination between different policy sectors and governance levels can lead to inefficiencies. Aligning urban and rural policies through integrated regional planning and cross-sectoral strategies is essential.

3.2.3 Strategies for Enhancing Rural-Urban Linkages

1. Integrated Territorial Planning

Coordinating land use, infrastructure, and economic development policies is vital for strengthening rural-urban linkages. PoliRuralPlus pilots employ spatial mapping tools and foresight methodologies to support evidence-based decision-making.

2. Investment in Infrastructure

Strategic investment in transportation networks, digital infrastructure, and energy systems can enhance rural-urban connectivity and economic integration.

3. Policy Harmonization

Aligning policies across different governance levels and sectors ensures coherence and efficiency. EU-funded projects, such as Horizon 2020 and PoliRuralPlus, emphasize cross-sectoral collaboration.

4. Promoting Regional Cohesion

Programs like the EU's Rural Pact and CAP support the integration of rural and urban areas by funding infrastructure, enhancing access to services, and fostering economic opportunities.

3.2.4 Case Studies of Rural-Urban Linkages in Europe

1. The Leipzig-Halle Region (Germany)

This region successfully integrated rural and urban areas through strategic infrastructure investments and coordinated regional planning. The development of high-speed rail networks and economic clusters improved connectivity and growth.

2. Rural-Urban Partnership in France

France has implemented rural-urban partnerships involving local governments, businesses, and civil society organizations. These partnerships address regional development challenges collaboratively.

3. The Baltic Sea Region

This region has fostered cross-border cooperation to enhance sustainable development. By coordinating policies and sharing best practices, it has strengthened rural-urban economic and environmental linkages.

3.2.5 Conclusion on Rural-Urban Linkages

Rural–urban linkages are not static boundaries but dynamic systems of mutual dependency and opportunity. In the context of **PoliRuralPlus**, they serve as a foundation for developing integrated strategies that promote innovation, wellbeing, and sustainability across Europe’s diverse territories. Strengthening these linkages—through digital inclusion, environmental stewardship, and collaborative governance—will be essential to achieving the EU’s vision of a resilient, green, and cohesive future.

Rural-urban linkages are critical for balanced and sustainable regional development in Europe. These connections contribute to regional cohesion, economic growth, and environmental sustainability. However, challenges such as economic disparities, inadequate infrastructure, and policy fragmentation must be addressed. Through integrated territorial planning, strategic investments, policy harmonization, and regional cohesion programs, Europe can strengthen rural-urban linkages and create more resilient and inclusive regions.

Rural-urban linkages are essential for fostering sustainable development and enhancing the overall quality of life in the European Union. Rural-urban linkages are essential for the economic, social, and environmental development of both rural and urban areas in Europe²⁵, as follows:

- **Economic development:** Rural-urban linkages support economic development in both rural and urban areas. For example, food production and supply provide jobs and income in rural areas, while tourism attracts visitors and revenue to rural communities.
- **Social development:** Rural-urban linkages also promote social development. For example, education and training opportunities help people to develop the skills and knowledge they need to succeed in the 21st century economy.
- **Environmental development:** Rural-urban linkages also support environmental development. For example, research and innovation in agriculture and energy can help to reduce pollution and conserve natural resources.

3.3 Rural-Urban Stakeholders

Regional stakeholders in Europe’s rural and urban areas can create a more sustainable and prosperous future for all, particularly with the use of the proposed PoliRuralPlus tools and supports.

The stakeholders who have a significant impact on driving and shaping rural-urban linkages across Europe with their power to:

- Influence the policies and programs that impact rural-urban linkages,
- Connect rural and urban communities.
- Develop new products and services that benefit both rural and urban residents.

are identified by in the PoliRuralPlus DoA to be explored in its 9 pilot regions, are the following:

²⁵ See discussion in section 1 of D2.2 “Rural-Urban Linkages & Opportunities post COVID-19”,

Stakeholders	Commentary and anticipated impact effects
<ul style="list-style-type: none"> ● Local communities: 	<ul style="list-style-type: none"> ● Local communities are the backbone of rural and urban areas. They are the ones who live, work, and raise families in these communities. Local communities play a vital role in driving and shaping rural-urban linkages by identifying the needs of their communities and working together to find solutions. ● Local communities are at the heart of rural-urban linkages. Their support, engagement, and needs are central to the success of any initiative that aims to bridge the divide between rural and urban areas. Particularly using the Community-Led Local Development (CLLD) and LEADER Local Action Groups (LAG) approach.²⁶ These promote development that is adapted to local contexts and needs, empowering communities for place-based development and prevent waiting for someone else to develop - there is no one interested. In addition, the CLLD needs to be aligned with national, regional and local policies. The endorsement and support (financial, social, political) of national, regional and local policy makers and authorities is also essential. ● Impact by end of project: Increased access to resources, improved quality of life, and participation opportunities.
<ul style="list-style-type: none"> ● Governments: 	<ul style="list-style-type: none"> ● Governments at all levels, from local to national, play a critical role in shaping rural-urban linkages. They develop and implement policies and programs that impact both rural and urban areas. For example, governments can invest in infrastructure, education, and healthcare to improve the quality of life in both rural and urban areas. ● Government bodies at the local, regional, and national levels play a critical role in shaping policies, regulations, and investments that impact rural-urban development. They provide the necessary framework for collaboration and resource allocation. ● Inclusive governance strategy to ensure that rural communities have a voice in decision-making processes. ● However, Government agencies are very often located and connected to the URBAN environment. The employees (may) live mainly in urban setting. The government and regional institutions are situated (typically) in the capital and in the cities. How well do they know rural areas? ● Regional developers may be urban dwellers which are mostly familiar with urban context? But, it is as it is.... ● Impact by end of project: Evidence-based policy insights, increased public trust, and replicable models for successful initiatives.
<ul style="list-style-type: none"> ● Farmers 	<ul style="list-style-type: none"> ● Farmers play a vital role in rural-urban linkages by producing the food that we eat in our cities. Farmers and forest owners play an important role in protecting the environment and managing natural resources. ● Agricultural Organisations: These groups represent farmers, forester owners and agricultural interests. Agriculture is a significant economic sector in rural areas, and the influence of agricultural organisations is essential for shaping policies that support rural-urban connections, sustainable farming, and food supply chains. ● Impact by end of project: Access to training, new market opportunities, and increased profitability through sustainable practices.
<ul style="list-style-type: none"> ● SMEs (Small and Medium-sized Enterprises) and Entrepreneurs: 	<ul style="list-style-type: none"> ● SMEs are the backbone of both rural and urban economies. They create jobs and provide essential goods and services to their communities. SMEs play an important role in driving and shaping rural-urban linkages by developing innovative products and services and by connecting rural and urban markets. As well as traditional rural production, food, wood, tourism, etc, innovative SMEs create new opportunities in ICT and other services. ● SMEs, including businesses in both rural and urban areas, are often the drivers of economic growth. They create jobs and contribute to innovation. Their success directly impacts the livelihoods of residents in both settings. ● Technology and Innovation Hubs: These hubs foster entrepreneurship, innovation, and the development of digital solutions. They play a pivotal role in bridging the rural-urban divide through digital transformation, knowledge sharing, and economic growth. ● Impact by end of project: Support for green businesses and startups, access to funding and mentorship, and collaboration opportunities.
<ul style="list-style-type: none"> ● Industry associations: 	<ul style="list-style-type: none"> ● Industry associations represent the interests of businesses in a particular sector. They play an important role in advocating for policies and programs that support their members. Industry

²⁶ [LEADER/CLLD explained | The European Network for Rural Development \(ENRD\) \(europa.eu\)](https://ec.europa.eu/eurlife/content/leader-clld-explained)

Stakeholders	Commentary and anticipated impact effects
	<p>associations also play an important role in driving and shaping rural-urban linkages by facilitating collaboration between businesses in rural and urban areas.</p> <ul style="list-style-type: none"> • These associations represent various sectors and businesses. They have a strong influence on policies that support industries and economic growth in rural and urban regions, thus contributing to their mutual development. • Impact by end of project: Greater influence on policy-making, access to data and insights to advocate for member interests.
<ul style="list-style-type: none"> • Research & Educational institutions: 	<ul style="list-style-type: none"> • Research institutions play a vital role in developing new technologies and solutions that can benefit both rural and urban communities. For example, research institutions are developing new ways to produce food more sustainably and to reduce pollution. • Universities and research organisations provide knowledge, expertise, and innovation. They conduct research that informs and improves rural-urban development, sustainability, and economic opportunities. • Educational institutions run training programs for urban planners and policymakers to have improved understanding of rural-urban linkages. • However, as with Government agencies, research and educational institutions are very often located and connected to the urban environment. But, it is as it is.... • Impact by end of project: Opportunities to apply research, contribute to data collection and analysis, and disseminate findings.
<ul style="list-style-type: none"> • NGOs: 	<ul style="list-style-type: none"> • NGOs work on a wide range of issues, including poverty, hunger, education, and environmental protection. NGOs play an important role in driving and shaping rural-urban linkages by advocating for policies and programs that support the most vulnerable members of society. NGOs also play an important role in delivering essential services to rural and urban communities. • NGOs often focus on specific challenges, such as poverty, healthcare, education, and the environment. Their work can address disparities and advocate for the needs of rural and urban communities, making them key stakeholders in driving change. • Impact by end of project: Increased capacity to advocate for marginalized communities, implement projects, and measure impact.
<ul style="list-style-type: none"> • Civil society groups: 	<ul style="list-style-type: none"> • Civil society groups represent the interests of a wide range of groups, including environmental groups, women's groups, and youth groups. Civil society groups play an important role in driving and shaping rural-urban linkages by advocating for policies and programs that support their members. Civil society groups also play an important role in holding governments and businesses accountable to the public. • Organisations dedicated to sustainability and environmental conservation advocate for responsible practices in both rural and urban settings. Their work contributes to a greener and more balanced approach to development. • Impact by end of project: Increased awareness of sustainable practices, advocacy opportunities for nature-based solutions, and data-driven evidence of environmental impact.
<ul style="list-style-type: none"> • Infrastructure providers and transportation authorities: 	<ul style="list-style-type: none"> • Infrastructure providers and transportation authorities play a vital role in connecting rural and urban areas. They develop and maintain roads, railways, and other infrastructure that is essential for the movement of people, goods, and services. • These entities oversee the development of critical infrastructure, including transportation networks and utilities. They ensure efficient connectivity between rural and urban areas, supporting economic growth and reducing isolation. • Impact by end of project: Data-driven insights on infrastructure needs, collaboration opportunities on smart city/village projects, and potential for increased demand due to rural revitalization.
<ul style="list-style-type: none"> • Digital technology companies: 	<ul style="list-style-type: none"> • Digital technology companies are playing an increasingly important role in rural-urban linkages. Digital communications, products and cloud-based services can be used to improve access to education, healthcare, and employment opportunities in rural areas. Digital technologies can also be used to connect rural and urban businesses and to develop new markets for rural products and services. • Impact by end of project: Opportunities to pilot and implement technologies, access a wider customer base, and contribute to digital transformation
<ul style="list-style-type: none"> • Financial institutions: 	<ul style="list-style-type: none"> • Financial institutions play an important role in providing loans, insurance and other financial services to businesses and individuals in both rural and urban areas. Financial institutions play an important

Stakeholders	Commentary and anticipated impact effects
	<p>role in driving and shaping rural-urban linkages by supporting the development of rural businesses and by helping rural residents to access the financial resources they need to improve their lives.</p> <ul style="list-style-type: none"> • Banks, credit unions, and microfinance organizations provide funding and financial services. They are essential for supporting businesses and individuals in both rural and urban regions, stimulating economic growth and development. • Impact by end of project: New investment opportunities in sustainable projects, potential for increased lending activity, and reputation enhancement.
<ul style="list-style-type: none"> • Tourism sector representatives: 	<ul style="list-style-type: none"> • Tourism sector representatives play an important role in promoting rural and urban areas as tourist destinations. They also play an important role in developing sustainable tourism products and services that benefit both rural and urban communities. • Tourism is a powerful economic driver in both rural and urban areas. Stakeholders in this sector promote tourism linkages, creating economic opportunities and cultural exchange between regions. • Impact by end of project: Increased tourism revenue, diversified offerings, and collaboration with local communities. • Impact by end of project: Increased awareness of sustainable practices, advocacy opportunities for nature-based solutions, and data-driven evidence of environmental impact.

Table 7: PoliRuralPlus Stakeholders

These groups of stakeholders are considered crucial drivers because they are directly involved in key aspects of rural-urban linkages, such as policy development, economic development, technological innovation, knowledge sharing, infrastructure development, and social services. Their involvement is critical in addressing the challenges and opportunities that arise from increasing the resilience and interconnectedness of urban and rural areas, and their actions can have a substantial impact on the well-being and prosperity of both rural and urban communities in the EU. Hence, they will be explored in the PoliRuralPlus pilots.

3.4 Regional Networks Communications Channels

Regional networks built on the database of the PoliRuralPlus stakeholders in the 9 pilot regions, will be central to the pilots' communication channels to their stakeholders in their WP5 activities. This will provide a solid basis for the project's WP2 analysis of the rural-urban linkages and opportunities as well as the impact of COVID19, to identify the most appropriate integrated urban-rural strategies.

Given the greater resources of urban areas a critical requirement to ensure successful rural-urban linkages is active rural development in line with the EU Long Term Vision for Rural Areas to be stronger, connected, resilient and prosperous²⁷.

Stakeholder involvement in the Rural Development policy context means engaging individuals ranging from policy designers to project beneficiaries in all stages of the policy cycle: from policymaking to better implementation on the ground. The European Network for Rural Development (ENRD) has categorised this wide range of stakeholders to be broadly characterised in three main groups²⁸:

0. **Policy and programme designers and implementers:** political decision-makers; public administrators in national, regional and local authorities and European institutions; and LEADER Local Action Groups.
1. **Interest group representative bodies:** organisations representing farmers, landowners, forest managers, rural businesses, actors along the food chain, environmentalists, researchers, rural communities, and disadvantaged groups.

²⁷ [Long-term vision for rural areas \(europa.eu\)](https://european-council.europa.eu/media/en/press-communications/infographic/infographic-long-term-vision-for-rural-areas-2021-2027)

²⁸ [Stakeholder Involvement | The European Network for Rural Development \(ENRD\) \(europa.eu\)](https://european-council.europa.eu/media/en/press-communications/infographic/infographic-stakeholder-involvement-in-the-european-network-for-rural-development-2021-2027)

Their groupings map to the PoliRuralPlus stakeholders above as follows:

A. Policy & programme designers & implementers	2,9,
B. Interest group representative bodies	5,6,8,
C. Actors on the ground	1,3, 4,7,10,11,12

2. **Actors on the ground:** potential and actual beneficiaries and participants in EAFRD projects, with farmers and land managers at the forefront.

Rural networks, both at the national (NRNs) and European (ENRD) levels, can add the most value in bringing the wide range of stakeholder groups together in a common platform. In particular, rural networks can:

1. Act as a bridge between public authorities and interest group representatives and actors on the ground;
2. Support coordination, communication and capacity building among public authorities on all levels;
3. Help build capacity and develop common positions among actors on the ground and their representative bodies;
4. Help reach out to and inform a broader concerned audience of the benefits of the policy.

The EU Rural Review 'Improving Stakeholder Involvement'²⁹ recommendations emphasise the importance of a structured, strategic, and user-centric approach to stakeholder involvement including:³⁰

- Utilize Network Expertise - NRNs have experience in stakeholder involvement, particularly in LEADER implementation. Leverage this expertise to improve coordination and communication among stakeholders at all levels.
- Connect Diverse Stakeholders - Rural networks should bridge the gap between different stakeholder groups, particularly between civil society (with broader social needs) and technical policy implementers. This involves facilitating dialogue, creating shared understanding, and developing common positions.
- Link Stakeholder Involvement to Implementation - Stakeholder involvement should not be a token gesture. NRNs need to ensure that their activities directly contribute to better policy design and implementation. This means focusing on thematic areas that are relevant to policy decisions and creating strong links between network activities and Monitoring Committees.
- Utilize Existing Network Tools More Effectively - maximize the use of existing tools like thematic working groups, communication channels, good practice sharing, and technical workshops. These tools can be adapted to specific contexts and used to address specific challenges in stakeholder involvement.
- Build Trust and Expertise Gradually - Stakeholder involvement requires trust and expertise, both of which take time to develop. A step-by-step approach is necessary, especially in contexts with limited experience in participatory practices. Start small, learn from the experience, and gradually expand involvement.
- Identify the Right Entry Points - Stakeholder involvement should be integrated throughout the programming cycle, from design to implementation. Identify the most impactful points of entry for different stakeholder groups at different stages. This requires flexibility and adaptability to specific contexts.
- Adopt a User-Led Approach - Stakeholder involvement should be driven by the needs of the users themselves, not by preconceived notions or top-down agendas. Listen to stakeholders, understand their priorities, and tailor their engagement strategies accordingly.
- Ensure Continuity Between Programs - Stakeholder involvement should not be interrupted during transitions between programming periods. They should continue their work during these transitions to ensure that stakeholders can influence the design of new rural development programs.
- Promote European Networking and Exchange - Sharing experiences and best practices among European countries can accelerate learning and inspire new approaches to stakeholder involvement. Actively participate in European-level exchanges to learn from each other and adapt successful strategies to their own contexts.

By implementing these recommendations, the PoliRuralPlus pilots will be able to empower their local communities, enhance collaboration, optimise pilots' communication channels to their stakeholders in their WP5 activities and drive more effective and sustainable rural and urban regional development outcomes.

²⁹ [EU Rural Review 19 'Improving Stakeholder Involvement' | The European Network for Rural Development \(ENRD\) \(europa.eu\)](#)

³⁰ [tg_stakeholder-involvement_final-report.pdf \(europa.eu\)](#)

3.5 Impact of COVID-19 on Rural-Urban Dynamics

The COVID-19 pandemic profoundly altered Europe’s rural–urban dynamics, acting as both a stress test and catalyst for rethinking the interdependence between territories. Evidence from Eurofound³¹, OECD³², and ESPON³³ indicates that the crisis accelerated structural shifts in labour markets, mobility patterns, and service provision, while also amplifying inequalities in access to healthcare, digital infrastructure, and employment stability.

3.5.1 Economic and social effects.

Rural areas experienced both opportunities and challenges. On one hand, the decline in “out-of-home” consumption devastated rural tourism, hospitality, and cultural sectors, especially in areas heavily dependent on visitors and seasonal employment. Labour-intensive and migrant-dependent agricultural enterprises also faced disruptions due to travel restrictions and labour shortages. On the other hand, some sectors benefited from a shift toward “in-home” consumption, local sourcing, and short food supply chains. The growing preference for regional products and farm-to-consumer deliveries strengthened the visibility of rural producers and created potential for longer-term re-localisation of food systems.

3.5.2 Digital transition and new mobility patterns.

The sudden expansion of remote work accelerated the digitalization of rural-urban linkages. However, unequal broadband infrastructure and digital literacy gaps limited this transition in many peripheral regions, exacerbating existing divides. In several PoliRuralPlus pilot areas, such as Vidzeme (Latvia) and Mallusjoki (Finland)³⁴, the pandemic catalysed new hybrid working practices and spurred interest in repopulating rural areas through “returnee” or “multi-local living” initiatives, though these trends remain uneven and dependent on infrastructure and service accessibility.

3.5.3 Governance and policy implications.

COVID-19 underscored the need for integrated territorial governance and resilient local ecosystems. In the earlier PoliRural project, participatory foresight exercises highlighted the importance of agility and cooperation across the quadruple helix—public, private, academic, and civil society actors—to manage systemic shocks. The Regional Action Plans (RAPs) developed under PoliRural and PoliRuralPlus thus incorporate resilience measures such as diversification of rural economies, strengthening of digital and social infrastructure, and improved access to public services through multi-level coordination.

³¹ Eurofound (2022b), Working conditions in the time of COVID-19: Implications for the future, European Working Conditions Telephone Survey 2021 series, Publications Office of the European Union, Luxembourg. <https://www.eurofound.europa.eu/en/publications/2022/workng-conditions-time-covid-19-implications-future>
Eurofound (2021b), Living, working and COVID-19 (update April 2021): Mental health and trust decline across EU as pandemic enters another year, Publications Office of the European Union, Luxembourg. <https://op.europa.eu/en/publication-detail/-/publication/84c20388-ccb-11eb-ac72-01aa75ed71a1>

³² OECD. (2021). *Tackling the mental health impact of the COVID-19 crisis: An integrated, whole-of-society response*. OECD. (2020b). *Rural Well-being: Geography of Opportunities*. OECD Rural Studies. Paris: OECD Publishing. <https://doi.org/10.1787/d25cef80-en>

³³ [ESPON - The European Observation Network for Territorial Development and Cohesion | ESPON](#)

³⁴ Mallusjoki (Finland) Pilot Documentation, 2025.

3.5.4 Labour Market Disruptions and Employment Shifts

The initial lockdowns disproportionately affected urban economies reliant on services, tourism, and hospitality, leading to sharp declines in employment among self-employed and informal workers³⁵. Conversely, rural areas—particularly those dependent on agriculture, logistics, and essential services—demonstrated greater resilience but continued to face underemployment and labour shortages³⁶. The pandemic revealed how spatial and sectoral vulnerabilities interact with employment structures, exposing the precarious nature of gig and seasonal work.

While telework and digital employment protected some workers from job loss, others—especially those in low-income or manual roles—experienced growing insecurity and financial stress. This unevenness mirrored earlier findings on territorial inequality³⁷, suggesting that recovery policies must consider both spatial and occupational dimensions.

3.5.5 Telework and the Digital Divide

The pandemic dramatically expanded remote work opportunities. Across the EU, up to 40% of workers engaged in telework at some point in 2020³⁸. This shift redefined the spatial logic of employment, encouraging temporary or permanent relocation to rural and peri-urban areas. Rural communities benefited from an influx of residents and new demand for local services, but this trend also exposed stark disparities in broadband infrastructure, digital literacy, and housing affordability³⁹.

Studies demonstrate that telework improved flexibility and reduced commuting emissions⁴⁰, but also led to psychosocial risks such as overwork, social isolation, and work–life imbalance. According to Eurofound⁴¹ and EU-

³⁵ Anderson, J. (2020). *COVID-19: The self-employed are hardest hit and least supported*. Bruegel.

<https://www.bruegel.org/2020/04/covid-19-the-self-employed-are-hardest-hit-and-least-supported>

³⁶ Eurofound (2023d), Measures to tackle labour shortages: Lessons for future policy, Publications Office of the European Union, Luxembourg. <https://www.eurofound.europa.eu/system/files/2023-03/ef22015en.pdf>

International Labour Organization (ILO). (2022). *Social dialogue report 2022: Collective bargaining for an inclusive, sustainable and resilient recovery*. Geneva:

³⁷ Rodríguez-Pose, A. (2020). Institutions and the fortunes of territories. *Regional Science Policy & Practice*. <https://doi.org/10.1111/rsp3.12277>

³⁸ Sostero, M., Milasi, S., Hurley, J., Fernandez-Macias, E., & Bisello, M. (2020). *Teleworkability and the COVID-19 crisis: A new digital divide? JRC Working Papers Series on Labour, Education and Technology*. European Commission, Seville. https://joint-research-centre.ec.europa.eu/reports-and-technical-documentation/teleworkability-and-covid-19-crisis-new-digital-divide_en

Eurofound (2022d), The rise in telework: Impact on working conditions and regulation, Publications Office of the European Union, Luxembourg. <https://www.eurofound.europa.eu/system/files/2023-01/ef22005en.pdf>

³⁹ OECD. (2020a). *COVID-19 and Regional Development: Implications for Rural Areas*. Paris: OECD

Publishing. <https://www.oecd.org/coronavirus/policy-responses/policy-implications-of-coronavirus-crisis-for-rural-development-6b9d189a/>

⁴⁰ Beckel, J. L., & Fisher, G. G. (2022). Telework and worker health and well-being: A review and recommendations for research and practice. *International Journal of Environmental Research and Public Health*, 19(7), Article 3879. <https://www.mdpi.com/1660-4601/19/3/1730>

Antunes, E. D., Bridi, L. R. T., Santos, M., & Fischer, F. M. (2022). Part-time or full-time teleworking? A systematic review of the psychosocial risk factors of telework from home. *Frontiers in Psychology*, 14. <https://www.frontiersin.org/articles/10.3389/fpsyg.2023.1065593/full>

⁴¹ Eurofound (2022b), Working conditions in the time of COVID-19: Implications for the future, European Working Conditions Telephone Survey 2021 series, Publications Office of the European Union, Luxembourg. <https://www.eurofound.europa.eu/en/publications/2022/workng-conditions-time-covid-19-implications-future>

OSHA⁴², remote work blurred the boundaries between professional and private life, with long-term implications for productivity and wellbeing.

3.5.6 Psychosocial and Health Impacts

COVID-19 imposed widespread psychosocial strain across Europe's workforce. Rising anxiety, burnout, and job insecurity were reported among both urban and rural populations⁴³ WHO, 2022). Frontline and essential workers—especially in health, retail, and logistics—faced elevated infection risks and mental health pressures^{44 45}.

The Job Demands–Resources theory⁴⁶ and Conservation of Resources model⁴⁷, provide theoretical frameworks to explain these patterns: increased job demands (e.g., workload, uncertainty) coupled with reduced resources (e.g., support, autonomy) intensified burnout and reduced engagement,⁴⁸ highlighted that women and younger workers experienced disproportionate mental health deterioration, with implications for long-term labour market participation.

3.5.7 Spatial and Territorial Implications

Spatial foresight analyses⁴⁹ show that mobility restrictions and consumption shifts produced differentiated territorial impacts. Rural and peri-urban regions gained short-term visibility as refuges for wellbeing and safety, yet sustaining these benefits requires strategic investment in infrastructure, housing, and digital services.

⁴² European Agency for Safety and Health at Work (EU-OSHA). (2023). *The links between exposure to work-related psychosocial risk factors and cardiovascular disease*. Publications Office of the European Union, Luxembourg. <https://osha.europa.eu/en/publications/links-exposure-work-related-psychosocial-risks-at-work-and-cardiovascular>

⁴³ OECD. (2021). Tackling the mental health impact of the COVID-19 crisis: An integrated, whole-of-society response. Dares (2021). Quelles conséquences de la crise sanitaire sur les conditions de travail et les risques psychosociaux. Dares Analyses No. 28. https://dares.travail-emploi.gouv.fr/sites/default/files/9bdbce60416e2944c584578463f5e0a/Dares%20Analyses_Conditions-de-travail_RPS_Consequences-crise-sanitaire.pdf

⁴⁴ Chirico, F., Afolabi, A. A., Ilesanmi, O. S., Nucera, G., Ferrari, G., Szarpak, L., et al. (2022). Workplace violence against healthcare workers during the COVID-19 pandemic: A systematic review. *Journal of Health and Social Sciences*, 7(1), 14–35. https://journalhss.com/wp-content/uploads/Chirico-et-al-14_35.pdf

⁴⁵ De Kock, J. H., Latham, H. A., & Cowden, R. G. (2022). The mental health of healthcare workers during the COVID-19 pandemic: A narrative review. *Current Opinion in Psychiatry*, 35(5), 311–316. <https://www.binasss.sa.cr/bibliotecas/bhp/ago/8.pdf>

⁴⁶ Bakker, A. B., & Demerouti, E. (2017). Job demands–resources theory: Taking stock and looking forward. *Journal of Occupational Health Psychology*, 22(3), 273–285. https://www.isonderhouden.nl/doc/pdf/arnoldbakker/articles/articles_arnold_bakker_444.pdf

⁴⁷ Hobfoll, S. E. (1989). Conservation of resources: A new attempt at conceptualizing stress. *American Psychologist*, 44(3), 513–524. <https://psycnet.apa.org/record/1989-29399-001>

⁴⁸ Eurofound (2021b), Living, working and COVID-19 (update April 2021): Mental health and trust decline across EU as pandemic enters another year, Publications Office of the European Union, Luxembourg. <https://op.europa.eu/en/publication-detail/-/publication/84c20388-ccb-11eb-ac72-01aa75ed71a1>

⁴⁹ Böhme, K., & Besana, F. (2020). Understanding the territorially diverse implications of COVID-19 policy responses (Spatial Foresight Brief No. 2020:13). Luxembourg: Spatial Foresight. https://www.spatialforesight.eu/files/spatial_theme/spatial/publications/Brief_2020-13_200513.pdf

Böhme⁵⁰ and Rodríguez-Pose⁵¹ emphasize that governance capacity and institutional trust determined regional resilience. Regions with participatory governance and diversified economies adapted more effectively to lockdown disruptions. For example, community-based food systems and local value chains in several European territories helped buffer shocks to global supply networks⁵².

3.5.8 Gender, Youth, and Inequality Dimensions

The pandemic deepened existing inequalities. Women faced higher care burdens and greater exposure to precarious or part-time employment⁵³. Young workers, particularly in service sectors, suffered higher unemployment and delayed entry into the labour market⁵⁴. Rural youth also reported higher levels of psychosocial distress and limited access to digital education⁵⁵.

The ECB⁵⁶ noted that although total employment recovered by 2023, many new jobs were part-time or temporary, amplifying social insecurity and territorial divergence⁵⁷.

3.5.9 Policy Responses and Lessons for the Future

EU and international institutions introduced rapid fiscal and policy responses to mitigate territorial disparities. The NextGenerationEU and Just Transition Fund programmes⁵⁸ provided resources for green recovery and territorial

⁵⁰ Böhme, K. (2020). Territory matters in times of corona: Spatial reflections on a disruptive challenge. *Territorial Thinkers*. <https://territorialthinkers.eu/id-2020-03-kremer.html>

⁵¹ Rodríguez-Pose, A. (2020). Institutions and the fortunes of territories. *Regional Science Policy & Practice*. <https://doi.org/10.1111/rsp3.12277>

⁵² OECD. (2020a). *COVID-19 and Regional Development: Implications for Rural Areas*. Paris: OECD Publishing. <https://www.oecd.org/coronavirus/policy-responses/policy-implications-of-coronavirus-crisis-for-rural-development-6b9d189a/>

⁵³ Eurofound (2021e), Impact of COVID-19 on young people in the EU, Publications Office of the European Union, Luxembourg. <https://www.eurofound.europa.eu/en/publications/2021/impact-covid-19-young-people-eu>"\":~:text=Following%20

⁵⁴ Eurofound (2023c), Employment trends by age and gender in the EU after the COVID-19 pandemic, Eurofound working paper, Dublin, available at [https://www.eurofound.europa.eu/en/publications/eurofound-paper/2023/employment\[1\]trends-age-and-gender-eu-after-covid-19-pandemic](https://www.eurofound.europa.eu/en/publications/eurofound-paper/2023/employment[1]trends-age-and-gender-eu-after-covid-19-pandemic). <https://www.eurofound.europa.eu/en/publications/eurofound-paper/2023/intergenerational%5b1%5dincome-d>

⁵⁵ Johansen, R., Espetvedt, M. N., Lyshol, H., Clench-Aas, J., & Myklestad, I. (2021). Mental distress among young adults – Gender differences in the role of social support. *BMC Public Health*, 21(1), 1–14. <https://bmcpublichealth.biomedcentral.com/articles/10.1186/s12889-021-12109-5>

OECD. (2021). *Tackling the mental health impact of the COVID-19 crisis: An integrated, whole-of-society response*.

⁵⁶ European Central Bank (ECB). (2023). *More jobs but fewer working hours*. ECB Blog, 7 June. <https://www.ecb.europa.eu/press/blog/date/2023/html/ecb.blog230607~9d31b379c8.en.html>

⁵⁷ Caisl, J., Hermida, L., Levy, H., & Menyhért, B. (2023). *The uneven impact of high inflation*. *OECD Papers on Well-being and Inequalities*, No. 18. Paris: OECD Publishing. https://www.oecd-ilibrary.org/social-issues-migration-health/the-uneven-impact-of-high-inflation_59e2b8ae-en

⁵⁸ Cameron, A., Claeys, G., Midões, C., & Tagliapietra, S. (2020). *A Just Transition Fund – How the EU budget can best assist in the necessary transition from fossil fuels to sustainable energy*. Brussels: European Parliament, Policy Department for Budgetary Affairs. <https://www.bruegel.org/sites/default/files/wp-content/uploads/2020/05/Bruegel-JTF-report-for-EP-BUDG2.pdf>

Conference of Peripheral Maritime Regions (CPMR). (2020). *The EU Recovery Plan: 'Next Generation EU' Recovery Instrument in a revamped MFF 2021–2027*. Policy Analysis, June 2020. <https://cpmr.org/wpdm-package/the-eu-recovery-plan-next-generation-eu-recovery-instrument-in-a-revamped-mff-2021-2027/>

resilience. OECD⁵⁹ and CoR⁶⁰ stress that effective recovery depends on multi-level governance, social dialogue, and the inclusion of local authorities in policy design.

At the same time, ILO⁶¹ and WHO⁶² highlight the need to integrate psychosocial health into resilience frameworks. The PoliRuralPlus project builds on these lessons by embedding foresight, digital participation tools (e.g., MAATool), and KPI-based resilience metrics to strengthen local adaptive capacity. Such tools enable regions to anticipate shocks, integrate mental health considerations into development planning, and promote equitable wellbeing across rural–urban systems.

3.5.10 Changing perceptions of rural attractiveness.

Evidence from the PoliRural 'Grassroots Needs and Factors of Rural Attractiveness' study⁶³ indicates that the pandemic amplified the value of quality of life, environmental assets, and social cohesion as determinants of rural attractiveness. Many urban residents perceived rural regions as safer, healthier, and more sustainable, leading to temporary or permanent relocations that altered local housing markets and service demand. While this “re-ruralisation” created opportunities for demographic renewal, it also brought challenges related to affordability, integration of newcomers, and pressure on local services.

3.5.11 Global lessons and European frameworks.

The FAO–UN-Habitat report 'COVID-19 through the Lens of Urban-Rural Linkages' stresses that resilient territories require “two-way connectivity” between urban and rural systems, particularly for health services, logistics, and food security⁶⁴. The pandemic accelerated the need to rethink these linkages within the EU’s 'Long-Term Vision for Rural Areas' and the 'Rural Pact', both of which advocate more balanced, place-based development supported by digital, environmental, and social innovation.

3.5.12 COVID Effects on the PoliRuralPlus Pilots

Using Advisor to analyse all of the evidence from the PoliRuralPlus pilots shows that the COVID-19 pandemic had a complex mix of negative shocks and adaptive responses, with both immediate and longer-term effects across rural communities, businesses, governance bodies, and civil society actors, as summarised in the following table:

COVID Effects		Responses	
COVID Impacts	Negative: <ul style="list-style-type: none"> Business closures, Labour shortages, Digital divide, Weakened social capital, Rising costs, Mental health issues. 	Integrated Urban-Rural Strategies	<ul style="list-style-type: none"> Local food & short supply chains (farm-to-fork, CSAs). Eco-/agritourism & cultural heritage initiatives. Remote work hubs & smart villages. Circular economy, renewable energy, bioeconomy.
	Positive: <ul style="list-style-type: none"> Rural Attractiveness ↑, 		

⁵⁹ OECD. (2020b). *Rural Well-being: Geography of Opportunities*. OECD Rural Studies. Paris: OECD Publishing. <https://doi.org/10.1787/d25cef80-en>

⁶⁰ [European Committee of the Regions](#)

⁶¹ International Labour Organization (ILO). (2022). *Social dialogue report 2022: Collective bargaining for an inclusive, sustainable and resilient recovery*. Geneva:

⁶² [World Health Statistics 2022](#)

⁶³ PoliRural D4.2 'Grassroot Needs & Factors of Rural Attractiveness'.

⁶⁴ FAO & UN-Habitat (2020). 'Covid-19 through the Lens of Urban-Rural Linkages – Guiding Principles and Framework for Action'.

	<ul style="list-style-type: none"> • Growth of Telework & digital services, • innovation in local food systems, • Neighbourhood solidarity. 		
Challenges in Urban-Rural Linkages	<ul style="list-style-type: none"> • Regional disparities in infrastructure, services, funding. • Collaboration gaps between urban & rural actors. • Taxation & multilocality debates. • Education, culture & NGO services disrupted. 	Partnerships & Collaboration	<ul style="list-style-type: none"> • Government: ELY Centres, Regional Councils, Ministries. • NGOs: Village Movement, Red Cross, MLL, SNS. • Education & Research: HAMK, LUT, Ruralia Institute, adult learning centres. • Private Sector: food processors, tourism, forestry, creative industries.
Stakeholder Responses	<ul style="list-style-type: none"> • Emergency SME grants & micro-grants (ELY, Leader). • Mental health & wellbeing initiatives (MLL, FRC, NGOs). • Digital literacy programs & broadband expansion. • Promotion of rural living (cost, safety, quality of life). 	Opportunities & Key Initiatives	<ul style="list-style-type: none"> • Green Transition: BioKanta biogas, Green Connect, HyTeLab wellbeing tech. • Digitalisation: DigiHäme, smart grids, precision agriculture, telehealth. • Culture & Social Innovation: Orimattila 2028 cultural strategy, Päijät-Häme artists, youth exchange. • COVID-Responsive: mental health networks, SME recovery funds, digital skills training, remote service expansion.

Table 8: COVID effects on the pilots & their responses

Overall COVID-19 accelerated digitalisation, localisation, and innovation in the pilot regions, but at the cost of weakened social capital, business disruption, and institutional stress. Stakeholders responded by shifting online, offering financial aid, enhancing resilience training, and investing in participatory tools. These adaptations are now embedded into the PoliRuralPlus Regional Action Plans (RAPs) to strengthen rural-urban systems against future shocks.

Negative Impacts

- Social capital and community life
 - Closure of meeting places and community houses reduced social cohesion, cultural events, and rental income. Rising energy costs deepened financial strain on community facilities.
 - Social isolation impacted mental health, especially among youth, students, and vulnerable groups.
- Economic disruptions
 - Lockdowns disrupted rural businesses, farms, beekeeping, and the event industry (e.g. in Mallusjoki).
 - Shortage of foreign seasonal workers reduced capacity in agriculture and berry companies.
 - Universities and community colleges faced reduced income from international enrolments and events.
- Institutional pressures
 - ELY Centres faced resource strain, delayed permitting/consultations, and had to divert attention from long-term strategies to emergency relief.
 - LEADER programmes experienced delays, financial strain, and reduced participation in local projects.
 - NGOs like MLL and the Red Cross reported reduced fundraising and increased demand for services.

Positive Impacts

1. Digital transition and telework
 - a. Teleworking and online meetings created new opportunities to live and work rurally; many city dwellers reconsidered rural areas as attractive living spaces.

- b. Educational institutions accelerated adoption of digital tools, improving long-term resilience and skills.
2. Localisation and sustainability
 - a. Growing demand for local food, honey, and natural products boosted rural producers.
 - b. Absence of human activity temporarily benefitted local biodiversity and fauna.
3. Innovation and resilience
 - a. Creation of initiatives such as “Jobs from Finland” to compensate for missing foreign labour.
 - b. NGOs and civil society adopted virtual services, multilingual outreach, and digital fundraising models.
 - c. Rural communities developed neighbourhood assistance networks and grassroots solutions.

COVID-19 Impacts on the pilots were:

- Economic and Social
 - Business closures in tourism, events, cultural sectors (especially rural events industries, e.g., Mallusjoki).
 - Labour shortages due to loss of foreign workers in farms and food industries.
 - Supply chain disruptions limited rural producers’ access to urban markets.
 - Rising energy costs pressured rural households and community houses.
- Human and Institutional
 - Mental health pressures from isolation and economic insecurity; NGOs (MLL, Red Cross, SNS) stretched thin supporting families and youth.
 - Universities and colleges: disrupted research, reduced student mobility, equity gaps in online learning.
 - Public bodies (ELY Centres, municipalities): resource strain, delays in permitting and environmental projects, shifting priorities to emergency aid.

The pilots stakeholders framed their responses to the challenges in Urban–Rural linkages during COVID-19 as follows:

1. Urban–Rural Linkages: Structural Challenges

- No new COVID-specific linkage challenges – rural-urban interactions (markets, commuting, services) largely continued, though under strain.
- Regional disparities: Gaps in infrastructure, investment, and services persisted; rural areas risked lagging behind cities.
- Multilocality debates: Pandemic accelerated discussions on multilocal living (city + countryside), but taxation and administrative frameworks remain unresolved.
- Collaboration difficulties: Urban and rural actors (businesses, education, NGOs) often had divergent needs; partnerships remained hard to sustain without face-to-face interaction.
- Digital divide: Broadband gaps and uneven digital skills hindered equal participation in online work, learning, and healthcare.

While they identified their Responses and Implemented Changes as follows:

- Public Authorities (ELY Centres, municipalities)
 - Emergency business development grants for SMEs (up to 30% of turnover) to sustain rural economies.
 - Prioritisation of remote consultation systems and digitalised permitting.
 - Support for sustainable practices aligned with the Green Deal (local food systems, renewable energy).
- LEADER and Community Programmes
 - Shifted training, networking, and mentoring to virtual platforms.

- Integrated digital skills training, crisis management, and resilience-building modules into support for rural leaders.
- Universities and Colleges
 - Rapid deployment of online teaching; innovation in pedagogical methods.
 - Enhanced student support services and mental health provision.
 - Longer-term blended learning models.
- NGOs and Civil Society
 - MLL: online counselling, virtual family support groups, digital fundraising.
 - Red Cross (FRC): remote psychosocial services, multilingual COVID information, targeted aid to vulnerable groups.
 - Youth organisations (SNS): expanded mental health programmes, hybrid youth engagement activities.
- Pilot-level Innovations (example Mallusjoki, Finland)
 - Development of a Rural Event Industry Ecosystem to diversify rural cultural and economic activities.
 - Adoption of multi-actor participatory tools (MAAT) for stakeholder engagement despite social distancing.

Longer-Term Structural Changes were identified as follows:

- Mainstreaming hybrid digital/physical participation in RAPs and pilot governance (Zoom workshops, online RAP consultations, participatory AI tools).
- Embedding resilience: pilots like Slovakia and Vidzeme now explicitly integrate crisis-readiness, cross-sector collaboration, and climate adaptation into RAP frameworks.
- Ethical and participatory AI adoption in PoliRuralPlus tools (Advisor, MAAT, VULTURE, Jackdaw) designed to enhance stakeholder co-creation and transparency in post-pandemic governance.

Stakeholder identified the following responses and lessons learnt

- Mental health support: Localised counselling, online youth programmes, family support services.
- Digital literacy and infrastructure: Training rural residents, investing in broadband, promoting blended/hybrid work.
- Economic diversification: Support for remote work hubs, e-commerce, local food systems, and innovation ecosystems.
- Targeted recovery: Grants to SMEs, cultural sector support, adaptation of training and education into online/hybrid forms.
- Collaboration models: Multi-Actor Approach (MAAT) and participatory foresight strengthened dialogue across Urban-Rural divides.
- Resilience framing: RAPs integrated lessons on crisis readiness, localisation, and participatory digital tools (Advisor, Jackdaw, VULTURE).

So, while COVID did not create new Urban-Rural linkage challenges, it *exposed structural gaps (digital divide, collaboration, disparities)* and *stressed existing systems (economies, education, NGOs)*. Stakeholders used the crisis to accelerate digitalisation, mental health responses, localisation of food and services, and new participatory governance tools.

Stakeholders' Strategies for integrated Urban–Rural (Urban-Rural) development and COVID-19 recovery, based on the pilots' feedback, included:

- Economic Diversification
 - Farm-to-table and local food systems (CSA schemes, farmers' markets, urban food hubs).
 - Remote work hubs and co-working spaces to attract urban teleworkers.
 - Sustainable tourism (eco- and agro-tourism, cultural heritage-based events).
 - Value-added production (bioeconomy, beekeeping products, renewable energy).
- COVID Recovery Focus

- Mental health support tailored for rural isolation and hardship.
- Digital literacy and broadband expansion to enable remote work, education, telehealth.
- Targeted grant and micro-grant programs for SMEs and entrepreneurs hit by the pandemic.
- Promotion of rural advantages (space, safety, cost of living, community ties) to attract new residents.
- Capacity Building
 - Training in business development, e-commerce, marketing to urban markets.
 - Workshops on negotiation, digital skills, entrepreneurship.
 - Research and innovation on smart villages, bioeconomy, digitalisation.

As well as Partnerships and Collaboration, such as:

- Government and Agencies
 - ELY Centres, Leader groups, Regional Councils → EU funding access, project development, infrastructure investment.
 - Ministries (Agriculture, Education, Social Affairs, Environment, Economy) → policy alignment, funding, resilience programs.
- NGOs and Civil Society
 - Finnish Village Movement, MLL, Red Cross, SNS → service delivery (social, youth, health), volunteerism, integration of newcomers, disaster preparedness.
 - Environmental NGOs → biodiversity, sustainable land-use, climate resilience.
- Education and Research
 - Universities (Ruralia Institute, HAMK, LUT, UH) → RDI projects on bioeconomy, green transition, food systems, smart tech.
 - Vocational and adult education centres → upskilling in IT, business, healthcare, agriculture.
- Private Sector and Industry
 - Food processing and distribution companies → short supply chains, branding (e.g. Hämeellä Tehty).
 - Tourism sector and creative industries → eco-tourism, art/photography-led promotion, cultural events.
 - Forestry, renewable energy and bio-based industries → circular economy, biogas, wind power, smart grids.
- Cross-Sector Platforms
 - Regional forums, workshops, living labs, thematic working groups → multi-actor governance for planning and implementation.

In addition, the stakeholders identified Opportunities and Key Projects / Initiatives such as:

1. Flagship Projects and Pilots
 - a. Green Transition and Bioeconomy: Green Connect (Päijät-Häme, South Karelia), BioKanta biogas projects, PHL-GreenDigi digitalisation for growth, HyTeLab wellbeing tech labs.
 - b. Smart Villages and Digitalisation: DigiHäme platform, smart grid pilots, precision agriculture, rural e-services.
 - c. Cultural and Social Innovation: Provincial artists program (Päijät-Häme), Orimattila cultural strategy 2028, village community wellbeing pilots.
 - d. Tourism and Place-based Development: Sustainable tourism models, rural-urban exchange programs, agritourism via beekeeping and farms.
2. COVID-Responsive Initiatives
 - a. Mental health networks in rural areas (MLL, FRC).
 - b. Digital literacy and remote education programs (Wellamo, SNS, HAMK).
 - c. Localised recovery funds and EU-backed SME support schemes.
3. Emerging Opportunities
 - a. Circular economy partnerships: urban waste ↔ rural energy/food production.

- b. Telehealth expansion: mobile clinics + online mental health counselling.
- c. Cultural exchange platforms: youth mobility, participatory arts, photography/visual storytelling to market rural assets.
- d. Local food branding and certification: Ruokavirasto-led schemes, short supply chain e-commerce platforms.

Stakeholders' strategies combine post-COVID resilience measures (mental health, digital skills, SME support) with long-term Urban-Rural integration (bioeconomy, circular economy, smart villages, cultural innovation). Partnerships span government, NGOs, research institutions, and private sector, and key initiatives are already underway in green transition, digitalisation, and cultural/social revitalisation.

In particular, the PoliRuralPlus pilots identified significant potential for integrated Urban–Rural (Urban-Rural) strategies, highlighting concrete opportunities and multi-level benefits as follows:

1. Opportunities for Integrated Urban-Rural Strategies

Economic Development

- 14. Smart Specialisation: Smaller towns can leverage natural assets, cultural heritage, and niches (e.g., agribusiness, ecotourism, bioeconomy, renewable energy) in partnership with cities.
- 15. Circular Economy and Industrial Symbiosis: Urban waste and expertise can support rural renewable energy and recycling; rural areas supply food, biomass, and natural resources.
- 16. Short Food Supply Chains: Local producers link directly to urban consumers through certification schemes, pop-up markets, and e-commerce (e.g., Malta, Päijät-Häme).

Social and Cultural

- MLL (Child Welfare NGO): Opportunities in Urban-Rural strategies to expand social service delivery via remote access, advocacy for family well-being, and youth cultural exchange.
- Youth Organisations (SNS): Exchange programs, blended learning, and environmental projects that connect urban and rural youth; leadership training for rural youth.
- Arts and Photography: Public art, storytelling, photography initiatives promote intercultural exchange, tourism, and cultural preservation.

Education and Skills

- Blended Learning Models: Online + in-person training, mobile training units, and micro-credentials improve access for rural residents.
- Upskilling Programs: Joint Urban-Rural curricula in digital literacy, entrepreneurship, and regional industry-specific skills.
- Knowledge Exchange: Rural expertise (agriculture, biodiversity) complements urban skills (digitalisation, coding, creative industries).

Environment and Health

- 1. Local Food and Sustainable Practices: Integrated strategies reduce transport emissions and support resilient food systems.
- 2. Biodiversity and Beekeeping: Rural apiaries + urban rooftop hives strengthen pollination and awareness; agritourism ties urban consumers to local production.
- 3. Disaster Preparedness and Health: Red Cross mobile units and telehealth services link rural needs with urban medical expertise.

2. Benefits of Integrated Urban-Rural Strategies

- Balanced Population and Vitality: Attracts people and investment to rural areas, countering depopulation (e.g., Päijät-Häme strategy).
- Stronger Economies: Diversified opportunities in agribusiness, eco-tourism, cultural industries, and green jobs.
- Improved Service Delivery: Rural residents gain access to urban resources (healthcare, education, cultural services).



- Social Inclusion: Joint youth programs, cultural exchanges, and arts projects foster cohesion and national unity.
- Environmental Sustainability: Optimised resource flows (food, waste, energy) and climate-smart practices improve resilience.
- Skills and Human Capital: Rural communities empowered with digital, entrepreneurial, and intercultural skills.
- Revitalised Rural Communities: Improved infrastructure, visibility, and social capital through continuous Urban-Rural cooperation.

The pilots agreed that integrated Urban-Rural strategies unlock synergies by combining rural resources with urban innovation, leading to balanced development, stronger economies, better services, and sustainable practices. Stakeholders in PoliRuralPlus pilots see Urban-Rural integration not as optional, but as essential for resilience, social cohesion, and future competitiveness.

In conclusions, the recommendations for the PoliRuralPlus project and pilots are:

- Leverage existing Urban-Rural ecosystems: E.g., circular economy networks in Päijät-Häme, rural event ecosystems in Mallusjoki.
- Position NGOs and youth organisations as Urban-Rural connectors (MLL, SNS, Red Cross) to bridge social services, education, and cultural inclusion.
- Integrate digital innovation: Hybrid foresight workshops, participatory AI tools (MAAT, Advisor, Jackdaw, VULTURE) enable inclusive Urban-Rural policymaking.
- Promote local branding and storytelling: Photography, art, and gastronomy can market rural assets to urban populations, boosting tourism and investment.
- Embed resilience and sustainability: Ensure RAPs align with EU Green Deal, bioeconomy, and SDGs through integrated Urban-Rural approaches.

Building on these insights, PoliRuralPlus integrates pandemic lessons into its mission-oriented approach by:

1. Promoting digital tools and AI-enabled foresight (e.g., MAATool, VULTURE) for scenario planning and crisis preparedness;
2. Embedding resilience indicators in the KPI framework to track adaptive capacity of rural-urban systems;
3. Strengthening community-based governance through Multi-Actor Platforms and participatory co-creation processes to ensure local voices influence recovery strategies.

3.5.13 Conclusion.

The pandemic acted as a stress test for Europe's rural-urban fabric, revealing both fragility and adaptability. It accelerated transitions toward digital connectivity, local production, and wellbeing-oriented development, while reinforcing the need for territorial cohesion. Within the PoliRuralPlus framework, the COVID-19 experience serves as a catalyst for re-imagining rural-urban linkages—not merely as flows of goods and people, but as interdependent systems of resilience, innovation, and shared prosperity.

The COVID-19 pandemic has left an indelible mark on Europe's rural-urban landscape. It accelerated digital transitions, redefined mobility and labour relations, and exposed long-standing inequalities in wellbeing and opportunity. For PoliRuralPlus, these lessons reinforce the importance of foresight-based, participatory, and wellbeing-oriented governance capable of bridging spatial, social, and digital divides. The pandemic ultimately revealed that rural-urban linkages are not only economic, but deeply social and psychological — and must therefore form the backbone of a resilient, inclusive European recovery.

The COVID-19 pandemic profoundly reconfigured relationships between rural and urban territories across Europe, reshaping mobility patterns, labour markets, and the spatial organization of production and services. Early in the

crisis, lockdown measures and disruptions to global supply chains exposed the vulnerability of both rural and urban economies, while simultaneously revealing their interdependence. Rural regions, often perceived as peripheral, became essential providers of food, ecosystem services, and recreational space, while urban centres faced acute public-health and logistical pressures⁶⁵.

3.6 Relevant Initiatives (e.g., Nature Based Solutions, New European Bauhaus)

European rural-urban territories are increasingly shaped by cross-cutting initiatives that combine environmental sustainability, digital innovation, and cultural transformation. Among these, the Nature-Based Solutions (NBS) framework and the New European Bauhaus (NEB) initiative have emerged as key instruments for achieving the EU's Green Deal, Biodiversity Strategy, and Long-Term Vision for Rural Areas (LTVRA) objectives. These initiatives provide new paradigms for place-based transformation—where ecological restoration, aesthetic value, and social inclusion converge to strengthen territorial cohesion.

The New European Bauhaus (NEB) connects the European Green Deal with culture, creativity, and design—translating sustainability into a tangible, experiential reality. Its three guiding principles—beautiful, sustainable, and together—resonate strongly with the PoliRuralPlus ethos of fostering inclusive, human-centered, and place-based transformation.

Under the PoliRuralPlus framework, NEB acts as a cross-cutting enabler of participatory spatial design, cultural innovation, and community identity-building. Pilots such as those in Ireland (Monaghan) and Spain are embedding NEB thinking into urban–rural interfaces, using co-creation and participatory design workshops to redefine local aesthetics and liveability. This approach reframes rural attractiveness not only as an economic asset but as a cultural and emotional value linked to belonging, heritage, and ecological harmony.

The NEB principles also influence Regional Action Plan methodologies, ensuring that physical transformation—be it through green architecture, cultural routes, or creative reuse of rural spaces—embodies both environmental and social justice. By aligning foresight and planning with aesthetic innovation, PoliRuralPlus pilots operationalize NEB within community planning, linking the tangible (infrastructure, landscapes) with the intangible (identity, narrative, and wellbeing).

Both NBS and NEB reinforce the systemic, integrated approach of the EU's territorial development strategies:

1. The EU Green Deal sets the overarching goal of climate neutrality and ecological restoration, providing policy coherence for NBS integration.
2. The EU Biodiversity Strategy 2030 encourages restoration of 30% of degraded ecosystems, offering funding opportunities for regional NBS pilots.
3. The LTVRA and Rural Pact emphasize inclusivity, foresight-based planning, and participatory governance—pillars embedded in the PoliRuralPlus design.
4. The EU Mission on Climate-Neutral and Smart Cities and Horizon Europe Cluster 6 promote urban–rural partnerships for innovation in energy, mobility, and green spaces.

These frameworks converge in PoliRuralPlus' mission-oriented approach, ensuring that local actions—such as rewilding, community gardens, circular food systems, and eco-tourism—are strategically connected to European transformation pathways.

⁶⁵ Centre for Rural Economy (2020). 'Covid-19 and Rural Economies'. Newcastle University.

3.6.1 Nature-Based Solutions (NBS) and Territorial Resilience

Nature-Based Solutions (NBS) have emerged as an integrative framework that harnesses natural processes to address societal challenges, enhance ecosystem services, and strengthen territorial resilience across rural–urban systems. In the European context, NBS are central to achieving the objectives of the European Green Deal, the EU Biodiversity Strategy for 2030, and the Long-Term Vision for Rural Areas (LTVRA). They contribute simultaneously to climate adaptation and mitigation, water management, disaster risk reduction, and socio-economic development through multifunctional, cost-effective, and sustainable approaches^{66 67 .68}.

Conceptual Foundations of NBS

The concept of NBS evolved from ecosystem-based approaches, including green infrastructure, ecological restoration, and ecosystem-based adaptation⁶⁹. The European Commission defines NBS as “actions inspired by, supported by, or copied from nature that simultaneously provide environmental, social and economic benefits and help build resilience.” This broad definition underlines NBS as systemic and context-sensitive measures capable of addressing complex territorial challenges, from flood management and heat mitigation to biodiversity loss and public health.

Research and practice have demonstrated that NBS improve ecological connectivity, regulate water flows, and enhance adaptive capacity at multiple scales⁷⁰. These outcomes are particularly significant in the face of climate-related hazards, which require integrated management across rural and urban areas to maintain ecosystem functionality and reduce vulnerability.

NBS for Climate and Hydrological Resilience

A substantial body of evidence highlights the hydrological and climate-regulating benefits of NBS. Green infrastructure such as wetlands, green roofs, permeable pavements, and riparian buffers contribute to flood attenuation, stormwater retention, and temperature regulation⁷¹. Wetlands and floodplains reduce flood peaks by absorbing and storing runoff⁷²) while vegetated urban surfaces lower the urban heat island effect and improve thermal comfort. These ecosystem-based measures enhance resilience through decentralised, low-impact interventions that complement or replace grey infrastructure.

Within the EU Horizon 2020 framework, projects such as NAIAD, PHUSICOS, and RECONNECT have advanced methodologies for valuing NBS and assessing their risk-reduction capacity⁷³. Results from these initiatives

⁶⁶ Faivre, N., et al. (2017). Nature-based solutions in the EU: Innovating with nature. *Environmental Research*, 159, 509–518. <https://doi.org/10.1016/j.envres.2017.08.032>

⁶⁷ Eggermont, H., et al. (2015). Nature-based solutions: New influence for environmental management and research in Europe. *GAIA*, 24(4), 243–248. <https://doi.org/10.14512/gaia.24.4.9>

⁶⁸ Seddon, N., et al. (2020). Understanding the value and limits of NBS. *Philosophical Transactions of the Royal Society B*, 375, 20190120. <https://doi.org/10.1098/rstb.2019.0120>

⁶⁹ Nesshöver, C., et al. (2017). The science, policy and practice of nature-based solutions. *Science of the Total Environment*, 579, 1215–1227. <https://doi.org/10.1016/j.scitotenv.2016.11.106>

Albert, C., et al. (2019). Addressing societal challenges through nature-based solutions. *Landscape and Urban Planning*, 182, 12–21. <https://doi.org/10.1016/j.landurbplan.2018.10.003>

⁷⁰ Ruangpan, L., et al. (2020). Nature-based solutions for hydro-meteorological risk reduction. *Natural Hazards and Earth System Sciences*, 20, 243–270. <https://doi.org/10.5194/nhess-20-243-2020>

⁷¹ Alves, A., et al. (2019). Assessing the co-benefits of green-blue-grey infrastructure. *Journal of Environmental Management*, 239, 244–254. <https://doi.org/10.1016/j.jenvman.2019.03.036>

⁷² Bullock, A., & Acreman, M. (2003). The role of wetlands in the hydrological cycle. *Hydrology & Earth System Sciences*, 7(3), 358–389. <https://doi.org/10.5194/hess-7-358-2003>

⁷³ Martin, J., et al. (2019). NBS in-depth case study analysis of successful governance models. *PHUSICOS Project Deliverable 5.1*. https://phusicos.eu/wp-content/uploads/2019/12/D5_1_NBS-in-depth-case-study-analysis_Final-2.pdf

demonstrate that NBS not only mitigate hydro-meteorological hazards but also generate co-benefits including carbon sequestration, biodiversity enhancement, and recreational value⁷⁴ ⁷⁵. Such multifunctionality supports territorial resilience by linking ecological restoration with socio-economic revitalisation.

Governance and Implementation Challenges

Effective governance of NBS requires multi-actor coordination, transdisciplinary knowledge integration, and participatory co-design processes⁷⁶. The PHUSICOS and NATURVATION projects emphasise the importance of place-based governance, financing mechanisms, and long-term maintenance frameworks to ensure sustainability of NBS interventions. Territorial resilience, therefore, depends not only on technical performance but also on institutional capacity, policy alignment, and social legitimacy.

Barriers to NBS implementation include limited awareness, fragmented regulatory frameworks, and short-term financing horizons. Nonetheless, new models of “mosaic governance” and participatory planning are emerging across European cities and rural regions, promoting inclusive approaches that embed NBS into broader territorial strategies⁷⁷. These developments resonate strongly with the PoliRuralPlus framework, which aims to integrate NBS into regional foresight, co-creation, and policy design processes.

NBS and Integrated Rural–Urban Systems

In rural–urban contexts, NBS facilitate systemic resilience by bridging ecological, spatial, and social dimensions. They restore degraded landscapes, support sustainable food systems, and enhance the liveability of peri-urban and rural settlements. The Connecting Nature and Green SURGE projects have shown how NBS can strengthen rural–urban linkages through the creation of green corridors, agroecological practices, and community-based restoration initiatives. In turn, these measures contribute to ecosystem integrity, climate adaptation, and the diversification of local economies.

NBS also provide opportunities for rural innovation and circular bioeconomy development, for example through soil restoration, agroforestry, and sustainable tourism. Their integration into spatial planning can reduce disparities between regions and support the EU’s objective of balanced territorial development. In this sense, NBS are not only environmental interventions but also strategic instruments for cohesion, equity, and sustainability.

Nature-Based Solutions are at the core of the EU’s approach to addressing climate, biodiversity, and socio-economic challenges through actions inspired by, supported by, or copied from nature. NBS have direct implications for both rural and urban development—reducing flood risks, enhancing air quality, improving soil health, and increasing community resilience.

In the PoliRuralPlus context, several pilot regions (e.g. Apulia–Italy, and Central Greece) are testing NBS-driven approaches to sustainable land use, ecosystem restoration, and green infrastructure. For instance, the integration

⁷⁴ Vojinovic, Z. (2020). Nature-based Solutions for flood mitigation and coastal resilience. *EU Publications Office*.

<https://op.europa.eu/en/publication-detail/-/publication/4f8b2e1d-5cd2-11ea-8b81-01aa75ed71a1/language-en>

⁷⁵ Watkin, L. J., et al. (2019). A framework for assessing benefits of implemented nature-based solutions. *Sustainability*, 11(23), 6788. <https://doi.org/10.3390/su11236788>

⁷⁶ Raymond, C. M., et al. (2017). A framework for assessing and implementing co-benefits of NBS. *Environmental Science & Policy*, 77, 15–24. <https://doi.org/10.1016/j.envsci.2017.07.008>

⁷⁷ Frantzeskaki, N. (2019). Seven lessons for planning nature-based solutions in cities. *Environmental Science and Policy*, 93, 101–111. <https://doi.org/10.1016/j.envsci.2018.12.033>

of agroforestry, circular bioeconomy, and ecosystem-based planning reflects a transition toward multifunctional landscapes that balance productivity and biodiversity.

The Vidzeme Regional Action Plan⁷⁸ identifies climate neutrality, adaptation, and ecosystem-based management as core objectives of its development strategy, linking local biodiversity management with economic revitalisation through circular bioeconomy models. Similarly, in Finland’s Mallusjoki pilot, NBS principles inform the creation of a “Rural Events Ecosystem” where landscape aesthetics, community well-being, and sustainable land management reinforce each other, demonstrating that cultural and natural capitals are complementary assets⁷⁹.

PoliRuralPlus leverages NBS concepts through its Multi-Actor Approach (MAA) and digital tools (e.g., MAATool, VULTURE, and AI-based foresight) to help stakeholders co-design policies that enhance ecosystem services and nature connectivity across rural and peri-urban zones.

3.6.2 The New European Bauhaus (NEB) and Aesthetic Innovation for Inclusive Places

The New European Bauhaus (NEB) is a visionary initiative launched by the European Commission in 2020 to link the European Green Deal with everyday living environments through a creative and human-centred transformation. Rooted in the original Bauhaus movement’s spirit of interdisciplinarity and democratic design, the NEB reimagines sustainability, inclusiveness, and aesthetics as interconnected pillars for shaping a just and regenerative European future^{80 81}. Its goal is to inspire a cultural and spatial transformation that enables citizens, designers, and policymakers to co-create spaces and experiences that are beautiful, sustainable, and inclusive.

Conceptual and Philosophical Foundations

The NEB’s ethos is built on the recognition that sustainability must engage not only environmental performance but also emotional resonance and cultural meaning. As von der Leyen states⁸², the NEB is “a project of hope that makes the Green Deal tangible and human.” This holistic vision draws from interdisciplinary research traditions that bridge science, art, and social innovation⁸³. The NEB embodies a transdisciplinary framework, uniting architects, artists, engineers, social scientists, and citizens in the pursuit of systemic innovation that integrates form and function with ecological and social value⁸⁴.

Aesthetic experience plays a critical role in this framework, where beauty becomes a driver of sustainability and collective wellbeing. Scholars such as Beardsley⁸⁵ and Zumthor⁸⁶ argue that aesthetics influence behaviour,

⁷⁸ Vidzeme Planning Region Development Programme 2022–2027.

⁷⁹ Mallusjoki (Finland) Pilot Report, PoliRuralPlus WP5.

⁸⁰ European Commission. (2020). *The New European Bauhaus: A vision for a sustainable and inclusive future*. https://new-european-bauhaus.europa.eu/about/about-initiative_en

⁸¹ World Economic Forum. (2021). *What is the New European Bauhaus?* <https://www.weforum.org/videos/europe-is-launching-a-new-bauhaus-movement-this-time-it-s-based-on-sustainability/>

⁸² Von der Leyen, U. (2020). *New European Bauhaus Op-ed*. European Commission Press Corner. https://ec.europa.eu/commission/presscorner/detail/en/AC_20_1916

⁸³ Apostel, G., Berger, A., Briggs, A., & Michaud, G. (1972). *Interdisciplinarity: Problems of teaching and research in universities*. Paris: OECD Publications.

⁸⁴ Stember, M. (1991). Advancing the social sciences through the interdisciplinary enterprise. *The Social Science Journal*, 28(1), 1–14. [https://doi.org/10.1016/0362-3319\(91\)90040-B](https://doi.org/10.1016/0362-3319(91)90040-B)

⁸⁵ Beardsley, M. (1982). *The Aesthetic Point of View*. Ithaca, NY: Cornell University Press.

⁸⁶ Zumthor, P. (2006). *Atmospheres: Architectural Environments, Surrounding Objects*. Birkhäuser.

belonging, and care for the environment. The NEB thus positions aesthetics as an ethical and sensory bridge between ecological responsibility and lived experience, reinforcing the importance of atmosphere, materiality, and sensory inclusion⁸⁷.

The NEB Triad: Sustainability, Aesthetics, and Inclusion

The NEB operates through a tripartite framework that emphasises sustainability, aesthetics, and inclusion. Sustainability aligns with the principles of regenerative design and circular economy, aiming to restore rather than merely sustain ecosystems^{88 89}. This regenerative mindset encourages buildings and public spaces to act as ecological assets rather than energy liabilities.

Aesthetics in the NEB context transcends ornamentation to embody harmony between human experience and the natural environment. It champions a sensory and emotional dimension of sustainability that promotes meaning, belonging, and beauty in daily life⁹⁰. Inclusive design principles ensure that these benefits are accessible to all social groups, embedding care, diversity, and co-creation into spatial and cultural innovation⁹¹.

Dimension	Core Principles	Policy and Research Linkages	Illustrative Examples / EU Frameworks
1. Sustainability	Promotes regenerative, circular, and low-carbon design; aligns with the European Green Deal and biodiversity protection.	European Green Deal; EU Circular Economy Action Plan; Level(s) Framework for Sustainable Buildings.	Adaptive reuse of existing buildings; bio-based materials; energy-positive architecture.
2. Aesthetics	Reframes beauty as a driver of sustainability and wellbeing, emphasising sensory experience, atmosphere, and emotional connection to place.	Davos Declaration; European Quality Principles for EU-Funded Interventions, Neuroscience of Aesthetic Experience ⁹² .	NEB Prizes and showcases celebrating “beautiful, sustainable, together” design ethos.
3. Inclusion	Ensures accessibility, diversity, and participation in design and governance; champions the ethics of care and belonging.	Arnstein’s Ladder of Participation ⁹³ Multi-level Governance; EU Social Pillar; Inclusive Healthy Places ⁹⁴ .	Community co-design labs; participatory urban commons; inclusive public spaces.

⁸⁷ Pallasmaa, J. (2019). Design for sensory reality: from visuality to existential experience. *Architectural Design*, 89(6), 22–27. <https://doi.org/10.1002/ad.2466>, and Marković, S. (2012). Components of aesthetic experience. *i-Perception*, 3(1), 1–17. <https://doi.org/10.1068/i0450aap>

⁸⁸ Brown, M., Haselsteiner, E., Apró, D., Kopeva, D., Luca, E., Pulkkinen, K., & Rizvanolli, B. V. (Eds.). (2018). *Sustainability, restorative to regenerative*. BIS Publishers.

⁸⁹ Gibbons, L. V. (2020). Regenerative – the new sustainable? *Sustainability*, 12(13), 5483. <https://doi.org/10.3390/su12135483>

⁹⁰ Starr, G. G. (2015). *Feeling Beauty: The Neuroscience of Aesthetic Experience*. MIT Press. And Santayana, G. (1896). *The Sense of Beauty*. New York: Charles Scribner’s Sons.

⁹¹ Fisher, B., & Tronto, J. (1990). Towards a feminist theory of care. In E. Abel & M. Nelson (Eds.), *Circles of Care*. Albany, NY: SUNY Press.

⁹² Starr, G. G. (2015). *Feeling Beauty: The Neuroscience of Aesthetic Experience*. MIT Press.

⁹³ Arnstein, S. R. (1969). A ladder of citizen participation. *Journal of the American Institute of Planners*, 35(4), 216–224. <https://www.citizenshandbook.org/arnsteinsladder.html>

⁹⁴ Gardner, J., Marpillero-Colomina, A., & Begault, L. (2019). *Inclusive Healthy Places: A Guide to Inclusion and Health in Public Space*. Gehl Institute.

Dimension	Core Principles	Policy and Research Linkages	Illustrative Examples / EU Frameworks
4. Transdisciplinarity	Fuses art, science, and technology through collaborative innovation ecosystems; nurtures a holistic design culture.	Horizon Europe and NEB Nexus Report ⁹⁵ , Interdisciplinarity ⁹⁶ ;) Futures on Transdisciplinarity.	NEB Labs; cross-sectoral design clusters; university-industry creative partnerships.
5. Cultural Regeneration	Revitalises heritage and identity through creative reuse, adaptive design, and cultural participation.	European Framework for Action on Cultural Heritage; Cultural Heritage in Action; Rural-Urban Framework & 51N4E ⁹⁷ .	Heritage restoration through sustainable materials and local craftsmanship.
6. Governance Innovation	Encourages co-creation, decentralised decision-making, and citizen-led transformation; links architecture with social justice.	European Green Deal; NEB Community Charter; Transdisciplinary Innovation Ecosystems.	Participatory foresight and co-creation within regional innovation strategies.
7. Territorial Cohesion	Connects rural and urban design narratives; promotes balanced development through cultural and ecological linkages.	Long-Term Vision for Rural Areas (LTVRA); Territorial Agenda 2030; Cohesion Policy 2021–2027.	Creative hubs in small towns; cultural tourism routes; NEB Rural–Urban pilot actions.

Table 9: NEB summary Table

The NEB operates as both a policy framework and a cultural movement that integrates aesthetics, inclusivity, and sustainability. It redefines innovation through participatory design and interdisciplinarity, enabling Europe’s transition toward regenerative, cohesive, and human-centred environments.

Participation, Co-creation, and Social Inclusion

At the heart of the NEB lies participatory governance, where citizens are not merely recipients of design but active co-creators of place^{98 99}. This ethos reflects a broader evolution in European policy towards inclusive, multi-level governance¹⁰⁰. Tools such as the NEB Prizes and the NEB Lab enable communities, researchers, and municipalities to test, scale, and showcase innovative solutions that merge cultural expression with social innovation¹⁰¹.

Social inclusion within the NEB framework is conceptualised as both process and outcome — fostering wellbeing, empowerment, and access to dignified living environments. It builds on humanistic psychology theories of belonging and self-transcendence¹⁰², positioning beauty and care as vital conditions for resilience and civic

⁹⁵ Apostel, G., Berger, A., Briggs, A., & Michaud, G. (1972). *Interdisciplinarity: Problems of teaching and research in universities*. Paris: OECD Publications.

European Commission. (2022). *Horizon Europe and New European Bauhaus Nexus Report*. Luxembourg: Publications Office.

⁹⁶ Darbellay, F. (2015). Rethinking inter- and transdisciplinarity. *Futures*, 65, 163–174.

<https://doi.org/10.1016/j.futures.2014.10.009>

⁹⁷ [About - 51N4E](#)

⁹⁸ Arnstein, S. R. (1969). A ladder of citizen participation. *Journal of the American Institute of Planners*, 35(4), 216–224.

<https://www.citizenshandbook.org/arnsteinsladder.html>

⁹⁹ Connor, D. M. (1988). A new ladder of citizen participation. *National Civic Review*, 77(3), 249–257.

<https://doi.org/10.1002/ncr.4100770309>

¹⁰⁰

¹⁰¹ European Commission. (2022). *Horizon Europe and New European Bauhaus Nexus Report*. Luxembourg: Publications Office.

¹⁰² [How Maslow's Hierarchy of Needs Explains Human Motivation](#)

engagement. These notions resonate with the Ethic of Care tradition¹⁰³, affirming that sustainable places must be empathetic as well as efficient.

Cultural and Governance Dimensions

The NEB complements existing EU policy frameworks, notably the Davos Declaration (2018) on high-quality Baukultur and the European Quality Principles for EU-funded Interventions¹⁰⁴. Together, these reinforce a shared European commitment to culture as a driver of sustainability and cohesion. By integrating architectural quality, participatory governance, and cultural heritage conservation, the NEB fosters a holistic approach to spatial justice and identity.

Governance of the NEB aligns with the OECD call for transdisciplinary innovation ecosystems¹⁰⁵, where knowledge flows across sectors and scales. The initiative’s emphasis on open collaboration and experimentation exemplifies transformative governance in practice. It invites partnerships between academia, industry, civil society, and creative sectors to co-produce adaptive and inclusive solutions that are embedded in local contexts.

Towards Aesthetic and Territorial Innovation

The NEB promotes “a new aesthetics of sustainability,” reinterpreting beauty as a collective good grounded in ecological consciousness and social justice¹⁰⁶. By doing so, it expands the vocabulary of sustainability from efficiency and carbon reduction to emotional connection and human flourishing. Pilot projects across Europe demonstrate how NEB principles translate into tangible change — from adaptive reuse of buildings and low-carbon materials to inclusive urban commons and participatory art spaces.

In territorial terms, the NEB reinforces rural–urban cohesion by encouraging design thinking that transcends disciplinary and spatial divides. It supports small towns and rural communities in developing creative economies, cultural tourism, and resilient infrastructure that reflect local identity while contributing to the broader European narrative of sustainability and inclusion¹⁰⁷. This convergence of place-based creativity, equity, and aesthetics positions the NEB as a cultural catalyst for integrated regional development, resonating strongly with the PoliRuralPlus vision of co-designed, inclusive, and regenerative territories.

3.6.3 Conclusion

Nature-Based Solutions and the New European Bauhaus represent complementary frameworks that connect ecology, economy, and culture in a shared European vision. For rural-urban regions, they offer pathways toward climate resilience, aesthetic renewal, and social innovation. Through participatory foresight, digital tools, and stakeholder co-creation, PoliRuralPlus transforms these concepts into actionable strategies—demonstrating how European initiatives can become engines of local regeneration and symbols of a more connected, inclusive, and beautiful Europe.

Nature-Based Solutions represent a paradigm shift in how territorial resilience is conceptualised and operationalised in Europe. By working with rather than against natural systems, NBS enable multi-benefit approaches to climate adaptation, biodiversity restoration, and human wellbeing. The EU’s leadership in promoting

¹⁰³ Fisher, B., & Tronto, J. (1990). Towards a feminist theory of care. In E. Abel & M. Nelson (Eds.), *Circles of Care*. Albany, NY: SUNY Press.

¹⁰⁴ Dimitrova, E., et al. (2020). *European Quality Principles for EU-funded Interventions with Potential Impact upon Cultural Heritage*. Publications Office of the EU.

¹⁰⁵ [Reconfiguring scientific co-operation in a changing geopolitical environment: OECD Science, Technology and Innovation Outlook 2025 | OECD](#)

¹⁰⁶ European Commission (2021). Nature-Based Solutions for Climate Resilience and Green Recovery.

¹⁰⁷ [About - 51N4E](#)



NBS through Horizon projects and policy frameworks underscores their transformative potential. Embedding NBS within rural–urban development strategies, as promoted by PoliRuralPlus, can therefore enhance regional sustainability, foster innovation, and ensure a more adaptive, cohesive, and resilient Europe.

The New European Bauhaus redefines sustainability as an aesthetic, social, and cultural project — one that restores the human dimension to ecological transformation. Through its commitment to inclusivity, transdisciplinarity, and design excellence, it builds bridges between art and science, tradition and innovation, individual and collective wellbeing. As both a movement and a methodology, the NEB represents a European renaissance of place-making: creating spaces that are not only energy-efficient but also meaningful, humane, and beautiful.

PoliRuralPlus operationalises these initiatives through:

1. **Foresight-informed planning:** integrating NEB and NBS principles into regional visions, scenarios, and Key Performance Indicators (KPIs).
2. **AI-enabled decision support:** using the **MAATool** and the **PoliRuralPlus Platform** to map attractiveness, ecosystem value, and spatial aesthetics for evidence-based governance.
3. **Cross-pilot learning:** sharing NBS/NEB-inspired practices between regions (e.g., Vidzeme’s eco-resilience and Mallusjoki’s cultural ecosystem).
4. **Governance innovation:** embedding NEB values of inclusivity and co-creation in Multi-Actor Platforms and Local Action Groups, bridging policy silos and empowering local stakeholders.

In this way, PoliRuralPlus contributes to the EU’s broader transformation agenda—where rural and urban areas collaborate as laboratories of sustainability, creativity, and wellbeing.

4. Regional Action Plans – Pilots’ Experience & Learning

The nine PoliRuralPlus pilots (Ireland, Slovakia, Greece, Italy, Finland, Czechia-Bavaria border, Spain, Latvia, and Malta) serve as living laboratories for integrated rural–urban innovation. Through multi-actor participation, foresight, and digital tools, they test approaches to strengthen governance, enhance resilience, and align local actions with EU strategic frameworks such as the European Green Deal, the Long-Term Vision for Rural Areas (LTVRA), and the New European Bauhaus (NEB).

During Period 1 (Jan 2024 – Jun 2025), pilots concentrated on stakeholder engagement, needs analysis, and preliminary action plan development. This phase emphasised participatory foresight and the Multi-Actor Approach Tool (MAATool) to map regional priorities and co-design Regional Action Plans (RAPs). Period 2 (Jul 2025 – Dec 2026) focuses on implementation, following a comprehensive RAP review completed in November 2025 under WP5. The results synthesised here draw from those revised RAPs and subsequent WP2 comparative analyses.

Now in Period 2, the project focuses on stakeholder priorities and implementation. This process began with a major review and revision of all pilots’ RAPs, which was completed in mid November 2025 in WP5. The analysis reported is based on those revised RAPs.

The updated RAPs are summarised as follows:

Region / Pilot	Key Issue(s)	Vision	Action Plan (Core Areas)	Expected Outcomes	Financing Options	Main Rural–Urban Linkages	Status (Nov 2025)
County Monaghan (Ireland)	Circular economy underdeveloped; weak SME collaboration	Build a regional circular bioeconomy hub promoting green entrepreneurship	CE business incubator, SME training, local supply-chain mapping	Stronger local CE clusters, green jobs	LEADER, ERDF, Horizon Europe	Links rural areas with nearby towns for jobs, services, & education.	Active implementation
Apulia (Italy)	Capacity building for economic-social development, rural marginalization	Climate-smart rural transformation integrating SFSC innovation systems	Innovative food systems, capacity building, cultural digitalization	Skilled workers, digitalisation, new rural jobs	ESIF, Interreg, CAP	Builds short food supply chains between rural farms & cities.	Implementation phase
Mallusjoki (Finland)	Declining vitality of rural events sector	Build a Rural Event Industry Ecosystem	Multi-actor panel, Smart Village integration	Local governance, event-led economy	LEADER, Smart Villages	Links rural culture & events with nearby cities (Lahti, Helsinki).	Ongoing
Czech–Bavarian Border	Weak cross-border coordination	Develop a Cross-Border Innovation Hub (Klatovy)	Governance model, shared digital tools	Joint projects, start-ups	Interreg Bavaria–Czechia	Cross-border ties between Czech rural areas & Bavarian urban hubs.	Implementation in progress
Spain (Andalusia / Castilla)	Low digital literacy, depopulation	Create smart rural territories integrating digital services	Broadband expansion, digital training	Digital connectivity, job creation	Digital Europe, ERDF	Integrates rural tourism & services with urban economic systems.	Early implementation

Region / Pilot	Key Issue(s)	Vision	Action Plan (Core Areas)	Expected Outcomes	Financing Options	Main Rural–Urban Linkages	Status (Nov 2025)
Vidzeme (Latvia)	Population decline, governance reform	Become digitally connected and inclusive	Development monitoring system, citizen engagement	Improved transparency	ERDF, ESF+, Horizon	Strengthens rural–urban cooperation for innovation & mobility.	Advanced
Malta	Water scarcity, digital gap	Build smart, resilient rural communities	MAYA Ideathon, hydroponics training	Youth participation, innovation culture	ESF+, Horizon Europe	Connects Gozo’s rural areas with Malta’s urban innovation centres.	Implementation started

Table 8: Summary of the Current RAPs

All 9 pilots foster economic, digital, and governance linkages between rural and urban areas — through Smart Villages, agri-food chains, cross-border innovation, and digital cooperation. These integrated linkages align with the EU Long-Term Vision for Rural Areas (LTVRA) and the European Green Deal, demonstrating how each pilot uses localized actions to advance territorial cohesion and balanced rural–urban development across Europe.

The 2025 RAP updates show that PoliRuralPlus pilots are evolving from experimentation to institutional transformation. Their greatest strength lies in adaptive governance and social innovation, but sustainability depends on mainstreaming these practices into long-term policy and finance systems. The following are the shared thematic focus across all pilots.

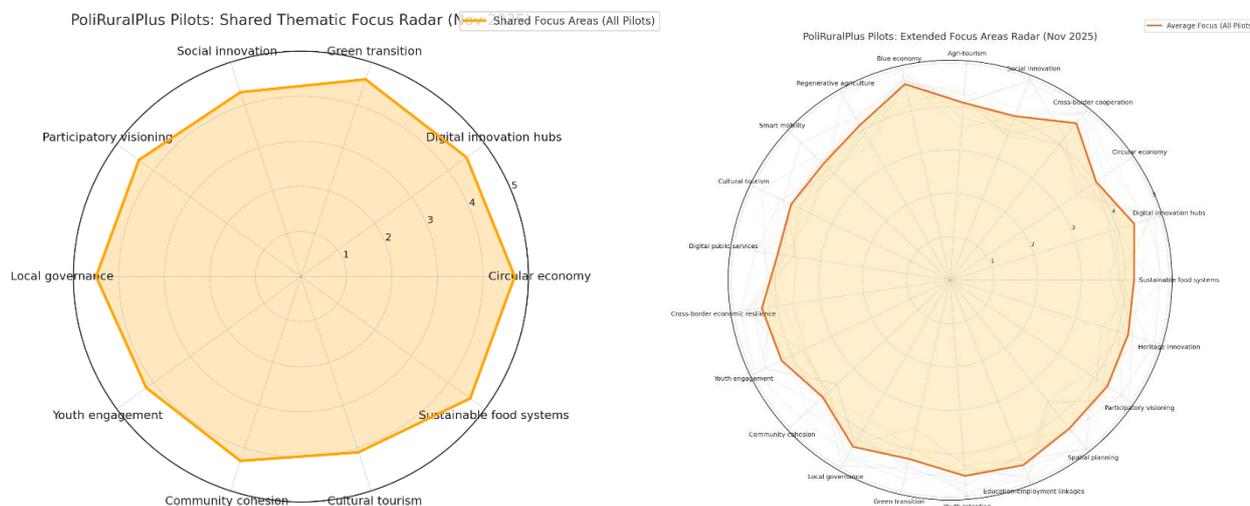


Figure 8: PoliRuralPlus Thematic Focus Radar (Nov 2025)

This radar highlights how the pilots collectively serve as complementary demonstrators for integrated EU rural-urban policy in action.

The left-hand PoliRuralPlus Shared Thematic Focus Radar (Nov 2025) — a clearer visualization showing the ten cross-pilot priority areas where all nine pilots converge.

- ◆ Highest emphasis:
 - Circular economy and sustainable food systems — central to economic and environmental resilience.
 - Digital innovation hubs and green transition — enablers of transformation.
- ◆ Strong social and governance focus:

- Participatory visioning, local governance, youth engagement, and community cohesion — the social fabric supporting rural-urban integration.
- ◆ Emerging shared domains:
 - Cultural tourism — linking place identity and NEB principles with rural regeneration.

The following figure shows the PoliRuralPlus Thematic Focus Radar (Nov 2025) — it visualises how each of the nine pilots prioritises the five main thematic domains: Digital Transformation, Circular Economy, Governance Innovation, Climate & Green Transition, Cultural & Social Inclusion

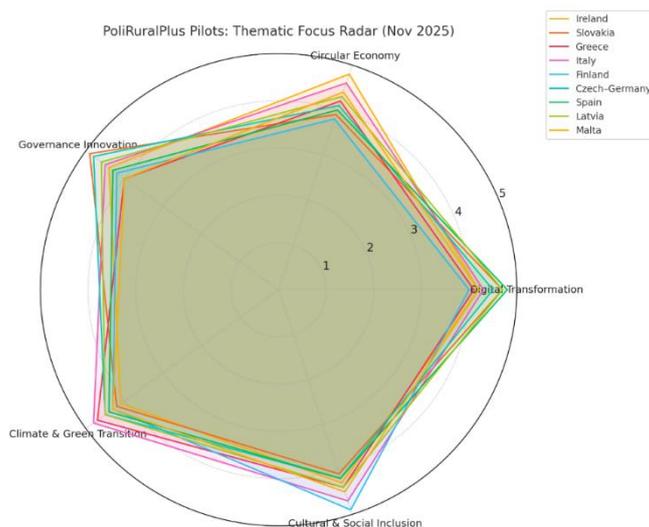


Figure 9: PoliRuralPlus Thematic Focus Radar (Nov 2025)

It can be seen, for example, that Italy and Latvia have the most balanced, high-level focus across all themes, while Slovakia and Czechia-Bavaria emphasise governance innovation, and Finland and Malta show strong attention to cultural and social inclusion.

The following figure is the PoliRuralPlus Alignment Radar (Nov 2025) showing how each of the nine pilots aligns with the five major EU policy frameworks:

- Italy and Latvia show the highest alignment across all frameworks — especially with the Green Deal, LTVRA, and NEB.
- Slovakia and Czechia-Bavaria stand out in governance and foresight alignment (LTVRA).
- Spain and Ireland score strongly in Digital Europe due to Smart Territory and Circular Hub initiatives.
- Malta and Finland perform well on NEB and cohesion-oriented goals, linking innovation with inclusion.

Figure 11: Word Cloud – PoliRuralPlus RAPs (All 9 Pilots, Nov 2025)

It visually highlights the dominant themes across pilots — notably “rural,” “innovation,” “local,” “support,” “stakeholder,” “sustainable,” and “digital.”

The themes of each individual pilot are as follows:



Figure 12: Word-cloud of PoliRuralPlus pilots’ RAPs

These emphasize the strong focus on **community-led innovation, governance participation, sustainability, and digital transformation** as key drivers of rural–urban linkages.

They visually highlight each region’s main thematic priorities:

- **Ireland:** Circular economy, SME support, and rural innovation.
- **Slovakia:** Governance, foresight, and stakeholder coordination.
- **Greece:** Sustainability, digitalisation, and regional cooperation.
- **Italy:** Bioeconomy, supply chains, and NEB-linked cultural innovation.
- **Finland:** Community-led initiatives and event-driven engagement.
- **Czechia-Bavaria:** Cross-border innovation and regional resilience.
- **Spain:** Smart territories and digital public services.
- **Latvia:** Data governance, digital monitoring, and policy alignment.
- **Malta:** Youth innovation, digital transition, and sustainable agriculture.

The following is a **comparative summary matrix** summarizing and comparing the nine pilots by their dominant focus areas in Period 2 (Nov 2025). It highlights each region’s relative emphasis on digital innovation, circular economy, governance, cultural inclusion, green transition, and youth development.

Pilot	Digital Innovation	Circular Economy	Governance & Foresight
Ireland	High	High	Medium
Slovakia	High	Medium	High
Greece	Medium	Medium	Medium
Italy	Medium	Medium	High
Finland	Medium	Low	Medium
Czechia-Bavaria	High	Medium	High

Pilot	Digital Innovation	Circular Economy	Governance & Foresight
Latvia	High	Medium	High
Spain	High	Medium	Medium
Malta	High	High	Medium
Overall	High	Medium	Medium

Table 9: PoliRuralPlus Pilot Thematic Focus Matrix

Cross-Pilot Observations

- **Shared priorities:** Digitalisation, green transition, circular economy, social inclusion, and governance innovation.
- **Common barriers:** Fragmented governance, short-term financing, and stakeholder fatigue.
- **Emerging solutions:** Blended financing (EU + local), foresight-based planning, and digital participatory governance.
- **Status:** All nine RAPs are now in or approaching **Phase II implementation and monitoring**, feeding evaluation data into the **PoliRuralPlus Knowledge Space**.

The following figure is the PoliRuralPlus Alignment Radar (Nov 2025) showing how the shared focus areas across all nine pilots align with major EU policy frameworks:

- Highest alignment: with the Green Deal, LTVRA, and Cohesion Policy, reflecting strong emphasis on sustainability, territorial balance, and inclusivity.
- Strong support: for Digital Europe, underpinning smart territories and digital public services.
- Consistent NEB linkage: across cultural and spatial dimensions, embedding aesthetics and community identity in transition efforts.

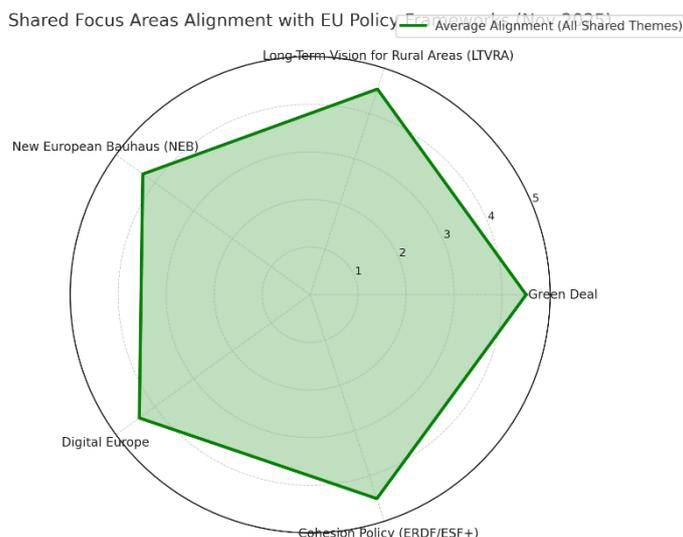


Figure 13: PoliRuralPlus Alignment Radar (Nov 2025)

From this, the Cross-Pilot Synthesis is:

- **Strengths:** Digitalisation, foresight integration, and stakeholder engagement are strong across all pilots. The NEB and Green Deal frameworks provide a shared strategic language.
- **Weaknesses:** Governance fragmentation, funding dependency, and digital skills shortages remain recurring bottlenecks.
- **Recommendations:**
 1. Institutionalise foresight and participatory mechanisms at national level.
 2. Develop multi-source financing ecosystems linking CAP, RRF, and private funds.
 3. Embed NEB principles and data-driven tools into all rural-urban planning processes.
 4. Strengthen regional cooperation and peer learning to scale innovation.

4.2 Review of the Updated RAPs

The revised RAPs illustrate maturity in planning, focusing on **coherence, usability, and impact**. Each pilot's review highlights progress, gaps, and recommended actions.

Based on the updated Regional Action Plans (RAPs, November 2025), the following table summarises the strengths, weaknesses/bottlenecks, and key recommendations for each of the nine PoliRuralPlus pilot regions. These findings are drawn directly from the updated RAP implementation sections, foresight reviews, and stakeholder consultations documented in the WP5 deliverables.

Pilot / Country	Strengths	Weaknesses / Bottlenecks	Key Recommendations
Ireland (County Monaghan)	<ul style="list-style-type: none"> Strong network of SMEs and local authorities. Early success with Circular Economy Hub and local foresight adoption. High community participation and alignment with Green Deal. 	<ul style="list-style-type: none"> Limited access to national co-financing. Risk of over-reliance on EU grants. Gaps in linking circular bioeconomy with youth employment. 	<ul style="list-style-type: none"> Diversify funding (EIB, private finance, LEADER+). Create youth green entrepreneurship scheme. Mainstream CE Hub outputs into county development strategy.
Slovakia	<ul style="list-style-type: none"> Institutionalisation of foresight (Rural-Urban Dialogue 2040). Strong digital and participatory governance tools (MAATool). Engagement with multiple ministries. 	<ul style="list-style-type: none"> Policy fragmentation and slow administrative reform. Uneven rural broadband coverage. Limited pilot-level autonomy for implementation 	<ul style="list-style-type: none"> Embed foresight cycle into national CAP governance. Strengthen cross-ministry coordination body. Institutionalize Vision 2040 and its legislative anchoring.
Central Greece	<ul style="list-style-type: none"> Integration of climate resilience, agri-tech, and youth entrepreneurship. Strong stakeholder partnerships (farmers, universities). Regional brand in sustainable agritourism emerging. 	<ul style="list-style-type: none"> Water scarcity remains critical risk. Weak SME financing and skills gaps. Bureaucratic delays in regional approvals. 	<ul style="list-style-type: none"> Develop regional green fund for SMEs. Pilot NEB-inspired eco-tourism hubs. Scale precision agriculture demonstration farms.
Apulia (Italy)	<ul style="list-style-type: none"> Deep integration of NEB principles (culture, landscape). Successful cultural and social linkages. Mature foresight capacity Region with strong agricultural vocation to support SFSC innovation 	<ul style="list-style-type: none"> Coordination gaps between municipalities. Uneven data for monitoring climate and energy KPIs. Need for a stronger youth retention strategy. 	<ul style="list-style-type: none"> Establish NEB-based regional coordination office. Develop a data platform for regional sustainability metrics. Incentivise youth-led start-ups in cultural innovation.
Mallusjoki (Finland)	<ul style="list-style-type: none"> Excellent example of community-led innovation (Rural Event Industry Ecosystem). Strong civic networks and volunteer base. Integration of Smart Village model. 	<ul style="list-style-type: none"> Limited institutional capacity. Small scale limits investment attraction. Reliance on voluntary participation. 	<ul style="list-style-type: none"> Formalise ecosystem governance model. Establish micro-grant scheme for rural creative industries. Connect events to regional tourism and NEB platforms.
Czech–Bavarian Border Region	<ul style="list-style-type: none"> Cross-border innovation hub (Klatovy) advancing well. Strong university partnerships and digital tool integration (AI for agriculture). Effective foresight and roadmap to 2040. 	<ul style="list-style-type: none"> Administrative asymmetry between Czech and Bavarian sides. Complex funding coordination across jurisdictions. 	<ul style="list-style-type: none"> Create joint funding coordination office. Maintain bilingual governance platform. Scale AI pilot tools to regional SMEs.

Pilot / Country	Strengths	Weaknesses / Bottlenecks	Key Recommendations
		<ul style="list-style-type: none"> Language and procedural barriers. 	
Spain (Andalusia / Castilla)	<ul style="list-style-type: none"> Robust integration of Smart Territories and Digitalisation. Solid alignment with national rural innovation policy. Broad multi-actor participation (youth, municipalities). 	<ul style="list-style-type: none"> Persistent rural depopulation. Digital training gaps in remote areas. Limited synergy between tourism and digital sectors. 	<ul style="list-style-type: none"> Strengthen digital entrepreneurship clusters. Link broadband rollout to tourism and SME revitalisation. Create incentives for young professionals to stay.
Vidzeme (Latvia)	<ul style="list-style-type: none"> Leading example of digital governance and monitoring (PATHWATCH platform). Strong policy alignment (Green Deal, Digital Decade, NEB). Transparent data-driven planning. 	<ul style="list-style-type: none"> Heavy reliance on project-based funding. Capacity gaps in municipal data management. Lack of long-term funding for digital system maintenance. 	<ul style="list-style-type: none"> Integrate PATHWATCH into national budget. Build municipal data literacy programs. Share model through Baltic cooperation network.
Malta	<ul style="list-style-type: none"> Youth innovation (MAYA Ideathon) and circular farming initiatives. Effective multi-actor engagement and small-scale piloting. Strong NEB-inspired sustainability narrative. 	<ul style="list-style-type: none"> Resource constraints (land, water, funding). Limited institutional coordination for scaling. Small market size hinders investment. 	<ul style="list-style-type: none"> Develop national framework for micro-pilot replication. Strengthen partnerships with educational institutions. Embed rural innovation hubs in Gozo and other islands.

Table 10: Strengths, Weaknesses, and Recommendations by Pilot (Nov 2025)

Cross-Pilot Synthesis

- Strengths:**
 - Robust foresight integration and digitalisation.
 - Broad stakeholder engagement.
 - Clear alignment with Green Deal and NEB frameworks.
- Weaknesses:**
 - Governance fragmentation, funding dependency, uneven digital capacity.
- Recommendations:**
 - Institutionalise foresight at national and regional levels.
 - Develop blended finance models (CAP + RRF + private).
 - Mainstream NEB and data-driven tools in rural-urban policy.
 - Promote cross-pilot peer learning and knowledge sharing.

These learnings collectively show how the PoliRuralPlus initiative is maturing from planning to tangible action, while keeping inclusive participation and strategic alignment at its core.

4.3 Country Main Focus Areas Period 2 Priorities

The following is a summary table based on the revised RAPs and Period 2 (implementation) priorities for each of the nine PoliRuralPlus pilot regions (as of Nov 2025):

Here's the expanded table including expected outcomes and KPIs for Period 2 (Nov 2025–Dec 2026):

Country / Region	Main Focus Areas (Period 1)	Period 2 Priorities (Implementation)	Expected Outcomes / KPIs
Ireland (County Monaghan)	Circular bioeconomy, SME collaboration, rural innovation	Establish Circular Economy Hub; train SMEs in green transition; integrate foresight results into county policy; leverage EU Green Deal funding mechanisms.	≥50 SMEs trained; ≥3 new circular business models; 10% waste reduction; policy alignment with regional climate plan.

Country / Region	Main Focus Areas (Period 1)	Period 2 Priorities (Implementation)	Expected Outcomes / KPIs
Slovakia	Governance coherence, policy foresight, digital engagement	Launch “Rural-Urban Dialogue 2040” platform nationally; institutionalise MAATool use; align ministries on integrated rural policy and promote Vision 2040 on Rural Pact platform.	National foresight network established; 5 ministries engaged; 80% pilot stakeholder retention; 3 inter-ministerial actions co-developed, Vision 2040 promoted on Rural Pact platform..
Greece (Central Greece)	Water scarcity, youth outmigration, agri-tourism	Deploy smart irrigation systems; create youth-led innovation labs; strengthen regional cooperation on green transition projects.	15% water use efficiency gain; 3 youth labs operational; ≥5 agri-tourism ventures supported; increased youth employment.
Italy (Apulia)	Capacity building, Food innovation systems, cultural heritage,	Implement NEB-inspired rural hubs combining food, tourism, and culture; establish regional circular economy clusters.	1 project plan (e.g. Operational Groups); 10 communities; 20.000 citizens; 2 funding instruments proposed to policy actors
Finland (Mallusjoki)	Rural event industry, community-led development, social innovation	Expand and conceptualise Rural Event Industry Ecosystem and engage ecosystem members into foresight implementation ; integrate Smart Village model; monitor KPIs on civic engagement.	1,000+ the ecosystem members ; 7+ community event innovation validations; identify key success factors for 15% rise in rural tourism; ≥80% satisfaction in customer and volunteer engagement surveys.
Czechia-Bavaria Border Region	Cross-border innovation, regional governance	Operationalise the Cross-Border Innovation Hub; implement pilot foresight projects; strengthen bi-national cooperation structures.	Cross-border Innovation Hub launched; 2 joint foresight studies; ≥3 funded joint projects; 10 start-ups supported.
Spain (Andalusia / Castilla)	Digitalisation, depopulation, rural SME revitalisation	Roll out digital training programs; expand broadband infrastructure; launch Smart Rural Territory initiatives linking local businesses and municipalities.	90% broadband coverage; 500 participants in digital upskilling; 20 new rural SMEs; population decline slowed in 3 municipalities.
Latvia (Vidzeme)	Data-driven governance, digital participation, sustainable economy	Integrate digital dashboards in regional planning; expand citizen foresight forums; align monitoring with LTVRA KPIs.	5 digital dashboards operational; 200+ citizens in foresight forums; annual progress reports linked to EU SDG metrics.
Malta	Circular economy, youth innovation, sustainable agriculture	Scale up hydroponics and composting initiatives; extend youth entrepreneurship programs (MAYA Ideathon); enhance digital learning for rural sustainability.	200 youth trained; 3 pilot hydroponic farms; 2 composting cooperatives formed; rural entrepreneurship index +20%.

Table 11: Summaries of the RAPs (Nov 25)

Theme	Pilots Involved	Shared Priorities / Actions
Circular Economy & Bioeconomy Transition	Ireland, Italy, Spain, Malta, Slovakia	Create regional Circular Hubs and green SME networks. Integrate waste valorisation, renewable energy, and eco-innovation. Promote circular procurement and industrial symbiosis. Develop financing instruments for circular initiatives (LEADER+, EAFRD).
Digital Transformation & Smart Territories	Latvia, Slovakia, Spain, Czechia, Bavaria, Malta	Establish Digital Innovation Hubs (DIHs) and Smart Village frameworks. Enhance broadband access and digital literacy. Use MAATool and Advisor for participatory governance. Integrate real-time monitoring and open data dashboards for policy tracking.

Theme	Pilots Involved	Shared Priorities / Actions
Governance & Innovation Multi-Actor Participation	Slovakia, Latvia, Ireland, Czechia, Bavaria, Finland	Institutionalise multi-actor platforms for policy co-creation. Align regional foresight with CAP and cohesion policies. Foster cross-ministerial coordination and participatory planning. Build hybrid governance models linking rural and urban authorities.
Climate & Green Transition	Italy, Greece, Spain, Finland	Deploy renewable energy cooperatives and energy efficiency pilots. Implement water management and smart irrigation projects. Integrate climate foresight into spatial planning. Apply NEB principles for sustainable, aesthetic spatial design.
Cultural Heritage & Innovation NEB	Italy, Finland, Malta, Greece, Latvia	Revitalize rural cultural assets for sustainable tourism and creative industries. Promote NEB-aligned rural design (“beautiful, sustainable, together”). Combine local heritage, arts, and renewable energy in regional hubs. Use digital storytelling to promote place identity.
Youth Empowerment & Education	Greece, Malta, Ireland, Finland	Create youth innovation labs and entrepreneurship incubators. Integrate foresight and digital literacy in schools. Promote intergenerational learning and job placement in green sectors. Support mobility and exchange programs to retain youth in rural areas.
Cross-Border & Interregional Cooperation	Czechia-Bavaria, Slovakia, Latvia, Italy	Establish Cross-Border Innovation Hubs (e.g., Klatovy). Develop joint foresight platforms and project pipelines. Coordinate financing via Interreg and Horizon Europe. Harmonize data and digital tools for regional interoperability.
Social Innovation & Community Cohesion	Finland, Ireland, Latvia, Spain	Encourage co-design of local services and social enterprises. Strengthen civic participation through foresight schools. Use community events as drivers of rural inclusion. Introduce local well-being indicators for monitoring.
Sustainable Food Systems & Agri-Tourism	Greece, Italy, Spain, Ireland	Develop Short Food Supply Chains (SFSCs) and regional branding. Promote agri-tourism linking farms, culture, and gastronomy. Establish local processing hubs and logistics for direct sales. Combine regenerative agriculture with rural tourism strategies.
Digital Public Services & Local Governance	Latvia, Slovakia, Malta	Expand e-governance and participatory planning via digital platforms. Connect citizens and local authorities through MAATool dashboards. Align service delivery with EU Digital Decade targets. Increase transparency and citizen-driven decision-making.

Table 12 Thematic Clusters

Cross-Pilot Synthesis

- The pilots collectively converge on three overarching transformation pillars:
 - Green and Circular Transition – sustainable production, bioeconomy, and resilience.
 - Digital and Participatory Governance – smart data, open innovation, and transparency.
 - Inclusive and Creative Rural Revitalisation – youth, culture, and local identity.

4.4 Connections to the New European Bauhaus (NEB)

The New European Bauhaus acts as both a design philosophy and a governance framework within PoliRuralPlus. Pilots embed its principles of sustainability, aesthetics, and inclusion through place-based design, participatory engagement, and creative reuse of cultural assets.

Pilot / Country	NEB Connections	How NEB Values Are Reflected
Czech–Bavarian Border	Strong NEB demonstration	Cross-border Innovation Hub merging culture, technology, and design

Pilot / Country	NEB Connections	How NEB Values Are Reflected
Mallusjoki (Finland)	Community-led NEB model	Renovation of Green Cultural Centre, sustainable event design
Apulia (Italy)	NEB lens for transformation	Social innovation & heritage co-design; NEB hubs
Vidzeme (Latvia)	Governance and design integration	Development monitoring for sustainable spatial planning
Malta	Place-based storytelling	Community storytelling and design thinking for tourism
Greece (Central Greece)	Aesthetic and ecological renewal	Smart irrigation and landscape restoration through NEB
Ireland (Monaghan)	Circular design thinking	CE Hub integrating sustainability and aesthetics
Spain (Andalusia/Castilla)	Smart & beautiful territories	Digital heritage revitalisation and creative architecture

Table 13 : Country NEB Connections

Cross-Pilot NEB Insights

- **NEB as a unifying narrative:** Pilots use NEB as a cultural bridge linking sustainability, aesthetics, and inclusion.
- **Spatial and aesthetic quality:** Focus on rural regeneration through design and reuse of heritage spaces.
- **Social inclusion through design:** Participatory foresight and community co-design strengthen democracy and belonging.
- **Innovation in governance:** NEB principles are operationalised in digital tools and foresight cycles, turning design into governance.

The PoliRuralPlus pilots demonstrate multiple connections to the **New European Bauhaus (NEB) Initiative**, which promotes sustainability, aesthetics, and inclusion in territorial and community development. Based on the revised RAPs from November 2025, here are the key links:

Sustainability (Green Deal & Circular Innovation)

Several pilots are aligning closely with NEB's environmental goals:

- **Ireland** is testing circular economy models in rural food systems, emphasizing **waste reduction**, **short supply chains**, and **climate-smart agriculture**.
- **Italy** and **Finland** are integrating **nature-based solutions** and **smart energy use** into rural development.
- **Greece** and **Malta** are promoting **blue and green economy** strategies within coastal and rural landscapes.

Aesthetics (Quality of Experience & Place)

NEB emphasizes creating **beautiful, livable environments**. Pilots are embracing this through:

- **Spatial design and regeneration** (e.g., **Malta** focuses on transforming underused spaces into cultural hubs).
- **Creative industries and tourism** (**Finland** and **Spain**) are promoted not just economically but as a means of shaping attractive rural-urban spaces.
- **Italy's** approach to regenerative agriculture includes **aesthetic landscape revitalization** to enhance tourism and community pride.

Inclusion (Co-creation & Participatory Design)

Most directly tied to NEB principles is the use of participatory, inclusive methods:

- All pilots used **foresight**, **MAATool**, and **multi-actor engagement** to co-design their strategies.



- Many address **vulnerable or underserved groups** (e.g., **youth in Latvia, low-income households in Slovakia, or migrant inclusion in Spain**).
- **NEB’s interdisciplinary vision** is reflected in the cross-sector collaboration found in all pilots—blending social, economic, ecological, and design perspectives.

In summary, the **PoliRuralPlus pilots are strongly aligned with the NEB initiative** through their integration of sustainable practices, co-designed spatial improvements, and inclusive stakeholder engagement processes. These elements are explicitly referenced as guiding values in the revised RAPs.

PoliRuralPlus pilots align strongly with NEB principles of sustainability, aesthetics, and inclusion:

- **Sustainability:** Pilots integrate bioeconomy, circular economy, clean energy, agroecology, and nature-based solutions, resonating with NEB’s environmental goals.
- **Aesthetics & cultural value:** Several pilots emphasize cultural heritage and creative industries (e.g., Mallusjoki’s rural events ecosystem; Vidzeme’s cultural heritage and identity; Apulia’s agro-food traditions) as part of place-based attractiveness.
- **Inclusion & participation:** The Multi-Actor Approach (MAA) and stakeholder panels ensure quadruple helix participation (government, academia, business, civil society), reflecting NEB’s co-creation ethos.
- **Digital & spatial innovation:** The MAATool, Advisor, VULTURE foresight, and Jackdaw explainability tools provide participatory AI-driven design, making territorial strategies transparent, inclusive, and innovative.

4.5 Conclusion

The 2025 RAP updates reveal that PoliRuralPlus has moved from experimentation to institutional transformation. Its greatest strengths lie in adaptive governance, social innovation, and foresight-based participation. Sustainability now depends on embedding these practices in long-term policy, financing, and community development systems.

The New European Bauhaus reinforces this evolution by bringing beauty, inclusion, and sustainability into the heart of territorial innovation — transforming rural Europe into a cornerstone of a just and regenerative European future.

5. Key Learnings and Insights from the pilots

The key learnings and insights emerging from the nine PoliRuralPlus pilots (Ireland, Slovakia, Greece, Italy, Finland, Czechia-Bavaria border, Spain, Latvia, and Malta) reflect the transition from exploratory planning in Period 1 (Jan 2024–Jun 2025) to implementation and reflection in Period 2 (Jul 2025–Dec 2026). Drawing from the revised Regional Action Plans (RAPs, November 2025) and complementary WP5 analyses, this section synthesises lessons regarding governance, digital innovation, foresight, and multi-actor collaboration, which underpin the evolving model of integrated rural–urban development in Europe.

5.1 Cross-Pilot Learning

PoliRuralPlus pilots prove that integrated rural–urban development is achievable when local foresight, digital intelligence, and multi-level governance are harmonised. The key is not only *what* policies are implemented, but *how*—through cooperation, innovation, and shared ownership at every level.

Based on the revised Regional Action Plans (RAPs) provided for the PoliRuralPlus pilots, several cross-cutting **key learnings** have emerged that reflect both regional diversity and shared European challenges in achieving integrated rural–urban development. These learnings capture what pilots have discovered through participatory foresight, stakeholder engagement, and the iterative co-creation process.

Key Learnings from the PoliRuralPlus Pilots

1. Stakeholder Engagement is the Cornerstone of Success

Effective stakeholder engagement requires continuous dialogue, clear incentives, and institutional mechanisms for participation, beyond one-off consultations.

2. Bridging Policy Gaps Requires Governance Innovation

Integration of rural and urban policy requires institutionalized coordination structures, shared budgets, and consistent alignment with EU, national, and regional frameworks.

3. Digitalization and Smart Transformation are Essential but Uneven

Digital transformation must go hand-in-hand with capacity-building and connectivity investment to ensure inclusivity and usability.

4. Empowering Local Leadership and Youth is a Key Enabler

Strengthening rural leadership through training, mentorship, and digital tools fosters ownership and innovation in rural governance.

5. Financial Sustainability Requires Blended and Innovative Mechanisms

RAPs underscore that existing funding mechanisms—mainly EU Structural Funds—are not always flexible or accessible for cross-sector initiatives.

Both Irish (Monaghan) and Czech–Bavarian pilots identified the need for new blended finance models, including community-based funds, green bonds, and cooperative investment platforms.

Lesson: Innovative financing (public–private partnerships, revolving funds, and digital finance) is crucial for scaling rural-urban integration measures.

6. Monitoring and Evaluation are Moving from Static to Dynamic

Data-driven evaluation promotes accountability, transparency, and adaptability—key for long-term sustainability of rural–urban strategies.

7. Co-creation Spaces Foster Innovation Across Regions

Territorial innovation ecosystems, when co-designed and networked, amplify learning and replication across EU regions.

8. Rural-Urban Cooperation Must Move Beyond Geography

Future rural-urban strategies must emphasize functional integration and mutual interdependence, not just territorial adjacency.

Synthesis and Strategic Implications for PoliRuralPlus across pilots, the RAPs collectively demonstrate that:

- **Digital foresight tools** (MAATool, PATHWATCH, Attractiveness Mapping) are redefining participatory governance.
- **Multi-Actor Approach (MAA)** ensures co-responsibility and sustained implementation.
- **Place-based innovation hubs** create practical pathways for scaling results beyond pilot boundaries.
- **Alignment with EU frameworks** (LTVRA, NEB, CAP, and Green Deal) ensures coherence and access to future funding.

Overall Learning:

PoliRuralPlus pilots prove that integrated rural–urban development is achievable when local foresight, digital intelligence, and multi-level governance are harmonised. The key is not only *what* policies are implemented, but *how*—through cooperation, innovation, and shared ownership at every level.

PoliRuralPlus pilots prove that integrated rural–urban development is achievable when local foresight, digital intelligence, and multi-level governance are harmonised. The key is not only *what* policies are implemented, but *how*—through cooperation, innovation, and shared ownership at every level.

The Key Learnings from the 9 PoliRuralPlus Pilots (Jan 2024–Nov 2025) are summarised in the following:

Insight Theme	Core Learning	Illustrative Evidence from Pilots
1. Multi-Actor Participation is a Transformative Tool	Genuine stakeholder engagement builds ownership and trust. Structured, recurring co-design events created continuity between planning and action.	Slovakia institutionalised its “Rural-Urban Dialogue 2040” process with over 250 stakeholders; Finland and Ireland embedded engagement loops through event-based communities and foresight schools.
2. Digital Tools Enhance Participation but Need Mediation	Tools like MAATool, Advisor, and JackDaw improved data accessibility and spatial foresight, but local facilitation remained essential for adoption.	Slovakia and Latvia reported increased inclusivity through national digital platforms, while Malta noted slower uptake without training support.
3. Foresight Bridges Policy and Practice	Scenario-based foresight fostered long-term thinking and helped align regional visions with EU frameworks (Green Deal, LTVRA, NEB).	All pilots used foresight outputs to reshape their RAPs; Slovakia’s “Vision 2040” and Greece’s climate foresight workshops are examples of foresight mainstreamed into governance.
4. Governance Integration is Emerging as a Core Enabler	Cross-sector alignment reduces duplication and strengthens rural-urban policy coherence.	Czech–Bavarian and Slovak pilots demonstrated multi-level governance mechanisms linking ministries, municipalities, and local actors. Ireland linked local enterprise policy with national green transition planning.
5. Circular Economy is Driving Rural Innovation	Transition to circular models was the most replicable and attractive innovation among pilots.	Italy’s Apulia region and Ireland’s Monaghan pilot showed SMEs adopting circular models through innovation hubs and training initiatives.
6. Social and Cultural Capital are Key Development Drivers	Cultural identity and local leadership were repeatedly cited as anchors of rural regeneration and sustainability.	Finland’s “Rural Event Industry Ecosystem” and Malta’s “MAYA Ideathon” confirmed that youth and cultural engagement fuel innovation and continuity.

Insight Theme	Core Learning	Illustrative Evidence from Pilots
7. Data-Driven Monitoring Builds Transparency	Integrating qualitative and quantitative evaluation increased accountability and informed adaptive management.	Italian RAP introduced cross-sector monitoring using institutional and open data; stakeholder feedback mechanisms were integrated into evaluation cycles.
8. Knowledge Exchange Across Borders Amplifies Impact	Peer learning across pilots accelerated the diffusion of effective methods.	Czech–Bavarian and Slovak pilots directly exchanged foresight models and financing frameworks, enhancing interoperability across borders.

Table 14: Key Learnings from the 9 PoliRuralPlus Pilots (Jan 2024–Nov 2025)

These results are illustrated summarised in the following PoliRuralPlus Pilot Performance Radar (Nov 2025) — it visualizes how each of the nine pilots performs across five key implementation dimensions: Stakeholder Engagement, Digital Tools Use, Foresight & Visioning, Financing Innovation and Rural–Urban Integration

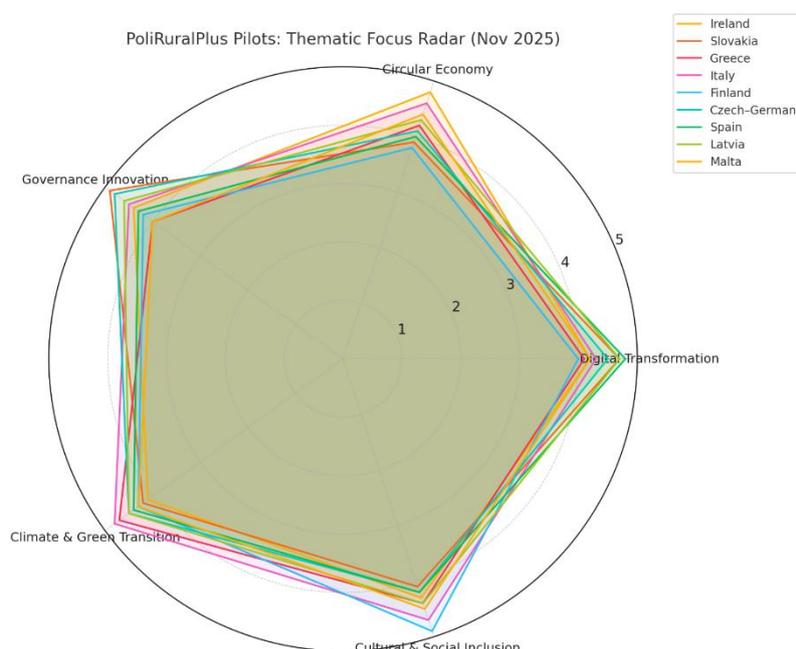


Figure 14: PoliRuralPlus Pilots: Thematic Focus Radar (Nov 2025)

This shows a strong overall engagement and foresight use across all pilots, with Italy and Slovakia performing particularly well in innovation and governance integration, while Finland and Ireland stand out in community engagement.

Italy and Latvia exhibit the highest overall alignment, especially with NEB and LTVRA, while Slovakia and Spain lead in digital transformation. The radar highlights balanced progress across pilots with opportunities for deeper integration of social and cultural dimensions in future implementation phases.

The following PoliRuralPlus Extended Focus Radar (Nov 2025) — illustrates how all nine pilots collectively engage across 21 strategic thematic areas.

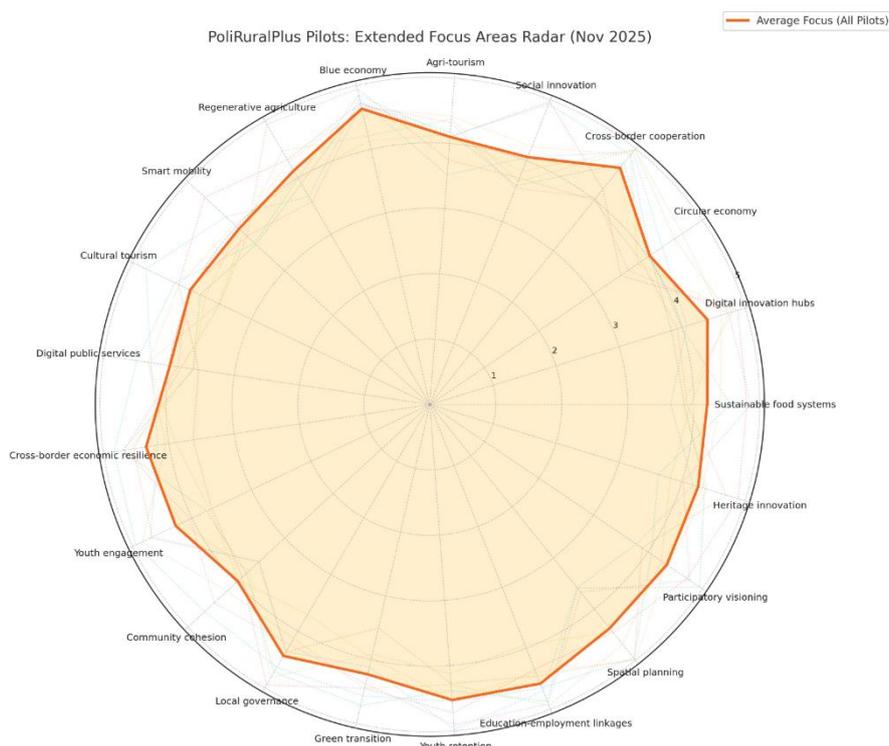


Figure 15: PoliRuralPlus Pilots: Extended Focus Radar (Nov 2025)

The following table summarizing the shared thematic areas, pilots involved, and key shared priorities/actions as identified in the updated Regional Action Plans (Nov 2025) for the nine PoliRuralPlus pilots:

Key Sector / Domain	Countries / Pilots Involved	Core Activities Strengthening Rural–Urban Linkages
Agri-Food & Short Food Supply Chains (SFSC)	Italy (Apulia), Greece, Finland, Ireland, Spain	Strengthening local food networks through SFSC models. Developing urban food hubs and processing centres. Promoting smart, sustainable agriculture and food innovation clusters. Creating digital platforms connecting rural producers with urban consumers.
Circular Economy & Green Industry	Ireland (Monaghan), Italy, Slovakia, Spain, Malta	Supporting circular economy SMEs and eco-innovation hubs. Promoting waste reduction, recycling, and eco-design initiatives. Expanding environmental services and green entrepreneurship. Encouraging joint urban-rural green business models.
Digital Innovation & Smart Villages/Territories	Slovakia, Latvia (Vidzeme), Spain, Czechia-Bavaria, Malta	Establishing Digital Innovation Hubs (DIHs) and Smart Village networks. Enhancing broadband and digital literacy programs. Developing participatory e-governance and foresight tools (MAATool, Advisor). Using AI for spatial analysis and community engagement.
Cultural, Creative & Event Industries	Finland (Mallusjoki), Italy, Malta, Greece	Developing “Rural Event Industry Ecosystems” to connect local and urban creatives. Restoring heritage buildings for co-working and cultural events. Promoting place-based tourism and NEB-inspired community hubs. Leveraging digital storytelling and cultural entrepreneurship.
Energy & Climate Transition	Italy, Greece, Spain, Finland	Deploying renewable energy cooperatives and smart irrigation systems. Promoting low-carbon mobility and rural energy communities. Integrating NEB and Green Deal actions into territorial planning. Building resilience through circular water and waste management.
Governance & Multi-Actor Participation	Slovakia, Latvia, Czechia-Bavaria, Ireland, Finland	Institutionalising stakeholder dialogue via multi-actor clusters and rural innovation councils. Implementing foresight-based decision-making (MAATool, JackDaw). Using hybrid governance (top-down + bottom-up) for

Key Sector / Domain	Countries / Pilots Involved	Core Activities Strengthening Rural–Urban Linkages
		co-creation. Aligning local and national strategies through participatory processes.
Mobility & Infrastructure	Slovakia, Czechia-Bavaria, Spain	Enhancing transport networks and smart logistics connecting rural and urban markets. Promoting rural-urban commuting and teleworking models. Integrating mobility into Smart Territory frameworks.
Youth, Education & Skills	Greece, Malta, Ireland, Finland	Running rural innovation labs and Ideathons (e.g. Malta’s MAYA). Establishing vocational training and lifelong learning hubs. Promoting digital and entrepreneurial skills to retain youth and attract talent.
Tourism & Territorial Branding	Finland, Italy, Greece, Spain	Promoting sustainable and experiential tourism. Building local brand identities (e.g. food, craft, culture). Creating cross-regional marketing networks linking rural and

Table 15: Shared thematic areas

The following is a consolidated table summarising themes, countries involved, and shared priorities/actions across the nine PoliRuralPlus pilots (based on the revised RAPs, WP5 updates, and EU alignment as of Nov 2025):

Theme	Countries Involved	Shared Priorities / Actions
Circular & Bioeconomy Transition	Ireland, Italy, Spain, Malta	<ul style="list-style-type: none"> Develop regional circular hubs and value chains. Support green SMEs and eco-entrepreneurship. Promote waste valorisation, renewable energy use, and circular procurement. Align with EU Green Deal and Farm-to-Fork strategy.
Digital Transformation & Smart Territories	Spain, Latvia, Slovakia, Czechia-Bavaria, Malta	<ul style="list-style-type: none"> Deploy broadband and digital infrastructures. Use MAATool and digital dashboards for participatory governance. Launch Smart Village and Smart Territory pilots. Build digital skills for youth, women, and entrepreneurs.
Governance Innovation & Multi-Actor Participation	Slovakia, Latvia, Czechia-Bavaria, Finland, Ireland	<ul style="list-style-type: none"> Institutionalise multi-actor platforms beyond project lifetime. Use foresight for cross-sector coordination. Establish rural-urban dialogue mechanisms. Strengthen local policy coherence using participatory foresight and MAATool data.
Climate Resilience & Green Transition	Italy, Greece, Finland, Spain	<ul style="list-style-type: none"> Implement NEB-based approaches integrating culture and climate action. Pilot smart irrigation, renewable cooperatives, and low-carbon rural tourism. Encourage adaptation strategies aligned with EU Green Deal & Climate-ADAPT platform.
Cultural Heritage & Place-Based Innovation	Finland, Italy, Greece, Malta	<ul style="list-style-type: none"> Valorise cultural assets for rural regeneration. Combine creative industries with tourism and local identity. Promote NEB “beautiful, sustainable, together” principles. Strengthen community engagement through local events and arts.
Youth Empowerment & Education for Innovation	Greece, Malta, Ireland, Finland	<ul style="list-style-type: none"> Launch youth innovation labs and ideathons. Promote rural entrepreneurship education. Support intergenerational learning and skills transfer. Increase youth participation in regional foresight and policy co-creation.
Cross-Border & Interregional Cooperation	Czechia-Bavaria, Slovakia, Italy, Latvia	<ul style="list-style-type: none"> Build cross-border innovation hubs and foresight exchanges. Develop joint financing schemes and EU project pipelines. Share data and foresight insights across regional borders.

Theme	Countries Involved	Shared Priorities / Actions
		<ul style="list-style-type: none"> Foster learning networks within PoliRuralPlus Community of Practice.
Social Inclusion & Community Wellbeing	Finland, Ireland, Spain, Latvia	<ul style="list-style-type: none"> Use multi-actor methods to enhance social cohesion. Support creative, health, and wellbeing initiatives in rural communities. Empower women and vulnerable groups in participatory planning. Apply foresight to improve quality of life indicators.

Table16: Pilots' themes and shared priorities/actions

From this table, it can be seen that across all nine pilots, shared actions converge on three strategic axes —

- Digital & participatory transformation (tools, data, engagement),
- Green & circular economy transition (sustainability, innovation), and
- Inclusive place-based development (social, cultural, and governance innovation).

While the emerging lessons are as follows:

Emerging Lesson	Practical Implication for EU and Regions
From experimentation to institutionalisation	Multi-actor cooperation is moving from pilot activity to permanent governance infrastructure (Slovakia's foresight network, Ireland's Circular Economy Hub).
Digitalisation is social, not just technical	Pilots discovered that digital transformation depends on local facilitation and trust, not only tools.
Small scale, big leverage	Even micro-pilots (e.g. Mallusjoki, Malta) demonstrated outsized effects when community ownership was strong.
Interregional cooperation enhances funding and learning	Cross-border structures are creating scalable models for EU integration (Czech–Bavarian hub, Slovak–Latvian foresight exchange).
Foresight as policy DNA	The foresight cycle (anticipate–design–implement–review) has become the de facto process for RAP development and adjustment.
Cultural sustainability equals resilience	Integrating NEB-inspired cultural and aesthetic values improved cohesion and long-term engagement.

Table 17: Emerging Lessons

5.2 Insights Gained

Based on the updated RAPs (Nov 2025), the key insights and recommendations for what PoliRuralPlus pilots—and the project more broadly—should do differently in the next phase can be summarized as follows:

- Foresight Works Best When Locally Anchored
- Long-term visions were most impactful when they were translated into short-term, localised goals relevant to communities' everyday lives.
- Digital Tools Need Simplification and Support
- While tools like MAATool and the Advisor added value, pilots noted barriers due to limited digital literacy or interface complexity. Simplification and targeted training are essential.
- Stakeholder Engagement is Not Static
- Engagement fluctuates—especially with volunteers. Continuous motivation, co-creation, and flexibility in roles are crucial to sustain momentum.
- Policy Alignment Enhances Legitimacy and Funding

8. Pilots aligning their actions with high-level EU strategies (e.g. NEB, Green Deal) reported better access to political and funding support.
9. Rural-Urban Synergies are Context-Dependent
10. Effective linkages are shaped by geography, sector, and governance. For instance, cross-border pilots like Czechia-Bavaria benefit from joint governance platforms.

So, overall for Period 2 (Implementation Focus)

- The revision of RAPs (Nov 2025) reflects a pivot from *planning* to *doing*.
- Stakeholders are now co-implementers, not just advisors.
- Success depends on adaptive governance—linking foresight, finance, and participation through the digital ecosystem of PoliRuralPlus (MAATool + Advisor + Hub4Everybody).
- By late 2025, all pilots are operationalising their actions and feeding lessons into the EU Rural Pact community and Innovation Radar pathways for scaling.

These learnings collectively show how the PoliRuralPlus initiative is maturing from planning to tangible action, while keeping inclusive participation and strategic alignment at its core.

Country	Main Focus Areas	Period 2 Priorities
Ireland	<ul style="list-style-type: none"> ● Sustainable food systems ● Digital innovation hubs ● Circular economy 	<ul style="list-style-type: none"> ● Strengthen regional food ecosystems ● test circular economy models in agri-food ● refine digital tools
Slovakia	<ul style="list-style-type: none"> ● Cross-border cooperation ● Social innovation 	<ul style="list-style-type: none"> ● Operationalize cross-border initiatives ● stakeholder co-creation
Greece	<ul style="list-style-type: none"> ● Agri-tourism ● Blue economy 	<ul style="list-style-type: none"> ● Pilot cultural tourism models ● improve stakeholder input
Italy	<ul style="list-style-type: none"> ● Regenerative agriculture ● Circular economy 	<ul style="list-style-type: none"> ● Empower cooperatives ● deploy climate-smart actions
Finland	<ul style="list-style-type: none"> ● Smart mobility ● Cultural tourism ● Digital public services 	<ul style="list-style-type: none"> ● Launch smart village pilots ● enhance digital literacy
Czech-Germany	<ul style="list-style-type: none"> ● Cross-border economic resilience ● Youth engagement 	<ul style="list-style-type: none"> ● Harmonize planning across borders ● support youth-led projects
Spain	<ul style="list-style-type: none"> ● Community cohesion ● Local governance ● Green transition 	<ul style="list-style-type: none"> ● Foster inclusive community actions ● climate adaptation planning
Latvia	<ul style="list-style-type: none"> ● Youth retention ● Education-employment linkages 	<ul style="list-style-type: none"> ● Implement skills-based programs for youth
Malta	<ul style="list-style-type: none"> ● Spatial planning, ● Participatory visioning, ● Heritage innovation 	<ul style="list-style-type: none"> ● Facilitate heritage-based regeneration, ● expand co-creation platforms

Table 18: Each Pilot's focus for remainder of project

Theme	Countries Involved	Shared Priorities / Actions
Agriculture	Italy, Spain	<ul style="list-style-type: none"> ● Support regenerative farming ● build circular rural economies.
Food Systems	Ireland	<ul style="list-style-type: none"> ● Strengthen local food ecosystems, ● digitalize supply chains.
Digital Innovation	Ireland, Finland	<ul style="list-style-type: none"> ● Deploy Smart Village tech, ● enhance rural digital literacy.

Mobility and Infrastructure	Finland	<ul style="list-style-type: none"> ● Improve rural connectivity & sustainable transport.
Cultural Tourism	Greece, Finland	<ul style="list-style-type: none"> ● Develop year-round cultural experiences ● promote rural identities.
Youth and Education	Latvia, Czechia, Germany	<ul style="list-style-type: none"> ● Link education to employment ● support youth-led initiatives.
Cross-border Cooperation	Slovakia, Czechia, Germany	<ul style="list-style-type: none"> ● Harmonize policies and services ● empower joint planning.
Spatial Planning and Heritage	Malta	<ul style="list-style-type: none"> ● Revitalize spaces through cultural co-design.
Climate and Green Transition	Italy, Spain, Ireland	<ul style="list-style-type: none"> ● Implement climate adaptation plans and green governance models.

Table 19: Common Themes across the Pilots

Theme	Common Challenge	Effective Strategy	Policy Lever / Funding Source	Pilot Example
Demographic Renewal	Youth outmigration, ageing population	Rural skills hubs and telework incentives	ESF+, Erasmus+, CAP	Slovakia, Vidzeme
Digital Transition	Uneven connectivity and low literacy	Establishing regional DIHs and community networks	Digital Europe, ERDF	Finland, Greece
Circular & Green Economy	Fragmented SME ecosystems	Bio-based cluster initiatives and reuse networks	Horizon Europe Cluster 6	Italy, Spain
Environmental Resilience	Flood and drought vulnerability	Local NBS and land stewardship models	LIFE, NEB	Latvia, Malta
Governance & Participation	Weak cross-sector collaboration	Multi-Actor governance platforms	LTVRA, Rural Pact	Ireland, Czech-Bavarian Border

Table 20: Cross-Pilot Synthesis Framework

5.3 Overall Learning:

PoliRuralPlus pilots prove that integrated rural–urban development is achievable when local foresight, digital intelligence, and multi-level governance are harmonised. The key is not only *what* policies are implemented, but *how*—through cooperation, innovation, and shared ownership at every level.

Based on the revised Regional Action Plans (RAPs) provided for the PoliRuralPlus pilots, several cross-cutting **key learnings** have emerged that reflect both regional diversity and shared European challenges in achieving integrated rural–urban development. These learnings capture what pilots have discovered through participatory foresight, stakeholder engagement, and the iterative co-creation process.

Key Learnings from the PoliRuralPlus Pilots

1. Stakeholder Engagement is the Cornerstone of Success

Effective stakeholder engagement requires continuous dialogue, clear incentives, and institutional mechanisms for participation, beyond one-off consultations.

2. Bridging Policy Gaps Requires Governance Innovation

Integration of rural and urban policy requires institutionalized coordination structures, shared budgets, and consistent alignment with EU, national, and regional frameworks.

3. Digitalization and Smart Transformation are Essential but Uneven

Digital transformation must go hand-in-hand with capacity-building and connectivity investment to ensure inclusivity and usability.

4. Empowering Local Leadership and Youth is a Key Enabler

Strengthening rural leadership through training, mentorship, and digital tools fosters ownership and innovation in rural governance.

5. Financial Sustainability Requires Blended and Innovative Mechanisms

RAPs underscore that existing funding mechanisms—mainly EU Structural Funds—are not always flexible or accessible for cross-sector initiatives.

Both **Irish (Monaghan)** and **Czech–Bavarian** pilots identified the need for **new blended finance models**, including community-based funds, green bonds, and cooperative investment platforms.

Lesson: Innovative financing (public–private partnerships, revolving funds, and digital finance) is crucial for scaling rural-urban integration measures.

6. Monitoring and Evaluation are Moving from Static to Dynamic

Data-driven evaluation promotes accountability, transparency, and adaptability—key for long-term sustainability of rural–urban strategies.

7. Co-creation Spaces Foster Innovation Across Regions

Territorial innovation ecosystems, when co-designed and networked, amplify learning and replication across EU regions.

8. Rural-Urban Cooperation Must Move Beyond Geography

Future rural-urban strategies must emphasize functional integration and mutual interdependence, not just territorial adjacency.

The key Learnings so far across the Pilots are:

1. Rural–urban linkages are multidimensional (economic, social, environmental) and must be approached systemically.
4. Participatory foresight & digital tools (MAATool, Advisor, VULTURE) proved effective in capturing diverse voices and co-creating regional action plans.
5. NEB principles (sustainability, inclusion, aesthetics) offered a powerful framing for linking cultural identity with development strategies.
6. Short-term impacts were visible in food systems and digitalisation, while long-term transformations (governance integration, demographic renewal) need sustained action.

Synthesis and Strategic Implications for PoliRuralPlus

Across pilots, the RAPs collectively demonstrate that:

- **Digital foresight tools** (MAATool, PATHWATCH, Attractiveness Mapping) are redefining participatory governance.
- **Multi-Actor Approach (MAA)** ensures co-responsibility and sustained implementation.
- **Place-based innovation hubs** create practical pathways for scaling results beyond pilot boundaries.
- **Alignment with EU frameworks** (LTVRA, NEB, CAP, and Green Deal) ensures coherence and access to future funding.

Overall Learning:

PoliRuralPlus pilots prove that integrated rural–urban development is achievable when local foresight, digital intelligence, and multi-level governance are harmonised. The key is not only *what* policies are implemented, but *how*—through cooperation, innovation, and shared ownership at every level.

5.4 Insights gained

Based on the updated Regional Action Plans (RAPs, Nov 2025), the key insights gained across the nine PoliRuralPlus pilots reveal both systemic learning and region-specific lessons that are shaping the ongoing implementation (Period 2). These insights are grounded in participatory foresight, digital tool use, and multi-actor collaboration as recorded in the RAP monitoring and evaluation frameworks.

Insight Theme	Core Learning	Illustrative Evidence from Pilots
1. Multi-Actor Participation is a Transformative Tool	Genuine stakeholder engagement builds ownership and trust. Structured, recurring co-design events created continuity between planning and action.	Slovakia institutionalised its “Rural-Urban Dialogue 2040” process with over 250 stakeholders; Finland and Ireland embedded engagement loops through event-based communities and foresight schools.
2. Digital Tools Enhance Participation but Need Mediation	Tools like MAATool, Advisor, and JackDaw improved data accessibility and spatial foresight, but local facilitation remained essential for adoption.	Slovakia and Latvia reported increased inclusivity through national digital platforms, while Malta noted slower uptake without training support.
3. Foresight Bridges Policy and Practice	Scenario-based foresight fostered long-term thinking and helped align regional visions with EU frameworks (Green Deal, LTVRA, NEB).	All pilots used foresight outputs to reshape their RAPs; Slovakia’s “Vision 2040” and Greece’s climate foresight workshops are examples of foresight mainstreamed into governance.
4. Governance Integration is Emerging as a Core Enabler	Cross-sector alignment reduces duplication and strengthens rural-urban policy coherence.	Czech–Bavarian and Slovak pilots demonstrated multi-level governance mechanisms linking ministries, municipalities, and local actors. Ireland linked local enterprise policy with national green transition planning.
5. Circular Economy is Driving Rural Innovation	Transition to circular models was the most replicable and attractive innovation among pilots.	Italy’s Apulia region and Ireland’s Monaghan pilot showed SMEs adopting circular models through innovation hubs and training initiatives.
6. Social and Cultural Capital are Key Development Drivers	Cultural identity and local leadership were repeatedly cited as anchors of rural regeneration and sustainability.	Finland’s “Rural Event Industry Ecosystem” and Malta’s “MAYA Ideathon” confirmed that youth and cultural engagement fuel innovation and continuity.
7. Data-Driven Monitoring Builds Transparency	Integrating qualitative and quantitative evaluation increased accountability and informed adaptive management.	Italian RAP introduced cross-sector monitoring using institutional and open data; stakeholder feedback mechanisms were integrated into evaluation cycles.
8. Knowledge Exchange Across Borders Amplifies Impact	Peer learning across pilots accelerated the diffusion of effective methods.	Czech–Bavarian and Slovak pilots directly exchanged foresight models and financing frameworks, enhancing interoperability across borders.

Table 21: Cross-Pilot Insights: Lessons from Period 1 (Jan 2024 – Jun 2025)

The key insight of the PoliRuralPlus pilots is that rural-urban integration is a governance and social innovation challenge as much as a technical one.

By blending foresight, digital participation, and place-based collaboration, the pilots have shifted from isolated projects to living laboratories that are now influencing regional policy, finance mechanisms, and community-led transformation across Europe.

The following considers Period 2:

Emerging Lesson	Practical Implication for EU and Regions
From experimentation to institutionalisation	Multi-actor cooperation is moving from pilot activity to permanent governance infrastructure (Slovakia's foresight network, Ireland's Circular Economy Hub).
Digitalisation is social, not just technical	Pilots discovered that digital transformation depends on local facilitation and trust, not only tools.
Small scale, big leverage	Even micro-pilots (e.g. Mallusjoki, Malta) demonstrated outsized effects when community ownership was strong.
Interregional cooperation enhances funding and learning	Cross-border structures are creating scalable models for EU integration (Czech–Bavarian hub, Slovak–Latvian foresight exchange).
Foresight as policy DNA	The foresight cycle (anticipate–design–implement–review) has become the de facto process for RAP development and adjustment.
Cultural sustainability equals resilience	Integrating NEB-inspired cultural and aesthetic values improved cohesion and long-term engagement.

Table 22: Strategic Meta-Insights from Period 2 Transition (Mid-2025 onward)

Based on the updated RAPs (Nov 2025), the key insights and recommendations for what PoliRuralPlus pilots—and the project more broadly—should do differently in the next phase can be summarized as follows:

Key Insights Gained

1. Foresight Works Best When Locally Anchored
 - Long-term visions were most impactful when they were translated into short-term, localised goals relevant to communities' everyday lives.
2. Digital Tools Need Simplification and Support
 - While tools like MAATool and the Advisor added value, pilots noted barriers due to limited digital literacy or interface complexity. Simplification and targeted training are essential.
3. Stakeholder Engagement is Not Static
 - Engagement fluctuates—especially with volunteers. Continuous motivation, co-creation, and flexibility in roles are crucial to sustain momentum.
4. Policy Alignment Enhances Legitimacy and Funding
 - Pilots aligning their actions with high-level EU strategies (e.g. NEB, Green Deal) reported better access to political and funding support.
5. Rural-Urban Synergies are Context-Dependent
 - Effective linkages are shaped by geography, sector, and governance. For instance, cross-border pilots like Czechia-Bavaria benefit from joint governance platforms.

5.4.1 What Should Be Done Differently Going Forward

Area	Recommended Change
Implementation Focus	Shift more from strategy to action. Empower local actors to deliver on revised RAPs.
Stakeholder Platforms	Institutionalize stakeholder networks so they endure beyond the project lifecycle.
Monitoring & Evaluation	Introduce lightweight, real-time tools to track RAP implementation and adjust early.
Simplify Digital Interfaces	Co-design MAATool upgrades with users, focusing on intuitive design and accessibility.
Youth and Inclusion	Increase youth-led activities and outreach to marginalised groups, especially migrants.
Peer-to-Peer Learning	Foster structured exchanges between pilots to replicate effective practices.
Policy Coherence	Ensure each pilot maps its local actions clearly to EU policy frameworks.

Table 23: Recommendations

These adaptations are seen as essential for **maintaining momentum** in Period 2 and ensuring that rural–urban linkages are both impactful and resilient.

- Rural-urban interdependence is multidimensional: Urban centres depend on rural areas for food, energy, landscapes, and culture; rural areas need urban connections for markets, services, and innovation.
- Place-based diversity matters: Each pilot shows unique assets (e.g., Mallusjoki’s creative industries vs. Vidzeme’s forestry vs. Malta’s tourism).
- Digital and participatory tools are game-changers: PoliRuralPlus’ MAATool, Advisor, and participatory foresight methods offer scalable ways to co-create policies transparently and inclusively.
- New Bauhaus framing is powerful: It links sustainability, aesthetics, and inclusion, resonating with both cultural and economic dimensions of rural-urban synergies.

5.5 Key sectors & activities driving rural-urban linkages

Based on the updated Regional Action Plans (RAPs, Nov 2025) from all nine PoliRuralPlus pilot regions, the key sectors and activities driving rural–urban linkages are those that enable both territorial cohesion and economic transformation through innovation, sustainability, and governance reform.

Here is a consolidated synthesis by thematic area and country:

Key Sector / Domain	Countries / Pilots Involved	Core Activities Strengthening Rural–Urban Linkages
Agri-Food & Short Food Supply Chains (SFSC)	Italy (Apulia), Greece, Finland, Ireland, Spain	<ul style="list-style-type: none"> ● Strengthening local food networks through SFSC models. ● Developing urban food hubs and processing centres. ● Promoting smart, sustainable agriculture and food innovation clusters. ● Creating digital platforms connecting rural producers with urban consumers.
Circular Economy & Green Industry	Ireland (Monaghan), Italy, Slovakia, Spain, Malta	<ul style="list-style-type: none"> ● Supporting circular economy SMEs and eco-innovation hubs. ● Promoting waste reduction, recycling, and eco-design initiatives. ● Expanding environmental services and green entrepreneurship. ● Encouraging joint urban-rural green business models.
Digital Innovation & Smart Villages/Territories	Slovakia, Latvia (Vidzeme), Spain, Czechia-Bavaria, Malta	<ul style="list-style-type: none"> ● Establishing Digital Innovation Hubs (DIHs) and Smart Village networks. ● Enhancing broadband and digital literacy programs. ● Developing participatory e-governance and foresight tools (MAATool, Advisor). ● Using AI for spatial analysis and community engagement.
Cultural, Creative & Event Industries	Finland (Mallusjoki), Italy, Malta, Greece	<ul style="list-style-type: none"> ● Developing “Rural Event Industry Ecosystems” to connect local and urban creatives. ● Restoring heritage buildings for co-working and cultural events. ● Promoting place-based tourism and NEB-inspired community hubs. ● Leveraging digital storytelling and cultural entrepreneurship.
Energy & Climate Transition	Italy, Greece, Spain, Finland	<ul style="list-style-type: none"> ● Deploying renewable energy cooperatives and smart irrigation systems. ● Promoting low-carbon mobility and rural energy communities. ● Integrating NEB and Green Deal actions into territorial planning. ● Building resilience through circular water and waste management.
Governance & Multi-Actor Participation	Slovakia, Latvia, Czechia-Bavaria, Ireland, Finland	<ul style="list-style-type: none"> ● Institutionalising stakeholder dialogue via multi-actor clusters and rural innovation councils. ● Implementing foresight-based decision-making (MAATool, JackDaw). ● Using hybrid governance (top-down + bottom-up) for co-creation. ● Aligning local and national strategies through participatory processes.

Key Sector / Domain	Countries / Pilots Involved	Core Activities Strengthening Rural–Urban Linkages
Mobility Infrastructure	& Slovakia, Czechia-Bavaria, Spain	<ul style="list-style-type: none"> Enhancing transport networks and smart logistics connecting rural and urban markets. Promoting rural-urban commuting and teleworking models. Integrating mobility into Smart Territory frameworks.
Youth, Education Skills	& Greece, Malta, Ireland, Finland	<ul style="list-style-type: none"> Running rural innovation labs and Ideathons (e.g. Malta’s MAYA). Establishing vocational training and lifelong learning hubs. Promoting digital and entrepreneurial skills to retain youth and attract talent.
Tourism & Territorial Branding	Finland, Italy, Greece, Spain	<ul style="list-style-type: none"> Promoting sustainable and experiential tourism. Building local brand identities (e.g. food, craft, culture). Creating cross-regional marketing networks linking rural and urban tourism circuits.

Table 24 : key sectors and activities driving rural–urban linkages

Across all nine pilots, rural–urban linkages are being driven by hybrid innovation ecosystems that combine green growth, digital transition, participatory governance, and cultural renewal, directly supporting EU goals under the Green Deal, LTVRA, and New European Bauhaus.

Synthesis: Cross-Cutting Drivers of Rural–Urban Linkages

1. Agri-food systems and circular economy — Core economic connectors that link producers, consumers, and service ecosystems.
2. Digitalisation — The main enabler of connectivity, transparency, and participatory governance.
3. Cultural and creative industries — The “social glue” strengthening identity and cohesion between rural and urban communities.
4. Governance and foresight — Institutionalising multi-actor cooperation ensures sustainability beyond project cycles.
5. Education and youth innovation — Long-term enabler of demographic renewal and digital inclusion.

Based on the updated Regional Action Plans (RAPs, November 2025) across all nine PoliRuralPlus pilots, the following key sectors and activities are driving rural–urban linkages. These are identified from each pilot’s implementation focus and cross-regional themes recorded in WP5 progress documentation.

Sector / Domain	Pilots Involved	Core Activities Strengthening Rural–Urban Linkages
Agri-Food Systems & Short Food Supply Chains (SFSCs)	Italy (Apulia), Greece, Ireland, Spain, Malta	<ul style="list-style-type: none"> Creating structured producer–consumer partnerships through municipal food strategies. Promoting farm-to-table markets and sustainable procurement in cities. Training farmers, advisors and SMEs in digital traceability and branding.
Circular Economy & Green Entrepreneurship	Ireland (Monaghan), Italy, Slovakia, Spain, Malta	<ul style="list-style-type: none"> Supporting green SME networks and eco-innovation clusters. Valorising agri-waste into renewable materials (e.g., biomass, compost). Advancing local circular business models in construction, packaging, and energy sectors. Establishing Circular Hubs connecting rural producers with urban industries.
Digital Innovation & Smart Territories	Slovakia, Latvia, Spain, Czechia-Bavaria, Malta	<ul style="list-style-type: none"> Launching Digital Innovation Hubs (DIHs) and Smart Village initiatives.

Sector / Domain	Pilots Involved	Core Activities Strengthening Rural–Urban Linkages
		<ul style="list-style-type: none"> ● Applying AI, open data, and geospatial tools (MAATool, Advisor). ● Enabling rural broadband and e-service platforms to reduce peripherality. ● Enhancing data-driven spatial planning and participatory governance.
Sustainable Tourism & Cultural Heritage	Finland, Italy, Greece, Malta, Spain	<ul style="list-style-type: none"> ● Promoting agri-tourism and cultural tourism circuits linking rural villages to urban demand. ● Repurposing heritage sites as NEB-inspired creative and co-working spaces. ● Integrating tourism with local food, crafts, and event industries. ● Using storytelling and branding to enhance place identity and cohesion.
Energy & Climate Transition	Italy, Spain, Greece, Finland	<ul style="list-style-type: none"> ● Implementing renewable energy cooperatives and smart irrigation systems. ● Promoting low-carbon rural mobility and community-based energy solutions. ● Adopting circular water and waste management models. ● Embedding NEB aesthetics into climate-resilient rural design.
Governance Innovation & Policy Integration	Slovakia, Latvia, Ireland, Czechia-Bavaria, Finland	<ul style="list-style-type: none"> ● Institutionalising multi-actor foresight platforms. ● Integrating rural–urban governance through hybrid top-down and bottom-up models. ● Building Rural-Urban Dialogue Platforms and stakeholder councils. ● Linking CAP, RRF, and cohesion funds via foresight-informed policy design.
Cross-Border & Interregional Cooperation	Czechia-Bavaria, Slovakia, Latvia, Italy	<ul style="list-style-type: none"> ● Establishing Cross-Border Innovation Hubs for agriculture and digitalization. ● Facilitating shared foresight, financing schemes, and knowledge transfer. ● Supporting bi-national projects under Interreg and Horizon Europe. ● Creating demonstration areas for cross-border resilience and digital exchange.
Youth Empowerment & Skills Development	Greece, Malta, Ireland, Finland	<ul style="list-style-type: none"> ● Creating rural innovation labs and ideathons (e.g., Malta’s MAYA). ● Promoting lifelong learning centres and vocational upskilling. ● Strengthening links between education, green jobs, and rural entrepreneurship. ● Supporting youth mobility, mentoring, and return-to-rural schemes.
Social Innovation & Community Wellbeing	Finland, Ireland, Latvia, Spain	<ul style="list-style-type: none"> ● Building community-led social enterprises. ● Enhancing local service delivery through digital co-design. ● Promoting inclusion, well-being, and civic engagement. ● Measuring social cohesion as a key performance indicator (KPI).

Table 25: Key Sectors and Activities Driving Rural–Urban Linkages

The 2025 RAPs confirm that rural–urban linkages are being driven by hybrid innovation ecosystems—anchored in sustainable food systems, digital transformation, circular economy, and governance reform. Together, these sectors form the backbone of PoliRuralPlus’ contribution to the EU Green Deal, LTVRA, and New European Bauhaus objectives.

🔑 Cross-Pilot Takeaways

- Agriculture and food systems remain the main economic bridge between rural and urban regions.
- Digitalisation serves as the primary enabler for governance, inclusion, and innovation.
- Cultural and creative industries underpin place-based identity and NEB-inspired transformation.
- Circular economy and climate action create new employment and investment opportunities linking both territories.
- Social innovation and youth engagement sustain demographic renewal and participatory governance.

5.6 Challenges & Bottlenecks

Based on the updated Regional Action Plans (RAPs, Nov 2025), the PoliRuralPlus pilots collectively identified a series of shared challenges and bottlenecks that hinder effective rural–urban transformation. Each pilot also proposed mitigation or adaptation measures aligned with EU frameworks (Green Deal, LTVRA, CAP 2023–2027, NEB).

Below is a synthesis of the main challenges and how pilots are addressing them, drawing from the updated implementation sections and risk assessments in the RAPs.

Category of Challenge	Common Bottlenecks Identified Across Pilots	How Pilots Are Addressing Them	Example Regions
1. Governance & Institutional Fragmentation	<ul style="list-style-type: none"> • Overlapping responsibilities between ministries and local authorities. • Slow administrative processes and lack of coordination across sectors (agriculture, tourism, environment). • Limited integration of foresight into formal policy frameworks. 	<ul style="list-style-type: none"> • Establishing Multi-Actor Platforms and cross-sector working groups for co-design and monitoring. • Embedding foresight and MAATool outputs into local CAP strategies and Smart Village plans. • Pilots creating “Rural-Urban Dialogue Platforms” and inter-ministerial task forces. 	Slovakia, Latvia, Czechia-Bavaria border
2. Funding & Financial Bottlenecks	<ul style="list-style-type: none"> • Heavy dependence on EU funds and complex access procedures. • Insufficient co-financing from national/private actors. • Delays in fund disbursement and administrative approvals. 	<ul style="list-style-type: none"> • Creating Financial Task Forces to coordinate multi-level financing. • Exploring public-private partnerships (PPPs) and impact investment. • Introducing fast-track mechanisms for EU/national funding applications. • Pooling funds through regional innovation hubs and LAGs. 	Ireland, Italy, Spain, Slovakia
3. Digital Divide & Technological Gaps	<ul style="list-style-type: none"> • Unequal access to broadband and digital tools. • Low digital literacy among older rural residents and small enterprises. • Cybersecurity and maintenance issues in Smart Village pilots. 	<ul style="list-style-type: none"> • Roll-out of digital inclusion programs and broadband expansion. • Training programs for SMEs, youth, and farmers on digital services. • Partnerships with EDIHs for ongoing technical support. • Strengthened cybersecurity protocols for public digital services. 	Spain, Malta, Latvia, Finland

Category of Challenge	Common Bottlenecks Identified Across Pilots	How Pilots Are Addressing Them	Example Regions
4. Economic & Labour Market Challenges	<ul style="list-style-type: none"> Rural economies remain dependent on agriculture and tourism. Youth outmigration, skills mismatch, and ageing workforce. Low entrepreneurship and innovation diffusion in rural sectors. 	<ul style="list-style-type: none"> Developing youth innovation hubs, entrepreneurship training, and circular economy incubators. Promoting remote-work ecosystems and creative industries. Strengthening vocational education aligned with green and digital jobs. 	Greece, Malta, Ireland, Finland
5. Environmental & Climate Resilience Issues	<ul style="list-style-type: none"> Climate change impacts (droughts, floods, soil degradation). Low uptake of renewable energy and nature-based solutions. Conflicts between conservation and development priorities. 	<ul style="list-style-type: none"> Embedding climate adaptation into RAP actions (flood management, drought-resistant crops). Launching community renewable energy cooperatives. Integrating circular and NEB-based design in planning. 	Italy, Greece, Spain, Finland
6. Stakeholder Engagement & Social Cohesion	<ul style="list-style-type: none"> Uneven participation; stakeholder fatigue. Limited engagement of women, youth, and marginalised groups. Resistance to change in traditional sectors. 	<ul style="list-style-type: none"> Creating permanent stakeholder panels within MAATool. Using participatory foresight and co-design workshops. Launching awareness campaigns and social innovation initiatives to build trust and inclusion. 	Finland, Ireland, Latvia, Slovakia
7. Monitoring & Data Gaps	<ul style="list-style-type: none"> Weak evaluation culture and lack of data continuity. Inconsistent KPIs across governance levels. 	<ul style="list-style-type: none"> Implementation of real-time Monitoring Systems linked to PoliRuralPlus dashboards. Standardisation of KPI frameworks across pilots. Use of citizen-science and participatory data collection for evaluation. 	Latvia, Czechia-Bavaria, Ireland

Table 26: synthesis of the main challenges and how pilots are addressing them

While governance fragmentation, financial dependency, and skills gaps remain systemic bottlenecks, the revised RAPs show that all pilots are transitioning from analysis to adaptive implementation — combining foresight, multi-actor engagement, and digital governance to overcome these constraints and strengthen rural-urban cohesion.

Cross-Pilot Takeaways

- Structural fragmentation remains the top barrier — pilots are addressing this via integrated multi-actor governance.
- Funding diversity and innovation financing are critical for scaling up.
- The digital divide has shifted from infrastructure to skills and application — pilots now prioritise capacity-building.
- Youth and talent retention are cross-cutting issues addressed through entrepreneurship, circular economy, and cultural revitalisation.
- Resilience planning and climate integration have become mainstream, with NEB principles adding aesthetic and social dimensions.

The nine PoliRuralPlus pilots collectively illustrate that integrated rural–urban development is most effective when foresight, digital tools, and participatory governance converge. Their evolution from planning to implementation demonstrates how rural Europe serves as both a testbed and a driver for inclusive, sustainable transformation aligned with the European Green Deal, LTVRA, and New European Bauhaus.

5.7 Cross-Cutting Thematic Recommendations

Based on the updated Regional Action Plans (RAPs, Nov 2025), several cross-cutting thematic recommendations have emerged from the nine PoliRuralPlus pilot regions. These recommendations synthesise shared learning from implementation activities and stakeholder feedback, providing guidance for EU-level policy alignment, future programming, and rural-urban integration strategies, and are summarised in the following:

Theme	Key Recommendations	Supporting Evidence / Examples
1. Strengthen Multi-Level and Cross-Sectoral Governance	<ul style="list-style-type: none"> • Institutionalise cross-sector coordination bodies linking agriculture, environment, digitalisation, and social policy sectors. • Create permanent rural-urban coordination platforms under national ministries. • Encourage joint programming between CAP, ERDF, ESF+, and RRF funding lines to avoid fragmentation. 	Slovakia and Czech–Bavarian pilots both advocate creation of national task forces to integrate horizontal and vertical policy coordination across ministries and local governments.
2. Mainstream Participatory Foresight in Policy Design	<ul style="list-style-type: none"> • Embed foresight cycles (anticipate–co-create–review) in regional planning processes. • Integrate foresight outputs into CAP Strategic Plans and Smart Village frameworks. • Use participatory scenario-building to anticipate emerging challenges (climate, digitalisation). 	Slovak “Vision for More Attractive Rural Areas 2040” and Italian foresight work in short food supply chains show how foresight strengthens evidence-based, adaptive governance.
3. Leverage Digital Tools for Inclusive Decision-Making	<ul style="list-style-type: none"> • Scale up the MAATool and Advisor as governance tools for rural participation and monitoring. • Build regional Digital Innovation Hubs (DIHs) to improve access and literacy. • Align Smart Village pilots with Digital Europe and EDIH networks for sustainability. 	Latvia’s digital dashboards, Slovakia’s online foresight portal, and Czechia–Bavaria’s cross-border hub demonstrate effective digital inclusion.
4. Advance Circular Economy and Green Transition Models	<ul style="list-style-type: none"> • Promote cross-sector circular initiatives in food, and waste management. • Incentivise local green entrepreneurship through rural innovation funds. • Integrate NEB (New European Bauhaus) aesthetics into sustainable design. 	Italy’s Apulia region and Ireland’s Monaghan pilot anchor circular bioeconomy and NEB principles as main transition drivers.
5. Enhance Capacity Building and Local Leadership	<ul style="list-style-type: none"> • Establish training academies and mentoring programmes for local leaders and youth. • Support peer-learning and intergenerational transfer of knowledge. • Recognise “local champions” as change facilitators and knowledge multipliers. 	Malta’s capacity-building for change agents and Finland’s Rural Event Industry Ecosystem demonstrate empowerment through peer leadership.
6. Improve Access to Finance and Multi-Level Funding Integration	<ul style="list-style-type: none"> • Develop regional financial advisory support units for EU and national funding access. • Promote blended finance models combining public, private, and community capital. • Coordinate multi-level funding (EU–national–regional) under common strategies. 	Czech–Bavarian pilot’s cross-border financial support hub and Ireland’s foresight-for-finance templates provide replicable models.
7. Embed Cultural and Social Dimensions of Sustainability	<ul style="list-style-type: none"> • Integrate NEB and cultural heritage in climate and spatial planning. • Promote rural creative sectors and cultural tourism as vehicles for inclusion. • Measure well-being and cohesion as part of sustainability KPIs. 	Finland, Malta, and Greece pilots emphasise cultural identity and aesthetics in rural regeneration.

Theme	Key Recommendations	Supporting Evidence / Examples
8. Strengthen Monitoring, Evaluation, and Knowledge Sharing	<ul style="list-style-type: none"> • Introduce open-data dashboards for RAP monitoring. • Integrate KPI frameworks across all pilots for comparability. • Disseminate lessons learned through EU-level knowledge spaces (Rural Pact, NEB Lab, JRC). 	Latvia’s KPI-linked monitoring, Italy’s multi-source data system, and interregional exchange through PoliRuralPlus Knowledge Space.
9. Promote International Cooperation for Rural–Urban Innovation	<ul style="list-style-type: none"> • Connect pilots to EU Missions, Horizon Europe clusters, and global networks (e.g., City–Region Food Systems). • Support transnational exchanges and demonstration pilots for scaling innovation. 	Italian and Czech–German RAPs highlight international collaboration as a key enabler of scaling and funding continuity.

Table 27: Pilots’ cross-cutting thematic recommendations

Summary of Overarching Strategic Recommendations

1. Institutionalise the Multi-Actor Approach (MAA) — make it a standard feature of national and regional governance structures.
2. Digitalise with inclusion in mind — ensure that every technological tool has an accompanying social facilitation strategy.
3. Foresight as a living process — move from forecasting to adaptive governance that evolves with stakeholder feedback.
4. Integrate NEB values — combine sustainability, aesthetics, and inclusion in spatial, cultural, and policy design.
5. Scale up financing innovation — blend EU programmes (CAP, RRF, Horizon Europe) with local funds to sustain transformation.
6. Embed learning and monitoring — create shared indicators and dashboards connecting local actions to EU-level impacts.

The cross-cutting thematic recommendations of the revised RAPs collectively propose a “new rural governance model”—one that combines participatory foresight, digital transformation, green transition, and cultural innovation. This model ensures that Europe’s rural and urban areas evolve together, guided by shared values of resilience, inclusion, and sustainability.

The updated RAPs for PoliRuralPlus (Nov 2025) offer several cross-cutting thematic recommendations that address overarching issues across all pilots. These span policy alignment, stakeholder participation, digital inclusion, and governance. Here’s a summary of the main themes and what pilots and the project as a whole should now do differently:

1. Sustainable & Resilient Food Systems

- **Insights:** Food systems are central across all pilots (Apulia’s olive oil & wine, Spain’s agri-food, Monaghan’s short supply chains, Malta’s maritime food). Urban demand is a driver, while rural areas provide production, landscapes, and biodiversity.
- **Challenges:** Market volatility, climate risks (fires, droughts, desertification), dependence on traditional crops.
- **Recommendations:**
 - Promote **short food supply chains** linking rural producers with urban consumers.
 - Encourage **agroecology & climate-smart agriculture** to ensure resilience.
 - Use NEB framing to connect food production with culture, aesthetics, and local identity.

2. Digitalisation & Smart Rural Development

- **Insights:** Remote work hubs, digital services, and participatory tools (MAATool, Advisor, VULTURE) emerge as transformative across Monaghan, Czech-Bavaria, Vidzeme, and Malta.
- **Challenges:** Persistent digital divide, low digital literacy, limited rural broadband.
- **Recommendations:**
 - Expand **broadband and digital hubs** to enable telework and SMEs.
 - Deploy **participatory AI and foresight tools** for inclusive policymaking and service design.
 - Foster **digital skills programmes** to bridge generational and urban–rural gaps.

3. Climate Resilience & Environmental Stewardship

- **Insights:** Forestry, land management, and bioeconomy link rural and urban ecosystems (Slovakia, Vidzeme, Finland). Climate change impacts (fires, floods, droughts, land degradation) are shared concerns.
- **Challenges:** Fragmented governance, limited capacity for adaptation, weak integration of ecosystem services into urban policy.
- **Recommendations:**
 - Integrate **nature-based solutions (NBS)** and ecosystem restoration in RAPs.
 - Mainstream **climate-smart forestry and agroforestry** into regional development.
 - Develop **joint rural–urban climate resilience strategies**, aligned with Climate-ADAPT and CARO frameworks.

4. Cultural & Creative Industries

- **Insights:** Culture and heritage are major attractors (Mallusjoki’s rural event ecosystem, Greece’s and Malta’s tourism, Vidzeme’s cultural identity). Urban centres depend on rural culture for leisure, festivals, and tourism.
- **Challenges:** Over-dependence on seasonal tourism, limited diversification, underfunded cultural industries.
- **Recommendations:**
 - Position **cultural and creative industries** as drivers of rural innovation and youth retention.
 - Develop **cultural tourism routes** linking rural and urban assets.
 - Use **New European Bauhaus (NEB)** to integrate aesthetics, heritage, and sustainability into regional branding.

5. Governance & Policy Integration

- **Insights:** Multi-level governance and silos are recurring bottlenecks (Slovakia, Czech-Bavaria, Vidzeme). The Multi-Actor Approach (MAA) helps address this by including quadruple helix actors.
- **Challenges:** Administrative burdens (CAP), fragmented decision-making, weak inter-ministerial coordination.
- **Recommendations:**
 - Institutionalise **Multi-Actor Platforms** at regional level for joint rural–urban planning.
 - Simplify EU and CAP funding processes for small rural actors.
 - Foster **cross-border governance models** in pilot areas with shared assets (e.g., Czechia-Bavaria border, Vidzeme–Estonia).

6. Demographic Renewal & Social Inclusion

- **Insights:** Demographic decline and ageing populations are severe in Vidzeme, Slovakia, Finland, and Spain. Urban migration weakens rural communities, but opportunities exist in youth entrepreneurship, newcomers, and migrant integration.
- **Challenges:** Outmigration of youth, underrepresentation of vulnerable groups (Roma in Slovakia).
- **Recommendations:**
 - Support **youth entrepreneurship, rural returnee, and newcomer programmes**.
 - Ensure **inclusive policymaking** using participatory tools (AI-assisted RAP drafting, MAATool workshops).
 - Align with **EU Long-Term Vision for Rural Areas** and **Rural Pact** to create attractive living conditions.

5.8 Conclusions and Recommendations

The overall conclusions are summarised in the following SWOT table

<p>Strengths</p> <ul style="list-style-type: none"> ● Strong local ownership of RAPs following revisions & re-engagement ● Widespread adoption of foresight tools & MAATool to guide planning ● Pilot actions aligned with EU strategies like the Green Deal & NEB ● Integration of circular economy & digital innovation in many pilots 	<p>Weaknesses</p> <ul style="list-style-type: none"> ● Inconsistent stakeholder engagement, especially urban & marginalized groups ● Digital literacy & access issues limit effective tool usage in some regions ● Governance fragmentation & lack of institutional continuity ● Challenges in translating long-term visions into short-term actions
<p>Opportunities</p> <ul style="list-style-type: none"> ● Growing EU support for rural-urban integration & NEB funding alignment ● Increased inter-pilot collaboration & peer learning potential ● Scaling of best practices from strong performers (e.g., circular economy in Ireland) ● Digitalisation & smart village strategies gaining traction 	<p>Threats</p> <ul style="list-style-type: none"> ● Volunteer burnout & engagement fatigue, especially in smaller regions ● Disparities in regional policy support & administrative structures ● Mismatch between local needs & available funding mechanisms ● Risk of pilots not sustaining stakeholder platforms post-project

Table 28: SWOT

This SWOT is elaborated as a consolidated analysis for the nine PoliRuralPlus pilots in Period 2 (Implementation Phase, mid-2025–end 2026) — based on the updated RAPs (Nov 2025), foresight results, and WP5 monitoring summaries.

Category	Description (Cross-Pilot Summary)	Illustrative Evidence	Examples /
Strengths	<ul style="list-style-type: none"> ● Strong multi-actor governance platforms institutionalised in most pilots (Slovakia, Latvia, Ireland). ● Broad integration of digital tools (MAATool, Advisor) in decision-making and monitoring. ● Successful mainstreaming of foresight into local and national planning (Slovakia, Italy, Czechia-Bavaria). ● High alignment with EU priorities — Green Deal, NEB, LTVRA. ● Effective social 	Slovakia’s “Rural-Urban Dialogue 2040”; Apulia’s NEB-led regional hubs; Latvia’s PATHWATCH monitoring system.	

Category	Description (Cross-Pilot Summary)	Illustrative Evidence	Examples /
	engagement models and stakeholder retention in Period 2. • Cultural and creative sectors emerging as innovation anchors (Finland, Malta, Italy).		
 Weaknesses	<ul style="list-style-type: none"> • Persistent fragmentation between rural, urban, and national governance levels. • Funding dependency on EU grants; limited access to blended or private finance. • Uneven digital capacity between regions and actors. • Gaps in long-term human resource capacity (aging populations, limited local expertise). • Monitoring and data integration not yet harmonised across pilots. • Some pilots lack clear exit strategies for post-project sustainability. 	Ireland’s reliance on LEADER; Slovakia’s limited local autonomy; Malta’s resource constraints; Finland’s volunteer-based governance.	
 Opportunities	<ul style="list-style-type: none"> • Integration of NEB and foresight frameworks into formal regional policies. • Expansion of Smart Village and Digital Innovation Hub networks under Digital Europe and ERDF. • Development of cross-border innovation corridors (Czechia-Bavaria, Slovakia-Latvia). • Use of MAATool and data dashboards as national rural observatories. • Growing investment in green entrepreneurship and youth skills. • Rising demand for agritourism, circular economy, and bioeconomy solutions. 	Czech-Bavarian Innovation Hub; Greek Youth AgriLabs; Ireland’s Circular Bioeconomy Hub; Spain’s Smart Territory Network.	
 Threats	<ul style="list-style-type: none"> • Funding discontinuity post-2026 due to shifting EU budget cycles (MFF transition). • Risk of digital exclusion for smaller or older communities. • Climate shocks (drought, floods) threaten agri-food value chains. • Political instability or administrative turnover can weaken foresight continuity. • Limited national buy-in for decentralised participatory models. • “Pilot fatigue” among stakeholders if implementation timelines slip. 	Southern European drought impacts; administrative delays in Greece and Slovakia; local authority turnover in Spain and Ireland.	

Table 29: SWOT Elaboration

The PoliRuralPlus pilots in Period 2 are transitioning from experimentation to systemic change.

Strengths lie in foresight, governance innovation, and digital transformation.

Weaknesses stem from resource and governance asymmetries.

Opportunities abound in policy integration and financing innovation, but long-term sustainability requires embedding these pilots within permanent governance, funding, and data frameworks.

Domain	Strategic Recommendations
Governance & Participation	Institutionalise the Multi-Actor Approach (MAA) at regional level and create permanent rural-urban coordination councils.
Finance & Sustainability	Develop multi-source funding strategies — blending CAP, RRF, and private sector capital. Pilot local green bonds or revolving funds.
Digital Transformation	Scale up MAATool as a standard governance interface; integrate regional dashboards into EU Open Data platforms.
Human Capital & Youth	Expand youth entrepreneurship programs; strengthen links between education and employment in green and digital sectors.
Cross-Border Cooperation	Use Interreg and Horizon Europe to formalise transnational foresight clusters (e.g., Baltic, Mediterranean, Central Europe).
Monitoring & Evaluation	Harmonise KPIs across pilots; embed social and environmental indicators alongside economic ones.

Table 30: Strategic Implications for Period 2 (Implementation Phase)

Area	Recommended Change
Implementation Focus	Shift more from strategy to action. Empower local actors to deliver on revised RAPs.
Stakeholder Platforms	Institutionalize stakeholder networks so they endure beyond the project lifecycle.
Monitoring & Evaluation	Introduce lightweight, real-time tools to track RAP implementation and adjust early.
Simplify Digital Interfaces	Co-design MAATool upgrades with users, focusing on intuitive design and accessibility.
Youth and Inclusion	Increase youth-led activities and outreach to marginalised groups, especially migrants.
Peer-to-Peer Learning	Foster structured exchanges between pilots to replicate effective practices.
Policy Coherence	Ensure each pilot maps its local actions clearly to EU policy frameworks.

Table 31: What Should Be Done Differently Going Forward

The following are recommended to maintain momentum in Period 2 and ensuring that rural–urban linkages are both impactful and resilient.

Theme	Key Recommendations	Supporting Evidence / Examples
1. Strengthen Multi-Level and Cross-Sectoral Governance	Institutionalise cross-sector coordination bodies linking agriculture, environment, digitalisation, and social policy sectors. Create permanent rural-urban coordination platforms under national ministries. Encourage joint programming between CAP, ERDF, ESF+, and RRF funding lines to avoid fragmentation.	Slovakia and Czech–Bavarian pilots both advocate creation of national task forces to integrate horizontal and vertical policy coordination across ministries and local governments.
2. Mainstream Participatory Foresight in Policy Design	Embed foresight cycles (anticipate–co-create–review) in regional planning processes. Integrate foresight outputs into CAP Strategic Plans and Smart Village frameworks. Use participatory scenario-building to anticipate emerging challenges (climate, digitalisation).	Slovak “Vision for More Attractive Rural Areas 2040” and Italian foresight work in short food supply chains show how foresight strengthens evidence-based, adaptive governance.
3. Leverage Digital Tools for Inclusive Decision-Making	Scale up the MAATool and Advisor as governance tools for rural participation and monitoring. Build regional Digital Innovation Hubs (DIHs) to improve access and literacy. Align Smart Village pilots with Digital Europe and EDIH networks for sustainability.	Latvia’s digital dashboards, Slovakia’s online foresight portal, and Czechia-Bavaria’s cross-border hub demonstrate effective digital inclusion.
4. Advance Circular Economy and Green Transition Models	Promote cross-sector circular initiatives in food, energy, and waste management. Incentivise local green entrepreneurship through rural innovation funds. Integrate NEB (New European Bauhaus) aesthetics into sustainable design.	Italy’s Apulia region and Ireland’s Monaghan pilot anchor circular bioeconomy and NEB principles as main transition drivers.
5. Enhance Capacity Building and Local Leadership	Establish training academies and mentoring programmes for local leaders and youth. Support peer-learning and intergenerational transfer of knowledge. Recognise “local champions” as change facilitators and knowledge multipliers.	Malta’s capacity-building for change agents and Finland’s Rural Event Industry Ecosystem demonstrate empowerment through peer leadership.
6. Improve Access to Finance and Multi-Level Funding Integration	Develop regional financial advisory support units for EU and national funding access. Promote blended finance models combining public, private, and community capital. Coordinate multi-level funding (EU–national–regional) under common strategies.	Czech–Bavarian pilot’s cross-border financial support hub and Ireland’s foresight-for-finance templates provide replicable models.
7. Embed Cultural and Social Dimensions of Sustainability	Integrate NEB and cultural heritage in climate and spatial planning. Promote rural creative sectors and cultural tourism as vehicles for inclusion. Measure well-being and cohesion as part of sustainability KPIs.	Finland, Malta, and Greece pilots emphasise cultural identity and aesthetics in rural regeneration.
8. Strengthen Monitoring,	Introduce open-data dashboards for RAP monitoring. Integrate KPI frameworks across all pilots for	Latvia’s KPI-linked monitoring, Italy’s multi-source data system, and interregional

Theme	Key Recommendations	Supporting Evidence / Examples
Evaluation, and Knowledge Sharing	comparability. Disseminate lessons learned through EU-level knowledge spaces (Rural Pact, NEB Lab, JRC).	exchange through PoliRuralPlus Knowledge Space.
9. Promote International Cooperation for Rural–Urban Innovation	Connect pilots to EU Missions, Horizon Europe clusters, and global networks (e.g., City–Region Food Systems). Support transnational exchanges and demonstration pilots for scaling innovation.	Italian and Czechia-Bavaria RAPs highlight international collaboration as a key enabler of scaling and funding continuity.
10. Optimise Rural–Urban Linkages	Policy Integration – Ensure alignment of regional actions with EU frameworks (e.g., NEB, Green Deal, LTVRA). Integrate spatial, economic, and digital planning between rural and urban governance levels.	Pilots in Slovakia and Czech–Bavarian border regions have initiated national-level coordination taskforces to bridge policy silos.
	Stakeholder Diversity – Broaden participation to include youth, migrants, micro-entrepreneurs, and cultural actors in planning and foresight.	Monaghan and Malta pilots have expanded MAA stakeholder circles to include women’s groups, migrant associations, and youth organisations.
	Institutional Continuity – Establish governance structures that survive beyond project lifecycles.	Latvia and Greece pilots propose formalised “Regional Foresight Councils” for ongoing coordination.
	Data-Driven Planning – Combine foresight and MAATool insights to support evidence-based policymaking.	Latvia’s digital dashboards and Slovakia’s foresight portal integrate real-time data and participatory feedback.
	Rural–Urban Governance – Promote cross-level collaboration through digitalised governance and taskforces.	Ireland and Czech–Bavarian pilots test joint multi-level governance labs integrating rural and urban municipalities.
	Digital Access & Literacy – Bridge divides in connectivity and digital capability.	Vidzeme and Malta pilots run inclusive digital training for low-literacy and older populations.
	Circular Economy Focus – Embed circular economy across sectors such as mobility, energy, and waste.	Monaghan’s circular innovation hubs link waste reuse to bioenergy systems.

Table 32: Key Recommendations

Theme	Recommendation	Action Pilots & Project Should Take
Policy Integration	Ensure better alignment with EU frameworks (NEB, Green Deal, LTVRA)	Map each pilot’s activities directly to EU policy goals and report against them
Stakeholder Diversity	Expand inclusion of underrepresented groups (youth, migrants, micro-entrepreneurs)	Co-create engagement plans with marginalized communities and monitor representation
Institutional Continuity	Formalize stakeholder platforms to sustain beyond project cycles	Establish advisory boards or local councils with delegated responsibilities
Data-Driven Planning	Use data and foresight to guide evidence-based actions	Combine MAATool outputs with qualitative insights and regularly update planning data
Rural–Urban Governance	Promote cross-level collaboration between rural and urban actors	Implement multi-level governance labs or taskforces that include both rural and urban
Digital Access & Literacy	Address digital divides hampering tool adoption	Tailor digital tools for low-literacy or digitally excluded groups with training
Circular Economy Focus	Integrate CE principles across sectors (waste, energy, mobility)	Build on Irish pilot to apply CE strategies to rural-urban systems in other countries
NEB Principles in Practice	Embed aesthetics, inclusion, and sustainability into planning	Use NEB as a design lens for public spaces, housing, and mobility initiatives

Theme	Recommendation	Action Pilots & Project Should Take
Rural-Urban Linkages	Strengthen multi-level governance, enhances digital & foresight capacities. Bridge socio-economic divides between rural & urban systems	Institutionalise rural–urban governance labs & digital collaboration platforms; ensure data-driven foresight & inclusivity guide all regional plans.

Table 33: Cross-Cutting Thematic Recommendations

These themes reflect a shared recognition across pilots that successful rural–urban linkages require not just better tools and plans, but systemic change in how rural development is governed, co-designed, and resourced. In Period 2, the emphasis is on turning these high-level recommendations into concrete, locally owned initiatives.

The following table maps the D2.3 data outputs to the Key Performance Indicators (KPIs) defined in WP7¹⁰⁸..

Deliverable D7.1 – Evaluation and Impact Assessment Framework

KPI Category	D2.3 Indicator / Data Source	Baseline (2024)	Expected 2026 Outcome	Linked WP	EU Alignment
Interregional Cooperation	# of cross-pilot partnerships formalised	0	≥10	WP7	Territorial Cohesion / Green Deal
Policy Innovation	# of policies integrating rural–urban evidence	0	≥15	WP3, WP5	Smart Specialisation / LTVRA
Digital Capacity	Active Dashboard users (unique logins)	0	≥300	WP4	Digital Europe / EOSC
Stakeholder Engagement	# of active actors in MAATool	0	≥1,000	WP5	Multi-Actor Approach / Governance
Data FAIRness	% of datasets with metadata and DOIs	30%	≥90%	WP2, WP1	FAIR / Open Science
Dissemination Reach	Report downloads and web visits	–	≥10,000	WP7	Open Science / Impact Pathway

Table 34: KPI Cross Walk table

The KPIs are summarised in the following table:

Domain	Indicator	Baseline 2024	Progress 2025	Target 2026
Rural–Urban Cooperation	# of RAPs integrating cross-pilot data	3	7	9
Stakeholder Engagement	Active actors in MAATool	400	850	1,000+
Data FAIRness	% datasets interoperable	35%	75%	90%
Dissemination Reach	Website and dashboard visits	2,000	8,000	10,000+
Policy Uptake	Regional strategies influenced	0	4	9

Table 35: Summary dashboard of Indicators

5.8.1 Phased Roadmap

- **Rural–urban linkages are systemic:** food, climate, culture, and digitalisation tie regions together.
- **PoliRuralPlus shows the value of foresight & participatory AI** in making rural voices part of strategy-making.
- **Scaling up requires thematic focus:** food systems, climate resilience, cultural industries, digitalisation, and inclusive governance.

¹⁰⁸ Will be finalised and reported in Deliverable D7.1 – Evaluation and Impact Assessment Framework”



- **NEB & EU Green Deal** provide strong frameworks to align aesthetics, sustainability, and participation in regional futures.
- **Rural–Urban Governance through Digitalisation** to support cross-level collaboration, multi-level governance labs, and taskforces that link local, regional, and EU actors for integrated planning and foresight.

Thus the **final prioritised roadmap is summarised as follows:**

- **Short-term (2025–2027):** Food systems & digitalisation
- **Medium-term (2027–2030):** Climate resilience & cultural industries
- **Long-term (2030–2040):** Governance integration & demographic renewal

This phased approach helps regions act immediately where impact is urgent (food security, digital inclusion) while planning structural changes (governance, demographic renewal) for the longer horizon.

6. Conclusions and Recommendations

6.1 Integration with Regional Action Plans (RAPs)

The findings of *PoliRuralPlus D2.3* demonstrate that the project’s foresight-based, multi-actor methodology is deeply embedded within each pilot’s **Regional Action Plan (RAP)**. The iterative learning cycles between WP2 (data analysis), WP3 (foresight), WP4 (tools), and WP5 (pilot actions) have established an integrated framework that links local knowledge and digital intelligence with European-level strategic objectives.

The updated RAPs (November 2025) show a clear progression from abstract visioning to practical implementation. They confirm that the combination of **participatory foresight, digital co-design, and AI-enabled governance** can make rural–urban linkages tangible, actionable, and measurable. Each RAP now contributes to European policy objectives such as the **Green Deal, LTVRA, CAP, and NEB**, while also addressing region-specific challenges related to climate resilience, circular economy, and digital inclusion.

Institutionally, the RAPs demonstrate the emergence of **multi-level governance ecosystems** where local foresight informs national programming, and cross-pilot learning reinforces the EU’s long-term vision for cohesive territorial development.

6.2 Policy Implications

The findings from the Rural–Urban Data Analysis also provide robust evidence to support future territorial policies, regional strategies, and foresight-driven action planning under the PoliRuralPlus framework. The analysis demonstrates that balanced and inclusive rural–urban development depends on a combination of evidence-based governance, multi-actor engagement, and digital support systems.

Strengthening

Territorial

Cohesion

Data across all nine pilots reveal the persistence of spatial inequalities between rural and urban areas in access to services, mobility, and digital infrastructure. Cross-pilot analysis underscores that these disparities can only be addressed through integrated territorial approaches such as Integrated Territorial Investments (ITI) and Community-Led Local Development (CLLD).

Enhancing

Governance

and

Participation

The Multi-Actor Approach (MAA) and the use of the MAATool have created a participatory governance model, linking public institutions, academia, civil society, and the private sector. Regional Action Plans (RAPs) should institutionalise these networks to form permanent rural–urban observatories or co-design platforms, ensuring that community feedback remains a continuous input to policymaking.

Digitalisation

and

Data

Governance

The rollout of the PoliRuralPlus Dashboard and Hub4Everybody represents a step forward in open-data governance. To ensure long-term interoperability, all datasets should conform to FAIR principles (Findable, Accessible, Interoperable, and Reusable) and align with the European Open Science Cloud (EOSC) and INSPIRE Directive standards.

Alignment with the European Green Deal and the Long-Term Vision for Rural Areas (LTVRA)

D2.3 findings align directly with the EU Green Deal and the LTVRA, reinforcing the transition to climate-neutral, resilient, and digitally empowered territories. By connecting foresight data with spatial modelling, the project contributes to several EU Missions, including Climate Adaptation, Soil Health, and the New European Bauhaus (NEB) initiative.

6.3 Funding Readiness and Policy Integration

The table below maps D2.3 thematic insights to concrete EU and national funding instruments.

Policy Domain	Key D2.3 Insight	Relevant EU / National Funding Instrument	Implementation Opportunity
Sustainable Mobility & Accessibility	High commuting flows and limited rural service connectivity	ERDF, Connecting Europe Facility (CEF), national transport OPs	Integrate RAP mobility measures into CEF-funded corridors
Green and Circular Economy	Bioeconomy clusters and value-chain gaps identified	Horizon Europe Cluster 6, LIFE, EAFRD	Link pilot bioeconomy actions with circular economy transition funding
Digital Transition	Low rural digital literacy and broadband coverage	Digital Europe Programme (DEP), ESF+, Smart Specialisation Strategies	Develop local digital hubs within Hub4Everybody ecosystem
Nature-Based Solutions (NBS) & NEB	Opportunities for green infrastructure and landscape restoration	LIFE, NEB Facility, Cohesion Policy	Embed NEB principles into RAP planning and spatial design
Inclusive Governance & Skills	Stakeholder capacity disparities and rural youth outmigration	ESF+, Erasmus+, Rural Pact Support Office	Implement skills-building programmes under MAA framework
Social and Economic Resilience	Limited funding coordination between rural and urban programmes	RRF, national recovery plans	Align local investments with multi-level governance financing mechanisms

Table 36: Thematic insights to concrete EU & national funding instruments.

6.4 Policy Recommendations

Building on the cross-cutting thematic findings and SWOT analysis of Period 2 (2025–2026), the following **policy recommendations** are proposed to guide future rural–urban governance and EU programming:

1. **Strengthen Multi-Level and Cross-Sectoral Governance:**
 - Institutionalise the *Multi-Actor Approach (MAA)* within national ministries and regional development agencies to sustain rural–urban coordination platforms beyond project lifecycles.
2. **Mainstream Participatory Foresight:**
 - Embed iterative foresight cycles (anticipate–co-create–review) into CAP and Cohesion Policy planning frameworks. Use them as adaptive policy tools rather than one-off consultations.
3. **Advance Digital and Data-Driven Governance:**
 - Scale up the use of **MAATool**, **Advisor**, and related services as standard governance interfaces. Integrate regional dashboards into open-data systems to promote transparency and accountability.
4. **Promote Circular Economy and Green Transition Models:**
 - Incentivise regional circular hubs that link agriculture, industry, and tourism sectors. Apply **NEB aesthetics** to ensure sustainability is matched by cultural and spatial quality.
5. **Enhance Capacity Building and Local Leadership:**
 - Establish “Rural Innovation Academies” or similar peer-learning programmes to build technical, entrepreneurial, and leadership capacities among youth, women, and marginalised groups.
6. **Coordinate Multi-Level Funding and Financing Innovation:**
 - Develop *blended finance ecosystems* that align CAP, RRF, Interreg, and Horizon Europe programmes with local investment strategies. Pilot revolving funds and regional green bonds to ensure sustainability.
7. **Embed Cultural and Social Dimensions of Sustainability:**

- Incorporate NEB and cultural heritage perspectives into climate adaptation, spatial planning, and community regeneration. Evaluate well-being, inclusion, and cohesion as integral sustainability KPIs.
8. **Strengthen Monitoring, Evaluation, and Knowledge Sharing:**
- Develop open, harmonised KPI frameworks across regions. Share insights through platforms like the **Rural Pact**, **NEB Lab**, and the **PoliRuralPlus Knowledge Space** to foster policy learning at EU level.

These recommendations align with the project’s overarching vision: to transition from isolated pilot interventions toward systemic rural–urban integration, enabling Europe’s territories to co-evolve through shared foresight, inclusive governance, and sustainable innovation.

6.3 Summary of Key Points

- **Rural–urban linkages are systemic**, shaped by interdependent economic, environmental, social, and digital dimensions.
- **PoliRuralPlus tools and foresight processes** have proven effective in making these linkages visible, measurable, and actionable.
- **Cross-pilot synthesis** confirms strong progress in governance innovation, digital transformation, and foresight institutionalisation.
- **Persistent bottlenecks** include fragmented governance, limited local financing, and digital exclusion in small or ageing communities.
- **Emerging opportunities** lie in cross-border cooperation, cultural regeneration under NEB, and data-driven participatory policymaking.
- **The next phase (2026–2028)** must prioritise institutional continuity, capacity-building, and mainstreaming of PoliRuralPlus methodologies into EU and national policy cycles.

6.4 Overall Recommendations

The synthesis of all analyses suggests a structured roadmap for scaling the PoliRuralPlus model across Europe:

Time Horizon	Strategic Focus Areas	Key Actions
2025–2027 (Short-term)	Food systems, digitalisation, & governance	Deploy MAATool and Advisor in all pilot regions; establish digital governance labs and cross-level taskforces.
2027–2030 (Medium-term)	Climate resilience & cultural industries	Integrate NEB principles; strengthen rural–urban collaboration through foresight-led governance experiments.
2030–2040 (Long-term)	Governance integration & demographic renewal	Institutionalise rural–urban digital governance networks and foresight councils at regional/national levels; sustain through EU missions and RRF 2.0 alignment.

Table 37: structured roadmap for scaling the PoliRuralPlus model across Europe:

This roadmap allows immediate action on pressing issues (digital inclusion, food resilience) while maintaining a long-term focus on systemic change (governance and demographic renewal).

6.5 Future Work and Research Directions

Future phases of PoliRuralPlus and its successors should address three overarching research priorities:

1. **AI and Foresight Integration:**
 - Further develop explainable, participatory AI models that support transparent and ethical regional decision-making.
2. **Socio-Economic Impact Assessment:**



- Design metrics that capture not only economic outcomes but also well-being, cultural vitality, and ecological balance.

3. **Replication and Scalability:**

- Develop modular toolkits and governance templates for replication in non-EU regions, fostering global knowledge transfer on rural–urban cohesion.

Future work should also explore **open calls and partnerships to engage external actors**—including local authorities, civil society, SMEs, and global networks—through dedicated foresight-driven calls for participation. These calls will invite non-consortium innovators to test and upscale rural–urban integration solutions, feeding results back into the **PoliRuralPlus Knowledge Space** and the EU’s Rural Pact platform.”

6.6 Final Reflection

PoliRuralPlus has established itself as a **European laboratory for integrated territorial foresight**, demonstrating that participatory governance, digital intelligence, and inclusive design can converge to deliver tangible rural–urban transformation. The project’s approach—anchored in foresight, co-creation, and AI-assisted decision-making—offers a replicable pathway for achieving the EU’s long-term vision: *stronger, connected, resilient, and prosperous rural areas* within a cohesive European territorial framework.

Annex A Examples of using Advisor to improve RAPs and address issues

1. Identifying Radical Regional Innovations (May25)

The April WP2 meeting agreed that disruptive radical regional innovations could ensure large & long lasting changes & impacts on our regions & rural-urban linkages. And that the PoliRuralPlus AI-based services should be able to support our pilots to develop more radically ambitious RAPs

This annex shows how the strategic aspects of the PoliRuralPlus Pilots were analysed using the Advisor service, focusing on rural-urban integrated development. It includes a summary table of current Regional Action Plans (RAPs) at May 2025, gaps, and potential radical innovations for nine pilot regions across Europe. A SWOT analysis is provided for each pilot, detailing strengths, weaknesses, opportunities, and threats. The document outlines specific potential radical innovations for each pilot, presented in both a detailed list and a comparative matrix. Finally, strategy maps illustrate the alignment of these innovations with strategic domains, comparing current RAP strategies with potential radical innovation strategies.

How Advisor can support radical innovation in the pilots.

Pilot	Current RAP	Gap	Potential Radical Innovation
1. Apulia, Italy	RAP is agriculturally robust	Needs expanded urban-rural linkages and social innovation frameworks	drive green tech and circular value chains
2. Central Greece	RAP is modest across all domains	Gap: build digital, climate, and youth-driven entrepreneurship layers	offer tourism-tech integration and cooperative models
3. County Monaghan, Ireland	Current RAP strengths include governance and circular economy	Key gap: improve rural mobility and remote work infrastructure	Proposed radical enhance digital and cross-border strategies
4. Czech-Bavarian Border Region	RAP focused on cross-border cooperation & mobility	Gap: bilingual coordination tools and integration of SMEs	Radical introduce circularity and cultural co-design
5. Mallusjoki, Finland	Strong RAP governance with local engagement	Key gap: bioeconomy value chain scaling & institutional uptake	amplify cultural and creative economy
6. Malta Pilot	RAP Strategy Briefing Strong on resource circularity	Gap: youth innovation ecosystems and civic engagement in planning	bring forward twin-resource management and blue economy
7. Slovakia	Well-developed stakeholder governance in RAP	Gap: lack of cross-sectoral strategy and smart villages concept, invest in AI-readiness & rural-urban digital platforms	promote digital tools and development and connection of smart villages with smart cities, policy recommendation for cross-sectoral cooperation
8. Spain	Balanced RAP with innovation and cohesion	Needs: enhanced rural branding and storytelling	Radical directions include AI foresight and participatory regeneration
9. Vidzeme, Latvia	RAP reflects environmental and governance strength	Gap: scale-up urban-rural flows and youth digital networks	Radical directions push bioregional planning and forest infrastructure

Table 38 RAP gaps & radical innovation

1.1 SWOT Analysis of PoliRuralPlus Pilots

A structured table of the SWOT (Strengths, Weaknesses, Opportunities, Threats) elements for each of the 9 PoliRuralPlus pilot regions, populated based on the PoliRuralPlus documents, and structured around their rural-urban integrated development, is as follows.

Pilot	Strengths	Weaknesses	Opportunities	Threats
1. County Monaghan, Ireland	Strong local engagement; established agri-food economy; robust digital and physical connectivity	Ageing population; underutilised rural assets; limited innovation capacity	Smart villages initiative; tourism diversification; cross-border cooperation	Policy fragmentation post-Brexit; digital divide; climate vulnerabilities
2. Slovakia	High biodiversity; tradition in forestry and agriculture; collaborative pilot design	Low stakeholder digital literacy; lack of regional digital tools and data; weak interregional links	Digital skills training; national smart village policy; adoption of national vision in alignment with EU rural vision	Rural depopulation; governance silos; limited local policy impact, low stakeholder engagement in policy making
3. Central Greece	Rich cultural heritage; academic support from universities; active municipalities	Fragmented land ownership; lack of integrated planning; low urban-rural collaboration	Tourism-agriculture integration; EU Green Deal funding; innovation networks	Aging farming population; water scarcity; urban-centric policies
4. Apulia, Italy	Diverse agricultural production; strong regional branding; active LAGs	Youth outmigration; low entrepreneurial dynamism; infrastructural gaps	Digital transition in farming; value chains for local products; circular economy	Climate change impacts; market volatility; EU regulation shifts
5. Mallusjoki, Finland	Engaged community ecosystem; cultural tourism potential; AI usage for engagement	Small local economy; low legal influence; governance complexity	Rural event-based ecosystem; smart village pilots; quadruple helix cooperation	Urban-centric administration; seasonal visitor dependency; limited scalability
6. Czech-Bavarian Border Region	Cross-border cooperation experience; natural capital; engaged LAGs	Fragmented governance; logistical bottlenecks; language and cultural gaps	EU Interreg synergies; eco-tourism; circular bioeconomy	Cross-border policy misalignment; demographic decline; funding discontinuity
7. Spain	Strong innovation culture; active rural networks; EU policy alignment	Diverse regional disparities; infrastructural imbalance; low youth engagement	Rural innovation hubs; digital twin approaches; depopulation reversal strategies	Economic instability; over-reliance on CAP; rural gentrification
8. Vidzeme, Latvia	Institutional capacity; environmental assets; EU cross-programme expertise	Low population density; limited investment attraction; poor transport links	Integrated territorial development; green transition; mobility innovations	Policy discontinuities; shrinking labour force; spatial polarisation
9. Malta	High innovation uptake; strategic insular positioning; strong stakeholder networks	Small market size; high development pressure; resource constraints	Blue economy expansion; heritage-based tourism; green tech integration	Land use conflicts; urban sprawl; climate change risks

Table 39: RAP SWOTs

1.2 Potential Radical Innovations

Potential radical innovations tailored for each PoliRuralPlus pilot region, based on their SWOT analyses and best practice examples in rural-urban integration globally (e.g., Smart Villages, Rural Living Labs, EU Rural Pact, OECD urban-rural synergies, etc.), are as follows:

1. County Monaghan, Ireland

Context: Strong community and agri-food base; challenged by ageing demographics and post-Brexit uncertainty.

Radical Innovations:

1. **Cross-border Agri-Tech Innovation Corridor** with Northern Ireland.
2. **Rural Immersion Residency Programmes** for urban professionals and remote workers.
3. **Local Food Blockchain System** to trace Monaghan produce in urban Irish and UK markets.
4. **Climate Resilience Hubs** combining permaculture and digital forecasting tools.
5. **Rural Regeneration Bonds** to crowd-invest in agri-tourism and local assets.
6. **Reverse Mentorship Networks** pairing young digital natives with senior farmers.
7. **Bioeconomy Co-op Models** for waste reuse and energy from agri-industry.
8. **Smart Cross-Border Mobility Planning Tool** integrating rural-urban routes.
9. **VR-based Rural Education Centers** for regional heritage and innovation.
10. **Mobile Policy Labs** to co-create with citizens and authorities at townland scale.

2. Slovakia

Context: Strong natural capital and well-structured pilot design; constrained by low digital uptake to be addressed by emphasizing stakeholder participation, smart village revitalization, digital innovation, and cross-sector collaboration.

Radical Innovations:

1. **Rural Digital Citizenship Passports** for incentivising platform use.
2. **Smart Village and Smart Cities Living Labs** connecting rural production with urban demand.
3. **Virtual Stakeholder Forum** with gamified participation incentives.
4. Digital support for **AKIS development**
5. **Digital Twins of Pilot Areas** for mission oriented foresight-driven policymaking.
6. **Anti-bureaucratic measures Robust and inclusive stakeholders involvement** in development of Vision for more attractive rural areas.
7. **Public-Private-Civic partnership facilitation**
8. **Rural-Retro Hackathons** for youth reimagining old village spaces.
9. **Holistic approach to rural areas.**
10. **Transparency and accountability in decision-making.**

3. Central Greece

Context: Cultural richness; limited land integration and urban-rural policy synergy.

Radical Innovations:

1. **Agro-Cultural Tourism Mesh** blending heritage and agritourism via smart trails.
2. **AI-Driven Circular Irrigation Systems** in fragmented land parcels.
3. **Digital Rural Planning Forum** integrating citizens, planners, and diaspora.
4. **Geo-tagged Cooperative Branding** for regional produce visibility in urban markets.
5. **Youth-Back-To-Land Grants** via blockchain-backed crowdfunding platforms.
6. **Seasonal Smart Work Migration System** to manage urban-rural labour flows.
7. **Bioregional Commons Charter** for shared landscape stewardship.

8. **Transhumance Innovation Labs** for sustainable pastoralism models.
9. **Open-Source Legal Toolkit** for land consolidation and cooperative farming.
10. **Digital Agora**: reactivating ancient civic ideas with modern platforms.

 **4. Apulia, Italy**

Context: Strong agricultural base and regional branding; youth flight and climate risks.

Radical Innovations:

1. **Youth-Led Climate Start-Up Incubators** tied to food and water resilience.
2. **'Adopt-a-Vineyard' Urban Subscription Model** with immersive tech.
3. **Dynamic Land Use Auctions** using real-time demand data for crop planning.
4. **Heritage-to-Energy Conversions** (e.g., old masserie → solar hubs).
5. **Tourism-Cooperative Credit Exchange** between rural hosts and urban consumers.
6. **Mediterranean Rural Architecture Studio** for bioadaptive design.
7. **Zero-Waste AgriDistricts** certified via open data.
8. **Urban Volunteer Farming Corps** for harvest and festivals.
9. **Rural Mobility-as-a-Service** platform integrated with Apulian cities.
10. **Digital Sanctuary for Traditional Practices** linked to e-commerce for local food

 **5. Mallusjoki, Finland**

Context: Creative ecosystem and digital experimentation; small scale, legal limitations.

Radical Innovations:

1. **AI-enabled Seasonal Event Forecasting Tool** for tourism-economy planning.
2. **Village-as-a-Service Subscription** for city dwellers (access to events, stays, coworking).
3. **AI-Powered "Smart Youth Club"** for community-led service creation.
4. **Event Blockchain for Local Impact Bonds** tracking social returns.
5. **Decentralised Smart Contracts** for creative commons and artist rights.
6. **Cultural Credit Systems** for community participation and learning.
7. **Nomadic Rural Innovation Lab** rotating through Finnish rural regions.
8. **Living Lab Certification** for Rural Event Ecosystems (EU-wide brand).
9. **Sensory Data Trails** combining art and environmental monitoring.
10. **Rural Value Chain Simulator** with VR for training and investment promotion.

 **6. Czechia-Bavarian Border**

Context: Bi-national cooperation; barriers in governance and transport.

Radical Innovations:

1. **Cross-Border E-Mobility Grid** with EU-funded mobility credits.
2. **Twin-Village Public Service Platforms** co-managed across the border.
3. **Cultural Co-Living Zones** blending artists, entrepreneurs, and youth.
4. **Shared Bioregion Lab** with geospatial intelligence for ecosystem services.
5. **Rural Circular Economy Exchanges** between Czechia and Bavarian SMEs.
6. **EU Border Innovation Passport** for entrepreneurs using shared services.
7. **Decentralised Language Learning & Dialogue Circles.**
8. **Geo-Fenced Agro-Tourism Routes** with localised digital guides.
9. **Digital Twin Forests** for carbon markets and land stewardship.
10. **Smart Rural Governance Wiki** for municipal innovation replication.

 **7. Spain**

Context: Innovative ecosystem; regional inequality and depopulation.

Radical Innovations:

4. **Urban-to-Rural Skill Mobility Exchanges** on blockchain.
5. **Rural-Robotics Pilot Zones** for agriculture and logistics.
6. **AI Predictive Depopulation Modeller** to guide policy and investment.
7. **Cooperative Land Trusts** enabling youth/family resettlement.
8. **Crowd-Mapped Rural Needs App** integrated with digital twins.
9. **Digital Eldercare Coops** using urban tech and rural caregivers.
10. **Regenerative Tourism DAO** with local voice token system.
11. **Superblock-inspired Rural Villages** redesigning flows and public space.
12. **Gamified Rural Participation Platform** with rewards for civic acts.
13. **Multilingual MetaVillage for Cultural Revival and Storytelling.**

8. Vidzeme, Latvia

Context: High institutional capacity and green ambition; low density and mobility.

Radical Innovations:

1. **Forest-as-Infrastructure Projects** blending carbon credits and recreation.
2. **Digital Connectivity Rights Charter** linked to broadband expansion.
3. **Community Mobility Coops** using shared e-bikes and EVs.
4. **Geo-Spatial Agricultural Commons** for new land entrants.
5. **Rural Youth-EcoChallenge Platform** with badges and hackathons.
6. **Smart Bioregional Contracts** linking ecosystem services to urban benefits.
7. **Eco-Forest School Network** attracting international learners.
8. **Smart Shelter Networks** for digital nomads and eco-volunteers.
9. **'Regenerative Latvia' Pilot Zone** for new planning logics.
10. **VR-based Biodiversity Journeys** in schools and city museums.

9. Malta

Context: Highly networked, innovation-savvy; resource constrained, high pressure.

Radical Innovations:

1. **Urban-Rural "Resource Twin" Models** for water and energy exchanges.
2. **Island-wide Smart Commons Framework** for land and marine zones.
3. **Agro-Solar Vertical Farms** integrated into urban edges.
4. **AI-Powered Coastal-Rural Risk Resilience Dashboard.**
5. **Community-Owned Microgrids** balancing urban and rural demand.
6. **Blue-Green Rural Innovation Sandbox** for regenerative aquaculture.
7. **Circular Tourism Credits** redeemable across rural and urban experiences.
8. **Gamified Youth Parliament for Rural Innovation Policy.**
9. **AI Urban Pressure Index** to guide equitable development.
10. **Eco-Infrastructure Symbiosis Zones** linking rural biodiversity and urban cooling.

3.3 Potential radical Innovations Matrix for PoliRuralPlus Pilots

The following Radical Innovations Matrix for each of the PoliRuralPlus pilot regions, outlines 10 transformative ideas tailored to their contexts and SWOT insights. This format allows comparison and prioritisation across regions.

Pilot	Innovation 1	Innovation 2	Innovation 3	Innovation 4	Innovation 5	Innovation 6	Innovation 7	Innovation 8	Innovation 9	Innovation 10
1.County Monaghan, Ireland	Cross-border Agri-Tech Innovation Corridor	Rural Immersion Residency Programmes	Local Food Blockchain System	Climate Resilience Hubs	Rural Regeneration Bonds	Reverse Mentorship Networks	Bioeconomy Co-op Models	Smart Cross-Border Mobility Planning Tool	VR-based Rural Education Centers	Mobile Policy Labs
2.Slovakia	Rural Digital Citizenship Passports	Smart Villages and Smart Cities Living Labs	Virtual Stakeholder Forum	Digital Twins of Pilot Areas	Digital AKIS	Anti-bureaucratic measures	Robust and inclusive stakeholder engagement	Rural-Retro Hackathons	Public-Private-Civic Partnerships	Holistic approach to rural areas
3.Central Greece	Agro-Cultural Tourism Mesh	AI-Driven Circular Irrigation Systems	Digital Rural Planning Forum	Geo-tagged Cooperative Branding	Youth-Back-To-Land Grants	Seasonal Smart Work Migration System	Bioregional Commons Charter	Transhumance Innovation Labs	Open-Source Legal Toolkit	Digital Agora
4.Apulia, Italy	Youth-Led Climate Start-Up Incubators	Adopt-a-Vineyard Urban Subscription Model	Dynamic Land Use Auctions	Heritage-to-Energy Conversions	Tourism-Cooperative Credit Exchange	Mediterranean Rural Architecture Studio	Zero-Waste AgriDistricts	Urban Volunteer Farming Corps	Rural Mobility-as-a-Service	Digital Sanctuary for Traditional Practices
5.Mallusjoki, Finland	AI-enabled Seasonal Event Forecasting Tool	Village-as-a-Service Subscription	AI-Powered Smart Youth Club	Event Blockchain for Local Impact Bonds	Decentralised Smart Contracts	Cultural Credit Systems	Nomadic Rural Innovation Lab	Living Lab Certification	Sensory Data Trails	Rural Value Chain Simulator
6.Czech-Bavarian Border Region	Cross-Border E-Mobility Grid	Twin-Village Public Service Platforms	Cultural Co-Living Zones	Shared Bioregion Lab	Rural Circular Economy Exchanges	EU Border Innovation Passport	Decentralised Language Learning & Dialogue Circles	Geo-Fenced Agro-Tourism Routes	Digital Twin Forests	Smart Rural Governance Wiki
7.Spain	Urban-to-Rural Skill Mobility Exchanges	Rural-Robotics Pilot Zones	AI Predictive Depopulation Modeller	AI Predictive Depopulation Modeller	Cooperative Land Trusts	Crowd-Mapped Rural Needs App	Digital Eldercare Coops	Superblock-inspired Rural Villages	Gamified Rural Participation Platform	Multilingual MetaVillage
8.Vidzeme, Latvia	Forest-as-Infrastructure Projects	Digital Connectivity Rights Charter	Community Mobility Coops	Community Mobility Coops	Geo-Spatial Agricultural Commons	Rural Youth-EcoChallenge Platform	Smart Bioregional Contracts	Smart Shelter Networks	Regenerative Latvia Pilot Zone	VR-based Biodiversity Journeys
9.Malta	Urban-Rural Resource Twin Models	Island-wide Smart Commons Framework	Agro-Solar Vertical Farms	Agro-Solar Vertical Farms	AI-Powered Coastal-Rural Risk Resilience Dashboard	Community-Owned Microgrids	Blue-Green Rural Innovation Sandbox	Circular Tourism Credits	Gamified Youth Parliament	AI Urban Pressure Index

Table 40: Radical Innovations Matrix of the Pilots

1.4 Strategy Mapping of Radical Innovations across Pilots

Individual strategy maps for all 9 PoliRuralPlus pilot regions are shown in the diagram. Each chart highlights how that region’s potential radical innovations align with 10 strategic domains crucial for rural-urban integration. This allows the stakeholders to:

- Identify strengths and gaps per pilot.
- Benchmark regions against each other.
- Prioritize RAP development themes.

The individual radar charts compare each pilot’s current RAP strategy (blue) with their potential radical innovation strategy (green).

Comparison of Current RAPs vs Radical Innovation Strategies (Blue vs Red)

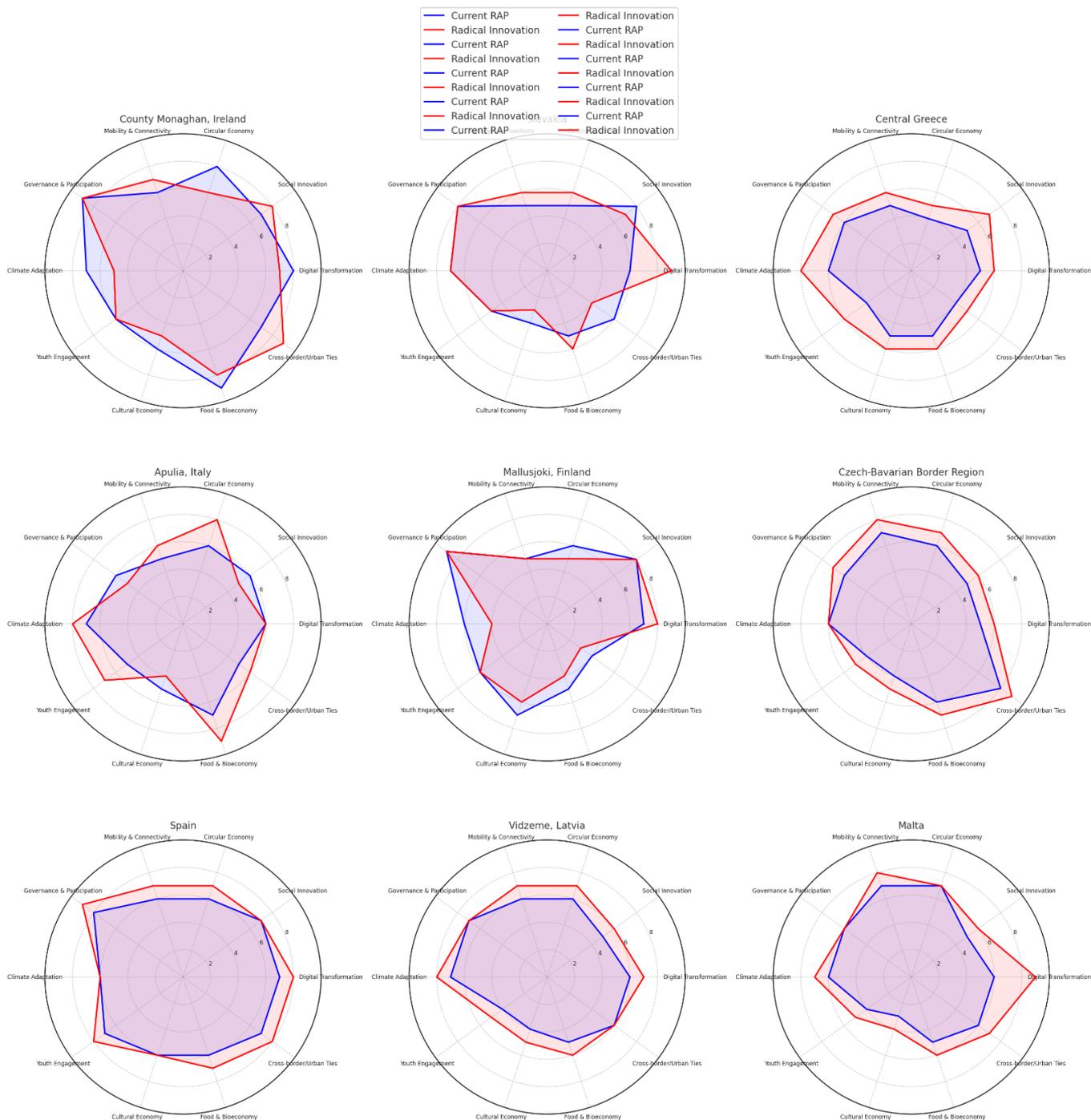


Figure 16: Pilot’s RAP/Radical Innovation Radar charts

In this visual strategy mapping of radical innovations across the PoliRuralPlus pilots, each axis represents a strategic domain, and the radar chart shows how strongly each pilot’s innovations align with these themes. This can help guide future RAP updates, funding alignment, or cross-regional collaboration

1. County Monaghan, Ireland

- **Current Focus:** Strong in governance, circular economy, food systems.
- **Radical Shift:** More emphasis on digital transformation and cross-border innovation.
- **Gap:** Digital and urban-rural mobility can be boosted.

2. Slovakia

- **Current Focus:** Inclusive governance, stakeholder participation.
- **Radical Shift:** Enhances digital tools and stakeholders participation, smart village revitalization and cross-sector collaboration.
- **Gap:** Needs tech investment and cross-sector platforms.

3. Central Greece

- **Current Focus:** Modest in all areas, especially digital and climate.
- **Radical Shift:** Leaps in tourism-tech integration and land-use reform.
- **Gap:** Requires a broader digital and entrepreneurial ecosystem.

4. Apulia, Italy

- **Current Focus:** Strong on circularity and agriculture.
- **Radical Shift:** Brings in youth, mobility and digital transitions.
- **Gap:** Needs stronger capacity building mechanisms and urban ties.

5. Mallusjoki, Finland

- **Current Focus:** Excellent on governance and community-led action.
- **Radical Shift:** Explores AI, creative economies, and value chains.
- **Gap:** Could deepen bioeconomy and inter-regional scaling.

6. Czechia-Bavarian Border

- **Current Focus:** Governance and mobility-oriented.
- **Radical Shift:** Adds strong cultural, circular and digital layers.
- **Gap:** Coordination tools for policy and language diversity.

7. Spain

- **Current Focus:** Strong on governance, innovation and cohesion.
- **Radical Shift:** Embraces predictive analytics, robotics and regenerative models.
- **Gap:** Enhance cultural identity and rural-urban bridging.

8. Vidzeme, Latvia

- **Current Focus:** Balanced across themes.
- **Radical Shift:** Emphasizes mobility, forest-based infrastructure, youth.
- **Gap:** Needs stronger urban partnerships and digital branding.

9. Malta

- **Current Focus:** Good on circular economy and mobility.
- **Radical Shift:** Introduces resource twinning and blue economy synergies.
- **Gap:** Lacks social and youth innovation platforms.

2. Enhancing Rural-Urban Interactions Through Events and Services

This section describes the Finnish Mallusjoki Youth Association (MYA) pilot's ongoing efforts to foster rural-urban interaction through service design, stakeholder engagement, and cultural events. It complements the broader framework of WP2 by offering granular insights into local dynamics, and its systemic relevance to regional foresight, participatory policy innovation, and the role of AI in rural service ecosystems.

Key Insights from the Mallusjoki RAP

1. Cultural Events as a Rural-Urban Linkage Engine:
2. Events like the "Takkari Club" act as points of convergence for rural and urban populations. The systematic collection of guest origin data (March & June 2024) visualizes this interaction, showing participants travel from nearby urban centres, confirming these events serve as soft infrastructure reinforcing territorial cohesion.
3. Stakeholder-Driven Service Design:
4. The pilot promotes service design rooted in co-creation, facilitated by the MYA's flexible cultural mandate. This includes tailored offerings for seniors, youth, and creative entrepreneurs, reflecting a grassroots-led governance model underpinned by social innovation and non-profit entrepreneurship.

5. Use of AI for Participatory Planning:
6. AI (“Buddy system”) was piloted for designing new event services, enabling MYA and partners to model and prototype offerings. This aligns with PoliRuralPlus’s ambition to deploy AI/DSS to support regional planners and stakeholders.
7. Multi-Actor Approach & Urban-Rural Dialogue:
8. A survey of regional developers revealed diverse interpretations of the rural-urban connection. While some stressed policy alignment and demographic balance, others emphasized place-based cultural identity and economic sustainability.
9. Thematic Anchors Identified:
 - Resilience through rural events
 - Creative rural industries as anchors
 - Inter-regional inclusivity via mobility and events

Implications for the PoliRuralPlus Project and pilots

1. Rural Events as Strategic Leverage Points:
2. The Finnish case proves that local event industries, even in very small communities, act as effective drivers for regional attraction and inclusion. This reinforces D2.3’s emphasis on non-physical infrastructure in building urban-rural linkages.
3. Operationalizing Rural-Urban Interaction:
4. By gathering residence data of event attendees and mapping it geospatially, the Mallusjoki pilot provides a replicable method for quantifying rural-urban flows, which other RAPs could adopt.
5. AI-Enhanced Co-Design in Rural Contexts:
6. The use of AI as a “Buddy” for ideation in product/service design showcases practical integration of intelligent systems in participatory governance. This is relevant to WP4/D4.1 (Platform Design) and WP5/D5.1 (MAA Tool development).
7. Reframing Stakeholder Roles with Dual-Role MAA:
8. The Dual-Role Multi-Actor Approach (where stakeholders are both targets and initiators of policies) is a powerful innovation in governance models. This matches the conceptual shift explored in D2.3 and supports horizontal engagement strategies.
9. Data-Driven Dialogue and Social Capital:
10. The pilot demonstrates that rich dialogue (survey + mapping + AI) and intergenerational co-production create trust and continuity—two critical elements for scaling up territorial approaches across PoliRuralPlus pilots.

Recommendations for PoliRuralPlus Based on the Mallusjoki RAP

- Embed rural cultural events as nodes in the regional interaction maps to capture soft linkages.
- Replicate the residence-based mapping of event guests in other pilots to visualize urban-rural mobility patterns.
- Promote Dual-Role stakeholder engagement models in MAA Tool guidance for WP5.
- Incentivize pilots to test AI-supported participatory tools for small-scale planning (especially creative and service economies).
- Use event-driven ecosystem models as templates for new forms of rural entrepreneurship and civic engagement.

3. Comparative Analysis of the Pilots (Feb25)

It was agreed at the January 2025 WP2 meeting that an excellent and very useful comparative analysis across all pilots could be carried out by each pilot adapting the Slovakian pilot’s questionnaire text at [ANG Budúcnosť slovenského vidieka \(dotaznik\).sk.en.docx - Google Docs](#) to their situation and language.

So the following analysis was carried out using the Advisor service.

3.1 Suggested Modifications to the Slovakian pilot's Questionnaire

These suggestions collectively aim to improve the questionnaire's effectiveness by ensuring clarity, inclusivity, comparability, and engagement while maintaining flexibility for regional-specific needs.

1. Standardization for Cross-Pilot Comparisons

Modification: Ensured uniform phrasing and structure across all pilot regions to allow for direct comparisons of responses. Reason: This enhances data consistency, ensuring that regional differences are due to actual conditions rather than survey design inconsistencies.

2. Inclusion of Open-Ended Questions

Modification: Added open-ended questions in multiple sections to capture nuanced responses. Reason: While structured questions facilitate analysis, open-ended responses allow respondents to express unique challenges and ideas that multiple-choice options may not capture.

3. Improved Clarity and Context

Modification: Provided brief explanations or contextual framing for complex topics, such as economic conditions, digital infrastructure, and policy measures. Reason: Not all respondents may be familiar with policy frameworks or economic trends, and additional context helps avoid confusion or misinterpretation of questions.

4. Flexibility for Regional Adaptations

Modification: Allowed for a core set of standardized questions while permitting each pilot region to add relevant questions specific to their context. Reason: This ensures that while the questionnaire is comparable across regions, it remains adaptable to region-specific conditions and policy priorities.

5. Consideration for Digital and Paper-Based Versions

Modification: Designed the questionnaire in a format that supports both online and offline completion. Reason: Many rural areas have limited internet access, so providing a paper-based option ensures broader participation and more representative data collection.

6. Reduction of Redundancy

Modification: Streamlined questions that addressed similar topics, such as economic stability and employment opportunities, to prevent respondent fatigue. Reason: Reducing redundancy makes the questionnaire more engaging and reduces the risk of inconsistent answers due to repeated themes.

7. Expansion of Digital Literacy Section

Modification: Added more response options for digital literacy training and engagement. Reason: Understanding digital skills and training needs is critical for rural development, particularly for economic participation and service access.

8. Vision for the Future Section

Modification: Included a question on how respondents envision rural areas in 2040 and what policies they see as most necessary. Reason: This encourages forward-thinking responses and informs long-term policy planning based on community aspirations.

9. Inclusion of an Optional Comments Section

Modification: Added a final open-ended question for additional feedback. Reason: Allows respondents to highlight concerns or ideas that were not covered in the structured sections, ensuring comprehensive data collection.

These are included in the modified questionnaire in section 4.

Questionnaire

The following analytical framework could provide a comprehensive and standardized comparative analysis within and between all PoliRuralPlus pilot regions:

Intra-Pilot Analysis (Within Each Region)

Goal: Identify trends, challenges, and strengths unique to each pilot region.

A. Socio-Economic Trends

- Compare responses on economic stability, job availability, and business support.
 - Key metrics: Percentage of respondents indicating improvement vs. decline in economic conditions.
 - Expected insights: Identification of economic strengths or weaknesses per region.

B. Digital & Infrastructure Gaps

- Analyze digital literacy levels and access to technology across different demographic groups.
 - Key metrics: Internet accessibility and participation in digital literacy training.
 - Expected insights: Identification of rural digital divides within a region.

C. Migration and Demographics

- Assess youth migration trends and factors influencing mobility.
 - Key metrics: Proportion of respondents reporting youth departures and their reasons.
 - Expected insights: Factors contributing to retention or out-migration of young populations.

D. Policy and Service Gaps

- Evaluate satisfaction with local government support and service access.
 - Key metrics: Satisfaction levels with healthcare, education, and government programs.
 - Expected insights: Identification of priority service improvements.

Inter-Pilot Analysis (Comparisons Across Regions)

Goal: Identify commonalities and differences between pilot regions for shared learning.

A. Economic Development & Resilience

- Compare how regions have recovered from COVID-19 in terms of economic stability and employment.
 - Key comparison metric: Percentage of respondents reporting improved vs. worsened economic conditions.
 - Expected insights: Identification of best practices from more resilient regions.

B. Infrastructure Disparities

- Analyze gaps in digital and physical infrastructure between rural areas.
 - Key comparison metric: Internet availability and healthcare access times.
 - Expected insights: Understanding of regional disparities and policy prioritization.

C. Rural-Urban Linkages

- Compare regional perspectives on the relationship between rural and urban areas.
 - Key comparison metric: Frequency of responses supporting stronger rural-urban cooperation.
 - Expected insights: Identification of which regions have stronger integration and why.

D. Vision for 2040 & Policy Priorities

- Examine common themes and differences in long-term rural development aspirations.
 - Key comparison metric: Common policy recommendations suggested by respondents.
 - Expected insights: Alignment or divergence in future rural development goals.

3.2 Benchmarking and Policy Recommendations

- Develop comparative ranking of regions based on key performance indicators derived from survey responses.
- Identify replicable best practices in successful regions that can be transferred to others.
- Use data for regional action plans to tailor interventions to region-specific needs.

This structured approach ensures a data-driven, actionable comparison that supports effective policy-making and shared learning across all PoliRuralPlus pilots.

The following table summarises this structured comparative analysis framework in a table format for intra-pilot (within regions) and inter-pilot (across regions) analysis using the modified questionnaire.

Comparison Category	Intra-Pilot (Within Each Region)	Inter-Pilot (Across Regions)	Key Metrics	Expected Insights
Socio-Economic Trends	Identify economic stability, job opportunities, and support for businesses.	Compare economic recovery post-COVID-19 among pilot regions.	% reporting improved vs. worsened economic conditions.	Identify resilient economies and best practices for economic recovery.
Digital & Infrastructure Gaps	Assess digital literacy, internet access, and infrastructure quality per region.	Compare infrastructure gaps and digital access across regions.	% with good vs. poor internet; % attending digital literacy training.	Highlight digital divides and policy needs for technology access.
Migration and Demographics	Analyze trends in youth migration and population shifts.	Compare migration trends and reasons for movement across regions.	% reporting youth out-migration vs. retention.	Identify key factors influencing rural depopulation and retention strategies.
Policy and Service Gaps	Measure satisfaction with local government services (healthcare, transport, education).	Identify regional disparities in access to public services.	% of respondents satisfied vs. dissatisfied with local services.	Guide investment priorities in public services per region.
Economic Development & Resilience	Examine economic changes and business resilience since the pandemic.	Compare economic support mechanisms and recovery strategies across regions.	% with stable income vs. those struggling financially.	Pinpoint regions with the best economic policies and interventions.
Infrastructure Disparities	Assess healthcare access and transport infrastructure in the region.	Compare regions on physical and digital infrastructure development.	Average distance to healthcare facilities and internet access levels.	Identify critical infrastructure gaps that need targeted investments.
Rural-Urban Linkages	Analyze how respondents perceive rural-urban collaboration and dependencies.	Compare rural-urban interactions and support structures across regions.	% supporting stronger rural-urban cooperation.	Determine which regions have successful rural-urban policies and why.
Vision for 2040 & Policy Priorities	Identify respondents' expectations for rural areas in 2040.	Compare long-term visions and common themes across pilots.	Most common policy suggestions from respondents.	Align policy priorities across regions for a shared long-term development strategy.
Benchmarking & Best Practices	Develop rankings for each region's key strengths and weaknesses.	Identify top-performing regions and transferable best practices.	Comparative ranking of key performance indicators (KPIs).	Facilitate knowledge exchange and policy replication between pilots.

Table 41: Intra-pilot structured comparative analysis

This table ensures structured, standardized analysis that supports effective data-driven decision-making across all pilot regions.

Modified Questionnaire for PoliRuralPlus Pilot Regions

The Future of Rural Areas: Development, Challenges, and Cooperation

Introduction

Dear respondent,



We invite you to participate in this survey conducted as part of the PoliRuralPlus project. Your responses will help us assess changes in rural areas post-COVID-19, examine the Vision for a More Attractive Countryside, and analyze rural-urban interactions.

Your responses are **anonymous**, and all data will be processed solely for research purposes, in accordance with applicable data protection laws.

Estimated time to complete: 15-20 minutes

Thank you for your valuable input!

Section 1: Demographics

1. Gender:
2. Age Category:
3. Location (Region and Municipality):
4. *(Open-ended response)*
5. Size of Your Village or Town:
6. Are you responding as an individual or on behalf of an organization?

Section 2: Socio-Economic Conditions

6. How have economic conditions in your municipality changed since the COVID-19 pandemic?
7. How has employment in your municipality been affected?
8. Do you feel more economically stable compared to during the pandemic?
9. (Optional) What do you think would most improve economic stability in your area? *(Open-ended response)*

Section 3: Access to Services and Infrastructure

10. How do you rate the quality of digital infrastructure (e.g., internet access) in your municipality?
5. How far from where you live is the nearest healthcare facility?
12. What are the biggest challenges in accessing services (e.g., transport, healthcare, education)? *(Open-ended response)*

Section 4: Digital Literacy and Technology Access

13. How do you rate your level of digital literacy (e.g., ability to use a computer, smartphone, and online applications)?
17. Do you participate in courses or training to improve your digital literacy?

Section 5: Supporting the Local Economy

15. How has support for local markets and producers changed since the pandemic?
16. Do you feel there is sufficient support from the state or local governments for small businesses in your area?
17. Do you prioritize purchasing local products and services?

Section 6: Migration and Demographic Change

18. Has there been an increase or decrease in young people leaving your municipality for work or study since the pandemic?
19. What could encourage young people to stay in or return to your municipality? *(Open-ended response)*

Section 7: Vision for the Future

20. How do you imagine the ideal countryside by 2040? (*Open-ended response*)
21. What policy measures do you think are most necessary for rural development in your region? (*Open-ended response*)
-

Final Thoughts

22. Do you have any additional comments or concerns regarding rural development in your region? (*Open-ended response*)
-

Thank you for your participation!

Your responses will contribute to shaping policies and strategies that support the sustainable development of rural areas.

3. Irish RAP financing options

To explore funding options for the Irish RAP In August 2025, the Advisor service was used to review progress on the Monaghan pilot as follow:

1. *“Give me an update on the progress of the Irish Monaghan RAP: identifying (a) the sources of finance for the measures in the Monaghan RAP , and (b) engagement with the corresponding ‘actors’ as part of the Monaghan RAP ‘adoption’ process, using the following format: The RAP consists of three main elements ...”* + interactions resulted in a Monaghan RAP Roadmap in a Word file with a Finance Table outlining a financing roadmap for the Monaghan Regional Action Plan (RAP), linking EU and non-EU funding mechanisms to specific measures and the responsible local management authorities. It is structured to support adoption by local actors and alignment with EU/national programmes.

The pilot had produced its [Foresight for Finance Irish Pilot .doc - Google Docs](#) in line with the WP3 methodology. So, Advisor was asked: *“As an expert on PoliRuralPlus and Foresight planning: compare and contrast the attached files and give your expert recommendations for the pilot”* + resulted in the following Monaghan RAP Funding & Implementation Strategy

The RAP Update provides a visionary strategic framework, while Foresight for Finance offers a realistic tactical lens on funding feasibility. The pilot should merge them into a hybrid approach: visionary yet fundable, participatory yet pragmatic

1. Vision & Strategy

- **RAP Update (2040 Vision):**
Strongly framed around resilience, attractiveness, and alignment with EU’s *Long-Term Vision for Rural Areas (LTVRA 2040)*. Key priorities include youth retention, digitalisation, sustainable farming, renewable energy, and cross-border cooperation.
- **Foresight for Finance:**
More pragmatic and financing-oriented. Less emphasis on long-term vision, more on immediate funding opportunities and aligning measures to available calls (LEADER, ESF+, Horizon, LIFE, etc.).

Contrast: RAP is **strategically future-oriented**, while Foresight is **tactically funding-driven**.

2. Financing Mechanisms

- **RAP Update:**
Comprehensive finance roadmap: CAP/EAFRD, ERDF, INTERREG, ESF+, SCF, JTF, RRF, EIB ELENA, and innovative sources (community energy bonds, credit unions, crowdfunding). Finance table ties measures to responsible authorities.

- **Foresight for Finance:**

More cautious: ERDF & INTERREG marked as “not suitable/relevant at present.” Focus is instead on *emerging instruments* like Citizen-Led Renovation Fund, Horizon-CL6 calls, LIFE Clean Energy Transition, and Asylum/Migration Integration Fund.

Contrast: RAP is **inclusive of all potential funding**, while Foresight is **selective and critical of feasibility**.

3. Scope of Measures

- **RAP Update:**

Balanced portfolio: renewable energy pilots, broadband hubs, SME/social enterprise support, cross-border cooperation, youth training, biodiversity farming.

- **Foresight for Finance:**

Stronger emphasis on **job creation targets (250 green jobs by 2030/2040)**, migrant inclusion, circular economy hubs, and digital connectivity.

Contrast: RAP is **broad and integrative**, Foresight is **job- and circular economy-focused**.

4. Engagement & Adoption

- **RAP Update:**

Multi-Actor Approach (MAA) fully embedded: county council, NWRA, SEUPB, youth, SMEs, academia, and cross-border actors engaged. AI-enabled Advisor tested in workshops.

- **Foresight for Finance:**

Engagement implied but less detailed; focus is more on *funding applications* and project pipeline exploration.

Contrast: RAP is **institutionally strong and inclusive**, Foresight is **instrumentally oriented towards funding bids**.

Recommendations for the Monaghan Pilot

1. **Integrate both approaches:**

- Use the **RAP’s visionary framework** as the guiding strategy (ensures alignment with EU 2040 visions).
- Apply the **Foresight for Finance tactical filtering** to prioritise funding opportunities realistically available in 2025–2027.

2. **Refine funding roadmap:**

- Keep all mechanisms in the RAP table, but **flag feasibility status** (e.g., INTERREG not currently open; ERDF unsuitable for Monaghan scale).
- Prioritise LIFE, Horizon-CL6, Citizen-Led Renovation Fund, and ESF+ as “short-term enablers.”

3. **Strengthen cross-border angle:**

- The RAP highlights INTERREG and NI cooperation, but Foresight marks INTERREG as “not relevant.” Instead, explore **new cross-border green economy corridors** through *all-island Just Transition* schemes and *Shared Island Fund*.

4. **Align KPIs with finance sources:**

- RAP sets qualitative ambitions (resilience, youth, energy).
- Foresight introduces **quantitative targets** (e.g., 250 green jobs, 50% digital uptake by 2030).
- Recommendation: **merge both** into a KPI-finance-action matrix, mapping *visionary goals* → *measurable KPIs* → *aligned funding streams*.

5. **Maintain participatory foresight loop:**

- Keep using the **Advisor + MAATool** to ensure that finance-driven project pipelines remain anchored in **local needs and foresight scenarios**, not just opportunistic funding calls.

Harmonised “Monaghan Pilot RAP + Finance Integration Matrix

Harmonised Monaghan Pilot RAP + Finance Integration Matrix that merges the visionary RAP update with the pragmatic Foresight for Finance document. It aligns 2040 priorities → concrete actions → measurable KPIs → funding sources → responsible authorities, giving you a consolidated roadmap for implementation.

Vision Priority (2040)	Key Actions	KPIs (Targets)	Funding Source
Resilient renewable energy & climate-smart farming	Biogas & solar pilots; biodiversity-friendly agri schemes	20% renewable share in Monaghan by 2030; 100% climate-smart CAP pilots	EAFRD (CAP), SCF, RRF, EIB ELENA
Youth retention & digital connectivity	Rural broadband hubs; digital & green skills training	50% increase in digital uptake by 2030; 80% youth engagement in training	ERDF (NWRA), ESF+, RRF, LEADER
Circular economy & green jobs	Circular Economy Innovation Hub; citizen-led renovation fund projects	250 new green jobs by 2030; Hub operational by 2026	LIFE Clean Energy Transition, Horizon-CL6, Citizen-Led Renovation Fund

Table 42: Monaghan RAP Roadmap (2025–2040)

Showing when each priority should start and end, aligned with realistic funding and policy cycles:

-  **Renewable energy & climate-smart farming:** early start, long duration (2025–2035).
-  **Youth & digital connectivity:** front-loaded to 2030.
-  **Circular economy & green jobs:** launched by 2026 with EU LIFE/Horizon, targeted completion by 2030.
-  **Cross-border cooperation:** mid-term (2027–2032), tied to future INTERREG/Shared Island opportunities.
-  **Inclusive communities:** continuous investment through 2040.

Overlaid with **funding sources (EU/national programmes)** to see *which funds activate when?* And show when **priorities overlap with funding opportunities**, helping match actions with active finance windows.

Priority–funding alignment table (matrix view) so can instantly see which funds support which actions
 Monaghan RAP: Priority–Funding Alignment Matrix

	Asylum Migration Integration Fund	Citizen-Led Renovation Fund	EAFRD (CAP)
Renewable energy & climate-smart farming	0	0	1
Youth retention & digital connectivity	0	0	0
Circular economy & green jobs	0	1	0
Cross-border cooperation & cultural networks	0	0	0

Table 43: Monaghan RAP: Priority–Funding Alignment Matrix

It shows, at a glance, which **funding streams** directly support each **RAP priority**:

-  **Renewable energy** → CAP/EAFRD, SCF, RRF, EIB ELENA.
-  **Youth & digital** → ERDF (NWRA), ESF+, RRF, LEADER.
-  **Circular economy** → LIFE/Horizon CL6, Citizen-Led Renovation Fund, ESF+.
-  **Cross-border cooperation** → INTERREG/Shared Island Fund, ERDF.
-  **Inclusive communities** → ESF+, AMIF, LEADER.

Finance-to-priority roadmap

This creates a **finance-to-priority roadmap** to guide applications and project design.

Priority–Funding Timeline Overlay (2025–2040) for the Monaghan RAP.

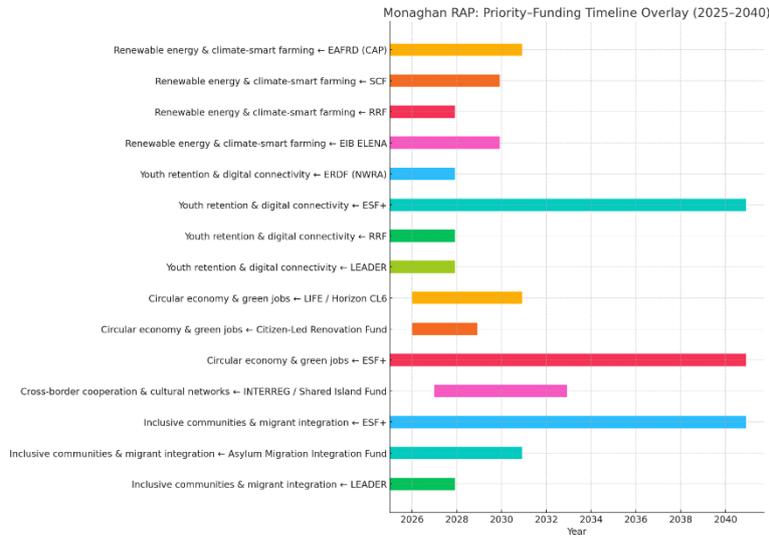


Figure 17: Priority Funding Timeline

It shows:

- Which **RAP priorities** (left side) connect to which **funding sources** (after the arrow).
- The **active window** for each fund, aligned against your strategic actions.

This shows exactly **when to apply** for each funding stream in relation to Monaghan’s priorities — e.g. 🌱 Renewable energy pilots should target **EAFRD/SCF early (2025–2030)**, while 🔄 Circular economy projects align best with **LIFE/Horizon 2026–2030**.

Phased application strategy

Phased application strategy for the **Monaghan RAP**, based on the funding–priority timelines and foresight planning:

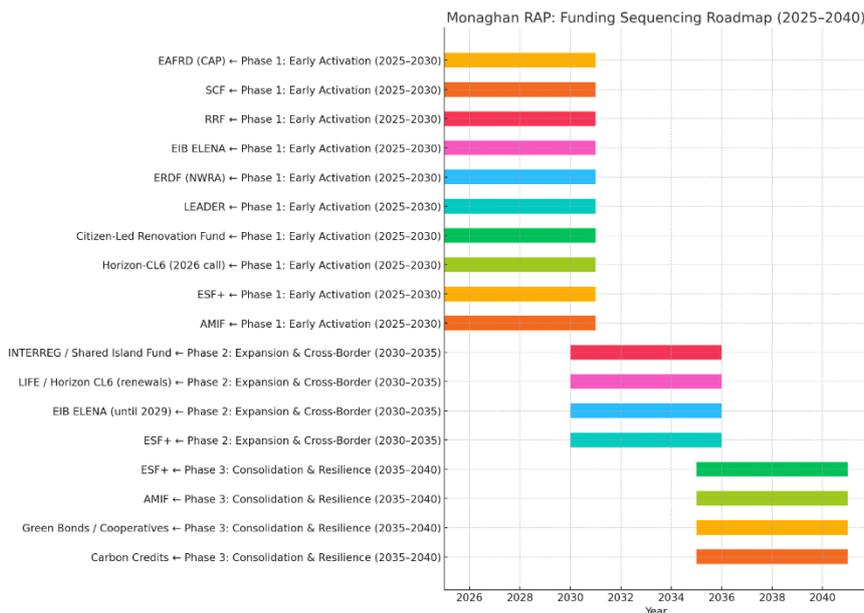


Figure 18: Phased Application Strategy

Monaghan RAP Funding & Implementation Strategy

Recommendation

- Phase 1 (2025–2030): Go heavy on infrastructure + pilots + jobs, locking in short-term wins.

- Phase 2 (2030–2035): Expand cross-border cooperation and scale successful models.
- Phase 3 (2035–2040): Consolidate gains and shift to sustainability + international leadership.

Phase 1: Early Activation (2025–2030)

Objective: Build the foundations (infrastructure, skills, pilot projects).

◆ Priorities & Funds to Target:

- **Renewable Energy & Climate-Smart Farming**
 - Target **EAFRD (CAP), SCF, RRF, EIB ELENA** for farm diversification, biogas, solar pilots.
 - Kickstart *community energy cooperatives* and **biodiversity farming pilots**.
- **Youth Retention & Digital Connectivity**
 - Leverage **ERDF (NWRA)** (until 2027), **LEADER, RRF** for broadband, hubs, training.
 - **ESF+** for *youth and green skills programmes*.
- **Circular Economy & Green Jobs (Launch)**
 - Apply to **Citizen-Led Renovation Fund (2026–2028)** to establish the **Circular Innovation Hub**.
 - Begin **Horizon-CL6 2026 calls** for circular solutions.
- **Inclusive Communities & Migrant Integration**
 - Start **ESF+ programmes** for disadvantaged groups.
 - Pilot **Asylum/Migration Integration Fund** projects (women, migrant entrepreneurship).

KPIs (by 2030):

- ✓ 250 new green jobs created.
- ✓ 50% increase in rural broadband uptake.
- ✓ Circular Economy Hub fully operational.
- ✓ 20% of energy from renewables.

Phase 2: Expansion & Cross-Border Cooperation (2030–2035)

Objective: Scale up and internationalise.

◆ Priorities & Funds to Target:

- **Cross-Border Cooperation & Networks**
 - Activate **INTERREG / Shared Island Fund (2027–2032)** for enterprise corridors, cultural/creative exchanges.
 - Build new **cross-border green economy partnerships**.
- **Circular Economy & Green Jobs (Scale-up)**
 - Use **LIFE / Horizon CL6 (2026–2030, possible renewals)** for larger-scale CE innovation.
 - Extend Citizen-Led models into regional **replication projects**.
- **Renewable Energy Expansion**
 - Continue **EIB ELENA** (until ~2029) for technical assistance.
 - Move from pilots to **full deployment of renewable clusters** (bioenergy, solar, retrofitting).

KPIs (by 2035):

- ✓ 3+ cross-border cooperation projects active.
- ✓ 40% renewable share in Monaghan.
- ✓ 1,000 participants in cultural/creative networks.

Phase 3: Consolidation & Resilience (2035–2040)

Objective: Ensure long-term sustainability, inclusion, and resilience.

◆ Priorities & Funds to Target:

- **Inclusive Communities**
 - Maintain **ESF+ and AMIF** to achieve long-term migrant and youth inclusion.
 - Expand *participatory foresight* for continued policy alignment.
- **Renewable Energy & Circular Economy**
 - Consolidate gains: aim for **climate neutrality** by 2040.

- Expand **green bonds, cooperative financing, carbon credits** (local innovation finance).
- **Global Integration**
 - Position Monaghan as a **European model region** for rural-urban resilience and digital foresight.

KPIs (by 2040):

- ✓ Climate-neutral Monaghan.
- ✓ Net-positive youth retention (no brain drain).
- ✓ Fully inclusive labour market (250+ migrant jobs).
- ✓ Recognised EU flagship in foresight-based rural development.



Figure 19: Detailed Phased Application

It shows:

- **Phase 1 (2025–2030):** Front-loaded with CAP/EAFRD, SCF, RRF, ERDF, LEADER, ESF+, AMIF + special calls (Horizon, Citizen-Led Renovation Fund).
- **Phase 2 (2030–2035):** Expansion window with INTERREG/Shared Island Fund, LIFE renewals, EIB ELENA (tail end), ESF+.
- **Phase 3 (2035–2040):** Consolidation with ESF+, AMIF, plus innovative financing (green bonds, cooperatives, carbon credits).

This sequencing helps align **funding application waves with RAP priorities**, making it clear when to push for which programmes.

4. Mallusjoki pilot’s Stakeholders Analysis

During July 2025, the Mallusjoki pilot’s stakeholders’ database was analysed using the Advisor service using the domain knowledge space of the PoiRuralPlus database of reference (as described in D2.2) for its key urban-rural strategies, post-COVID linkage opportunities and how the PoliRuralPlus dashboard and tools might best support the Finnish users. Mallusjoki is a village of Orimattila city which is in Päijät-Häme region. The PoliRuralPlus Adviser report was as follows:

1. Key Strategies for Integrated Rural-Urban Development

- **Smart Specialization Strategy:** Leveraging the unique assets of rural areas in collaboration with cities for specialised products and services (example: Orimattila city strategy) and regional spearheads e.g. food and beverage (Example: Smart Specialisation Strategy in Päijät-Häme Region)

- **Demand-Responsive Services:** Public transportation, healthcare, and education tailored to serve both urban and rural populations for better accessibility and cost efficiency. (Example: the Regional Council of Päijät-Häme strategy).
- **Balanced Population Distribution:** Making rural areas more attractive through integrated strategies to help counterbalance over-urbanization. (Example: Päijät-Häme region strategy)
- **New Economic Opportunities:** Strengthen urban-rural links to boost agribusiness, ecotourism, and renewable energy. (Example: Orimattila city strategy and Päijät-Häme region strategy).
- **Circular Economy & Resource Optimization:** Cities and rural areas collaborate on sustainable resource flows, with cities sourcing food and renewable energy from rural areas and rural areas benefiting from urban expertise in waste management and infrastructure (Example: Päijät-Häme region strategy).
- **Sustainable Practices:** Integrated strategies prioritise local food production, reduce transportation needs, and promote overall resource efficiency. (Example: Orimattila city strategy (potential) and Päijät-Häme region strategy).

2. Opportunities

- **Strategic Planning & Development**
 - **Orimattila:** Integrate the needs of both the town centre and rural surroundings into a comprehensive plan. Improve public transportation, consider mixed-use zoning, and invest in green infrastructure.
- **Economic Development & Business Collaboration**
 - **Rural Business Incubator:** Mentorship, co-working, marketing and e-commerce support for rural entrepreneurs.
 - **Local Food Systems:** Farmers markets, CSAs, and farm-to-table initiatives.
- **Community Development & Social Cohesion**
 - **Rural Skills Workshops:** Bring rural skills to urban residents for interaction and appreciation.
 - **Volunteer Programs:** Connect urbanites to rural volunteer opportunities.
 - **Cultural Events:** Host events celebrating both urban and rural heritage.
- **Technology & Innovation**
 - **Digital Access:** Invest in user-friendly digital platforms for accessing municipal services, especially in rural areas.
 - **Online Healthcare Services/DigiDoctor & Remote Education:** Partner with providers to improve healthcare and education access in rural areas.
 - **Smart City Initiatives:** Integrate smart technologies, such as smart grids that connect urban systems with rural renewable energy.

3. Insights for the PoliRuralPlus Dashboard (T2.3) and Tools (WP4)

By addressing the following insights, the PoliRuralPlus Dashboard and Tools (in task T2.3 and WP4) can best support and become a powerful support for Finnish stakeholders, empowering them to craft innovative, collaborative, and impactful strategies for integrated rural-urban development.

1. Stakeholder Mapping and Connection:
 - **Comprehensive Database:** Create a searchable database of Finnish rural development stakeholders, categorised by type, location, sector, and areas of interest.
 - **Collaborative Tools:** Facilitate virtual collaboration spaces, discussion forums, and knowledge-sharing platforms where stakeholders can connect, exchange ideas, and explore joint projects.
2. Integrated Rural-Urban Strategy Support:
 - **Best Practice Showcase:** Highlight case studies of successful integrated rural-urban development strategies from Finland and other European regions.
 - **Data Visualization:** Provide data visualisation tools that help stakeholders analyse demographics, connectivity, infrastructure, and resource patterns for both urban and rural areas within the same region. This informs the design of their integrated strategies.

- **Impact Assessment:** Offer guidance and tools for conducting impact assessments of integrated development projects, covering social, economic, and environmental factors.
- 3. Addressing Key Challenges and Opportunities:
 - **COVID-19 Support:** Include resources specifically targeted at rural recovery from the pandemic, such as case studies, grant opportunities, digital transformation tools, and mental health support programs.
 - **Digital Divide:** Integrate a focus on digital literacy training programs, high-speed internet infrastructure development, and support for remote work and innovation in rural areas.
 - **Sustainability Focus:** Provide tools and data related to circular economy models, bioeconomy value chains, renewable energy solutions, and innovative approaches for sustainable rural development.
- 4. Supporting Collaboration and Knowledge Exchange:
 - **Funding Expertise:** Integrate a section for Finnish stakeholders on accessing and applying for relevant EU funding programs (like the European Agricultural Fund for Rural Development) for integrated development initiatives.
 - **Partnership Facilitator:** Develop features that enable stakeholders to identify potential collaborators, including filtering mechanisms for finding partners based on shared interests or complementary skills.
 - **Project Management Tools:** Provide basic project management templates and tools to assist multi-stakeholder collaboration on integrated rural-urban projects.
- 5. Additional Considerations
 - **Tailored for Finland:** While the core functionalities of PoliRuralPlus will be applicable globally, adding Finland-specific data, case studies, funding resources, and policy context will make it even more valuable for stakeholders within the country.
 - **Language Options:** Consider providing the interface in both Finnish and English to increase accessibility and reach.

4. Potential Key Exploitable Results (T7.4)

For task T7.4 “Exploit and integrate PoliRuralPlus results” and in particular deliverable D7.4 “Exploitation plans and business models, edition 1” the stakeholders data was analysed to produce the following list of potential Key Exploitable Results (KERs) for the Finnish pilot, organised within the five PoliRuralPlus spheres of exploitation, addressing the specific needs of the Päijät-Häme region, Orimattila city and Mallusjoki village.

1. Societal & Social

- **KER: Stakeholder Collaboration Platform**
 - An enhanced version of the database analysed, turned into an online space for virtual discussion, project idea generation, and ongoing relationship-building between diverse rural-urban stakeholders.
 - Relevance to Päijät-Häme region, Orimattila city and Mallusjoki village: Supports greater cohesion, addresses social capital decline post-COVID, aligns with regional focus on integrated strategies.
- **KER: Community-Led Data Collection Tools**
 - Simplified digital tools for citizen science initiatives, enabling rural residents to gather data on service gaps, environmental changes, etc.
 - Relevance to Päijät-Häme region, Orimattila city and Mallusjoki village: Informs needs-based decision-making, increases resident engagement, potentially reduces urban-rural knowledge gaps.

2. Research & Innovation

- **KER: Comparative Analysis Framework**
 - A methodology allowing researchers to compare how integrated development strategies impact different types of rural communities in Finland compared to elsewhere in Europe.
 - Relevance to Päijät-Häme region, Orimattila city and Mallusjoki village: Could generate insights on what makes strategies successful specifically in the Finnish context, valuable for future policy recommendations.
- **KER: Rural-Focused Remote Work Trend Analysis**
 - A research study leveraging PoliRuralPlus data and external data sources to analyse how the pandemic has impacted remote work adoption in rural Finland, identifying opportunities and challenges.
 - Relevance to Päijät-Häme region, Orimattila city and Mallusjoki village: Informs strategies to capitalise on this trend for population balance and economic revival.

3. Capacity Building, Education & Training

- **KER: Upskilling Program: Rural Event Industry Training for Rural Event Industry operators** s in e-commerce, digital marketing, and data analysis, helping them modernise businesses.
 - Relevance to Päijät-Häme region, Orimattila city and Mallusjoki village: Aligns with economic opportunity focus, supports the region's local food systems and agribusiness development goals.
- **KER: Simulation-Based Planning Tool**
 - An interactive tool allowing less technical users to visualise how different land-use or service delivery changes might impact the region.
 - Relevance to Päijät-Häme region, Orimattila city and Mallusjoki village: Increases public understanding of trade-offs in integrated planning, improves the quality of participation.

4. Business, Innovation & Finance

- **KER: Investment Prospectus Template**
 - A tool guiding rural communities to create materials highlighting their assets, needs, and project ideas in a way attractive to investors or funders.
 - Relevance to Päijät-Häme region, Orimattila city and Mallusjoki village: Supports entrepreneurial activity and could address lack of international worker attraction if a multilingual option is included.
- **KER: "Made in Rural Finland" Certification**
 - A branding initiative with defined criteria, raising visibility of businesses with strong rural ties, emphasising quality or sustainability focus.
 - Relevance to Päijät-Häme region, Orimattila city and Mallusjoki village: Benefits agribusiness and tourism sectors, builds regional reputation in line with the region's focus on sustainability, food and drinks.

5. Policy-Making

- **KER: Integrated Planning Success Metrics**
 - A set of indicators developed with stakeholder input to measure the progress of integrated rural-urban development in Finland.
 - Relevance to Päijät-Häme region, Orimattila city and Mallusjoki village: Can inform the region's own evaluation and advocacy at the national level for policies supporting this type of holistic planning.
- **KER: Replicable Policy Toolkit**
 - Case studies and templates documenting how specific local policy changes fostered integrated development (e.g., zoning reform, transportation innovation).

- Relevance to Päijät-Häme region, Orimattila city and Mallusjoki village: Saves other municipalities time and effort, builds regional reputation as a policy innovator.

In task T7.4 the pilot will explore potential deployment plans or business models for these KERs. In particular, ways to make them sustainable and impactful. However, in the co-creative activities of WP3 and WP5, the pilot with its stakeholders can refine and develop the potential KERs in collaboration with end-users to ensure maximum utility, and choose their top priority KERs most relevant to their needs and resources.

5. Finnish pilot's review of a potential NEB project proposal

In February 2025, the Finnish pilot used Advisor to review a potential construction industry NEB project to be part of their RAP, resulting in the following report.

Proposal

Structured proposal for a New European Bauhaus-funded project that integrates PoliRuralPlus Digital Twin Solution KER to develop a smart heating model for historical and energy-inefficient houses in rural and urban settings.

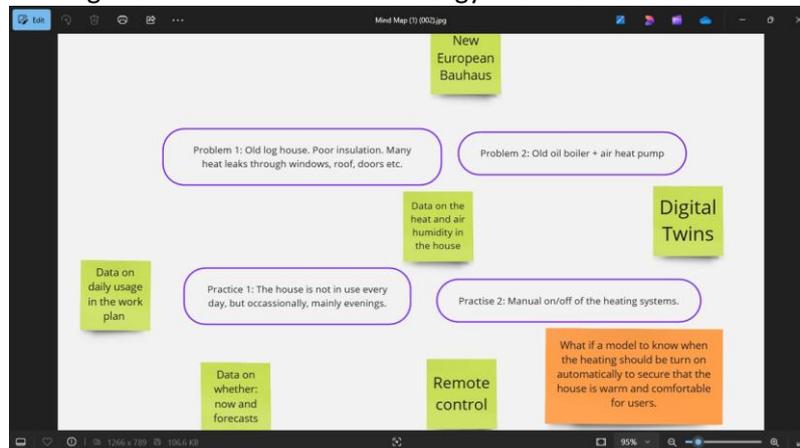


Figure 20: NEB initial Proposal

Project Overview

Smart Heating Management Model for Energy-inefficient Homes: A PoliRuralPlus Digital Twin Approach

This project will develop a holistic, AI-driven heating management model that automatically, manually, or remotely controls heating in historical houses (e.g., log houses, old oil boilers, air heat pumps) with poor insulation. The model will use real-time data on:

- Daily usage patterns
- Current and forecasted weather conditions
- Indoor heat and humidity levels

This New European Bauhaus (NEB)-aligned project focuses on sustainability, inclusivity, and aesthetics, ensuring that older buildings in rural and urban environments remain comfortable, energy-efficient, and environmentally responsible.

Why this Project Fits the New European Bauhaus

The NEB emphasizes sustainability, aesthetics, and inclusivity. This project aligns with these principles as follows:

- Sustainability: Reducing energy waste in historical houses and lowering carbon footprints through intelligent heating systems.
- Aesthetics: Preserving the architectural integrity of old log houses while integrating modern energy solutions.
- Inclusivity: Targeting vulnerable and rural communities with accessible, cost-efficient, and user-friendly heating solutions.



Key Innovation & Uniqueness

- PoliRuralPlus Digital Twin KER: A simulation-based decision tool to model energy use in historical homes.
- AI-driven Heating Automation: Learning from weather forecasts and human behavior patterns.
- Smart & Remote-Controlled Heating: Supporting manual overrides, scheduled heating, and fully autonomous heating.
- Focus on Underutilized Homes: Targeting seasonally used homes that require occasional heating strategies.

Europe-wide Relevance

- Many European regions face challenges with poorly insulated homes, especially Scandinavia, the Baltics, Central and Eastern Europe.
- The EU’s energy efficiency targets (Green Deal, Renovation Wave) require new, adaptable heating solutions for such buildings.
- Aging rural populations need automated, low-maintenance systems to reduce heating inefficiencies.

Work Plan

Phase 1: Research & Requirements Analysis (M1-M6)

- Identify pilot regions (e.g., Finland, Slovakia, Ireland, Czechia).
- Use PoliRuralPlus Digital Twin to model home energy inefficiencies.
- Engage local stakeholders (residents, energy experts, policymakers).

Phase 2: Development & Testing (M7-M18)

- Develop AI-powered heating models based on PoliRuralPlus Digital Twin insights.
- Test remote heating controls integrated with weather & occupancy data.
- Implement sensor-based heat and humidity monitoring.

Phase 3: Pilot Deployment (M19-M30)

- Launch pilot installations in different regions.
- Monitor energy savings & user satisfaction.
- Refine the AI model based on real-world data.

Phase 4: Policy Integration & Scaling (M31-M36)

- Develop regional action plans (RAPs) to integrate smart heating solutions into EU energy efficiency policies.
- Partner with municipalities, NEB funding bodies, and rural development agencies for scaling.
- Publish a best practices guide for broader European adoption.

Expected Outcomes

- 30% reduction in heating energy waste.
- Improved living conditions in historical homes.
- PoliRuralPlus Digital Twin adoption in energy efficiency planning.
- Policy recommendations for incorporating smart heating into rural development strategies.

This project is a game-changer in balancing cultural heritage with modern sustainability goals, making rural and urban living smarter, greener, and more comfortable.

Budget Breakdown

Category	Estimated Cost (€)	Description
1. Research & Requirements Analysis (M1-M6)	250,000	Feasibility studies, stakeholder engagement, digital twin modeling, site selection for pilots.
2. AI Algorithm & Digital Twin Development (M7-M12)	500,000	AI model training, digital twin integration with PoliRuralPlus, sensor & data collection system development.

Category	Estimated Cost (€)	Description
3. Pilot Installation & Equipment (M13-M24)	1,000,000	Hardware (sensors, IoT heating controllers, energy meters), installation costs in 3-4 test regions.
4. Software Development & Cloud Infrastructure (M13-M24)	400,000	Development of cloud-based control system, integration with PoliRuralPlus Dashboard.
5. Data Monitoring, AI Model Refinement (M19-M30)	300,000	Real-time testing, user feedback, AI model optimization.
6. Policy Development & Scaling (M31-M36)	250,000	Regional action plans (RAPs), collaboration with policymakers, policy recommendations for EU-wide adoption.
7. Dissemination, Outreach & Training (M31-M36)	200,000	Training sessions for policymakers & communities, public awareness campaigns, final reports.
8. Project Management & Administration	150,000	Coordination, reporting to NEB funding bodies, compliance with EU requirements.
9. Contingency (10%)	250,000	Reserve for unexpected expenses, regulatory compliance adjustments.
Total Budget	3,300,000	Fully funded project cost

Table 45: Budget breakdown

Potential Funding Sources

The project aligns with several European and national funding schemes:

1. New European Bauhaus (NEB)
 - Supports sustainable, inclusive, and aesthetic projects for rural-urban integration.
 - Focus on heritage preservation & energy efficiency.
 - Can fund hardware, AI development, and policy work.
2. Horizon Europe – Cluster 5 (Climate, Energy, and Mobility)
 - Funds digital solutions for smart energy.
 - Supports pilot projects on rural heating innovation.
3. Interreg Europe & LIFE Programme
 - Funding available for cross-border energy efficiency projects.
4. National & Regional Government Grants
 - Governments of Finland, Slovakia, Czechia, Ireland may provide co-funding for testing in rural areas.

Key Partnerships & Stakeholders

1. PoliRuralPlus Consortium
 - PoliRuralPlus Digital Twin Solution KER: Provides simulation models for energy use.
 - Regional Pilots: Finland (Mallusjoki), Slovakia, Ireland, Czechia—ideal for test deployments.
2. Technology & AI Development Partners
 - IoT & Smart Home Companies: Siemens, Honeywell, Tado, or similar.
 - AI & Data Science Research Institutes: Universities from PoliRuralPlus (e.g., CVUT, MAC).
3. Municipal & Energy Stakeholders
 - Local municipalities in pilot regions to facilitate testing & policy adoption.
 - Renewable energy agencies to ensure alignment with EU energy goals.
4. Citizen & Community Engagement
 - Involve rural homeowners to co-design user-friendly heating controls.
 - Workshops & living labs to test and improve technology.

Next Steps

1. Finalize partnerships: Secure commitments from research, industry & policy partners.
2. Prepare funding applications: NEB call for proposals, Horizon Europe Cluster 5.



3. Develop a prototype & initial simulations: Demonstrate feasibility before pilot testing.
4. Engage pilot regions: Establish agreements with municipalities and homeowners.

This budget and partnership plan ensures that the project is technically feasible, financially viable, and policy-aligned for European scaling.

Annex B: Structured Evaluation of the PoliRuralPlus Services

1. Cognitive Walkthrough Evaluation Methodology

The Cognitive Walkthrough evaluation method is an effective and low cost UXD serviceroach, that is relevant for analysing the PoliRuralPlus Dashboard of services. This method was inspired by code walkthrough, where developers analyse the execution of a programme code step-by-step to identify errors.

Using a common and shared methodology ensures that the activities carried out by users and experts provide consistent information, which can be better analysed to identify the strong points in the PoliRuralPlus Dashboard service, starting with Advisor and those points that need further improvements. The methodology takes into account that the evaluation is carried out in terms of how well the PoliRuralPlus Dashboard users can perform the relevant tasks during usability validation activities, as well as technical performance, with the aim to gather feedback about both aspects, and to communicate them to the project teams.

In order to service a cognitive walkthrough, it is necessary to have: a prototype, a description of the tasks to accomplish, the list of steps to achieve the desired goals, and an indication of the users' characteristics. Based on this information, it aims to analyse the possible user interactions to detect possible UX issues. In general, it aims to assess the ease of learning and using the system considered. It analyses whether there are mismatches between users and designers regarding expectations and task performance. It aims to find errors in the choice of the user interface elements, it can identify when the system is inadequate and provides very rich feedback of users' technical requirements.

For each step in the possible user task performance, the participant has to address four main questions:

- Will the user understand that they will have to take some action? Or will the user identify the action to be taken to achieve a certain goal? (E.g.: if you have to translate text output, will you know that you must first input the source text ?)
- Will the user notice that the correct action is available? (E.g.: will the user know that choosing to use a PDF file also requires them to find it ?)
- Will the users associate the correct action with the effect they want to achieve? (E.g.: are the icon labels in the user interface sufficiently self-explanatory ?)
- Once the action is executed will the user be able to interpret the feedback they receive? (E.g.: will the user understand when an Advisor interactive dialogue or text transaction is terminated ?).

In this assessment, the evaluator may consider several aspects.

- The users can know what actions to take to achieve the desired effects because they are logically part of the original task, they have experience using a similar system, and/or the system indicates them.
- The user can know that an action is available by experience, looking at an interaction technique or the representation of action is perceivable (such as a menu item).
- The users may know that an action is service appropriate for the effects to be achieved by experience because the interface provides a prompt or label that connects the action with what they want to do or all other actions seem wrong.
- The users can know what is service appropriate after action by experience or recognizing a connection between the response of the system and what they are trying to do.
- In this type of analysis critical information that can be derived is possible learning problems; ideas for changes; problems in current design; problems in the considered tasks.

Users' feedback on the main functional aspects of the PoliRuralPlus Advisor service, and how they are initially addressed in the current service are summarised as follows:

Functions:

PoliRuralPlus Advisor Tasks / PoliRuralPlus Advisor Functions.	1. Explore the PoliRuralPlus Advisor website	2. dialogue with it.
1. Link to PoliRuralPlus Advisor.	X	
2. Chat with Advisor		X

Table 46: PoliRuralPlus Advisor Service Use Tasks and Functions

1.1 Cognitive Walkthrough Evaluation Procedure

The PoliRuralPlus Advisor service is available to anyone at <https://chatgpt.com/g/g-UvWyip8pK-poliruralplus-advisor> or through the PoliRuralPlus Dashboard at <https://www.poiruralplus.eu/services>

The formative evaluation involved each user using the service and accessing a Google Form to:

- Input basic anonymous information about themselves (to identify if they used the service before and their main interest in the service).
- Use the Tasks Template shown in the following table, to undertake the tasks and record any problems they encountered.
- Then fill in the System Usability Scale and Feedback Forms on the service, shown in the subsequent tables below, stressing formative suggestions to improve the service.

Cognitive Walkthrough Evaluation Tasks

The results of the evaluation can be structured as indicated in the following table, where the user/evaluator can rate the severity of the issues identified and provide suggestions for improvements:

Task	Did you encounter problems in performing this task?	To what extent did you find it difficult to complete the task, on a scale from 1 to 4?	Additional Notes, e.g. User Technical Requirements
1. Link to PoliRuralPlus Advisor.	<input type="checkbox"/> yes <input type="checkbox"/> no - If yes please explain:	<input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4	a. Open PoliRuralPlus Advisor in a separate screen to allow you tab between this survey & service - if you are using Android Chrome - first select "Open in Chrome Browser" (hold down 3 dots top right) b. Follow the Advisor instructions - wait as ChatGPT can be slow at times. c. Tab back to this survey screen to continue
2. Chat with Advisor	<input type="checkbox"/> yes <input type="checkbox"/> no - If yes please explain:	<input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4	a. Type or copy/paste in "What is the project and what is its status?" b. Input "Tell me about the pilots" c. For one of the pilots input "As a regional development expert what is your evaluation of the regional action plan of " d. Input "What funding sources should they use?" e. Input "Be more specific" f. Input "What about private sources?" g. Continue the dialog taking up its suggested next steps and/or disagree with something it suggested.



			h. Finally, ask it for a "specific implementation plan".
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Table 47: PoliRuralPlus Advisor Tasks Form

Using this Cognitive Walkthrough template each participant scored the severity of their problems to be Irrelevant, Low, Medium, or High, as follows:

1. **Irrelevant:** the problem does not need to be solved, but it could be improved.
2. **Low:** the problem causes uncertainties, but it does not prevent the task completion.
3. **Medium:** the problem can slow down the task execution, but it does not prevent the task completion.
4. **High:** the problem causes frustration and prevents the task completion.

Each participant, at the end of the evaluation test, reported their experience while performing the tasks of the assigned use cases. To do this, a set of questionnaires was produced requiring feedback about the execution of each task. Each questionnaire was submitted when all the tasks belonging to each use case were completed. To ensure that participants expressed their opinion about all tasks, the Google Form encouraged questionnaire completion, fostering participants to complete all fields.

For each task performed, participants were asked to say if they encountered difficulties, and, if yes, to briefly explain them; then, to evaluate on a scale from 1 to 5 (for instance, if the task is “Run PoliRuralPlus Advisor service” one question was “To what extent did you find it difficult to use the service on a scale from 1 to 4? ”), how difficult the task was for them. Participants also had the opportunity to write additional comments in an Additional Notes field and were encouraged to provide suggestions for improvement and users technical requirements.

After each individual session, the results are recorded. So the consortium were able to address the various usability issues with possible suggestions for improvement and was crucial to have impact on development of the PoliRuralPlus Advisor service. For the PoliRuralPlus Advisor developers it was important to have one list of user technical requirements and UX issues that describes what each problem is and how it can be fixed and update the PoliRuralPlus Advisor service’s current user/system requirements.

The advantages of this service approach are that the consortium had the opinions of users and experts who look at the PoliRuralPlus Advisor system from different perspectives. So, from the very beginning real end users were involved. Problems could be immediately discussed with developers immediately and a doable fix agreed on in an active co-creative way. Developers got a better understanding of the end users’ needs and group-based service approaches have been shown to yield better results in usability inspection.

1.2 System Usability Scale (SUS)

At the conclusion of the tasks workflow evaluation test, each participant was asked to complete a System Usability Scale (SUS) questionnaire; after that, the evaluation phase ended with a semi-structured feedback form.

<p>System Usability Scale Form</p> <p>Instructions: For each of the following statements, mark one box that best describes your reactions to the Service.</p>

	Strongly Agree		Strongly disagree	
1. I think that I would like to use this Service frequently.	<input type="checkbox"/> 1	<input type="checkbox"/> 2	X3	<input type="checkbox"/> 4 <input type="checkbox"/> 5
2. I found this Service unnecessarily complex.	<input type="checkbox"/> 1	<input type="checkbox"/> 2	X3	<input type="checkbox"/> 4 <input type="checkbox"/> 5
3. I thought this Service was easy to use.	<input type="checkbox"/> 1	<input type="checkbox"/> 2	X3	<input type="checkbox"/> 4 <input type="checkbox"/> 5
4. I think that I would need assistance to be able to use this Service.	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	X4 <input type="checkbox"/> 5
5. I found the various functions in this Service were well integrated.	<input type="checkbox"/> 1	<input type="checkbox"/> 2	X3	<input type="checkbox"/> 4 <input type="checkbox"/> 5
6. I thought there was too much inconsistency in this Service.	<input type="checkbox"/> 1	<input type="checkbox"/> 2	X3	<input type="checkbox"/> 4 <input type="checkbox"/> 5
7. I would imagine that most people would learn to use this service very quickly	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	X4 <input type="checkbox"/> 5
8. I found this Service very. cumbersome/awkward to use.	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	X4 <input type="checkbox"/> 5
9. I felt very confident using this Service.	<input type="checkbox"/> 1	X2	<input type="checkbox"/> 3	<input type="checkbox"/> 4 <input type="checkbox"/> 5
10. I needed to learn a lot of things before I could get going with this Service.	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	X4 <input type="checkbox"/> 5

Comments:

Table 48: PoliRuralPlus Advisor System Usability Scale Form

The SUS questionnaire consists of a 10 item questionnaire with five response options, ranging from “strongly agree” to “strongly disagree”. Originally created by John Brooke in 1996, it allows the evaluation of a wide variety of products and services. The participants’ scores for each question were converted into a number from 0 to 4, added together and then multiplied by 2.5 to convert the original scores of 0-40 to 0-100. Based on research, a SUS score of 68 is considered the average score. The results of the SUS questionnaire, together with the quantitative data on task completion rates and times that inform about the ability to complete tasks, are helpful to assess the perceived ease of use of the evaluated system.

1.3 Feedback Form

The post study feedback form was aimed to collect further users’ feedback, technical requirements and first impressions about the PoliRuralPlus Advisor service and plans. The script was as follows:

- 1.What are your first impressions about using this Service ?
- 2.Does this Service satisfy your expectations? Why? Why not?
- 3.Are there any features that you would like the Service to have and that you didn't find here?
4. Do you think this Service would be useful for you to better communicate and participate in deliberative democracy processes ?
- 5.On a scale from 1 to 10, how likely would you recommend this Service to a colleague?
- 6.What are the main positive aspects of the Service, in your opinion?
- 7.What are the negative aspects ?
- 8.What improvements would you recommend to make the Service more useful & functional?
9. Other Comments and Suggestions

Table 49: PoliRuralPlus Advisor Feedback Form



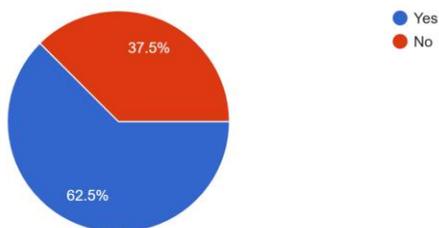
The script was made up of eight questions that were the same for all respondents, but being a semi-structured format the user could decide to address issues that were not foreseen (regarding for example the difficulties encountered during task execution), if he/she thinks they were useful to explore emerging aspects. One question (no.5) was aimed to gather data useful to assess the Net Promoter Score (NPS), an indicator of the extent to which participants would recommend the system they interacted with to other people (in our case, to colleagues).

2. Advisor service Structured Evaluation User Feedback

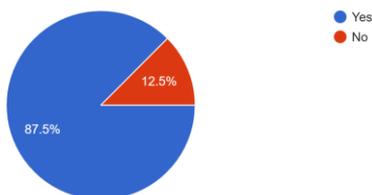
During February 2025, the PoliRuralPlus Advisor Partners and their users installed, reviewed and provided structured Cognitive Walkthrough formative evaluation feedback on the PoliRuralPlus Advisor Service own phones or PCs as described in Annex A using the script at [PoliRuralPlus Advisor Service Evaluation](#).

The resulting detailed results and very rich feedback on users’ technical requirements are presented in this Annex. The PoliRuralPlus partners and pilot users completed 8 feedback walkthroughs with users distributed as follows:

Have you used the Advisor service before ?
8 responses



Do you use ChatGPT ?
8 responses



Do you use ChatGPT ?
8 responses

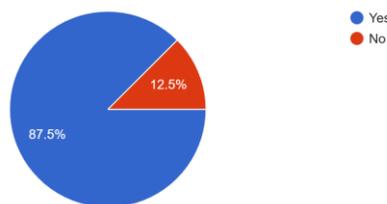


Figure 21: Distribution of Users providing Feedback

Users indicated that their main interest in the Advisor service were:

- Look for information about WP2 and advice for RAP
- To understand its the capacity and limitations
- easy access to information
- Want to know what is going on in other areas
- Mainly gathering ideas for our pilot activities and helping shape the Open Calls.
- work support
- As a project insider, my main interest is gathering information on the project regions, the pilots, and the general policy context related to PRP project.

Analysis of Users' Reasons for Using the PoliRuralPlus Advisor Service

Based on the users' stated interests in the Advisor service, we can categorize their motivations into six key areas:

1. Seeking Information on Specific Project Aspects

Users are interested in accessing work package (WP) details, particularly WP2, which focuses on Rural-Urban Linkages & Opportunities post-COVID-19. The request for RAP (Regional Action Plan) advice suggests that users need support in policy planning and decision-making. Additionally, interest in other pilot regions highlights the need for cross-regional learning and information sharing.

2. Understanding the Service’s Capabilities and Limitations

Users want to assess the reliability, accuracy, and scope of the PoliRuralPlus Advisor. They may be evaluating whether it can serve as a primary tool for strategic decision-making or just a supplementary resource.

3. Easy and Efficient Access to Information

Users value the efficiency of retrieving information without having to manually search through extensive documents. The integration of AI with the PoliRuralPlus Knowledge Space makes accessing insights more streamlined and user-friendly.

4. Gaining Insights from Other Regions for Comparative Learning

Users are interested in regional comparisons and best practices from different pilot areas. This aligns with PoliRuralPlus's objective of fostering interregional cooperation and knowledge exchange between urban and rural stakeholders.

5. Gathering Ideas for Pilot Activities & Open Calls

Practical use of PoliRuralPlus Advisor in influencing project implementation and funding applications. Users aim to generate innovative pilot ideas and refine Open Calls to ensure better stakeholder participation.

6. Work & Research Support

Users are leveraging the Advisor for professional support, particularly in policy analysis, stakeholder engagement, and pilot region insights. This indicates that PoliRuralPlus plays a crucial role in research, project planning, and regional policy development.

Summary

Users primarily use the PoliRuralPlus Advisor Service for:

1. Project-Specific Information (WP2, RAPs, Pilot Activities)
2. Evaluating the Tool's Capabilities
3. Quick & Accessible Knowledge Retrieval
4. Comparative Insights Across Regions
5. Generating Ideas for Pilots & Open Calls
6. Work & Research Support for Stakeholders

These motivations align with the core functionalities of PoliRuralPlus in supporting policy development, interregional cooperation, and stakeholder engagement.

2.1 Tasks Execution Results and Feedback

Using the tasks form in Annex B, the users generated the following average difficulty scores and technical requirements feedback for the PoliRuralPlus Advisor Service.

Task / Average Difficulty	New User Average	Previous User Average	Overall Average	Indicates
1. Link to PoliRuralPlus Advisor / How difficult was it to complete the task?	1.0	1.0	1.0	No Problems
2. Chat with Advisor / How clear and useful was the dialogue ?	3.3	2.6	2.9	Useful

Table 50: Users' feedback on PoliRuralPlus Advisor Service Tasks Execution

Users had no problems in accessing and using the Advisor service.

User Feedback and Suggestions:

Task	Feedback that arose in implementing the Tasks
1. Link to PoliRuralPlus Advisor / How difficult was it to complete the task?	<ul style="list-style-type: none"> • No problems in performing this task • I have it open in my personal account, because I have already used it today and spent my day limit, so it is very limited to use it with larger data and analysis in free version. • I had no problem • No, working well. • continue updating supporting documents to expand its knowledge • I have it open in my personal account, because I have already used it today and spent my day limit, so it is very limited to use it with larger data and analysis in free version.
2. Chat with Advisor / How clear and useful was the dialogue ?	<ul style="list-style-type: none"> • The information lies on sources already provided. It gives some ideas, but it is a snapshot in the past at this moment. As pilot we can use GPT to look for information and some advice, but taking into account that the advice for the future of the RAP can be tricky. We need to think for ourselves :-) • The Adviser gave me good advice on different funding instruments that fit with the Community-Led Local Development approach. • No answer as I spent my day limit already in previous work. But I can imagine that it would answer my questions. But I think that chatgpt is now shows many inaccuracies. (generally meaning) • It answered every question thoroughly • It gave me wrong information: EU Horizon 2020 research program, after second answer I reached the limit. The next day it gave me very specific answers that are worth further analysis. The Specific implementation plan was very detailed. • It gives good hints and structure, but it lacks detailed information that needs to be acquired during the project instead of asking a chatbot.

Table 51: Users' Feedback on the PoliRuralPlus Advisor Service Tasks

Users provided excellent and rich feedback on various aspects of the service's user interface, functionality, and performance.

Based on the users' responses, the PoliRuralPlus Advisor Service has been analyzed through two key dimensions:

1. Task Execution & Accessibility (Ease of use, availability, and technical constraints)
2. Dialogue Quality & Information Relevance (Clarity, usefulness, and accuracy)

1. Task Execution & Accessibility

Analysis:

- ✓ Ease of use – Most users reported no technical difficulties in using the Advisor, indicating a smooth user experience.
- ✗ Day limit constraint – A common issue is the restriction on queries, limiting the use of large-scale data analysis and deep exploration. Users who reached their daily usage cap had to switch to personal accounts, which restricts functionality.
- ✓ Updating knowledge base – A user suggested continuous updates of supporting documents to improve the Advisor's depth and relevance.
- ✗ Limited scalability – For more complex analysis, the free version imposes constraints, potentially reducing effectiveness for policy planning or RAP development.

Key Insights & Recommendations:

- ✓ Positive: The service is user-friendly and accessible.
- ! Challenge: Usage restrictions hinder advanced tasks.
- 💡 Recommendation: Introduce expanded access for key users or allow batch queries for deeper analysis.

2. Dialogue Quality & Information Relevance

Analysis:

- ✓ Provides valuable insights & structure – The Advisor helps frame discussions, offering guidance on funding instruments, structured recommendations, and implementation plans.
- ✗ Limited foresight capability – Some responses were outdated, making forward-looking recommendations for RAPs challenging. Users emphasized that human intervention is necessary for future planning.
- ✓ Good depth on some topics – Users noted detailed responses on funding mechanisms and implementation plans, but this was inconsistent across queries.
- ✗ Inaccuracies & inconsistent information – Some misinformation (e.g., EU Horizon 2020 reference) was reported. However, later responses corrected themselves, suggesting that context-building in conversations may improve accuracy.
- ✗ Day limit affects reliability – Users who hit their daily limit early missed the chance to get answers, reducing overall effectiveness.

Key Insights & Recommendations:

- ✓ Positive: Advisor offers structured responses that help in funding, planning, and general guidance.
- ! Challenge: Accuracy is inconsistent, and some responses are outdated.

- 💡 Recommendation:
 - Ensure real-time access to updated policy documents & EU funding programs to reduce outdated answers.
 - Allow users to flag inaccuracies to refine responses.
 - Improve contextual memory to maintain consistency in multi-step queries.
 - Increase the Advisor's capacity for predictive analysis to enhance RAP foresight recommendations.

Overall Conclusion & Key Takeaways

Strengths:

- ✓ User-friendly and accessible with no major technical problems.
- ✓ Helpful in structuring ideas, funding searches, and initial project planning.
- ✓ Provides detailed implementation plans and funding recommendations.

Weaknesses:

- ✗ Day limit restricts usage, making it difficult for users to conduct in-depth analysis.
- ✗ Foresight capabilities need improvement for future RAP planning.
- ✗ Inconsistent accuracy, with occasional misinformation or outdated responses.

Actionable Recommendations for Improvement:

1. Expand user access (higher query limits or priority access for RAP planning).
2. Improve accuracy by linking to real-time EU policy databases and funding updates.
3. Enhance foresight analysis to generate long-term strategic advice for RAPs.
4. Enable user feedback on inaccuracies to refine and validate responses.
5. Improve memory in multi-turn conversations for better contextual answers.

Recommendations for Enhancing the PoliRuralPlus Advisor with AI-Based Tools

To overcome the limitations highlighted in user feedback and enhance the PoliRuralPlus Advisor's capabilities, here are five AI-driven enhancements that could be integrated:

1. AI-Driven Knowledge Base Expansion

Problem:

- Users mentioned outdated responses and inaccuracies.
 - Some policy recommendations were not forward-looking.

Solution:

- ✓ Use a dynamic AI-integrated database that continuously pulls information from official EU policy repositories, funding programs, and pilot project updates.
- ✓ Potential Tools:
 - LangChain AI – Allows the chatbot to search, index, and retrieve the latest PoliRuralPlus reports, EU funding guidelines, and regional action plans.
 - Google Dataset Search API – To fetch the most updated rural development policies and RAP implementation trends.
- 💡 Impact:
 - Ensures up-to-date and accurate responses.
 - Enables real-time foresight analysis for RAP development.
 - Reduces misinformation risks by linking responses to verified policy sources.

2. AI-Powered Predictive Analytics for RAP Planning

Problem:

- The Advisor provides structured ideas but lacks predictive capabilities.
- Users want forward-looking insights on RAP strategies.

Solution:

- ✓ Integrate AI-driven forecasting models that analyze regional economic trends, funding success probabilities, and rural-urban policy impacts.
- ✓ Potential Tools:
 - Prophet by Meta – A forecasting tool for analyzing rural development trends, predicting economic impacts of RAPs.

- Horizon Scanning AI – Identifies emerging policy changes and funding trends before they are formally adopted.

💡 Impact:

- Users receive data-driven predictions for future RAP success.
- Helps evaluate long-term impacts of RAP policy choices.
- Enhances strategic foresight and scenario planning.

3. AI-Enhanced Document Summarization for Faster Access

Problem:

- Users want quick, easy access to PoliRuralPlus reports and RAP documents.
- Searching manually through long PDFs is time-consuming.

Solution:

✅ Deploy an AI-based document search & summarization tool that extracts key insights from PoliRuralPlus reports, EU regulations, and RAP case studies.

✅ Potential Tools:

- Haystack AI – A document search tool that provides instant answers from long reports.
- Gensim or Pegasus AI – Summarizes large texts into key action points for policymakers.

💡 Impact:

- Users get instant, relevant summaries instead of reading full reports.
- Helps policymakers extract key takeaways from lengthy documents quickly.
- Boosts efficiency in regional action planning and policy decision-making.

4. AI-Powered Chatbot Memory & Context Awareness

Problem:

- Some users received inconsistent responses in multi-turn conversations.
- The chatbot forgot previous context, leading to repetitive or inaccurate answers.

Solution:

✅ Improve chatbot memory to track past conversations, user history, and project-specific details.

✅ Potential Tools:

- Memory-enabled GPT Models (GPT-4 with Long-Term Memory API).
- RAG (Retrieval-Augmented Generation) – Allows AI to recall past queries for personalized assistance.

💡 Impact:

- Provides better continuity in RAP discussions.
- Avoids repeating previously asked questions.
- Creates a customized user experience with historical references.

5. AI-Driven Funding & Policy Matching System

Problem:

- Users struggle to find relevant funding instruments that align with Community-Led Local Development (CLLD) and RAP priorities.

Solution:

✅ AI-powered funding & policy matching engine that suggests best-fit EU grants, investment programs, and funding calls for each RAP.

✅ Potential Tools:

- GrantNav AI – Searches and ranks relevant funding based on project needs.
- AI MatchMaker for Funding – Uses machine learning to match rural policies with the best available financial support schemes.

💡 Impact:

- Users receive customized funding recommendations for RAPs.

- Reduces time spent on searching for grants and policy frameworks.
- Enhances strategic funding alignment with EU rural development priorities.

Final Implementation Roadmap

Enhancement	AI Tool	Key Benefits	Implementation Timeline
Knowledge Base Expansion	LangChain ¹⁰⁹ , Google Dataset Search API ¹¹⁰	More accurate & updated policy responses	Short-term (1-2 months)
Predictive Analytics	Prophet, Horizon Scanning AI	Future-oriented RAP foresight	Medium-term (3-4 months)
Document Summarization	Haystack AI, Pegasus AI	Faster access to insights	Short-term (1-2 months)
Chatbot Memory Upgrade	Memory-enabled GPT, RAG	Better continuity & personalized advice	Medium-term (3-4 months)
Funding & Policy Matching	GrantNav AI ¹¹¹ , AI MatchMaker	More relevant funding recommendations	Long-term (6+ months)

Table 52: Final Implementation Roadmap

Conclusion: Future-Proofing PoliRuralPlus Advisor

By integrating these AI-driven enhancements, the PoliRuralPlus Advisor can evolve into a next-generation rural policy assistant, offering:

- ✓ More accurate, real-time policy guidance.
- ✓ Predictive insights for smarter RAP decision-making.
- ✓ Faster access to documents & funding opportunities.
- ✓ More user-friendly, personalized, and memory-aware responses.

2.2 System Usability Score (SUS) Results

After each trial was completed the form in section A.2 the users generated the following SUS results for the PoliRuralPlus Advisor Service.

SUS Question & Scores 1 – Strongly Disagree – 5 Strongly Agree	New user	Used Advisor before	All Users
1. I think that I would like to use this tool frequently.	4.7	3.8	4.1
2. I found this tool unnecessarily complex.	1.0	1.8	1.5
3. I thought this tool was easy to use.	4.3	4.2	4.3
4. I think that I would need assistance to be able to use this tool.	1.0	1.4	1.3
5. I found the various functions in this tool were well integrated.	4.3	4.2	4.3

¹⁰⁹ [LangChain](#)

¹¹⁰ [Google Dataset Search API - Google Search Central Community](#)

¹¹¹ [360Giving GrantNav](#)

6. I thought there was too much inconsistency in this tool.	2.0	2.4	2.3
7. I would imagine that most people would learn to use this tool very quickly	5.0	4.4	4.6
8. I found this tool very cumbersome/awkward to use.	1.0	1.2	1.1
9. I felt very confident using this tool.	5.0	4.0	4.4
10. I needed to learn a lot of things before I could get going with this tool.	1.3	1.2	1.3
Overall SUS Rating	92.5	81.5	85.6

Table 53: PoliRuralPlus Advisor Service SUS results

For the initial Service, the users rated the PoliRuralPlus Advisor Service at 86.1 overall, which is well above the SUS threshold of acceptability (68). This SUS level probably reflects that the Service format is good, but it can be improved.

Comments, Suggestions & Feedback:

- *The use of the tool depends on the needs of the pilot. In any case, it is a very useful tool.*
- *Answers can vary. Sometimes they are very accurate, sometimes not. For example the Mallusjoki pilot theme is said to be "Climate Adaptation and Energy Transition", but also "The Mallusjoki pilot, part of the PoliRuralPlus project, focuses on creating a sustainable and vibrant rural-urban ecosystem centered on event tourism, community empowerment, and sustainability".*
- *This version of Chatgpt is not the last version and I think that it will become old very soon.*
- *All questions that I asked were answered clearly and I liked the way it formatted the answers*
- *The Advisor is my favorite tool and I use it the most often when working within PoliRuralPlus project. It saves me a huge amount of time. It requires checking for consistency and validity of the data, but this brings another ideas and different views on specific topics. Overall I am grateful to have such a helpful tool available.*
- *asking the right questions is the key*

Analysis of Users' Feedback on the Usability of the PoliRuralPlus Advisor

Users' feedback highlights three main themes regarding the usability of the Advisor: dependence on user needs, variability in accuracy, and efficiency in workflow support.

1. Dependence on Pilot Needs

- ◆ Flexible Utility:
 - Users acknowledge that the Advisor's usefulness depends on the specific needs of each pilot region.
 - It is seen as highly beneficial for retrieving quick insights and shaping discussions, particularly in Regional Action Plan (RAP) development.
- ◆ Suggestion for Improvement:
 - Customization based on pilot-specific themes could enhance relevance.

2. Accuracy and Consistency of Responses

- ◆ Strengths:
 - Many responses are clear and well-structured, making information easier to process.
 - Users appreciate how the tool provides alternative perspectives, sparking new ideas.
- ◆ Challenges:
 - Inconsistent responses: Some answers vary in accuracy, with contradictory descriptions of pilot themes (e.g., Mallusjoki pilot's focus shifting between climate adaptation and event tourism).

- Outdated AI model: Users note that this version is not the latest and may become outdated soon.
 - ◆ Suggestions for Improvement:
 - Implement continuous updates to align responses with the latest PoliRuralPlus insights.
 - Improve consistency in topic descriptions across different queries.
-

3. Efficiency and Productivity Gains

- ◆ Strengths:
 - Users value the Advisor as a major time-saver in PoliRuralPlus work.
 - It is frequently used for structuring information and generating ideas.
 - Users emphasize that asking the right questions improves the tool's output.
- ◆ Suggestions for Improvement:
 - Provide guidelines on crafting effective queries to maximize the tool's potential.
 - Offer examples of best-practice questions to help users refine their inputs.

Overall Summary & Recommendations

- ✅ What Works Well:
 - Advisor is a valuable and time-saving tool that enhances productivity.
 - Users appreciate structured, clear responses and alternative perspectives.
- 🚧 Areas for Improvement:
 - Address inconsistencies in information, ensuring a unified knowledge base.
 - Keep the tool up-to-date with PoliRuralPlus developments and evolving pilot themes.
 - Provide query optimization guidance to help users refine their searches.

By enhancing accuracy, maintaining updates, and supporting effective querying, the Advisor can further solidify its role as an essential tool for pilots and policy planning within PoliRuralPlus. 🚀

2.3 Post-Study Feedback

Using the post-study form in section A.3, the users generated their technical requirements feedback of the PoliRuralPlus Advisor Service as follows:



Questions	Responses	Suggestions
1. What are your first impressions about using this service ?	- It was easy to use - Extremely useful, supportive and time sever - fine - - - - - -	- A new world is opened - Very helpful - - Very useful tool to get information and insights - - - - - -
2. Does this service satisfy your expectations? Why? Why not?	- Yes. It was easy to use and answered my questions in a clear manner - It saves my time and allows me to dedicate more time to strategic thinking - I konw how chatbot works so no surprise. - - - - -	- No expectations yet. Just curiosity. - Yes, but the answers need to be checked and validated - this is not a flaw. - - GPTs are great and exceed any expectations at this moment. It is also the case for the Advisor. - - - - -
3. Are there any features that you would like the service to have and that you didn't find here?	- Don't know - not that I am aware of - to have access to full version and not using my personal account for project work - - - - - -	- Comparison of answers from ChatGPT and OpenGPTChat and DeepSeek and LeChat etc. - the linkage to JackDaw - - No - - - - -
4. Do you think this service would be useful to improve and implement a Regional Action Plan ?	93% of the answers were "Yes", while 7% were "Yes, but it might be more difficult for people with severe hearing problems to use it. It might be useful if the service was able to capture live audio and play it back through headphones". But no "No" !- Yes - Yes - Yes	- Yes - Yes - - I have doubts about the ability for improve the implementation. It would need exhaustive information from every pilot - - - - - -
5. On a scale from 1 to 10, how likely would you recommend this service to a colleague?	New Users: 10.00 Used Advisor before: 9.25 All Users: 9.57	
6. What are the main positive aspects of the service, in your opinion?	- Good to learn what other areas are doing in this area and learning what worked for them - Analysing extensive documents in a very short period of time and working in various languages - it makes our work much more easier and effective - - - - - -	- It gives a different perspective on the subject. Usually much broader than my own. It supports and enhances understanding, brainstorming and ideation. - As I mentioned, it forces to check for validity of the data and thus offers more views on specific issues - - Easiness to get information from a great variety of sources. Besides, it saves a lot of time.
7. What are the negative aspects ?	- Don't see any - - There is no 100% correctness, you have to double check it. And limited access. - - - - -	- Access to the "latest and correct sources" may not be the case. The exploitation of old sources can lead to biased or even incorrect results. - Limit! - - The risk of stop thinking and let the GPT to the job. :-)
8. What improvements would you recommend to make the service more useful & functional?	- Are the advantages and disadvantages of each implementation recorded for others so that they can avoid pitfalls? - - As I mentioned above - have a full version. - - - - - -	- How about creating a generative AI solution that supports the elaboration of "Disruptive and Radical Innovations for regional rural development"? Easy, right? There are several models and schemes for radical innovation that can be used as a starting point (Disruptive Innovation Model, Blue Ocean Strategy, Ambidextrous Organisation Model, Open Innovation Model, Design Thinking, TRIZ, Business Model Canvas, DMAIC, Lean StartUp, etc.). - No limit - - None at this moment. - - - - -
9. Other Comments and Suggestions	- - - - -	- - Thank you! - - Great job! - - - - -

Table 54: Post-Study Feedback

Analysis of Users' Reasons for Using the PoliRuralPlus Advisor Service

Based on the users' stated interests in the Advisor service, we can categorize their motivations into six key areas:

1. Seeking Information and Guidance on WP2 and RAPs
2. Users are primarily looking for insights related to Work Package 2 (WP2), which focuses on rural-urban linkages and opportunities post-COVID-19. Additionally, they seek advice on Regional Action Plans (RAPs), a core component of PoliRuralPlus that facilitates mission-oriented transformation processes in rural development.
3. Understanding the Capabilities and Limitations of the Service
4. Users are interested in assessing how the Advisor service operates and its effectiveness in providing accurate, reliable, and useful responses. This includes the use of AI for foresight, knowledge exploration, and decision support.
5. Ensuring Easy Access to Information
6. A primary benefit of the service is its ability to consolidate and provide quick access to PoliRuralPlus Knowledge Space without needing to manually go through extensive reports and deliverables.
7. Keeping Up with Developments in Other Areas
8. Users seek to understand how rural development is evolving in other regions, allowing for benchmarking and the adoption of best practices from different pilot regions.
9. Gathering Ideas for Pilot Activities and Shaping Open Calls
10. Users are actively exploring new strategies and innovative approaches for their pilot projects. The service helps them refine their ideas and adapt to emerging trends in rural-urban collaboration.
11. Work Support and Efficiency Enhancement
12. Users leverage the Advisor for support in drafting, summarizing, and refining documents, ultimately improving the efficiency of their work. This aligns with PoliRuralPlus' goal of enhancing stakeholder collaboration and strategic decision-making.

Summary

The PoliRuralPlus Advisor is primarily used as a strategic information tool for improving rural-urban linkages, guiding policy development, and streamlining workflows. Users value it for quick knowledge access, AI-driven insights, and interactive engagement to support their ongoing projects and initiatives.

Analysis of Users' Feedback and Suggestions on PoliRuralPlus Advisor

Based on user responses, this analysis provides insights into strengths, weaknesses, and actionable recommendations to enhance the PoliRuralPlus Advisor.

1. First Impressions of the Service

Feedback Summary:

- ✓ Highly positive first impressions.
- ✓ Users found it easy to use and time-saving.
- ✓ Recognized as a supportive and useful tool for gathering insights.
- ✓ Opened new possibilities for information access.

Analysis:

The Advisor successfully delivers an intuitive and efficient experience for new and returning users. It is perceived as a powerful time-saver that enhances strategic thinking.

Recommendation:

- ✦ Continue enhancing usability by refining the interface to ensure ease of navigation and accessibility for new users.

2. Does the Service Meet User Expectations?

Feedback Summary:

- ✓ Majority are satisfied, with key strengths including clear responses and strategic time savings.
- ✓ Some users had no prior expectations, approaching the tool out of curiosity.
- ✓ Users recognize the need to validate answers, which is not seen as a flaw but an expected part of AI-driven insights.

Analysis:

Users appreciate the efficiency and clarity of responses, with realistic expectations about AI limitations. The Advisor meets or exceeds expectations for most users.

Recommendation:

- ✦ Improve source referencing and credibility indicators to enhance user confidence in AI-generated responses.

3. Missing Features Users Would Like

Feedback Summary:

- ✗ Desire for full version access (instead of relying on personal accounts).
- ✗ Comparison feature with other AI models (ChatGPT, OpenGPTChat, DeepSeek, LeChat).
- ✗ Integration with JackDaw for better data retrieval.
- ✓ Some users found no missing features.

Analysis:

Users want more control over data access and comparative insights from different AI models.

Recommendations:

- ✦ Introduce a dedicated full-access version for project users.
- ✦ Develop a feature that compares PoliRuralPlus AI insights with other AI models.
- ✦ Integrate JackDaw to enhance data extraction capabilities.

4. Usefulness for Regional Action Plans (RAPs)

Feedback Summary:

- ✓ 93% of users agree that the service is useful for improving RAPs.
- ✗ 7% raised accessibility concerns for hearing-impaired users (suggesting live audio playback).
- ✗ Some doubt its ability to support implementation due to the lack of exhaustive pilot-specific data.

Analysis:

The tool is widely regarded as useful for RAP development, but implementation support and accessibility enhancements are needed.

Recommendations:

- ✦ Develop live audio playback features for accessibility.
- ✦ Enhance RAP support by integrating region-specific datasets from pilot projects.

5. Likelihood to Recommend

- ✦ Average Score: 9.57 / 10
 - New users: 10.0
 - Experienced users: 9.25

Analysis:

The high recommendation score confirms strong user satisfaction.

Recommendation:

- ✦ Leverage user testimonials and case studies to promote Advisor adoption among new project users.

6. Main Positive Aspects

Feedback Summary:

- ✓ Great for learning from other regions' experiences.
- ✓ Processes large documents quickly in multiple languages.
- ✓ Provides a broad perspective for brainstorming and ideation.
- ✓ Saves time and makes work more effective.

Analysis:

Users find great value in cross-regional learning, multilingual processing, and efficiency.

Recommendations:

- ✦ Expand multilingual support with region-specific adaptation.
- ✦ Develop a feature to showcase RAP best practices from different regions.

7. Main Negative Aspects

Feedback Summary:

- ✗ AI-generated information is not always 100% correct, requiring validation.
- ✗ Access limitations hinder extensive use.
- ✗ Old sources can sometimes lead to outdated responses.
- ✗ Risk of over-reliance on AI instead of critical thinking.

Analysis:

Users accept that AI is not infallible but request improvements in source accuracy and access.

Recommendations:

- ✦ Integrate real-time updates from verified policy databases to ensure up-to-date information.
- ✦ Offer an "Expert Validation Mode" where certain answers are highlighted for manual verification.
- ✦ Expand access options for project users.

8. Recommended Improvements

Feedback Summary:

- ✓ Record RAP implementation successes and failures for future learning.
- ✓ Provide unlimited access for PoliRuralPlus users.
- ✓ Develop AI-powered innovation frameworks (Disruptive Innovation Model, Blue Ocean Strategy, Lean Startup, etc.).

Analysis:

Users want a structured RAP knowledge base, unrestricted access, and AI-driven innovation tools.

Recommendations:

- ✦ Develop an "Implementation Best Practices Library" to document RAP successes and failures.
- ✦ Remove access restrictions for authorized project users.
- ✦ Integrate AI-powered rural innovation frameworks.

9. Additional Comments & Suggestions

- ✓ General positive feedback and appreciation for the tool.
- ✓ Users acknowledge the need for validation but see this as an advantage that encourages multiple perspectives.
- ✓ Emphasis on asking the right questions to optimize results.



Analysis:

Users value the tool and understand its limitations. They appreciate its efficiency but recognize the importance of well-structured queries.

Recommendations:

- ✦ Create a "Smart Questioning Guide" to help users refine their AI queries for better insights.

2.4 Conclusions and Recommendations

Final Summary & Key Takeaways

✔ Strengths:

4. Highly user-friendly and time-efficient.
5. Excellent for RAP insights and regional learning.
6. Powerful document analysis and multilingual support.
7. Encourages critical thinking and ideation.

! Challenges:

3. Access limitations hinder broader use.
4. Not always 100% accurate, requiring fact-checking.
5. Occasionally references outdated sources.
6. Needs accessibility improvements for hearing-impaired users.

💡 Key Recommendations:

Category	Actionable Improvement
Accuracy & Validation	Integrate live policy updates, enable source referencing
Access & Usability	Offer full-access version for authorized users, improve accessibility features
Data & Document Support	Create a library documenting RAP implementation experiences
Innovation Support	Integrate AI-driven innovation frameworks
Enhanced AI Capabilities	Compare PoliRuralPlus AI insights with other AI models
User Support	Develop a "Smart Questioning Guide" to help users optimize queries

Table 55 Recommendations

Conclusion: Advancing PoliRuralPlus Advisor 🚀

By implementing these improvements, PoliRuralPlus Advisor can become an even more powerful rural policy assistant, offering:

- ✔ More accurate, real-time policy insights.
- ✔ Expanded access and RAP implementation support.

- ✓ AI-powered innovation frameworks for rural development.
- ✓ Enhanced usability and accessibility features.

3. JackDaw service Structured Evaluation User Feedback

During June 2025, the PoliRuralPlus Jackdaw Partners and their users installed, reviewed and provided structured Cognitive Walkthrough formative evaluation feedback on the PoliRuralPlus Jackdaw Service own phones or PCs as described above using the script at <https://forms.gle/N34P2s99tVpiA1gh9>

The resulting detailed results and very rich feedback on users' technical requirements are presented in this Annex. The PoliRuralPlus partners and pilot user completed 15 feedback walkthroughs with users distributed as follows:



Figure 22: Distribution of Users providing Feedback

Users indicated that *their main interest in the Jackdaw service were:*

- *I need to understand what it can and cannot do, and how I can use it in different mission contexts and projects.*
- *The spatial awareness*
- *Testing its features within the CZ/Bay pilot*
- *For the PoliRuralPlus project.*
- *scenario planning*
- *Get support for rural and urban planning from the Spanish PoliRuralPlus pilot.*
- *I'm mostly interested in exploring the tool's capabilities.*
- *Just want to see what it can do for me*
- *Useful for data summary on specific european areas*

Analysis of Users' Reasons for Using the PoliRuralPlus Jackdaw Service

The PoliRuralPlus Jackdaw is primarily used as a strategic information tool for improving rural-urban linkages, guiding policy development, and streamlining workflows. Users value it for quick knowledge access, AI-driven insights, and interactive engagement to support their ongoing projects and initiatives.

Based on the users' stated interests in the Jackdaw service, we can categorize their motivations into 4 key areas:

1. **Exploring Capabilities:** Users are interested in understanding the tool's functionalities, how it works, and its capabilities for various mission contexts and projects.
2. **Data and Information Retrieval:** Users want to obtain accurate and specific data, particularly spatially-aware information, for specific areas of interest and for data summarization.
3. **Rural-Urban Planning Support:** Users seek support for rural and urban planning, including scenario planning and assessing a region's innovation potential, especially within the PoliRuralPlus project and its pilots.



- 4. **Use Case Testing:** Users are testing the service for specific use cases, such as getting land-specific information and advice.

Participants used the PoliRuralPlus Jackdaw service for a mix of exploratory, functional, and professional purposes:

A. Exploration and Curiosity

- Many users were engaging with the Jackdaw tool for the first time. Their aim was to understand the functionality of the chatbot and see how it could be applied to rural-urban planning. This was especially true for participants unfamiliar with spatial-AI integrations, who saw the tool as a “proof-of-concept” worth testing.

B. Functional Assessment

- Participants were invited to carry out specific usability tasks (e.g., locating services, querying the chatbot, interpreting feedback). This context drove users to assess whether the tool met its intended purpose — assisting in dialogue-driven exploration of PoliRuralPlus data and functions.

C. Professional Relevance

- The tool attracted users with backgrounds in:
 - Regional policy-making
 - Spatial planning
 - Academic foresight and innovation support

These stakeholders wanted to evaluate whether Jackdaw could support:

- Participatory planning
- Data-driven decision-making
- Visual exploration of territorial data

Some users highlighted a strong interest in how such services could be embedded in their ongoing Regional Action Plan (RAP) workflows or co-creation sessions.

3.1 Tasks Execution Results and Feedback

Using the tasks form in Annex B, the users generated the following average difficulty scores and technical requirements feedback for the PoliRuralPlus Jackdaw Service.

Task / Average Difficulty	New User Average	Previous User Average	Overall Average	Indicates
1. Sign in to the JACKDAW Service /How difficult was it to complete the task?	1.0	1.6	1.5	Some Problems
2. Chat with Jackdaw about your Pilot Region / How clear and useful was the dialogue ?	3.0	2.9	2.9	Useful

Table 56: Users’ feedback on PoliRuralPlus Jackdaw Service Tasks Execution

Users had not problems in accessing and using the Jackdaw service.

User Feedback and Suggestions:

Task	Users	Feedback that arose in implementing the Tasks
1. Link to PoliRuralPlus	New	- To see how it works - I'm mostly interested in exploring the tool's capabilities. - - - - -

Task	Users	Feedback that arose in implementing the Tasks
Jackdaw / How difficult was it to complete the task?	Existing	<ul style="list-style-type: none"> - I today, wasn't able to Log in... for the first time. I wasn't able to load the Registration Page, although I had cleared the cache. I tried both, the link from this side and the saved link in my bookmarks. None of thme working - No problems - No
2. Chat with Jackdaw about your Pilot Region / How clear and useful was the dialogue ?	New	<ul style="list-style-type: none"> - it came up with useful suggestions - Overall, the chat with Jackdaw was meaningful, it gave sound recommendations for the development urban-rural linkages. However, it did not take into account the issue of housing availability and quality, which is one of the most important aspects in attracting residents to the region.
	Existing	<ul style="list-style-type: none"> - Data were refering to a completely different Slovak region then highlighted in the red square. - I asked a question: "How to assess current internet service providers and coverage gaps. Give a link and guide". The answer was not useful at all because it seemed to miss the location information. It provided an answer with references from the USA and India. When I re-wrote the question again "How to assess current internet service providers and coverage gaps in Finland. Give a link and guide". Then the answer was expected. - Question c and d got almost the same results. - Even though the information provided are useful, the downside is that they are not backed up with the exact sources which can be problematic when you want to cite information. Additionally, regarding the questions above that were instructed to be followed, I must say that the answers given for those were much better structured and detailed compared to the ones I received from the questions I posed as instructed in step (f). - The responses were a bit generic but useful to consider the various options. However the figures seemed to be for the NUTS3 region an not jus the smaller area I had boxed. - I used a cross-border region and was given the answers only for German side, not on from Czechia. Also, it would be a good feature if the square - once placed on the map - could be adjusted in size.
2. Chat with Jackdaw / What did you learn that you did not know before ?	New	<ul style="list-style-type: none"> - Nothing that I did not know but what was useful is that it connected all the ideas together in one place - It was interesting to explore that this area "has a significant number of isolated dwellings (5,473)"
	Existing	<ul style="list-style-type: none"> - Data were not relevant for the area - Jackdaw doesn't recognise well natural features. Only one was identified and that's not true. - On the second attempt, Jackdaw was loading correctly. From the results to the questions, it was some very new inputs, despite the fact that there were pretty similar (c + d) . It should be easier to see when a rectangle is to be marked and how this is done. the button at the bottom right seems a little insignificant to me - Part of the answers provided for the questions (d) and (e) were new information to me. However as mentioned above the lack of the exact source from where these data were referenced is problematic. It creates disbelief in terms of whether to trust these data (information and numerical values) or not. - The listing of the points of interest. - The implementation plan is very optimistic, suggesting very high numbers in KPI's. I wonder how realistic is the "thinking" behind the data

Table 57: Users' Feedback on the PoliRuralPlus Jackdaw Service Tasks

Users provided excellent and rich feedback on various aspects of the service's user interface, functionality, and performance.

Analysis of User's' feedback

Initial feedback collected during cognitive walkthroughs pointed to a number of early impressions and usability issues:

a. Positive Feedback

- Users found the concept of a spatially enabled dialogue interface innovative.
- They appreciated the idea that Jackdaw could act as an entry point to PoliRuralPlus information and services, without requiring technical expertise in GIS or dashboards.

b. Challenges Noted

- Recognition of Actions: Users sometimes could not tell what action Jackdaw expected them to perform (e.g., they didn't know whether to click, type, or wait).
- Limited Visibility of Options: The system lacked obvious signals or prompts for next steps, especially when navigating from general queries to more specific tools or locations.
- Feedback Gaps: Some users weren't sure when their input had been accepted, or what effect it had triggered. This led to confusion, especially when nothing visibly changed on the screen.

c. Mismatch of Expectations

- A common theme was a gap between user expectations and system performance. For example, users assumed Jackdaw would provide step-by-step guidance or smarter responses, but it often required specific phrasing or failed to follow up logically.

3.2 System Usability Score (SUS) Results

After each trial was completed the form in section A.2 the users generated the following SUS results for the PoliRuralPlus Jackdaw Service.

SUS Question & Scores 1 – Strongly Disagree – 5 Strongly Agree	Used Jackdaw before		
	New user	Used Jackdaw before	All Users
1. I think that I would like to use this tool frequently.	3.0	3.5	3.4
2. I found this tool unnecessarily complex.	2.5	1.8	2.0
3. I thought this tool was easy to use.	3.0	4.0	3.8
4. I think that I would need assistance to be able to use this tool.	2.0	1.5	1.6
5. I found the various functions in this tool were well integrated.	3.5	3.7	3.6
6. I thought there was too much inconsistency in this tool.	2.0	2.7	2.5
7. I would imagine that most people would learn to use this tool very quickly	4.0	4.2	4.1
8. I found this tool very cumbersome/awkward to use.	3.0	2.0	2.3
9. I felt very confident using this tool.	3.5	3.2	3.3
10. I needed to learn a lot of things before I could get going with this tool.	2.0	1.8	1.9
Overall SUS Rating	63.8	71.7	69.7

Table 58: PoliRuralPlus Jackdaw Service SUS results

The previous users of Jackdaw rated the Service at 71.7, which is just above the SUS threshold of acceptability (68). While new users rated it below the threshold at 63.8. These SUS levels probably reflects that the Service concept is good, but its format and content needs to be improved.

Comments, Suggestions & Feedback:

New Users	Existing Users
<ul style="list-style-type: none"> • <i>I used Jackdaw on my phone so couldn't see some of areas on my screen eg I had to ask for help to find the search button. It was also a little laborious at first to manage the map. I got used to it though and suspect it would be much easier to use on a computer</i> • <i>I would like (i) the function for marking the research area to be more complete, so that it would be possible to mark more correctly and change the configuration of the marked area more quickly; (ii) to be able to save the content of the conversation with Jackdaw to my profile; (iii) to be possible to geospatially localize the territory-characterizing attributes identified by Jackdaw (types of settlement, services, housing, etc.).</i> • <i>really interesting approach that is not quite ready and reliable yet - but well worth making it so.</i> 	<ul style="list-style-type: none"> • <i>Improve data inputs to cover the whole territory of the country not only Nitra region in Slovakia</i> • <i>I've already sent Runar and Patrick a report about my experience with JackDaw.</i> • <i>The UI was bit odd eg the unexpected location of the input field Maybe make the input field more prominent e.g. colour and/or flashing. The wait messages are cute, but maybe also tell me what is happening..</i> • <i>As I stated above, would be great if it worked cross-border and gave more realistic suggestions.</i>

Table 59: Users' Feedback

Analysis of Users' Feedback on the Usability of the PoliRuralPlus Jackdaw

The System Usability Scale (SUS) offers a quantitative snapshot of usability:

a. Quantitative Outcome

- Mean SUS score: 61.67
- Benchmark: An average SUS score is 68. Jackdaw scored below this, indicating a need for usability improvements.
- Interpretation: The score places Jackdaw in the “low marginal acceptability” range.

b. Qualitative Insights from SUS

Users reported several consistent themes alongside their scores:

- **Ease of use was limited:** New users found the interface unintuitive. Many struggled with where to click, how to frame their questions, or how to complete a task.
- **Lack of confidence:** Some participants noted that they felt unsure of their interactions, suggesting a lack of affordances (i.e. clues in the interface that help guide user action).
- **Inconsistency:** Responses from Jackdaw were sometimes relevant, other times vague or repetitive — leading to lowered trust in the tool.

Despite the score, several users commented that with improvements, Jackdaw could become a valuable tool in the planning and consultation toolbox.

3.3 Post-Study Feedback

Using the post-study form in section A.3, the users generated their technical requirements feedback of the PoliRuralPlus Jackdaw Service as follows:

Questions	New Users' Responses	Existing Users' Responses
1. What are your first impressions about using this service ?	<ul style="list-style-type: none"> • <i>It takes time to get used to how to use it and how to formulate questions to get the most useful answers.</i> • <i>I like the idea and offering of Jackdaw, but there are no clear instructions on how to use the application.</i> 	<ul style="list-style-type: none"> • <i>- Look good but data need to be improved</i> • <i>I'm surprised that it's even possible to go beyond the NUT areas.</i> • <i>Looks smart and easy to use. But you must know, that you have to draw a box to mark the region of interest</i> • <i>Overall it is very user-friendly and straightforward on how to use it.</i> • <i>Very interesting idea but not quite there yet.</i> • <i>The square to be used for specification of the area can be more visible, I am always looking for that</i>
2. Does this service satisfy your expectations? Why? Why not?	<ul style="list-style-type: none"> • <i>- Yes. But needs time to get used to using it - At the moment, I lack confidence in the truthfulness and objectivity of the information provided by Jackdaw. To remedy this, references to information sources might help. - - - - - -</i> 	<ul style="list-style-type: none"> • <i>In the beginning there were no expectations, but in long term expectations will increase for sure. That's why I would need some kind of explanation what is possible and what is not at all possible.</i> • <i>It serves my expectations, but could be a little more precise in terms of the correct answers. e.g. when I asked for a Czechia place, it showed me a Bavarian one</i> • <i>Yes and no. It has been improved compared to one month ago, however that fact that is lacking referencing the exact sources, creates an uncertainty to me.</i> • <i>Somewhat it gave me the NUTS3 figures, not the area that I boxed.</i> • <i>So far I have not obtained data that I was looking for</i>
3. Are there any features that you would like the service to have and that you didn't find here?	<ul style="list-style-type: none"> • <i>Cannot think of one at the moment</i> • <i>I would like (i) the function for marking the research area to be more complete, so that it would be possible to mark more correctly and change the configuration of the marked area more quickly; (ii) to be able to save the content of the conversation with Jackdaw to my profile; (iii) to be possible to geospatially localize the territory-characterizing attributes identified by Jackdaw (types of settlement, services, housing, etc.).</i> 	<ul style="list-style-type: none"> • <i>It might be more useful available in Slovak language - Personal history log over time.</i> • <i>Comparison of 2+ areas</i> • <i>When I was using it before, it could produce also some figures (eg population span over the years), however now that I used it, it did not produced any figures. It would have been nice to have some figures/tables to illustrate the data and to be able to extract these figures/tables as png for example to be able to integrate them directly to eg a report.</i> • <i>That it would tell me about the area that I indicate.</i> • <i>I would really love to see answers, that are right. For example, I just received an answer that in a small area of my hometown, there is approximately 20K inhabitants, then I asked about categories men/women/children and got completely different numbers linked with much bigger NUTS3 regions.</i>
4. Do you think this service would be useful to improve and implement a Regional Action Plan ?	<p>100% said Yes</p> <ul style="list-style-type: none"> • <i>Yes, it could potentially be used, but with functionality improvements</i> 	<p>36% said Yes, but</p> <ul style="list-style-type: none"> • <i>Possible, to cross-check some issues</i>
5. On a scale from 1 to 10, how likely would you recommend this service to a colleague?	<ul style="list-style-type: none"> • <i>The average score was 8.5, indicating "Likely"</i> 	<ul style="list-style-type: none"> • <i>Existing users' average score was 6.5, indicating "Maybe",</i> • <i>While the average of 7.0 across all users indicates "Probably"</i>

<p>6. What are the main positive aspects of the service, in your opinion?</p>	<ul style="list-style-type: none"> • <i>The immediacy of the information and the way it can pull from the diverse areas, makes it a handy tool for making decisions.</i> • <i>The ability to explore the territory directly from its geospatial location.</i> 	<ul style="list-style-type: none"> • <i>The novelty lies in defining the freestyle area on a global scale. You can create your own references and data context (Wagtail library).</i> • <i>A new method of obtaining comprehensive information about specific regions from a wide variety of sources</i> • <i>The fact that is fast and targeted in terms of answers given.</i> • <i>The geospatial UI</i> • <i>The idea is great, but it needs more data to make the answers reliable.</i>
<p>7. What are the negative aspects ?</p>	<ul style="list-style-type: none"> • <i>Making sure that the data it gives is taken from reliable sources</i> • <i>Reliability and objectivity of the information prepared.</i> 	<ul style="list-style-type: none"> • <i>It currently does not support user-specific knowledge bases e.g. attachments. This restricts its use for broader institutional or federated applications</i> • <i>incorrect answers</i> • <i>The lack of references so I can cross check the data and cite them.</i> • <i>ITs not quite trustworthy yet, as it did not just deal with the area that I indicated</i> • <i>not enough data, the answers cannot be trusted.</i>
<p>8. What improvements would you recommend to make the service more useful & functional?</p>	<ul style="list-style-type: none"> • <i>On my phone, I would like to be able to see more of the map, to more accurately pick the area I want</i> • <i>See an answer to question No.3.</i> 	<ul style="list-style-type: none"> • <i>see 7</i> • <i>It should be easier to see when a rectangle is to be marked and how this is done. the button at the bottom right seems a little insignificant to me</i> • <i>High light the area that it is reporting on, to reassure me that Im not just getting the full NUTS3 figures.</i> • <i>Add relevant data</i>

Table 60: Post-Study Feedback

Analysis of Users' Post-Study Feedback on using the PoliRuralPlus Jackdaw Service

Once participants had completed the usability tasks and SUS form, they were invited to provide more reflective, post-use feedback.

a. Strengths Identified

- **Potential for Public Use:** Several participants saw Jackdaw as a tool that could support public engagement in planning processes — especially for non-specialists or community stakeholders.
- **Unique Approach:** The dialogue-based interaction was seen as different from typical planning dashboards and encouraged a more exploratory mindset.

b. Areas for Development

- **Action Feedback Loop:** Participants often couldn't tell if Jackdaw had executed a command (e.g., opening a dataset, switching views).
- **Error Handling:** The chatbot sometimes failed silently when it didn't understand the input.
- **Context Awareness:** Jackdaw lacked the ability to remember past interactions or guide users in a multi-step process — a key feature for chat-based tools.

c. Feature Requests

Users suggested:

- Tutorials or tooltips to explain how to interact
- A visual “breadcrumb trail” or history log
- Stronger integration with real datasets for territory-based questions

Overall, the feedback highlighted that while Jackdaw is promising, more polish and guidance was required to make it ready for wider deployment.

3.4 Conclusions and Recommendations

Conclusions and Recommendations from the PoliRuralPlus Jackdaw Formative Evaluation

Conclusions

1. Innovative but Immature: Jackdaw was recognised as an innovative tool in concept, particularly for participatory and exploratory tasks in regional planning.
2. Technical Usability Challenges: The interface did not always meet user expectations, particularly around clarity, responsiveness, and feedback mechanisms.
3. Need for Iteration: The tool needs more testing, refinement, and integration with user workflows.

Recommendations

1. Improve Navigation and Action Feedback
 - Ensure that actions have clear triggers and system responses.
 - Highlight when tasks are completed or failed.
2. Enhance Input Recognition
 - Improve Jackdaw's ability to interpret a range of user queries and offer clarifying prompts when needed.
3. Add Contextual Guidance
 - Integrate tutorials, hints, or step-by-step onboarding for new users.
4. Expand Dataset Integration
 - Connect more deeply with territorial, policy, and foresight data to provide concrete outputs in response to queries.
5. Use in Pilot Testing
 - Include Jackdaw in live pilot sessions for deeper feedback, especially from planners, stakeholders, and citizens.
6. Synergise with Other Tools
 - Improve interoperability with the VULTURE assistant, MAATool, and Dashboard for a seamless user journey across tools in the PoliRuralPlus ecosystem.

More specifically these recommendations are:

- ✔ 1. Improve Navigation and Action Feedback

Problems Identified: Users were unsure when actions were completed, what to click on, or whether the system had responded.

Recommendations:

 -  Add visible loading indicators and confirmation messages after each chatbot query is processed.
 -  Highlight the active conversational state or task context (e.g., "You are now exploring regional datasets for Monaghan").
 -  Introduce a consistent "End of response" marker, such as a subtle line or tick, to confirm when Jackdaw has finished its reply.
 -  Use progressive disclosure: reveal advanced actions or visual layers only once a user has completed an initial, related action.
- ✔ 2. Enhance Input Recognition and Error Handling

Problems Identified: Jackdaw often misunderstood vague input and gave no meaningful guidance when errors occurred.

Recommendations:

 -  Train the AI model on real pilot region queries from foresight exercises, stakeholder interviews, and workshop transcripts to improve relevance.

-  Implement fallback prompts when Jackdaw fails to interpret input, e.g., "Sorry, I didn't understand that. Try asking about a specific pilot or theme."
-  Introduce natural language query examples beneath the input box, tailored to user roles: "Try asking: 'What challenges exist in rural tourism in Vidzeme?'"

✓ 3. Provide Onboarding and In-Tool Help

Problems Identified: First-time users felt lost or unsure of how to interact with Jackdaw.

Recommendations:

-  Add a 60-second interactive tutorial video or overlay that runs on first launch, explaining:
 - How to ask questions
 - How to navigate responses
 - How spatial layers interact with queries
-  Use tooltips and info icons on interface elements like maps, filters, and results, explaining what they do.
-  Develop a "Help Me Get Started" button, which walks users through 3 typical use cases (e.g., "Explore pilot data", "Check KPIs", "Ask about policy options").

✓ 4. Strengthen Data and Service Integration

Problems Identified: Users expected more data-backed answers, but the service was limited in scope and depth.

Recommendations:

-  Connect Jackdaw with the live Regional Action Plan datasets, allowing it to respond to queries like: "What KPIs are being tracked in Greece?"
-  Enable links to visualisations: when a dataset is referenced, provide a link or embedded preview (e.g., bar chart or map layer).
-  Integrate API hooks to VULTURE and MAATool, so Jackdaw can say: "Click here to open this policy challenge in MAATool" or "Would you like to journal this task in VULTURE?"

✓ 5. Pilot and Iterate in Real User Contexts

Problems Identified: Evaluation feedback lacked use-context depth; more real-life testing is needed.

Recommendations:

-  Embed Jackdaw in at least 2 pilot stakeholder workshops (e.g., Monaghan, Slovakia) as a planning assistant, to gather live, contextual feedback.
-  Use observer scripts to track how stakeholders interact with Jackdaw during planning tasks — document confusion points, successful outcomes, and unmet needs.
-  Set up a feedback widget inside Jackdaw: "How helpful was this answer?" (1–5 scale + optional comment).

✓ 6. Clarify Jackdaw's Role in the Ecosystem

Problems Identified: Users were unsure where Jackdaw fits in relation to other PoliRuralPlus tools.

Recommendations:

-  Display a visual service map (e.g., 'Your Planning Journey') within Jackdaw or the Dashboard, showing how it connects with other tools.
-  Develop role-specific task templates within Jackdaw (e.g., "I am a policy advisor – help me build a policy scenario") that link to relevant modules.
-  Adopt use-case labels (e.g., "Policy Discovery", "Foresight Mapping", "KPI Interpretation") to help users choose the right tool and use Jackdaw accordingly.

Annex C: Examples of using Advisor for project and policy support

1. PoliRuralPlus EU Glossary (November 2025)

Analysis of the current RAPs using Advisor found that a glossary of common PoliRuralPlus EU terms to support RAP and grant alignment was required. So the following glossary of terms was developed with the support of the Advisor service to scan all public outputs of the PoliRuralPlus project up to November 2025.

Category	Term	Definition	EU Alignment	Priority for RAPs
Policy & Governance	Subsidiarity Principle	Ensuring decisions are made at the lowest effective administrative level.	Treaty on European Union (TEU), European Charter of Local Self-Government	High
Policy & Governance	Multi-level Governance	Governing across multiple interconnected levels of government.	EU White Paper on Governance	High
Policy & Governance	Smart Specialisation Strategy (S3)	Strategy to boost regional innovation based on smart priorities.	European Commission Smart Specialisation Platform	High
Policy & Governance	Regional Innovation Strategy (RIS)	Framework for enhancing innovation at the regional level.	EU Regional Policy Guidelines	High
Policy & Governance	Community-Led Local Development (CLLD)	Method for empowering local stakeholders to lead rural development	European Network for Rural Development (ENRD)	High
Policy & Governance	Sustainable Urban Mobility Plan (SUMP)	Strategic plans to enhance urban mobility sustainably.	Urban Mobility Package, European Green Deal	High
Policy & Governance	Integrated Territorial Investment (ITI)	EU tool to bundle funds for territorial development.	EU Cohesion Policy Instruments	High
Policy & Governance	Urban Agenda for the EU	EU initiative to improve urban living and governance.	Pact of Amsterdam, Urban Agenda for the EU	High
Policy & Governance	LEADER Approach	Bottom-up approach for rural innovation and sustainability.	Common Agricultural Policy (CAP)	High
Policy & Governance	Rural Pact	EU framework for rural revitalisation by 2040.	EU Long-Term Vision for Rural Areas (LTVRA)	High
Policy & Governance	Rural Proofing	Assessing how policies affect rural communities.	OECD Rural Policy Reviews	High
Policy & Governance	Urban-Rural Partnerships	Collaborative projects bridging urban and rural actors.	ESPON Urban-Rural Linkages	High
Policy & Governance	Polycentric Development	Promoting balanced development of multiple urban centers.	EU Territorial Agenda 2030	High
Policy & Governance	Policy Coherence	Ensuring policies work synergistically across sectors.	OECD Policy Coherence for Sustainable Development	High
Policy & Governance	Territorial Impact Assessment (TIA)	Assessing spatial impacts of policies before implementation.	European Commission Better Regulation Toolbox	High
Innovation & Digitalization	Digital Twins for Territorial Planning	Virtual models of territories for better planning and management.	European Digital Strategy, INSPIRE Directive	High

Innovation & Digitalization	Earth Observation (EO)	Use of satellite data for environmental & spatial analysis	Copernicus Earth Observation Program	High
Innovation & Digitalization	Copernicus Services	EU's Earth Observation programme providing critical geodata.	European Space Agency, Copernicus Services	High
Innovation & Digitalization	Horizon Europe Missions	EU mission-driven research addressing societal challenges.	Horizon Europe Missions Programme	High
Innovation & Digitalization	Artificial Intelligence Act	First EU regulation on AI systems for safety and trust.	Artificial Intelligence Act (EU AI Act 2021)	High
Innovation & Digitalization	Digital Decade Policy Programme	Strategy to achieve Europe's digital targets by 2030.	Digital Decade 2030 Strategy	High
Innovation & Digitalization	Data Spaces (EU Strategy)	Frameworks enabling sector-specific shared data spaces.	European Strategy for Data	High
Innovation & Digitalization	FAIR Data Principles	Principles ensuring open, interoperable data across platforms.	FAIR Principles for EU Open Science	High
Innovation & Digitalization	Open Science	Approach encouraging open access to scientific research.	Open Science Policy Platform (OSPP)	High
Innovation & Digitalization	Crowdsourced Data	Use of volunteered data from citizens for mapping and monitoring.	EU Citizen Science Action Plan	High
Innovation & Digitalization	IoT in Agriculture (Smart Farming)	Application of IoT technology to improve agriculture productivity.	EU Digital Strategy for Agriculture	High
Innovation & Digitalization	Broadband Connectivity (EU 2025 Goals)	EU objective for 100% broadband access by 2025.	EU Broadband Target 2025	High
Innovation & Digitalization	Digital Rural Hubs	Hubs supporting digital transformation in rural communities	Smart Villages Initiative, Digital Europe Programme	High
Innovation & Digitalization	e-Governance	Digitization of government services to improve accessibility	eGovernment Action Plan 2016-2020	High
Innovation & Digitalization	Cybersecurity Strategy for the Digital Decade	EU plan to strengthen cybersecurity capacities.	EU Cybersecurity Strategy	High
Environment & Sustainability	European Green Deal	EU's growth strategy to become climate-neutral by 2050.	European Green Deal Roadmap	High
Environment & Sustainability	Farm to Fork Strategy	Plan to ensure sustainable food systems across the EU.	EU Farm to Fork Strategy	High
Environment & Sustainability	Biodiversity Strategy 2030	EU strategy to halt biodiversity loss by 2030.	EU Biodiversity Strategy 2030	High
Environment & Sustainability	Climate Pact	Citizen-driven initiative to foster climate action.	EU Climate Pact	High
Environment & Sustainability	Circular Economy Action Plan	Roadmap to transition towards a circular economy.	EU Circular Economy Action Plan	High
Environment & Sustainability	Carbon Farming	Farming practices that sequester carbon into the soil.	EU Soil Strategy	High
Environment & Sustainability	Sustainable Food Systems	Food systems that promote health and sustainability.	Sustainable Food System Framework Initiative	High
Environment & Sustainability	Land Degradation Neutrality	Achieving no net land degradation thru restoration.	UNCCD, EU Biodiversity Strategy	High

Environment & Sustainability	Ecosystem Services	Benefits that people derive from healthy ecosystems.	Mapping and Assessment of Ecosystems & their Services (MAES)	High
Environment & Sustainability	Climate Risk Assessment	Assessing climate vulnerabilities and risks.	EU Strategy on Climate Adaptation	High
Environment & Sustainability	Disaster Resilience	Enhancing capacity to recover from climate-related shocks.	Sendai Framework for Disaster Risk Reduction	High
Environment & Sustainability	Blue Economy	Sustainable use of ocean resources for growth and jobs.	EU Blue Economy Report	High
Environment & Sustainability	Green Infrastructure	Networks of natural and semi-natural spaces.	EU Green Infrastructure Strategy	High
Environment & Sustainability	Urban Greening Plans	Plans to increase green spaces in cities.	Urban Greening under Green Deal	High
Environment & Sustainability	Water-Energy-Food Nexus	Interlinked management of water, energy, & food resources	Nexus Approach - EU SDG Actions	High
Rural Development & Cohesion	Long-Term Vision for Rural Areas (LTVRA)	Vision for vibrant, connected, and resilient rural areas.	EU Long-Term Vision for Rural Areas (LTVRA)	High
Rural Development & Cohesion	EU Cohesion Policy 2021–2027	Policy to reduce disparities among EU regions.	EU Cohesion Policy 2021–2027	High
Rural Development & Cohesion	Just Transition Mechanism	Mechanism to support regions most affected by the green transition.	Just Transition Fund under Green Deal	High
Rural Development & Cohesion	Functional Urban Area (FUA)	Territorial units defined by commuting patterns.	OECD Functional Urban Areas	High
Rural Development & Cohesion	Urban-Rural Gradient	Continuum representing gradations between urban & rural.	ESPON Urban-Rural Typology	High
Rural Development & Cohesion	Peri-Urban Areas	Zones on the urban periphery with mixed characteristics.	OECD Peri-Urban Development Policies	Medium
Rural Development & Cohesion	Rural Innovation Ecosystems	Ecosystems promoting rural innovation and entrepreneurship.	European Innovation Partnership on Smart Cities and Communities (EIP-SCC)	Medium
Rural Development & Cohesion	Social Economy in Rural Areas	Fostering social economy models in rural contexts.	European Action Plan for Social Economy	Medium
Rural Development & Cohesion	Rural Shrinkage	Trend of population decline in rural regions.	ESPON Territorial Evidence	Medium
Rural Development & Cohesion	New Demographic Balance	Strategies to balance aging and youth retention.	OECD New Demographic Strategies	Medium
Rural Development & Cohesion	Youth Engagement Strategies	Plans to engage youth in rural development.	EU Youth Strategy	Medium
Rural Development & Cohesion	Smart Specialisation for Rural Areas	Tailoring smart specialisation strategies to rural realities.	Smart Specialisation for Regions (S3 Partnerships)	Medium
Rural Development & Cohesion	Rural Transport Accessibility	Improving rural transport connectivity to urban hubs.	TEN-T Policy on Transport Accessibility	Medium

Rural Development & Cohesion	Rural Services of General Interest (SGI)	Guaranteeing key public services in rural areas.	SGI Principles under EU Services Directive	Medium
Rural Development & Cohesion	Attractiveness Index (AI)	Indices measuring the attractiveness of rural territories.	OECD Attractiveness Indicators	Medium
Stakeholders & Participation	Participatory Budgeting	Allowing citizens to decide on the allocation of budgets.	European Participatory Budgeting Network	Medium
Stakeholders & Participation	Quadruple Helix Model	Collaboration model involving four societal actors.	Horizon Europe Quadruple Helix Model	Medium
Stakeholders & Participation	Living Labs	Living labs as testbeds for innovation involving stakeholders.	European Network of Living Labs (ENoLL)	Medium
Stakeholders & Participation	Stakeholder Mapping	Systematic identification of project stakeholders.	Stakeholder Engagement Guidelines (EC)	Medium
Stakeholders & Participation	Citizen Science	Public participation in scientific research and data collection.	Citizen Science European Platform	Medium
Stakeholders & Participation	Co-Creation Workshops	Workshops where stakeholders co-create solutions.	EU Innovation Hubs Methods	Medium
Stakeholders & Participation	Regional Stakeholder Panels	Panels representing a diversity of regional actors.	LEADER Methodology	Medium
Stakeholders & Participation	Cross-sectoral Collaboration	Bringing together sectors to solve complex problems.	Multi-sectoral Cooperation promoted by EU CAP	Medium
Stakeholders & Participation	Community Capitals Framework	Framework outlining types of community capital (social, natural, etc.).	Community Capitals Framework Adaptation for EU Rural Areas	Medium
Stakeholders & Participation	Multi-Actor Engagement Strategies	Strategies for broader & deeper stakeholder involvement	Horizon Europe Multi-Actor Approach	Medium
Funding & Project Management	ESIF (European Structural and Investment Funds)	Primary EU funding streams for regional development.	European Structural and Investment Funds Regulations	Medium
Funding & Project Management	CAP (Common Agricultural Policy) Strategic Plan	Plans for implementing the Common Agricultural Policy at national level.	CAP Strategic Plan Regulation 2021–2027	Medium
Funding & Project Management	LIFE Programme	EU's funding instrument for environment & climate action.	LIFE Programme 2021-2027	Medium
Funding & Project Management	Interreg Europe	Cross-border cooperation programme to foster EU cohesion	Interreg Europe Cooperation Programme	Medium
Funding & Project Management	EAFRD (European Agricultural Fund for Rural Development)	Fund supporting agricultural and rural development.	EAFRD Regulation under CAP	Medium
Funding & Project Management	ERDF (European Regional Development Fund)	EU fund promoting balanced regional development.	ERDF Regulation 2021–2027	Medium
Funding & Project Management	FSTP (Financial Support to Third Parties)	EU grant mechanism for cascading funding to 3rd parties	Horizon Europe FSTP Guidelines	Medium
Funding & Project Management	Lump Sum Granting (Simplified Cost Options)	Simplified method of grant distribution by lump sums.	EU Lump Sum Pilot Calls	Medium
Funding & Project Management	Innovation Procurement (PCP, PPI)	Innovative public procurement methods boosting R&D.	Innovation Procurement under H2020 and Horizon Europe	Medium
Funding & Project Management	EU Missions Work Programme	Framework guiding EU-funded mission-driven projects.	EU Missions Implementation Plan	Medium

Table 61:Glossary of terms

2 [PoliRuralPlus AI Action Plan \(Aug 25\)](#)

The July25 WP2 Progress Meeting decided that PoliRuralPlus should proactively position itself as a leader in ethical, EU-aligned AI use in rural-urban planning.

Using Advisor to analyse all of the project’s outputs up to August 2025 along with the AI Act and EU Guidelines on the use of GenAI the PoliRuralPlus Participatory AI Principles were identified and documented and a suitable an [PoliRuralPlus AI Action Plan](#) was developed, described in the following subsections:

2.1 PoliRuralPlus Participatory AI Principles and Framework

Principle	Description	service/Example
1. Transparency & Explainability	AI responses must be understandable & questioned, not blindly accepted.	PoliRuralPlus Advisor guidance prompts
2. Stakeholder Co-Creation	AI services are tailored with regional input to reflect local needs & goals.	Advisor-based RAP drafting, stakeholder inputs
3. Multi-Actor Involvement	Reflects the quadruple helix: civil society, business, academia, government.	MAAT, Stakeholder Panels
4. Iterative Feedback	AI systems improve through continuous input & critique from users.	VULTURE AI feedback loop
5. Ethical & Responsible Use	AI is used cautiously, recognizing limitations like bias or hallucination.	DoA Ethics & AI robustness updates
6. Capacity Building	Supports digital literacy & training for rural actors.	MAAT workshops, Advisor usage sessions
7. Inclusive Policy Design	AI supports inclusive co-creation of policies & foresight activities.	RAP services, Advisor-enabled co-drafting
8. Gender Equality & Social Justice	Disaggregated RU data on participation by gender & other diversity indicators for Social Justice in the Just Transition.	Workshops, capacity buiidling & outreach sub-projects’ reporting.

Table 62: PoliRuralPlus Participative AI Principles

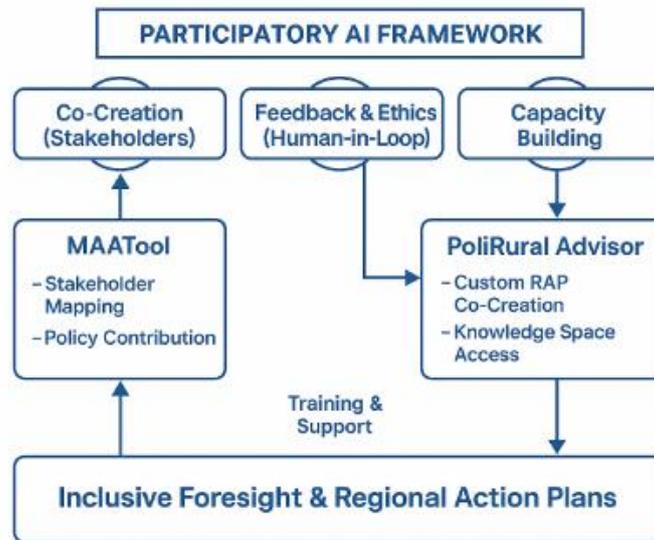


Figure 23: PoliRuralPlus Participatory AI Framework

1. Why This Matters Now

As the EU AI Act enters implementation, *PoliRuralPlus* is uniquely placed to lead by example. By clearly showing how rural innovation ecosystems can use AI:

- Responsibly
- Transparently
- Inclusively

...we not only strengthen pilot-level outcomes but contribute visibly to EU-wide digital, rural, and policy innovation frameworks.

To position PoliRuralPlus as a leader in ethical, EU-aligned AI use in rural-urban planning, the PoliRural Participatory AI Principles and Framework provide both a values-based foundation and a practical roadmap. The following section is a plan on how we might operationalise these principles for maximum visibility, influence, and leadership across EU policy and innovation ecosystems:

3.2 Plan to strategically position PoliRuralPlus using its Participatory AI Principles

1. Align with the EU General-Purpose AI (GPAI) Code of Practice

The EU's Code encourages transparency, accountability, innovation-supportiveness, and stakeholder cooperation. PoliRuralPlus already demonstrates alignment via:

- MAAT and Advisor tools that explain logic and limitations.
- Secure handling of regional stakeholder data.
- Multi-actor involvement through foresight and co-design mechanisms.

Action: Publicly endorse the EU GPAI Code and submit PoliRuralPlus as a best-practice use case for rural AI implementation.

0. Champion Human-Centric AI for Rural Communities

PoliRuralPlus is built on the premise that AI amplifies local intelligence—not replaces it. This directly resonates with the EU's human-centric AI goals.

Action: Develop case studies showing how AI helped rural stakeholders (e.g. in Monaghan, Mallusjoki, Vidzeme) identify needs, shape policies, and contribute to foresight outcomes.

0. Demonstrate Participatory AI in Practice

Each principle is already embedded:

- **Transparency:** Explainability in Advisor interfaces.
- **Co-Creation:** Stakeholder-driven RAP drafting.

- **Multi-Actor Involvement:** MAAT tool’s quadruple helix reach.
- **Iterative Feedback:** VULTURE loop to refine outputs.
- **Ethical Use:** Explicit mitigation of hallucinations and bias.
- **Capacity Building:** Training workshops on MAAT and Advisor.
- **Inclusive Policy Design:** RAP co-designs grounded in foresight and data.
- **Gender Equality & Social Justice** gender & diversity indicators in the Just Transition

Action: Develop a participatory AI maturity model or certification that pilots can use to self-assess and improve ethical AI integration.

0. Launch an EU-Wide Narrative on “Ethical AI for Territorial Cohesion”

PoliRuralPlus directly supports SDGs and EU Green Deal objectives via territorial foresight and digital innovation.

Action: Initiate or co-lead a policy paper with the EU AI Office and EIP-AGRI to explore ethical AI deployment in rural-urban strategies.

3. Integrate Participatory AI into KPI & Impact Reporting

Link each KPI category—policy, exploitation, dissemination—to relevant AI ethics principles. For example:

- Capacity-building KPIs ↔ AI Principle #6
- Policy co-creation outcomes ↔ AI Principles #2 & #7
- Feedback mechanisms from stakeholders ↔ AI Principle #4

Action: Publish a white paper on “Measuring Ethical AI Impact in Regional Development: Lessons from PoliRuralPlus.”

0. Showcase Results Through DECS & Storytelling

Use WP7 (Communication & Dissemination) to translate technical principles into citizen-relevant impact stories:

- “How AI helped us see our village’s future” (local voices)
- “Our digital caddy” narrative from GPT workshops
- “From data to decision: how we built policies with AI”

Action: Create a multilingual interactive digital booklet showcasing pilot stories mapped to each Participatory AI Principle.

2.3 PoliRuralPlus: Strategic Leadership in Ethical, EU-Aligned AI for Rural-Urban Planning

To achieve actions 1 to 4 of the above plan.

1. Public Position Paper: "AI for Territorial Cohesion" – WP2

Title: *Ethical, Inclusive and Participatory AI in Rural-Urban Planning: The PoliRuralPlus Contribution to the EU AI Agenda*

Purpose: To outline how PoliRuralPlus exemplifies the principles set out in the EU General-Purpose AI Code of Practice and AI Act, with real-world applications for inclusive territorial development.

Key Sections:

1. **Introduction:** Context and alignment with EU digital and rural agendas
2. **Participatory AI Principles in Action:**
 - Transparency & Explainability: Advisor guidance, MAAT visual logic
 - Stakeholder Co-Creation: RAPs developed through iterative foresight
 - Multi-Actor Involvement: Quadruple helix engagement via MAAT
 - Iterative Feedback: VULTURE feedback loops
 - Ethical Use: AI limitations clearly flagged (e.g., hallucinations)
 - Capacity Building: MAAT workshops, Advisor trainings
 - Inclusive Policy Design: All tools enable participatory foresight
 - Gender Equality & Social Justice gender & diversity indicators in the Just Transition
2. **Policy Recommendations:**
 - Incorporate Participatory AI frameworks in EU Territorial Cohesion tools
 - Prioritise rural AI pilots in upcoming Horizon Europe missions
 - Recognise rural-urban AI use cases as models of democratic digital transition

AI Ethics Dashboard Template for Pilots – WP2

Title: PoliRuralPlus AI Ethics & Participatory AI Maturity Tracker

Pilot Region	Transparency	Co-Creation	Multi-Actor	Feedback Loop	Ethical Use	Capacity	Inclusive Policy	Gender Equality	Status
Ireland - Monaghan	✓	✓	✓	✓	⚠ Needs flagging bias issues	✓	✓	✓	In Progress
Finland - Mallusjoki	✓	✓	✓	✓	✓	✓	✓	✓	Mature
Slovakia	✓	✓	✓	⚠ Feedback not looped yet	✓	✓	✓	✓	Developing

- ✓ = Fully integrated
- ⚠ = Needs improvement
- ✗ = Not implemented

Table 63: Ethics Dashboard

Communications Plan Integration for WP7 (DECS) – WP7

Narrative Theme: “Trustworthy AI for Thriving Regions”

Assets:

- **Multilingual Digital Booklet:** Featuring one local story per AI principle from each pilot
- **Interactive Map Interface:** Showing AI features used in each pilot and their ethical value
- **Infographics:** "7 PoliRuralPlus AI Principles vs. EU AI Act" mapping (see below)
- **Hashtag Campaign:** #EthicalAI4Regions #ParticipatoryAI #PoliRuralPlus

Channels:

- Project website (Hub4Everybody)
- Twitter/LinkedIn series on one principle per week
- Rural Pact & Smart Villages newsletters
- European Week of Regions and Cities 2025

Stakeholder Engagements:

- Invite DG AGRI, DG CONNECT, and AI Office to review PoliRuralPlus white paper on ethical AI use in rural foresight
- Publish summary of white paper in EU's Joinup platform and Futurium

2.4 PoliRuralPlus AI Principles vs. EU AI Act mapping

Mapping between the 7 PoliRuralPlus Participatory AI Principles and the provisions of the EU Artificial Intelligence Act (AI Act), based on the official guidance document you shared .

PoliRuralPlus to EU AI Act – Alignment Map

PoliRuralPlus Participatory AI Principle	EU AI Act Article(s) & Requirements	Matching Mechanisms in PoliRuralPlus in shaping regional policies
1. Transparency & Explainability	Article 13: Requires AI systems to be transparent, allowing users to interpret outputs appropriately and make informed decisions.	Advisor outputs are explainable; Jackdaw provides source referencing.

PoliRuralPlus Participatory AI Principle	EU AI Act Article(s) & Requirements	Matching Mechanisms in PoliRuralPlus in shaping regional policies
2. Stakeholder Co-Creation	Recital 36 & Article 9: Risk management and human oversight must involve stakeholder perspectives; co-creation aligns with governance.	Co-designed RAPs through Advisor; stakeholder foresight interviews.
3. Multi-Actor Involvement	Recital 45: Encourages the involvement of civil society and public actors, especially in high-risk AI.	MAAT supports quadruple helix participation in foresight and diagnostics.
4. Iterative Feedback	Article 9(3) + Annex III: Requires continuous evaluation and monitoring of AI system performance.	VULTURE feedback loops & WAJ journaling for iterative improvements.
5. Ethical & Responsible Use	Articles 14 & 15: Requires human oversight, robustness, and accuracy. Systems must be free from bias and unpredictable behavior.	Bias & hallucination risks are flagged in the Advisor/Jackdaw ecosystem.
6. Capacity Building	Recital 74 + Article 29: Calls for training users to understand and responsibly use AI systems.	Training workshops on MAAT, Jackdaw, and Advisor interfaces.
7. Inclusive Policy Design	Recital 47 + Article 5(1c): Protects against discriminatory profiling in public services.	Inclusive foresight & RAP drafting ensure underserved groups are included.
8. Gender Equality & Social Justice		Workshops, capacity building & outreach sub-projects' reporting.

Table 64: PoliRuralPlus to EU AI Act – Alignment Map

Notes on Compliance Level

- **High-risk AI systems** in public services like spatial or regional planning fall under **Title III, Chapter 2** of the AI Act. PoliRuralPlus tools (especially the Advisor and MAAT) align with most requirements for:
 - **Risk management (Art. 9)**
 - **Data governance (Art. 10)**
 - **Transparency (Art. 13)**
 - **Human oversight (Art. 14)**
 - **Accuracy & robustness (Art. 15)**

Conclusion

PoliRuralPlus goes beyond compliance by embedding participatory design and rural territorial equity at the architectural level. This positions the project as a model for ethical AI use under the EU AI Act—especially in the context of public sector deployment, foresight, and regional policy-making.

2.5 PRESS RELEASE – WP7

1. PoliRuralPlus Endorses EU AI Code of Practice, Sets New Standard for Ethical AI in Rural-Urban Development

Brussels, [Insert Date] — PoliRuralPlus, a Horizon Europe project fostering sustainable and inclusive development across Europe's rural-urban regions, has officially endorsed the **EU General-Purpose AI (GPAI) Code of Practice**, becoming one of the first territorial foresight initiatives to do so. By aligning with this voluntary code, PoliRuralPlus reinforces its leadership in deploying human-centric, transparent, and participatory AI systems. At the heart of PoliRuralPlus is a set of **Participatory AI Principles**—co-developed with stakeholders across nine European regions—which mirror the core tenets of the EU Code: transparency, accountability, inclusive innovation, and cooperation.

“We are proud to demonstrate that AI in rural and regional policy doesn’t need to be opaque or top-down,” said [Insert Spokesperson Name], PoliRuralPlus Coordinator. “Our AI tools empower local stakeholders to shape the future of their communities—ethically, transparently, and together.”

✔ **Participatory AI in Action**

PoliRuralPlus offers a full-stack ethical AI ecosystem including:

- **The Advisor** – a transparent AI guidance system co-drafting policy with users.
- **MAAT** – the Multi-Actor Approach Tool, operationalising quadruple helix co-creation.
- **Jackdaw**: A novel interface that helps users trace, verify, and understand AI-generated claims with embedded source referencing.
- **VULTURE** – an iterative foresight tool enhanced by stakeholder feedback loops.

This architecture is grounded in seven core principles:

1. **Transparency & Explainability**
2. **Stakeholder Co-Creation**
3. **Multi-Actor Involvement**
4. **Iterative Feedback**
5. **Ethical & Responsible Use**
6. **Capacity Building**
7. **Inclusive Policy Design**
8. **Gender Equality & Social Justice**

A public dashboard and local story collection initiative are now underway across all pilot regions, providing live evidence of ethical AI adoption and its regional benefits.

🌐 **A Model for EU Digital & Rural Agendas**

PoliRuralPlus’ endorsement of the GPAI Code complements the EU Green Deal, the Long-Term Vision for Rural Areas, and Smart Villages strategies. The project is preparing a **white paper** for discussion with DG AGRI, and the AI Office later this year.

About PoliRuralPlus

PoliRuralPlus (Grant Agreement No. 101136910) is a Horizon Europe project uniting 20 partners across 9 countries to co-create regional foresight and development strategies using digital and participatory innovation tools.

🔗 Visit: www.poliruralplus.eu

✉ Contact: [Media Contact]

2.6 Web-optimized version for PoliRuralPlus website’s “News” section:

📰 **PoliRuralPlus Publicly Endorses the EU AI Code of Practice**

PoliRuralPlus joins the forefront of ethical AI innovation in rural Europe

Date: [Insert Date]

Location: Brussels

PoliRuralPlus is proud to announce its formal **endorsement of the EU General-Purpose AI (GPAI) Code of Practice**, becoming one of Europe’s first rural-urban development projects to align fully with the EU’s evolving AI governance framework.

This milestone positions PoliRuralPlus as a **best-practice use case** for ethical, human-centric AI deployment in regional foresight and planning.

Why This Matters

As AI shapes the future of policy-making and spatial planning, **trust, transparency, and inclusion** are more important than ever. That’s why PoliRuralPlus developed and applies **7 Participatory AI Principles**, now being piloted across 9 regions in Europe.

PoliRuralPlus Participatory AI Principles

1. **Transparency & Explainability** – Tools like the Advisor make decision logic visible.

2. **Stakeholder Co-Creation** – Regional Action Plans (RAPs) are co-designed, not imposed.
3. **Multi-Actor Involvement** – MAAT ensures input from citizens, businesses, academia, and government.
4. **Iterative Feedback** – Tools evolve through real stakeholder use and review (e.g., VULTURE).
5. **Ethical & Responsible Use** – AI biases and limitations are acknowledged and mitigated.
6. **Capacity Building** – Workshops train users to understand and shape AI outputs.
7. **Inclusive Policy Design** – AI supports long-term visions that reflect diverse rural voices.

Tools Supporting EU AI Values

PoliRuralPlus combines cutting-edge tech with citizen engagement:

- **The Advisor**: An explainable AI tool for policy guidance.
- **MAAT**: Our Multi-Actor Approach Tool for co-creation.
- **Jackdaw**: A novel interface that helps users trace, verify, and understand AI-generated claims with embedded source referencing.
- **VULTURE**: A journaling-based foresight engine grounded in human feedback.

Together, these tools show how AI can **empower rather than replace** people in shaping the future of their places.

🔔 What's Next?

PoliRuralPlus is:

- Launching a **participatory AI dashboard** for all pilots.
- Collecting **real stories** of AI impact across Europe.
- Preparing a **white paper** for discussion with DG AGRI, DG CONNECT and the AI Office.

We invite other projects and institutions to join us in building a **transparent, inclusive, and ethical AI future** for all of Europe's regions.

 [Learn more about our approach to AI →](#)

 [Contact us for collaboration →](#)

0.  PoliRuralPlus Publicly Endorses the EU AI Code of Practice

PoliRuralPlus joins the forefront of ethical AI innovation in rural Europe

Date: [Insert Date]

Location: Brussels

PoliRuralPlus is proud to announce its formal **endorsement of the EU General-Purpose AI (GPAI) Code of Practice**, becoming one of Europe's first rural-urban development projects to align fully with the EU's evolving AI governance framework.

This milestone positions PoliRuralPlus as a **best-practice use case** for ethical, human-centric AI deployment in regional foresight and planning—**especially in rural and low-density areas** where digital innovation must be inclusive and trustworthy.

Why This Matters

As AI reshapes how policies are designed and implemented, **transparency, co-creation, and accountability** must be at the core. PoliRuralPlus operationalises these values through its own **Participatory AI Principles**, now being piloted across 9 diverse regions in Europe.

✅ PoliRuralPlus Participatory AI Principles

1. **Transparency & Explainability** – AI outputs from Advisor and Jackdaw are clearly described, sourceable, and contextualised.
2. **Stakeholder Co-Creation** – RAPs (Regional Action Plans) are developed with citizens, not just experts.
3. **Multi-Actor Involvement** – MAAT enables collaboration across public, private, civic, and academic sectors.
4. **Iterative Feedback** – VULTURE and Jackdaw incorporate user-generated content and feedback.
5. **Ethical & Responsible Use** – The limits of AI are acknowledged (e.g. hallucinations flagged by Jackdaw).
6. **Capacity Building** – Trainings and workshops build understanding, not dependency.
7. **Inclusive Policy Design** – AI tools amplify rural voices in policy decisions, not just urban datasets.

8. Gender Equality & Social Justice gender & diversity indicators in the Just Transition

 **Tools Powering Our Ethical AI Ecosystem**

PoliRuralPlus integrates advanced AI with participatory design through a unique suite of tools:

- **The Advisor:** A conversational AI assistant that explains and co-drafts regional strategies.
- **MAAT:** The Multi-Actor Approach Tool for mapping and engaging diverse stakeholders.
- **VULTURE:** A work awareness journaling engine for foresight and long-term visioning.
- **Jackdaw:** A novel interface that helps users trace, verify, and understand AI-generated claims with embedded source referencing.

Each tool has been designed with **trust, traceability, and transparency** at the core, ensuring AI supports—not replaces—human judgement in territorial development.

 **What’s Next?**

PoliRuralPlus is taking its ethical AI leadership further by:

- Launching a **participatory AI dashboard** across all pilot regions
- Publishing **local impact stories** linked to the 7 principles
- Preparing a public **white paper** and **webinar series** in dialogue with DG AGRI, DG CONNECT, and the EU AI Office

We invite researchers, policy-makers, and local communities to engage with us and help **shape the future of trustworthy AI in rural Europe**.

 [Explore our AI tools and methodology →](#)

 [Contact us for partnerships or press →](#)

2.7 Potential Pilot stories and dashboard entries

Examples of pilot stories and corresponding dashboard entries, mapped to the 7 Participatory AI Principles. These are fictionalised summaries based on PoliRuralPlus contexts, meant to illustrate how pilots might submit content for both the local story booklet and the AI ethics maturity dashboard.

1. Examples

1. IE Ireland – Monaghan: Local Story: “Deciding Together: The AI That Listens”

AI Principle: Stakeholder Co-Creation

Story:

When local planners in Monaghan began drafting their RAP, there was concern about marginalised voices—youth, small farmers, and social enterprises. Using the MAAT tool, these groups were invited into the process. But the real shift came when the Advisor helped translate their narratives into structured foresight priorities. One planner noted:

“It felt like having a junior analyst who listened to the people before suggesting anything.”

Now, policies on rural broadband and co-working spaces reflect inputs from unexpected voices.

 **Dashboard Entry:**

Principle	Description of Current Practice	Status
Stakeholder Co-Creation	MAAT used in 3 facilitated workshops; inputs processed through Advisor to shape RAP text.	✓
Transparency	Advisor sessions are recorded and outputs shown side-by-side with user prompts.	✓
Ethical Use	Outputs reviewed for bias using Jackdaw’s traceability and source check.	⚠ Needs refinement

Table 65: Irish AI Dashboard

2. FI Finland – Mallusjoki: Local Story: “Farming Smarter, Not Harder”

AI Principle: Transparency & Explainability

Story:

In Mallusjoki, a region facing an ageing farming population, the Advisor was tested to explore options for smallholder farm resilience. When farmers questioned how AI generated its suggestions, the team deployed **Jackdaw** to “show its work.” It revealed that some advice was sourced from Italian CAP policy. Farmers could then compare, debate, and accept or reject the input—feeling in control of the outcome.

Principle	Description of Current Practice	Status
Transparency & Explainability	Jackdaw integrated with Advisor; output sources shown and explained in farmer workshops.	✓
Capacity Building	Training held with agri-cooperatives on how to interpret AI outputs and limitations.	✓
Feedback Loop	VULTURE entries from farmers inform updated prompts for future Advisor sessions.	✓

Table 66: Finnis AI Dashboard

3. sk Slovakia: Local Story: “From Silence to Strategy”

AI Principle: Inclusive Policy Design

Story:

During a regional workshop near Zvolen, Roma community representatives expressed frustration that they were often “in the room but not in the policy.” Through VULTURE journaling and structured interviews, these perspectives were fed into the Advisor, which suggested new targets under “just transition” and “minority representation.” This marked the first time Roma issues were explicitly included in the foresight chapter of a regional plan.

Dashboard Entry:

Principle	Description of Current Practice	Status
Inclusive Policy Design	Structured inclusion of minority community insights via VULTURE and foresight mapping.	✓
Feedback Loop	Community reviewed draft policies and corrections were reflected in final RAP.	⚠ Partial loop
Ethical Use	Jackdaw used to validate sources suggested by AI for cultural relevance.	✓

Table 67: Slovakian AI Dashboard

4. PoliRuralPlus Pilot Story Cards

Pilot Region	Story Title	Narrative	Transparency
Monaghan, Ireland	Foresight for Farming Futures	Using MAAT and participatory AI tools, Monaghan engaged farmers, SMEs and youth in foresight dialogues to co-design agri-tech innovation pathways addressing climate resilience and employment gaps.	✓
Mallusjoki, Finland	Eco-Coop Intelligence	This pilot focused on rural cooperatives using AI tools to optimise forestry and biodiversity impacts. MAAT helped visualise trade-offs, and stakeholder forums tested alternative sustainable futures.	✓
Vidzeme, Latvia	Youth Return through Circular Innovation	Targeting depopulation, Vidzeme used participatory foresight with youth, diaspora and circular economy firms to build scenarios that would attract young people back to rural life.	✓

Table 68: Pilots’ AI Story cards

5. Table of examples

Local Story Cards link pilot experiences to each AI principle - a concrete and simple tool for self-assessment and beyond

Pilot Region	Story Title	Narrative	Transparency	Co-Creation	Multi-Actor	Feedback Loop	Ethical Use	Capacity	Inclusive Policy	Status
Monaghan, Ireland	Foresight for Farming Futures	Using MAAT and participatory AI tools, Monaghan engaged farmers, SMEs and youth in foresight dialogues to co-design agri-tech innovation pathways addressing climate resilience and employment gaps.	✓	✓	✓	✓	? Needs bias flagging	✓	✓	In Progress
Mallusjoki, Finland	Eco-Coop Intelligence	This pilot focused on rural cooperatives using AI tools to optimise forestry and biodiversity impacts. MAAT helped visualise trade-offs, and stakeholder forums tested alternative sustainable futures.	✓	✓	✓	✓	✓	✓	✓	Mature
Vidzeme, Latvia	Youth Return through Circular Innovation	Targeting depopulation, Vidzeme used participatory foresight with youth, diaspora and circular economy firms to build scenarios that would attract young people back to rural life.	✓	✓	✓	? Needs VULTURE integration	✓	✓	✓	Developing
Central Greece	Civic Hubs for Smart Villages	Using the PoliRuralPlus AI Advisor and MAAT, citizens created digital twins of mountain communities to simulate climate adaptation measures and public service redesign.	✓	✓	✓	✓	✓	? Digital skills vary	✓	Mature
Apulia, Italy	Future Foods and Rural Tourism	PoliRuralPlus tools supported a co-designed strategy on sustainable gastronomy and agritourism, engaging farmers, cultural actors and policy leads in the RAP.	✓	✓	✓	? Not yet looped	✓	✓	✓	In Progress
Spain	Water Resilience with AI	Focused on climate impacts on water resources, the Spanish pilot used MAAT and foresight to engage farmers and tech SMEs in scenario planning on sustainable water use.	✓	✓	✓	✓	✓	✓	✓	In Progress
Slovakia	Digital Stakeholder Visioning	The Slovak pilot created an online visioning hub (atraktivnyvidiek.sk) to crowdsource ideas for rural digital development, guided by the Participatory AI principles and civic innovation labs.	✓	✓	✓	? Needs more feedback data	✓	✓	✓	Developing
Czech-Bavarian Border	Cross-Border Knowledge Forests	This pilot explored transnational foresight on sustainable forestry, using MAAT maps and multilingual Jackdaw tools to include both Czechia and Bavarian stakeholders.	✓	✓	✓	✓	✓	✓	✓	Mature
Malta	Digital Twins of Heritage Islands	Malta leveraged PoliRuralPlus to simulate future scenarios of rural tourism and land use using AI-enhanced digital twins, with school and community co-design events.	✓	✓	✓	? Needs closing feedback loop	✓	✓	✓	Developing

Table 69: Examples Pilots' AI Stories

6. Collect Actual Stories from the Pilots – WP5

Should we ?

1. Template 1: Local Story Collection – “AI in Action for My Region”

Objective: Collect 1 story per AI principle per pilot that shows how PoliRuralPlus AI tools (Advisor, Jackdaw, MAAT, VULTURE) made a local impact.

 *Local Story Template (per pilot & principle)*

- **Pilot Region:**
- **AI Principle:** (e.g. Transparency & Explainability)
- **Title:** (Catchy title for your story)
- **Story (max 250 words):**

Describe how this AI principle was experienced by your team or local stakeholders. What problem did it solve or illuminate? How did locals engage? What was the visible result or insight?

- **Quote (optional):**

“What really helped was how the Advisor explained our local challenges in plain terms...” — Local planner

- **Image (optional):**

[Upload or link to a local photo, workshop screenshot, map, etc.]

 *Form 1: Local Story Collection – “AI in Action for My Region” – WP2*

 **Sample Intro Text/Email to Pilots**

Subject: Input Request: Share Your AI Story & Self-Assess Ethical Maturity

Dear PoliRuralPlus Pilot Lead,

As part of our drive to showcase PoliRuralPlus as a leader in ethical, participatory AI, we are collecting:

1. **Short local stories** that demonstrate how AI principles were applied in your region.
2. A **self-assessment** of your pilot's current implementation of the Participatory AI Principles.

 Please complete the following:

- [Online Local AI Story Form – Link to be added]
- [Online Ethics Dashboard Form – Link to be added]

Alternatively, you may download and complete the offline templates:

- Word Template (.docx)
- Excel Template (.xlsx)

Kindly submit your responses by **[insert deadline]**. These inputs will help shape our policy white paper, dashboard, and communications campaign.\n>

Warm regards,

[Your Name]

PoliRuralPlus Coordination Team

Form Title: *PoliRuralPlus: Local AI Impact Story Collection*

Sections & Fields:

1. **Pilot Region**
 - Short answer
2. **Select the AI Principle Featured**
 - Dropdown:
 - Transparency & Explainability
 - Stakeholder Co-Creation
 - Multi-Actor Involvement
 - Iterative Feedback
 - Ethical & Responsible Use
 - Capacity Building
 - Inclusive Policy Design

- **Gender Equality & Social Justice**

2. **Story Title**
 - Short answer
2. **Your Local Story**
 - Paragraph (max 250 words)
2. **Optional Quote (e.g. from a stakeholder)**
 - Paragraph
2. **Upload an Image or Attachment**
 - File upload (images, PDFs, etc.)

7. 📄 **Template 2: Pilot Input Form for Ethics Dashboard - WP5**

Objective: Standardise how each pilot reports their alignment with the 7 Participatory AI Principles.

🔧 *Dashboard Data Input (one form per pilot)*

- **Pilot Region:**
- **Status for each Principle:**

Principle	Description of Current Practice	Status (✓/⚠/✗)
Transparency & Explainability	How do you explain AI decisions to users?	
Stakeholder Co-Creation	How were stakeholders engaged in tool/policy design?	
Multi-Actor Involvement	Who’s involved across the quadruple helix?	
Iterative Feedback	How is stakeholder/user input fed back into tools/policies?	
Ethical & Responsible Use	How do you address issues like bias, limitations, or hallucination?	
Capacity Building	What training or support did you offer to stakeholders?	
Inclusive Policy Design	How was AI used to shape foresight or RAPs inclusively?	
Gender Equality & Social Justice	Gender & other diversity indicators for Social Justice in the Just Transition.	

Table 70: Pilots’ Ethics Dashboards

📄 *Form 2: Ethics Dashboard Input – Pilot Self-Assessment – WP2*

Form Title: PoliRuralPlus: AI Ethics & Participatory Maturity Self-Assessment

Sections & Fields:

1. **Pilot Region**
 - Short answer
2. **For Each of the 8 Principles** (repeat the section 8 times):
 - **Principle Name** (e.g. “Transparency & Explainability”)
 - Static info or drop-down
 - **Describe your current practice**
 - Paragraph
 - **How would you rate your implementation?**
 - Multiple choice: ✓ Fully Integrated / ⚠ Needs Improvement / ✗ Not Implemented

2.8 Actual Pilot Stories

The following are examples of some of the actual AI stories from pilots being collected at

<https://forms.gle/AkoJTCD3JZuXYMHm8>

The 6 PoliRuralPlus “AI in Action for My Region” stories address:

- **Engagement and Co-creation:** Responses focus on engaging local food producers and co-creating rural futures by turning dialogue into action.
- **Data Literacy and Policy Connection:** Some stories highlight using AI for fostering data literacy and connecting policy with people and possibilities.
- **Regional Focus and Enhancement:** Titles are specific to regions like Slovakia and Monaghan, and one focuses on enhancing the Regional Action Plan (RAP).
- **Rural Engagement/Local Food Producers:** One story focuses on using AI for new methods to engage local food producers within the rural event industry ecosystem.
- **Data Literacy:** A story addresses artificial intelligence solutions aimed at fostering data literacy.
- **Slovakia's Rural Future:** Two stories are centered on the application of AI in Slovakia's rural context, focusing on giving from the following pilots:

From the following regions:

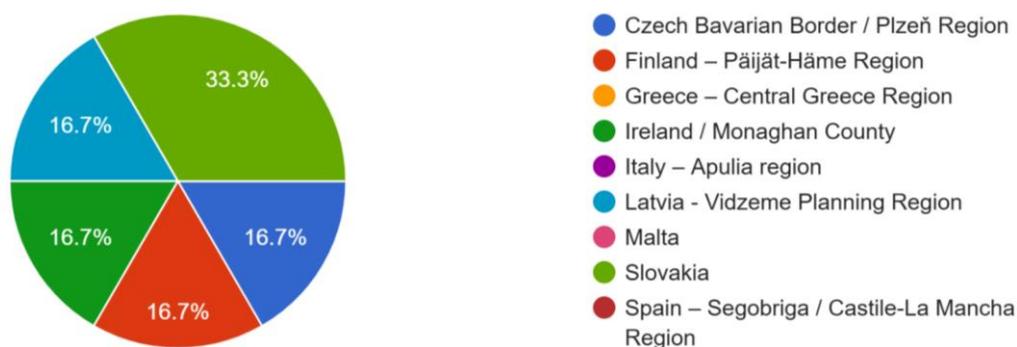


Figure 24: PoliRuralPlus source Regions

The stories illustrate the application of 7 of the PoliRuralPlus Participative AI principles, as follows:

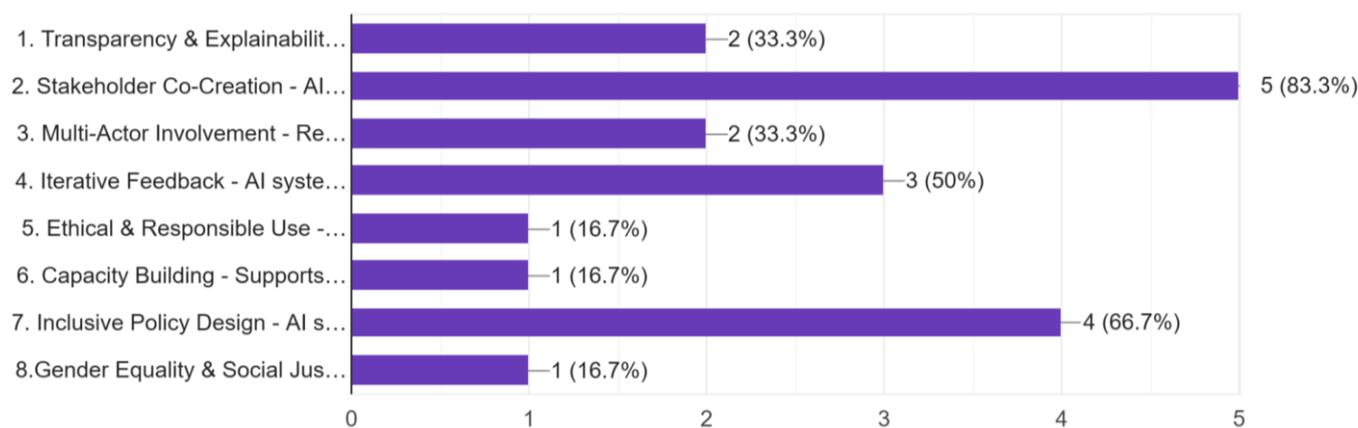


Figure 25: PoliRuralPlus Participatory AI principles addressed

The stories demonstrate the use of 3 of the PoiRuralPlus services as follows:

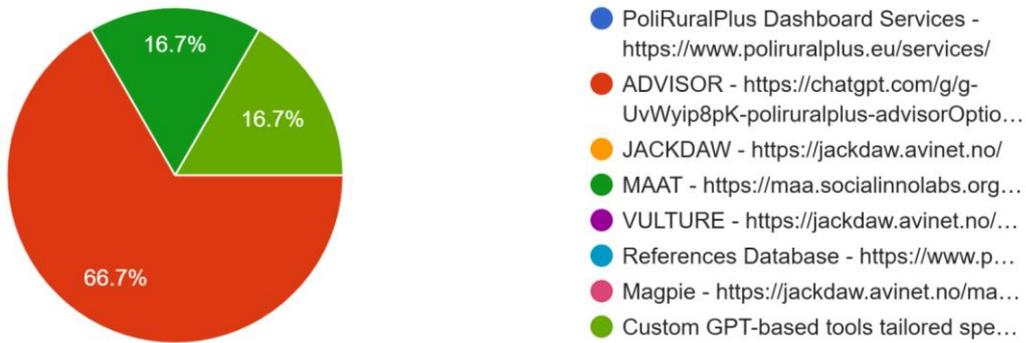


Figure 26: PoliRuralPlus services used

Story 1 — Engaging local food producers in rural event industry ecosystem

“AI improves through continuous input and critique from users”

Region: Finland: Päijät-Häme Region

AI Principle Addressed: Iterative Feedback

Service Used: ADVISOR

The Päijät-Häme pilot team used AI as part of an exploration into improving services within the rural event industry. A central challenge was the tendency of AI to provide overly generic recipes or suggestions that did not reflect local needs, allergen limitations, or preferences of local food producers.

Through a deliberate, multi-step feedback process, the team refined the AI's proposals: removing allergens, adapting protein levels, modifying ingredients, and improving flavor balance. While the final nacho recipe remained close to an existing one, the process revealed creative new variations, demonstrating the value of persistence and dialogue with AI systems.

A breakthrough came when the team shifted to exploring vegetarian burger options. The AI generated a brand new black-bean–mushroom–cheese burger concept that delighted local producers and will be tested in rural club events. This outcome illustrates how iterative AI–human collaboration can unlock innovation even in everyday contexts such as food preparation.

Story 2 — Artificial intelligence solutions for fostering data literacy

“AI solutions can make work easier, if you know WHAT you aim for.”

Region: Latvia: Vidzeme Planning Region

AI Principles Addressed: Stakeholder Co-Creation, Capacity Building, Inclusive Policy Design

Service Used: Custom GPT-based Indicator Tools

In the Vidzeme Planning Region, municipalities face persistent difficulties harmonising datasets, comparing indicators, and conducting analytical work due to inconsistent data structures and limited analytical capacity. The D2D (Data to Develop) Hackathon was launched to collaboratively develop an indicator system framework.

Standard PoliRuralPlus tools provided useful conceptual guidance but lacked the flexibility needed for deeply hands-on, participatory indicator creation. To address this gap, the project developed custom GPT-based tools with region-specific instructions and local language support.



Participants used natural language to generate indicators, simulate datasets, test analytical logic, and formalise metadata structures. This empowered municipal staff—many of whom had limited statistical training—to work with data confidently and creatively. The hackathon demonstrated that tailored AI solutions can dramatically accelerate regional capacity building and support long-term digital transformation.

Story 3 — Giving AI Voice to Slovakia’s Rural Future

“In Slovakia, AI does not decide, it listens, learns, and amplifies the rural voice.”

Region: Slovakia:

AI Principles Addressed: Transparency, Stakeholder Co-Creation, Multi-Actor Involvement, Inclusive Policy Design, Gender Equality & Social Justice

Service Used: ADVISOR

Slovak rural stakeholders often face barriers in interpreting EU policy frameworks or foresight data. The PoliRuralPlus Advisor played a crucial role in translating this information into accessible, plain-language explanations, supporting farmers, youth groups, women’s networks, and local authorities.

Participants asked questions ranging from rural tourism opportunities to youth migration trends. The AI provided clear explanations, source references, and policy-aligned guidance—turning workshops into collaborative learning spaces where diverse actors felt empowered to contribute.

Women’s associations, for example, used the Advisor to explore entrepreneurship pathways. Youth groups explored innovation and digital opportunities. This broadened participation ensured the resulting policy text reflected the real voices of rural communities while promoting fairness and inclusion.



Story 4 — Co-Creating Rural Futures: How AI Turned Dialogue into Action in Slovakia

“Before, strategies were written for us. Now, we write them together with AI helping us understand the bigger picture.”

Region: Slovakia

AI Principles Addressed: Stakeholder Co-Creation, Multi-Actor Involvement, Iterative Feedback, Inclusive Policy Design

Services Used: MAAT & ADVISOR

This story highlights how the MAAT tool, combined with the Advisor, supported the co-creation of an updated Vision for More Attractive Rural Areas 2040. The challenge was enabling meaningful participation from a wide range of actors, from farmers and businesses to civil society and young people.

MAAT enabled interactive mapping of ideas, allowing stakeholders to visually navigate problems, opportunities, and future scenarios. The Advisor supplemented this by interpreting policy implications and clarifying how proposed actions aligned with European frameworks.

The process captured every comment, ensuring no voice—whether a busy mayor or a quiet student—was overlooked. Participants saw their input directly reflected in draft strategies, fostering strong ownership, enthusiasm, and cross-sector partnerships that continue beyond the meetings themselves.



Story 5 — Pimp my RAP

Region: Czech Bavarian Border / Plzeň Region
AI Principles Addressed: Transparency & Explainability, Stakeholder Co-Creation, Iterative Feedback, Ethical & Responsible Use, Inclusive Policy Design.
Services Used: ADVISOR

We mostly use the PoliRuralPlus Advisor in the Czech–Bavarian pilot project. The Advisor helps us in many ways. At the beginning, it helps avoid the pressure of a blank page by providing suggestions on different topics. For example, we often use the Advisor when screening for new grant opportunities that could finance the implementation of the strategy developed in our RAP, or when filtering both Czech and German information on local development strategies. The Advisor also provides us with strategic input on topics related to the pilot that we have not yet considered. Finally, it supports our cross-border work by eliminating the Czech–German language barrier.

Story 6 — Co-Creating Circular Futures: How AI Helped Monaghan Connect Policy, People & Possibilities

“What really helped was how the AI supported our analysis of the circular economy in Monaghan and helped define key interventions and actions for the Regional Action Plan.”

Allen McAdam (MCA Consulting)

Region: ireland / Monaghan County
AI Principles Addressed: Stakeholder Co-Creation.
Services Used: ADVISOR

In County Monaghan, the PoliRuralPlus team demonstrated how AI can help Irish Pilot and key stakeholders work together to create a stronger, more circular local economy. Guided by the Stakeholder Co-Creation principle, the team used the PoliRuralPlus Advisor to design a Regional Action Plan (RAP) that captured community priorities and aligned with wider EU and national goals.

The work began with a desk study analysing the circular economy landscape in Monaghan. Using AI support, the team mapped local challenges, relevant policies, and stakeholders who could contribute to regional progress. Together, they built a roadmap for circular innovation and shared it through a co-creation workshop involving over 20 regional stakeholders from business, education, and local government.

AI played a key role in making the process more structured and inclusive. The Advisor helped the team analyse feedback, identify funding opportunities, and develop three EU project proposals rooted in stakeholder input. It also assisted in defining key interventions and actions that now form the backbone of Monaghan’s Regional Action Plan for the circular economy.

Through this experience, local partners saw how AI can turn complex data into shared insight—supporting people to make better, evidence-based decisions together. The result is a living example of how technology can enhance, not replace, local intelligence in shaping sustainable rural futures¹¹²

6. Conclusion

Across all regions, these stories demonstrate how participative AI can build trust, enhance collaboration, and strengthen rural innovation ecosystems. When designed and applied responsibly, AI supports—not replaces—local knowledge, enabling communities to understand, shape, and lead their own futures.

¹¹² The process showed how AI tools like the PoliRuralPlus Advisor can make complex planning tasks easier to manage and more inclusive. It helped structure the analysis, connect policy frameworks with local realities, and ensure that stakeholder voices were reflected in the final Regional Action Plan. However, Irish Pilot experienced that AI results should be validated by stakeholders and contextualized to the region.

3. Policy Brief: Fostering Rural–Urban Synergies in Europe

As part of the PoliRuralPlus Participatory Action Plan, again Advisor was used to help develop, refine and adapt the text to this policy brief format and style

1. Introduction

PoliRuralPlus pilots across nine European regions (Ireland, Slovakia, Greece, Italy, Finland, Czechia-Bavaria border, Spain, Latvia, Malta) demonstrate how rural–urban linkages can be harnessed for sustainable, inclusive, and resilient development. This brief synthesises lessons learned and proposes a roadmap for scaling these insights across Europe.

2. Key Findings

2.1 Economic Linkages

- **Agri-food systems:** Rural areas provide high-quality produce, while urban centres offer markets and innovation hubs. Short supply chains strengthen resilience.
- **Bioeconomy & forestry:** Regions like Vidzeme (Latvia) and Slovakia highlight forestry as a backbone sector.
- **Tourism & creative industries:** Rural events (Mallusjoki), heritage tourism (Malta, Greece), and cultural identity fuel rural attractiveness.
- **Digital economy:** Monaghan (Ireland) and Czech–Bavaria showcase the potential of digital hubs and remote work.

2.2 Social Linkages

- Rural communities rely on urban centres for services (health, education), while cities draw on rural labour, landscapes, and culture.
- Strong role for **quadruple helix governance** (government, business, academia, civil society).
- Inclusion of marginalised groups (e.g. Roma in Slovakia) enhances fairness and cohesion.

2.3 Environmental Linkages

- Rural ecosystems provide **climate resilience, biodiversity, and carbon storage** that benefit urban areas.
- Shared risks (floods, fires, droughts) require joint strategies.
- Bioeconomy and circular economy solutions create win-wins for sustainability.

2.4 Cross-Cutting Challenges

- **Demographic decline & ageing** in most pilots.
- **Climate risks & environmental degradation** across southern and northern regions alike.
- **Policy fragmentation & administrative burdens**, particularly in CAP.
- **Digital divide** restricting rural participation in innovation.

3. Opportunities & Recommendations

3.1. Sustainable & Resilient Food Systems (Short-term)

- Invest in **short supply chains** connecting rural producers with urban consumers.
- Support **agroecology and climate-smart agriculture**.
- Use the **New European Bauhaus (NEB)** to frame food as culture, aesthetics, and identity.

3.2. Digitalisation & Smart Rural Development (Short-term)

- Expand **rural broadband and digital hubs**.
- Deploy **participatory AI tools** (MAATool, Advisor, VULTURE) to co-create policies.
- Strengthen **digital literacy** programmes.

3.3. Climate Resilience & Environmental Stewardship (Medium-term)

- Integrate **nature-based solutions** and ecosystem restoration into regional action plans.
- Promote **climate-smart forestry and agroforestry**.
- Develop **joint rural–urban climate strategies** aligned with Climate-ADAPT.

3.4. Cultural & Creative Industries (Medium-term)

- Position **cultural and creative industries** as drivers of innovation and youth retention.
- Develop **cultural tourism routes** linking rural and urban heritage.
- Apply NEB principles to enhance aesthetics and cultural branding.

3.5. Governance & Policy Integration (Long-term)

- Institutionalise **Multi-Actor Platforms** to coordinate across governance levels.
- Simplify EU/CAP funding rules for small rural actors.
- Foster **cross-border governance models** in shared regions.

3.6. Demographic Renewal & Social Inclusion (Long-term)

- Launch **youth entrepreneurship and returnee programmes**.
- Use participatory tools to ensure inclusion of **marginalised groups**.
- Align with the **EU Rural Pact** and **Long-Term Vision for Rural Areas**.

4. Alignment with EU Strategies

- **Green Deal & Farm to Fork:** Food security, circular bioeconomy.
- **Digital Europe & Smart Villages:** Digitalisation, broadband, AI.
- **NEB & Creative Europe:** Aesthetics, heritage, cultural innovation.
- **Climate-ADAPT & LTVRA:** Climate resilience and foresight.
- **Rural Pact & Cohesion Policy:** Governance, demographic renewal.

5. Conclusions

PoliRuralPlus confirms that rural–urban linkages are systemic and multidimensional. By scaling participatory foresight, AI-enabled co-creation, and NEB-inspired approaches, Europe can foster **thriving, resilient, and attractive regions**. A phased approach is recommended:

- **2025–2027:** Food systems & digitalisation.
- **2027–2030:** Climate resilience & cultural industries.
- **2030–2040:** Governance integration & demographic renewal.

This roadmap ensures immediate impact, medium-term transformation, and long-term structural change, advancing Europe’s vision for sustainable territorial cohesion.

Annex D: Examples of using the PoliRuralPlus References Database and Knowledge Space.

This annex includes a number of papers produced using the [Web Requests](#) custom GPT by efoxai.com to browse through the links in the [PoliRuralPlus References Database](#) Extended Knowledge Space, to illustrate the extent and depth of knowledge contained in the database.

The Web Request GPT explained “Given the extensive nature of the references provided, I can guide you through structuring a paper based on the sources, focusing on foresight and its role in integrated regional development to optimize rural-urban linkages. Below is an outline with synthesized content from the references to guide the writing process.” However, [Advisor](#) can now do this also.

The full papers are at [Examples of using the Refs DB.docx - Google Docs](#)

Abstracts of the papers are as follows:

1. Strategic Foresight in Enhancing Integrated Regional Development: Bridging the Rural-Urban Divide

The divide between rural and urban areas presents significant challenges for policymakers striving for balanced and integrated regional development. This paper explores the use of strategic foresight as a tool to bridge this divide, optimize rural-urban linkages, and foster sustainable regional development. Drawing on a broad range of literature, including key foresight studies and recent empirical research, the paper outlines how foresight can anticipate future trends, mitigate risks, and leverage opportunities for cohesive regional growth.

2. Exploring Rural-Urban Linkages in Europe: A Comprehensive Analysis

Rural-urban linkages represent critical socio-economic and environmental interactions that shape the development of regions across Europe. These connections facilitate the flow of people, goods, services, information, and capital, thus playing a vital role in regional development. This paper explores the multifaceted nature of rural-urban linkages within Europe, highlighting their impact on regional cohesion, economic growth, and sustainability. Drawing from a broad range of literature and case studies, the paper discusses the role of policy frameworks, infrastructure development, and governance in enhancing these linkages. The analysis emphasizes the importance of integrated territorial planning and the need for innovative approaches to bridge the rural-urban divide.

3. Climate Adaptation in Optimizing Rural-Urban Linkages: Aligning with European Policies

Climate change presents significant challenges to both rural and urban areas, affecting economic activities, social cohesion, and environmental sustainability. The European Union's policies on climate adaptation provide a framework for addressing these challenges by optimizing rural-urban linkages. This paper explores how climate adaptation strategies can enhance the interconnections between rural and urban areas, fostering resilience and sustainable development. It examines various European policies and initiatives, including land management, biodiversity conservation, and integrated landscape approaches, to demonstrate how climate adaptation can be leveraged to improve rural-urban linkages.

4. The Importance of Innovation in Integrated Rural-Urban Regional Development: An Analysis of EU Policies

Innovation plays a crucial role in fostering integrated rural-urban regional development across Europe. As rural and urban areas become increasingly interconnected, the need for innovative approaches to economic, social, and environmental challenges has grown. This paper examines the importance of innovation in integrated rural-urban

development, focusing on the European Union (EU) policies that support this process. By analyzing the key drivers of innovation and the EU's strategic initiatives, this study highlights how innovation can bridge the gap between rural and urban areas, promoting sustainable and inclusive growth across the continent.

5. The Impact of COVID-19 on Rural-Urban Linkages and Integrated Regional Development in Europe

The COVID-19 pandemic has profoundly disrupted rural-urban linkages and the dynamics of regional development across Europe. This paper examines the impacts of the pandemic on these linkages and explores how the crisis has altered the trajectory of integrated regional development in Europe. Drawing from various studies and reports, this paper highlights the significant challenges and opportunities that have emerged during the pandemic. It discusses the implications for rural and urban areas, particularly in terms of economic disparities, migration patterns, and policy responses aimed at fostering regional resilience and sustainability.

6. Nature-Based Solutions and Rural-Urban Linkages in Europe

Nature-based solutions (NBS) are increasingly recognized as vital strategies for fostering sustainable development and enhancing the resilience of rural-urban linkages in Europe. This paper explores the role of NBS in strengthening these linkages, emphasizing their potential to address environmental, social, and economic challenges across rural and urban areas. By examining various NBS initiatives and policies, the paper highlights the benefits and challenges of integrating these solutions into regional planning and development. The study underscores the importance of collaborative governance, investment in green infrastructure, and the need for policy coherence to maximize the effectiveness of NBS in bridging the rural-urban divide.

7. The New European Bauhaus: Optimizing Rural-Urban Linkages and Integrated Regional Development in Europe

The New European Bauhaus (NEB) initiative is a forward-looking movement that aims to bridge sustainability, aesthetics, and inclusivity to foster integrated regional development across Europe. This paper explores the potential of the NEB to optimize rural-urban linkages, enhance the cultural and environmental fabric of European regions, and promote sustainable development. By examining the principles and objectives of the NEB, this study highlights how the initiative can contribute to regional cohesion, sustainable urban-rural dynamics, and the realization of the European Green Deal's goals.

8. Bridging the Rural-Urban Divide in Europe: Innovative Approaches and the Role of PoliRuralPlus

The rural-urban divide in Europe has long been a source of economic, social, and political tension. This divide manifests in disparities in income, access to services, digital connectivity, and political representation. With the increasing importance of sustainability and inclusivity, new approaches like PoliRuralPlus offer innovative solutions to address this divide. This paper explores the challenges posed by the rural-urban divide in Europe and examines how initiatives such as PoliRuralPlus can contribute to more integrated and equitable regional development.

9. The Role of Foresight in Optimizing Rural-Urban Linkages for Integrated Regional Development

Integrated regional development that optimizes rural-urban linkages is increasingly recognized as essential for fostering balanced growth, resilience, and sustainability in Europe. Foresight, a strategic planning tool that involves exploring future scenarios and trends, plays a crucial role in shaping policies that address the complexities of rural-urban dynamics. This paper examines the role of foresight in integrated regional development, emphasizing how it can be effectively used to enhance rural-urban linkages. Drawing on various references, including the PoliRural project and other foresight studies, the paper discusses the benefits, challenges, and applications of foresight in this context.

10. The Importance of Trust in Rural-Urban Integrated Regional Development in Post-COVID Europe

Trust is a cornerstone of effective governance and social cohesion, particularly in the context of rural-urban integrated regional development. In post-COVID Europe, rebuilding and sustaining trust between rural and urban populations is vital for fostering collaboration, reducing disparities, and achieving balanced regional development. This paper explores the critical role of trust in enhancing rural-urban linkages, drawing on the lessons from the COVID-19 pandemic and its impact on social, economic, and political landscapes. The paper argues that trust is not only essential for the successful implementation of integrated regional development strategies but also for addressing the systemic challenges exacerbated by the pandemic.

11. How the PoliRuralPlus project will contribute to optimising rural-urban linkages and integrated regional development in Europe

The PoliRuralPlus project plays a critical role in enhancing rural-urban linkages and promoting integrated regional development across Europe. This analysis explores how the project's initiatives and strategic frameworks will optimize these linkages, considering the broader context of regional policies, innovation systems, and sustainable development goals.

Optimizing Rural-Urban Linkages

1. Fostering Innovation and Digitalization

PoliRuralPlus emphasizes the integration of advanced digital tools and innovation systems tailored to rural contexts. By leveraging digitalization, the project aims to bridge the gap between urban and rural areas, ensuring that rural communities are not left behind in the technological revolution. Initiatives like the European Innovation Partnership for Agricultural Productivity and Sustainability (EIP-AGRI) facilitate the exchange of knowledge and technology between rural and urban areas, promoting sustainable agricultural practices and rural entrepreneurship. These efforts are crucial in creating a more connected and resilient regional ecosystem.

2. Enhancing Governance and Policy Frameworks

The project underscores the importance of robust governance structures and policy frameworks that support rural development while acknowledging the interconnectedness with urban areas. By aligning with the EU's long-term rural vision and territorial cohesion policies, PoliRuralPlus contributes to a more balanced development strategy that integrates rural areas into broader regional development plans. This alignment is essential for addressing spatial disparities and ensuring that rural communities have access to the same opportunities as their urban counterparts.

3. Strengthening Regional Economies

PoliRuralPlus supports the diversification of rural economies, which is pivotal in reducing the dependency on traditional agricultural activities. By promoting new economic activities such as rural tourism, renewable energy, and sustainable agriculture, the project fosters economic resilience. This diversification not only boosts rural economies but also enhances the economic ties between rural and urban areas, creating a more integrated regional economy that benefits all.

Integrated Regional Development

1. Promoting Sustainable Development

Sustainability is at the heart of PoliRuralPlus, aligning with the EU's Green Deal and Sustainable Development Goals (SDGs). The project encourages practices that are environmentally friendly and socially inclusive, ensuring that regional development does not come at the expense of rural areas. By promoting sustainable land use, water management, and biodiversity conservation, PoliRuralPlus contributes to the long-term viability of rural areas as part of an integrated regional development strategy.



2. Addressing Demographic Challenges

Demographic change is a significant challenge for many rural areas in Europe, characterized by aging populations and outmigration. PoliRuralPlus addresses these issues by creating attractive conditions for young people and families to live and work in rural areas. Through initiatives that enhance the quality of life, provide access to education and healthcare, and improve infrastructure, the project aims to reverse negative demographic trends and create vibrant rural communities.

3. Enhancing Connectivity and Infrastructure

Improving connectivity and infrastructure is crucial for integrating rural areas into the broader regional economy. PoliRuralPlus supports investments in transport, digital infrastructure, and public services that connect rural areas with urban centers. This enhanced connectivity facilitates the movement of goods, services, and people, making rural areas more accessible and integrated into the regional and global economy.

Conclusion

The PoliRuralPlus project is a key driver in optimizing rural-urban linkages and promoting integrated regional development in Europe. Through its focus on innovation, governance, economic diversification, sustainability, demographic renewal, and connectivity, the project provides a comprehensive framework that ensures rural areas are an integral part of Europe's regional development strategy. This holistic approach is essential for achieving balanced and sustainable growth across the continent, benefiting both rural and urban areas.