

Title: The process of territorial data construction to support rural transitions: the case of Val di Cecina and Pays Pyrénées Méditerranée Rural Living Labs

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Abstract

The Long-Term Vision for Rural Areas recognises the centrality of engaging territories and local actors to address rural transitions. At the same time, the European Commission places data at the centre of policymaking and territorial development. This paper explores how territorial data are constructed and mobilised through two Rural Living Labs (RLLs) established within the Horizon GRANULAR project: the Rural District of Val di Cecina (Italy) and the Pays Pyrénées Méditerranée (France). While Living Labs are traditionally associated with innovation processes, in this context they increasingly operate as territorial agencies that support participatory governance, knowledge generation, and collective action.

Building on previous research conducted across seven RLLs, the paper investigates how these two cases operationalise broad European ambitions at the micro-territorial level. The study adopts a comparative exploratory case study design combining qualitative analysis of internal reports and semi-structured interviews with key actors. Evidence from the report analysis shows that data are not standalone resources but are embedded within broader systems of learning, knowledge exchange, facilitation, stakeholder engagement, and territorial dynamics. The findings highlight the importance of relational infrastructures, contextual constraints, and knowledge circulation in shaping territorial data processes. Based on these patterns, the comparison identifies two distinct modes of territorial data construction. Val di Cecina emerges as a context-heavy, problem-driven, and territorially embedded case, where data gaps, territorial challenges, and stakeholder diversity make data construction an iterative and facilitation-intensive process. In contrast, Pays Pyrénées Méditerranée exhibits a more structured and method-driven trajectory characterised by stronger governance arrangements, higher data availability, and a greater orientation toward data use in interaction and decision-making.

Preliminary interview findings further suggest that trust-building, knowledge translation, capacity-building activities, and the alignment of scientific and territorial priorities are critical conditions for transforming data into actionable knowledge. The paper contributes to understanding Rural Living Labs as adaptive territorial infrastructures that mediate between data, knowledge, governance, and collective action, while revealing different trajectories through which territorial data are constructed and mobilised in rural contexts.

Keywords: Rural Living Labs – Territorial data – Knowledge Co-production – Rural Development

Long abstract

Introduction

The Long-Term Vision for Rural Areas (COM (2021) 345 final) recognises the centrality of engaging territories and local actors to address rural challenges through active participation and collaboration. Rural communities demand innovative forms of knowledge to effectively capture their complexity and support decision making aimed at tailored solutions. The widely acknowledged recognition that rural actors need to be involved in rural development and consequently in the decision-making process also applies to the creation and use of data for policy.

Various studies (Torre et al. 2023; European Committee of the Regions . 2023) point out that the rural territories in industrialised countries are recognised as crucial, at the same time, for their different characteristics has become necessary to implement diversified rural policies (OECD 2025). In the latter

case, the rural policies at the “regions” level – differentiated in two rural types close to the urban area and remote – are related to the effectiveness of innovation and competitive advantage. Despite this focus, some other elements are important to highlight, for example rural regions are recognised to be diverse in geography, economic structure, and opportunity. Indeed, an effective policy must reflect this diversity, support the actions to value the rural voice, guarantee a successful communication, assure that the rural evidence will inform policies, build scale and collaboration and guarantee coherence and integrated actions (OECD 2025). This perspective does not exclude the connection and the interrelations of the policies with the national level and seems to reinforce what Akimowicz et al. (2023) noted for the process of the continued decentralization of state engagement and the compartmentalization of public policies (Kattel and Mazzucato 2018). The process has weakened the state capacities to support rural development, mainly due to insufficient field knowledge of rural needs and contexts. Furthermore, the authors describe as this trend has broadened the rural development and which has become more about responding to the urgent issues created by neoliberal approaches and disinvestment sacrificing the “long-term visions”.

In response to this change, the attempt to create and reinforce the knowledge identifying appropriate solutions in rural governance is recognized at various scales (COM (2021) 345 final). The different efforts to guarantee rural development activities and an effective participation in the rural governance includes several formal and informal initiatives. Starting from the input of Europe, through the Local Action Groups, Living Labs, Rural Pact Communities or the concept of Smart Villages, and at the same time at territorial level Districts in Italy and Pays in France, territorial actors are trying to build more stable and longer initiatives to overcome the “urgent issues” with the “long-term visions” grouping a wide range of actors seeking to go beyond the sectoral approach. These cases are part of a complex context characterized by traditional administrative levels, the presence of formal and informal entities and actors, and several sectors and it can create a greater spread of initiatives without excluding a heterogeneous landscape.

The GRANULAR project (Giving Rural Actors Novel data and re-Useable tools to Lead public Action in Rural areas) is a four-year project launched in 2022 under the Horizon Europe program. It aims to capture the diversity of rural areas, improve the understanding of their characteristics, dynamics and drivers such as climate change, demographic trends, wellbeing and accessibility to primary services and support better decision with new forms of knowledge. The project introduces a structured approach to the local data and policy cycle, emphasizing the importance of data in supporting effective decision-making. To pursue this goal, GRANULAR activated seven Rural Living Labs (hereafter RLLs) across Europe that collaborate with scientific partners to ensure the relevance and applicability of the tools developed. This contribution originated from the need to deepen this analysis and to understand more precisely how RLLs operationalise broad European ambitions at the micro-territorial level through a project and how their knowledge are produced and became actionable. In this paper, we focus on two RLLs: the Rural District of Val di Cecina (Italy) and the Pays Pyrénées Méditerranée (France), which represent two real rural world contexts differing in terms of institutional maturity and territorial consolidation.

Background

GRANULAR, the Rural Living Labs and the knowledge initiatives

Within this project, the authors of this paper have a privilege observation point as coordinators of the RLLs, allowing longitudinal insight into their organisational evolution, internal dynamics, and interaction with policy frameworks. Building on previous research conducted within the project, we

observe that, throughout these processes, the RLLs focus on building relationships, encouraging mutual understanding, and acquire new knowledge around their needs. They act within a participatory governance framework, which becomes effective only when sustained by targeted capacity-building initiatives and collaborative data practices that democratize the process and foster shared ownership of outcomes. In this regard, the role of Living Labs extends beyond the traditional field of product innovation and evolves into “adaptive mediating networks” (Stortini et al., 2026) that generate knowledge, facilitate interactions around data, and manage stakeholder relations in their rural contexts. These RLLs represent and include a variety of needs, priorities, and actors stemmed from different backgrounds and geographical contexts. As participatory governance spaces, they require flexibility in the process and sufficient time to build trust and transparency. Labs in the project cope with different challenges recognise in the literature (Massari et al., 2023) such as management, commitment and long-term view. In our previous work (Stortini et al., 2026), analysing the seven RLLs during the first two years of the project, we identified the four interrelated domains that contribute to a more comprehensive understanding of the RLLs role in rural policy development: 1. establishing priorities and involving stakeholders, 2. translating concepts and bridging knowledge boundaries, 3. building data capacity and trust, and 4. time as a transversal parameter. These domains also allowed us to capture their flexibility when they operate along data, project structures, and rural transformation.

The two case studies, Italian and French, provide a significant opportunity to understand how the internal characteristics of Rural Living Labs, such composition and history shape their capacity to organise collective knowledge. The Italian case is relatively recent, with its territorial action under development, whereas the French case is considerably more established within the territory and deeply integrated into an active engagement with the French institutional system. Despite these differences, both aspire to transcend a sectoral approach and to address rural development in a broader integrated way. This contribution, therefore, examines the evolution of the two RLLs considering newly collected materials, the progression of the project activities, and their adaptive organisational characteristics.

Torre et al. (2023) highlighted that there are still not many empirical reports about how knowledge-based initiatives are developed in the territories, what initiatives can facilitate the involvement, in their perspective, the regional authorities and other partners or how the policy adapts to new urban-rural relationships. Having been involved in the project, the two cases took on different configurations, both with respect to their “entities” and to each other, creating adaptive networks involving new actors depending on the priority to be pursued. Both cases face the challenge of operating within large rural territories, tackling multifaced issues and progressing beyond isolated interventions toward a more extensive management of the territory. Furthermore, our hypothesis is that, although both RLLs acted within the same European project, they exhibit different capacities that influence how the knowledge is produced, shared, and translated into action. These capacities relate not only to data but also on the ability to involve appropriate stakeholders, translate concepts, and bridge knowledge boundaries. The present work intends to answer the following questions:

- *What are the conditions and factors that enable the generation of knowledge within the RLLs?*
- *How implementation processes can be organized to ensure high coherence along knowledge generation, data construction, and decision? In what ways the knowledge is produced but also used?*

From the territorial data and policy cycle approach to the actionable knowledge

As highlighted by the “The long-term vision for the EU’s rural areas: key achievements and ways forward” (COM - 2024/450 final) the two years of rural proofing testing have demonstrated the necessity to raise awareness, improve data availability and resources for the process, and enhance coordination and (European Commission, 2024) acknowledging data as central for its growth and policymaking. Moreover, in other disciplines, there is an emphasis on the need to move beyond the use of existing data generated by citizen science projects and to develop a more structured, inclusive, and “sustainable” statistical system calling (Fraisl et al. 2026). In this perspective, rural territories need data to catch their dynamic challenges – ranging from how to connect production with consumption to comprehend mobility patterns and ensure a sufficient system of basic services – and to adopt a more flexible approach in reading phenomena by identifying the most appropriate scale of intervention with policies.

GRANULAR adopt a structured approach to the local data and policy cycle, emphasizing the importance of data to support effective decision-making. The process begins with agenda setting, where priorities are identified to address the territorial issues. Existing data is mined for relevant information, and where gaps exist, primary data is collected. Then, the collected data (primary and secondary) undergoes thorough processing, analysis, and interpretation, ensuring that it is accurate and actionable. Ultimately, the approach aimed to generate insights that directly inform local planning and development strategies, fostering more impactful and community-driven outcomes. This process is iterative and non-linear learning process where the actors, as active subjects of the project and the territory, interact and collaborate to find a solution.

Despite, the emphasis is on the importance of the «evidence-based» decision making through area-specific solutions (OECD, 2023), for the process of territorial data construction is useful to referring to the approach used by (De Jong et al. 2025). Where in their paper on cities – specifically on local governments – and their attempt to build a framework on the beneficial use of data, De Jong *et al.* (2025) highlight that a data-informed local government is intended “*as one that incorporates data as a core lever to perform its functions and address public problems [...] with reference not only to data, but also with awareness of the context in which data are collected and used, and therefore incorporating other considerations for making decisions based on data*”. In our case, we suppose that qualitative and quantitative data will support Rural Living Labs in making more informed decisions on how to adopt strategies and evolve programs to increase rural resilience and improve local governments’ ability to make decisions and set policy — including operations and long-term planning. Despite of this, data is not a panacea and its history, purposes, and contexts of data formation, collection, and use play fundamental roles in shaping the power and impact of data and data technologies (Jarke and Bates 2024). Although Jarke and Bates (2024) explore what data work looks like in practice and through which ethical, legal, and societal considerations practitioners orient their work they highlight the need to conduct empirical studies to contribute to the critical studies on data that inform how data practices unfold in situ and reflect on the importance of contextualizing data practices, making them less abstract, additionally, connecting them to real outcomes for different groups of people in society (Jarke and Bates 2024, chapter 5).

As stated by (De Jong et al. 2025), in their conceptual framework, data can be used for performing in the present, reflecting on the past and preparing for the future depending on the level of organisational maturity. However, how this data become actionable in the territory? According to (Räsänen et al. 2024) the actionable knowledge stemmed from the process of the knowledge production and also use. Starting from the reflection on environmental problems and the gap with the solutions they propose a framework

for the co-production of the actionable knowledge in transdisciplinary projects, describe it as cumulative, cyclical and iterative and co-evolutionary between knowledge and action.

Materials and methods

This study employs a qualitative case study approach to investigate what are the conditions and factors that enable the generation of knowledge within the RLLs and how the implementation processes can be organized to ensure high coherence along knowledge generation, data construction, and decision.

Case study

We selected the Val di Cecina RLL and the Pays Pyrénées Méditerranée RLL due to their similarities in terms of territory, leader organization, missions and challenges.

The Italian RLL is run by the Val di Cecina Rural District in Tuscany. Val di Cecina is a hilly valley opening to the sea, with about 1055 km² and 55,900 inhabitants. The Rural and Organic District of Val di Cecina has been recognized by regional decree in 2019¹ and in 2022² due to the already high percentage of organic agricultural land also received the recognition for Organic District. It is composed by 13 municipalities structured around the Cecina River, goes from Volterra to Cecina. Involving almost forty territorial actors such as municipalities, trade associations, schools, consortia, private local authorities, a technological hub and the Local Action Group. Overall, the Val di Cecina's District emerges as a hub for experimentation and proactive initiatives, in its vision they want to combine high-quality agriculture with the protection and promotion of the region's cultural identity and image as a tourist destination. In the project the RLL has an ambitious vision to protect, recover and revitalize the rural area represented by the district (in Tuscany). The aim is to support dynamic, participatory, and sustainable development to create social value, and it is interested in the implementation of the integrated territorial planning to support the link between local production to local consumption and the planning of sustainable management of the touristic flows to deal with the lack of entrepreneurial culture and administrative fragmentations. In Granular, the RLL involved a diverse group of local stakeholders from different backgrounds and sectors, including associations, municipalities, farmers and consultant. The RLL acts mainly through the core group and organise every year an annual event to share the progress with the district in general.

The French RLL is run by the Pays Pyrénées Méditerranée (PPM), which covers a territory of 1150 km² and 108,693 inhabitants. The PPM is an association was born in 2001³, with the main objective is to promote and guarantee the coherence of policy development and management and the sustainability of the territory in cooperation with local actors. It includes 58 communes grouped in four Communauté de communes which are the Haut Vallespir, Vallespir, des Aspres et des Albères de la Côte Vermeille et de l'Illobéris and it shares 110 km of borders with Spain.

The RLL has the first long-term goal which is to improve knowledge in specific fields to enhance local decision-making and enable action and concrete solutions. Two question-actions are prioritized: find out more about mobility flows and demand to develop targeted transport solution. In addition, another objective is also to upgrade skills of local players in observation tools and more broadly to support local population empowerment and awareness of data and observation tools' opportunities and limits. The

¹ Regional Decree No. 19942 [04.12.2019].

² Regional Decree No. 14094 [13/07/2022].

³ As reported in the Pays Statute the Assembly was born for the first time on 1990 as a Comité Intercommunal de Développement Economique du Vallespir (CIDEV). In 2001, based on the General Assembly the CIDEV, Comité de Bassin d'Emploi integrated the mission of Conseil de développement based on the LOADDT Law.

RLL also enable stakeholders to step back from professional practices by meeting and interacting with other European local communities and research labs, and thus, reinforce public and private local action data based. Finally, the RLL wants to objectify and monitor tourists and local people's uses of natural areas to improve their reception and handle impacts on biodiversity. Indeed, the RLL's objective is also to upgrade the data sensitisation and skills of local players for the observation tools.

The active core of the Pays Pyrénées Méditerranée (PPM) includes institutional authorities such as municipalities and communities of municipalities, research institutions, agricultural and non-agricultural businesses, consulting NGOs, and natural reserves. Instead for the Labs, the governance relies on a core group driving the general activities of the Lab and on specific groups related its priorities (tourism and mobility, food system and biodiversity). In addition, the RLL activities and outputs are also discussed within the Pays Pyrénées Méditerranée's instances.

Data collection

Building on previous research conducted across the seven RLLs, the study follows a sequential qualitative strategy. The first phase consists of an in-depth analysis of internal documents produced between October 2022 and February 2026, from the setting up and stakeholder engagement phases. The empirical material includes notes of workshops and meetings, ad hoc reports such as the Cross visits dossier and the Practice abstracts, the monitoring tools, and the yearly reports such as the Action Plans (Tab. 1 RLLs PPM and VdC materials) and analysed using the qualitative data analysis software ATLAS.ti (2023, version 23.2.1).

Tab. 1 RLLs PPM and VdC reports

PPM	VdC
First characterisation template 2023	First characterisation template 2023
Minutes of internal meetings with other Labs or with partners 2023 – 2024 – 2025	Minutes of internal meetings with other Labs or with partners 2023 – 2024 – 2025
Catalogue 2024	Catalogue 2024
Knowledge Transfer Accelerator webinar highlights 2024	Knowledge Transfer Accelerator webinar highlights 2024
Reflexive workshops 2024 – 2025	Reflexive workshops 2024 – 2025
Practice Abstract 2025	Practice Abstract 2025
Action Plan 2023, 2024 and 2025	Action Plan 2023, 2024 and 2025
Internal monitoring	Internal monitoring
Cross visit dossier 2025	Cross visit dossier and internal report 2025

The second phase involves open ended interviews with key actors from both RLLs and project partners that collaborated with these Labs. A total of 10⁴ interviews were conducted between May 2026 and June 2026 online (MSTeams) or in-person; contacts were identified through the purposive and the snowballing techniques (Moser and Korstjens 2018) and based on the availability and the feasibility to do the interview. Finally, the study will rely on triangulation (Korstjens and Moser 2018) between reports and interviews to strengthen interpretative validity.

⁴ Probably we will continue with interviews.

Codebook development and validation for the first phase

The coding framework was developed through an iterative process informed by previous research conducted within the GRANULAR project and by literature on Rural Living Labs, such as participatory governance, knowledge co-production, and territorial data practices. To improve analytical consistency, the codebook underwent a validation process involving multiple researchers. First, one researcher applied the preliminary coding framework to an initial set of reports. The resulting codebook was then shared with a second researcher, who independently applied the codes to additional materials. Subsequently, the researchers jointly reviewed the coding process, discussing the meaning, boundaries, and potential overlaps among codes. Through this iterative process, code definitions were refined and agreed upon, resulting in a validated codebook that guided the subsequent analysis.

The final coding framework consisted of 30 codes organised into three broad thematic groups: *Data, Learning and Knowledge*, and *Living Lab Development* and it was applied to all document materials using ATLAS.ti (version 23.2.1). Rather than focusing solely on code frequencies, the analysis explored the relationships between codes through the software's co-occurrence tools. This enabled the identification of patterns of association between themes and allowed the researchers to examine how different dimensions of Rural Living Lab development appeared together within the empirical material.

From codes to analytical clusters

Following the coding process, co-occurrence analysis was used to identify highly connected codes and recurrent relational structures within the data. Particular attention was paid to codes displaying high relational density, meaning codes that frequently co-occurred with multiple other themes across documents. This process revealed several central codes, including *Facilitation and methodological practices*, *Data collection and analysis*, *Knowledge exchange practices*, *Actor engagement strategies*, *Networks and relationship building*, and *Territorial dimension*. Building on these relationships, codes were progressively grouped into broader analytical clusters through an iterative interpretative process.

Four higher-order clusters emerged:

1. **Data Systems**, referring to the processes through which data are identified, collected, integrated, and transformed into usable knowledge;
2. **Relational Infrastructure**, capturing the role of networks, stakeholder engagement, actor composition, and collaborative arrangements;
3. **Contextual Constraints**, encompassing territorial conditions, challenges, and contextual factors shaping Living Lab activities;
4. **Knowledge Systems**, focusing on knowledge creation, exchange, circulation, and translation across actors and organisational boundaries.

These clusters represent analytical constructs rather than predefined categories and were developed inductively from patterns observed in the coded material.

Development of the interview protocol

The report analysis informed the design of the interview protocol. Rather than seeking simple confirmation of the document findings, the interviews were designed to deepen understanding of the mechanisms underlying the four analytical clusters and to explore how actors experienced these processes in practice. Different interview guides were developed for Living Lab facilitators, Living Lab members, and project researchers according to their role within the project. Across all interview types, questions were organised around the four analytical dimensions identified through the report analysis, i.e. *Data Systems*, *Relational Infrastructure*, *Contextual Constraints*, and *Knowledge Systems*, while

leaving space for participants to introduce additional themes and reflections. The interviews therefore constitute a second analytical phase aimed at refining, challenging, and extending the interpretations emerging from the report analysis.

Data analysis

We obtained the participants' permission to record the interviews, transcribed them in their entirety, and ensured the data was anonymized in line with ethical research standards. The transcriptions are analysed using the qualitative data analysis software ATLAS.ti (2023, version 23.2.1). After transcription, the interview material was not coded using the report codebook without modification. At the time of writing, the research team is revisiting the original coding framework considering the analytical clusters identified during the first phase and the themes emerging from the interviews. This process aims to assess the relevance, adequacy, and explanatory power of the existing codes when applied to a different type of empirical material. The interview transcripts are reviewed through an iterative coding process. Existing codes are retained when they remain analytically relevant, refined when their meaning required clarification, and supplemented with additional codes when new themes emerged that are not sufficiently captured by the original framework. This approach allows continuity between the reports and interview analyses while maintaining sensitivity to new empirical insights. The coding process therefore combines deductive elements derived from the validated report codebook with inductive refinements emerging from the interview material.

Results and discussion

Phase one: report analysis and emerging analytical patterns

The report analysis reveals that data is not isolated; instead, it is integrated into learning and exchange processes and is closely connected to its territorial context. Indeed, the project operates through a relational architecture along engagement, networks and external actors. These are not peripheral, they are structural enablers and challenges are contextual. Then, the knowledge "system" is circulatory, not just produced points out, supporting (Räsänen et al. 2024) when they affirm that the process to build knowledge is iterative and cyclical. Across both cases, data appears embedded within broader processes of learning, knowledge exchange, and stakeholder interaction. The analysis highlights the importance of relational infrastructures, including networks, facilitation practices, and actor engagement strategies, which act as enabling conditions for data-related activities. Similarly, challenges are strongly connected to the territorial context in which the RLLs operate, indicating that data construction is shaped by situated conditions rather than by purely technical considerations supporting (De Jong et al. 2025) where they stated that data are linked to the awareness of the context. The co-occurrence analysis reveals a nuanced understanding of knowledge dynamics within RLLs, indicating that knowledge is not merely generated and disseminated; rather, it circulates through a complex web of interactions among diverse actors, organizations, and activities. This circulation is facilitated by a variety of practices, including facilitation techniques, knowledge exchange mechanisms, and network-building initiatives, which serve as essential bridging elements. These mechanisms effectively link data-driven activities to broader processes of collective learning and territorial engagement.

When examining the two RLLs, a clear difference in the configurations of territorial data construction becomes apparent (the main differences are reported in Tab. 2 "Analytical distinctions emerging from the report analysis"). These initial observations highlight the impact of various elements such as institutional resources, contextual backgrounds, prior experiences, territorial recognition, technical expertise, and capacities, on the processes of knowledge creation and dissemination within local communities. A closer look at the differing strategies for territorial data construction shows that the Val

di Cecina Lab operates within a context-rich, problem-driven framework that is deeply embedded in the territory. Here, the emphasis is placed on the challenges faced by the community, with the territory itself significantly shaping the processes involved. The relational dynamics, characterized by extensive networking and facilitation efforts, are highly mobilized; however, they lack a clear operational focus. In contrast, the Pays Pyrénées Lab exemplifies a more structured and methodologically driven approach to data construction. This case illustrates a more formalized and operationalized system, where data plays a pivotal role in informing interactions and decision-making processes. The governance structures within this Lab are more pronounced, showcasing a greater emphasis on alignment and a shared vision among stakeholders. This structured approach not only improves the effectiveness of data use but also cultivates a more unified framework for collaborative action within the community.

Table 2 Analytical distinctions emerging from the report analysis

Dimension	Pays Pyrénées Méditerranées (PPM)	Val di Cecina (VdC)
Data	Data largely exists Data as a resource to be used	Data largely missing or incomplete Data to be constructed
Actors	Actors relatively aligned around shared objectives (already defined)	Actors diverse, with heterogeneous expectations and needs
Methods	Methods defined and structured	Methods evolving and adapted over time
Nature of data collection	Structured	Emergent construction process
Starting point of process	Begins from clearly defined questions	Begins from data gaps and uncertainty
Data sources	Integrated (multiple sources combined and tested)	Fragmented (institutional data + local collection + gaps)
Role of participation	Supports and enriches an already structured process	Essential condition for data collection to happen
Process dynamics	Controlled and method-driven	Iterative, adaptive, and trial-and-error
Relation to facilitation	Facilitation structures and aligns the process	Facilitation sustains participation and coordination
Relation to decision-making	Data collection can feed into decision-making processes	Data collection is not yet fully operational for decision-making

Phase Two: Preliminary Interview Findings

Preliminary interview findings across researchers and RLL facilitators converge on a central insight: territorial data is not simply produced but co-constructed through sustained processes of negotiation, trust-building, and the continuous alignment of scientific and territorial priorities. Trust emerges as a structuring condition of this co-production, built incrementally through transparency, repeated interactions, the explicit acknowledgement of uncertainty, and the careful clarification of what research can and cannot prove. Researchers describe investing considerable effort in explaining data validity, supporting stakeholders through capacity-building activities, and creating the conditions for local actors to genuinely understand the possibilities and limits of scientific collaboration, a process that, by definition, requires time. Time, indeed, functions as a crosscutting structural factor throughout the findings: respondents consistently describe the need for extended periods, before meaningful data work becomes possible, and the facilitators' account underscores how the mismatch between the short decision-making cycles of local institutions and the longer temporalities of scientific inquiry constitutes one of the most persistent challenges in RLLs governance.

Against this backdrop, knowledge circulation emerges as more consequential than data production per se. Interviewees highlight the transformative impact of cross-visits, peer exchanges, workshops, internships, and moments of collective reflection in enabling knowledge to travel, be challenged, and be translated into territorial action

RLLs can create value through the creation of spaces where knowledge can circulate, be challenged, and be translated into territorial action. The PPM Living Lab illustrates this dynamic particularly well: the co-design process described by researchers involved not only joint question formulation and iterative methodological negotiation, but also the deliberate creation of spaces, including stakeholder–policymaker brainstorming sessions held without researchers present, in which territorial actors could define their needs before engaging with scientific constraints.

Preliminary contributions

Our findings based on report analysis extend our previous work on Rural Living Labs as adaptive mediating networks by moving beyond the identification of their main operational domains and examining the mechanisms through which territorial knowledge and data are generated (Stortini et al., 2026). A further contribution of this study lies in moving from a broad comparative analysis of seven Rural Living Labs to an in-depth examination of two contrasting trajectories of territorial data construction. In previous work, the Rural Living Labs were analysed collectively as adaptive mediating networks, allowing the identification of common domains such as stakeholder engagement, knowledge translation, data capacity building, and the role of time. While this perspective highlighted shared characteristics across cases, it provided limited insight into the different ways these processes are operationalised in practice.

The two empirical studies try to reduce the literature gap identified by (Torre et al., 2023) in the field of how knowledge-based initiatives are developed in the territories at intermediate level. The comparison between Pays Pyrénées Méditerranée and Val di Cecina reveals that Rural Living Labs can't be understood as a single organisational model. Rather, they appear to represent distinct modes of territorial data construction shaped by different territorial, institutional, and relational conditions. In PPM, the RLL operates within a relatively consolidated governance environment characterised by established actor networks, existing data resources, and defined methodological procedures. The need to move beyond the use of existing data (Fraisl et al. 2026) here, point out the challenge that is less about generating data than about coordinating actors around available information, enhancing data literacy, and integrating data into collective decision-making processes. In contrast, the Val di Cecina RLL operates in a context where relevant territorial data is often fragmented, incomplete, or unavailable. Consequently, facilitation efforts are directed towards stakeholder mobilisation, the identification of information needs, and the construction of new data through iterative and participatory processes (Räsänen et al. 2024).

These findings suggest that territorial data construction and the identification of the “most” appropriate scale of intervention may follow different trajectories depending on the maturity of governance arrangements, the availability of data infrastructures, and the capacity to mobilise local actors. The distinction emerging from the two cases shifts attention from RLLs as homogeneous participatory spaces towards a more nuanced understanding of how different territorial configurations shape the production, circulation, and use of data supporting the different stages of data use pointed out by (De Jong et al. 2025). In this perspective, RLLs do not simply mediate between data and decision-making; they perform different functions depending on whether the challenge is primarily to use existing data or to collectively construct the data needed for territorial action.

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