



Ecosystem Mapping Exercise UNITA Territorial
Innovation in the framework of the GLUE proposal (HEI
Initiative Call 5 – Topic 2)

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Executive Summary

Across Europe, innovation and entrepreneurial activity remains structurally concentrated in metropolitan regions, while rural, mountain and geographically constrained territories frequently operate outside dominant innovation trajectories¹. OECD evidence shows that patenting intensity in rural areas is significantly lower than in metropolitan regions, reflecting disparities in ecosystem density, connectivity and access to knowledge infrastructures. European policy analyses further highlight that mountain and inner peripheral regions face cumulative disadvantages related to accessibility, demographic change and limited institutional coordination. This broader territorial evidence provides an important baseline for the GLUE mapping exercise: UNITA operates precisely within these rural, mountain and cross-border contexts, where strong sectoral assets coexist with structural fragmentation. The system mapping therefore confirms the strategic relevance of GLUE's ambition to act as an ecosystem integrator and transformation driver in territories that require structured coordination to unlock their innovation potential.

¹ OECD. (2022). Unlocking rural innovation. OECD Publishing. <https://www.oecd.org/regional/rural-development/unlocking-rural-innovation.htm>

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1. About GLUE

GLUE – Green Living Labs in the UNITA Ecosystem positions innovation and entrepreneurship (I&E) as the integrative force, the “glue”, that transforms the UNITA – Universitas Montium European University Alliance from an alliance that *does* innovation into one that is innovative at its core.

The project draws on the Kintsugi metaphor, the Japanese art of repairing broken pottery with gold, making the object stronger and more valuable through integration rather than replacement. In GLUE, this metaphor operates at multiple levels.

First, it connects UNITA’s existing achievements: Erasmus+ education initiatives, the Re-UNITA research agenda, the INNOUNITA EIT HEI pilot, and the constellation of alliance projects (SPHERE, CHORAL, etc.) and best practices developed across territories. Rather than creating parallel structures, GLUE integrates these experiences into a coherent innovation architecture.

Second, it connects UNITA to the wider European innovation landscape, particularly the EIT ecosystem and the European Network of Living Labs. Through structured collaboration with ENoLL and strengthened engagement with EIT KICs, GLUE ensures that UNITA’s innovation capacity is not isolated but embedded within European knowledge and entrepreneurship networks.

Third, and most critically, the Kintsugi metaphor connects innovation ecosystems to territory. The visual identity of GLUE represents UNITA as a stylised mountain chain, symbolising both *Universitas Montium* and the mountain, rural and cross-border regions at the heart of the Alliance. Through GLUE, Living Labs, EIT pathways and entrepreneurial structures become the golden threads that bind innovation to these territories, strengthening not only I&E within the Alliance but also innovation capacity within the regions it serves.

GLUE addresses a structural gap: while European University Alliances have consolidated education and research pillars, the systematic integration of innovation and entrepreneurship remains often underdeveloped. UNITA has laid strong foundations through Erasmus+, Re-UNITA and INNOUNITA. GLUE is the project that steps through the door opened by INNOUNITA, embedding innovation into governance, education, research and territorial engagement.

The vision is operationalised through a meta-Living Lab architecture across three interconnected layers:

- **Macro:** alliance-level governance and institutional transformation;
- **Meso:** six R&I Hubs activated as Living Labs;
- **Micro:** challenge-based projects responding to territorial needs, embedded in education and research.

In this way, GLUE functions as both structural integrator and territorial accelerator, connecting UNITA’s internal strengths, European innovation ecosystems, and the mountain, rural and cross-border territories that define its identity.

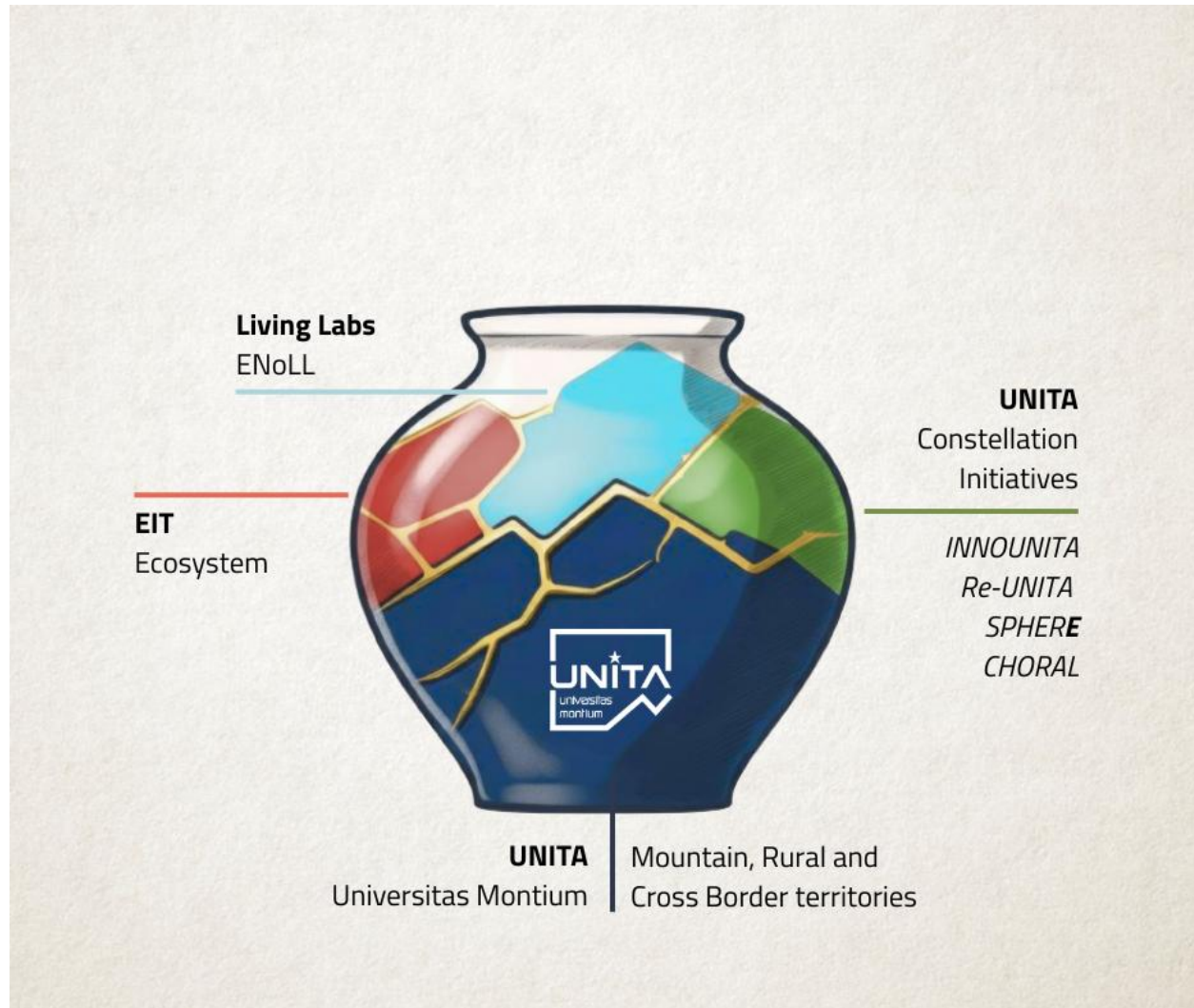


Figure 1. Visual Representation of GLUE Metaphor

2. Rationale and Methodology

2.1 Rationale

UNITA operates across a set of rural, mountain and cross-border regions characterised by strong territorial identity, dynamic local partnerships and emerging innovation structures. However, as highlighted in the HEI Initiative Call 5, transformation requires more than the presence of actors. It requires structured coordination, strategic alignment and institutional capacity to bridge academia, industry, public authorities, civil society and strategic innovation networks.

The primary challenge for UNITA is therefore not the absence of initiatives or actors, but the fragmentation of ecosystem connections and the limited integration of these actors into a coherent alliance-level innovation system.

The system mapping exercise was designed to:

- Build a shared and evidence-based understanding of the ecosystem landscape;
- Identify structural bottlenecks limiting innovation and entrepreneurship performance;
- Assess the strength of relationships across the Quintuple Helix;
- Define a concise system challenge statement that would guide GLUE's transformation logic.

By grounding the analysis in collective reflection, the exercise ensured that GLUE's proposed interventions respond to structural realities rather than abstract assumptions.

2.2 Methodological Approach

The mapping exercise was conducted in plenary using a structured Miro board, following a progressive logic moving from ecosystem observation to system diagnosis and finally to challenge formulation.

The process unfolded in three sequential stages:

Stage 1 – Ecosystem Baseline (Building on Task 4.1 Cartography)

Participants identified key actors, existing strengths and structural gaps across their respective territories, explicitly drawing on the Smart Specialisation cartography and ecosystem mapping previously developed by Task 4.1. This ensured continuity with prior analytical work and avoided duplication.

Stage 2 – Bottlenecks, Needs and Leverage Points

The discussion moved from descriptive mapping toward structural interpretation. Participants identified bottlenecks constraining innovation and entrepreneurship, articulated the needs required for systemic change, and highlighted potential leverage points through which GLUE could intervene at alliance level.

Stage 3 – Quintuple Helix Diagnosis and System Challenge Formulation

The ecosystem analysis was structured through a Quintuple Helix lens, examining relationships among academia, industry, public authorities, civil society and strategic networks (including EIT Ecosystem, ENoLL and Euromontana). Participants assessed the strength of connections, identified weak or missing links, and collectively formulated a concise system challenge statement grounded in relational diagnosis.

The methodology remained proportionate and accessible, avoiding complex modelling in favour of strategic clarity and shared ownership. As required by the HEI Initiative Call 5, the exercise prioritised actionable insight and alignment with institutional transformation objectives.



Figure 2. Miro Board: full participative process

3. Ecosystem Baseline – WHAT Emerged

3.1. A Structured but Uneven Innovation Landscape

The first phase of the mapping exercise focused on identifying key ecosystem actors, existing strengths and structural gaps across UNITA territories, building explicitly on the Smart Specialisation cartography developed under Task 4.1.

Strong Sectoral Anchors and Industrial Density

The ecosystem mapping confirms that several UNITA territories benefit from strong sectoral specialisation and industrial anchoring. Prominent domains include:

- Green energy and sustainability clusters (solar energy, ESG-oriented innovation);
- Automotive and mobility systems (including automotive software, embedded AI, advanced manufacturing);
- Life sciences and environmental research;
- Logistics and decentralised business incubation models.

The presence of multinational corporate actors (e.g. Bosch, Continental, Nokia, Hella, Flex), dynamic regional clusters, and a significant start-up pipeline (e.g. 260+ start-ups incubated by UVT since 2018) signals a relatively dense industrial environment with established innovation capacity.

At the same time, innovation intermediaries are present, including incubators linked to sustainability, regional development agencies responsible for Smart Specialisation Strategies (S3/RIS3), and business associations connected to green, automotive and digital sectors.

This landscape reflects a solid industrial and technological base, particularly in mobility, green transition and advanced manufacturing, which are directly relevant to GLUE’s thematic positioning.

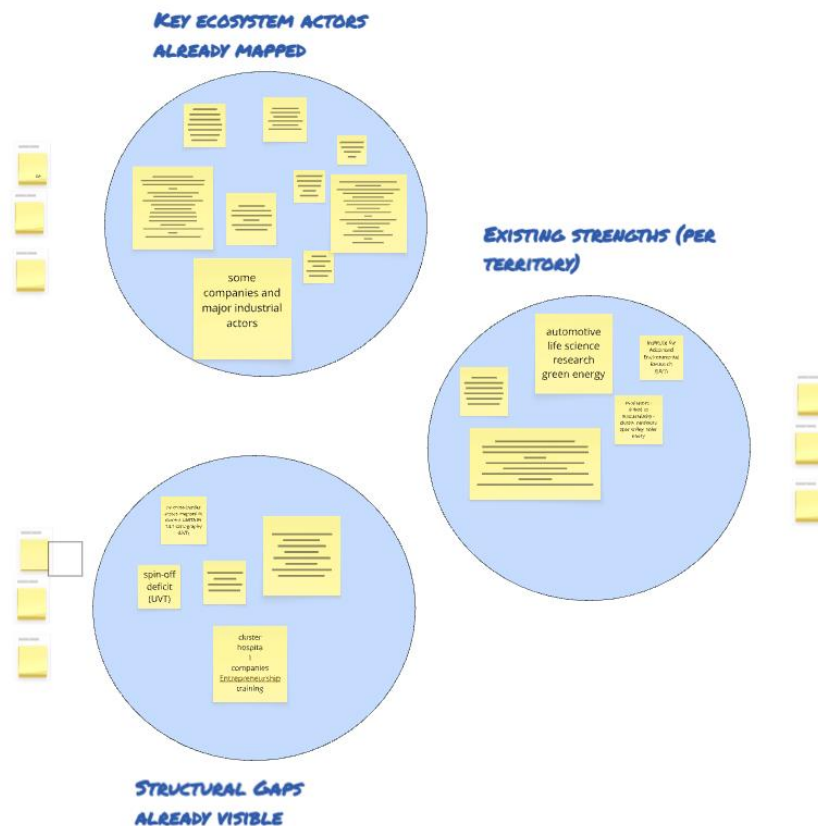


Figure 3. Ecosystem Diagnosis

3.2 Emerging Innovation Ecosystems with Territorial Identity

Participants also highlighted:

- Emerging local and regional innovation ecosystems in the process of formalisation;
- Strong student talent pipelines;
- Cultural infrastructure enabling spillovers toward creative industries;
- Smart mobility testing potential linked to urban density and traffic pressure;
- Cross-border innovation potential (e.g. HU–RS–RO triangle).

These elements confirm that UNITA territories are not peripheral in innovation terms. Rather, they combine sectoral strengths, emerging entrepreneurship ecosystems and cross-border dynamics that could form the basis of a structured alliance-level innovation model.

This aligns closely with GLUE’s ambition to position UNITA as a structured ecosystem actor in rural, mountain and cross-border regions.

3.3 Structural Gaps and Fragmentation Patterns

Despite these strengths, the mapping exercise revealed a number of structural constraints that limit systemic innovation performance.

- **Limited Cross-Border Integration**

Participants explicitly noted the absence of mapped cross-border actors in the current T4.1 cartography. While cross-border potential exists, it is not yet structurally embedded in the ecosystem architecture. This reveals a gap between territorial identity and operational ecosystem integration, a key transformation target for GLUE.

- **Spin-Off Deficit and Entrepreneurial Structuring**

The mention of a “spin-off deficit” and the need for cluster-hosted entrepreneurship training suggests that while research and industrial density are strong, the structured translation of research into start-ups and spin-offs remains limited. This is directly coherent with GLUE’s focus on acceleration mechanisms and TRL–SRL bridging.

- **Weak SME Integration and Multi-Actor Governance**

Participants identified:

- SMEs insufficiently integrated into RIS3 priorities;
- Rural/mountain–urban innovation diffusion gaps;
- Limited civic participation in smart city pilots;
- Green transition projects lacking multi-actor governance.

These insights highlight that the issue is not the absence of actors, but weak relational coordination across the Quintuple Helix. The ecosystem appears actor-rich but structurally fragmented.

- **Knowledge Transfer and Regulatory Gaps**

UNITA universities showed significant experience in Knowledge and Tech Transfer, but regulatory frameworks and practices are uneven across territories. The need to build a coherent knowledge and tech transfer approach at UNITA level emerged.

3.4 A Systemic Reading of the Baseline

When interpreted collectively, the baseline mapping suggests a recurring structural pattern:

- Strong sectoral anchors
- Strong tech transfer and knowledge transfer at single institution level
- Emerging but uneven entrepreneurial ecosystems
- High industrial presence
- Weak structured cross-helix coordination
- Limited alliance-level integration

The core issue emerging at this stage is not capability scarcity, but coordination deficit.

UNITA territories demonstrate industrial and research density, but lack a fully integrated, alliance-level innovation architecture capable of:

- Structuring collaboration across universities and territories;

- Connecting SMEs systematically to research and acceleration pipelines;
- Embedding green transition initiatives within multi-actor governance models;
- Leveraging cross-border potential strategically;
- Transforming industrial presence into spin-off generation capacity.

3.5 Coherence with GLUE Objectives

These insights strongly validate the rationale of GLUE:

- WP2 and WP3 – integrate ecosystem stakeholders through Living Labs in curricular and non curricular I&E education.
- WP4 - responds to fragmentation of knowledge transfer and tech transfer, by creating or scaling structures and shared services at UNITA level;
- WP5 - addresses weak translation from research to start-up creation and support, spin-offs;
- WP6 - responds to insufficient integration of SMEs, clusters and public actors, strengthening ecosystem partnerships and EIT ecosystem integration;
- WP7 - becomes essential to monitor structural relational change rather than only activity outputs.

The baseline mapping therefore confirms that GLUE is not introducing artificial intervention areas. Rather, it addresses structural constraints already recognised by ecosystem actors.

4. Structural Bottlenecks, Needs and Leverage Points

While the baseline mapping confirmed the presence of strong research infrastructures, industrial anchors and emerging innovation ecosystems, the second phase of the exercise shifted the focus from assets to structural constraints. The discussion revealed that the core limitations of UNITA territories are not rooted in resource scarcity, but in systemic fragmentation and under-orchestrated collaboration.

4.1 From Strong Research to Weak Valorisation

A recurring theme across contributions was the paradox of strong research capacity coexisting with limited and inconsistent valorisation outcomes.

Participants highlighted:

- Good research infrastructure and high-quality research results;
- A lack of capitalisation on research experimentation through Living Labs;
- Success stories in RDI valorisation described as “random” rather than systemic;
- Good RDI results not leading to infrastructural open innovation models.

This suggests that the issue is not knowledge production, but structured translation.

Research-to-innovation pathways appear insufficiently institutionalised. Valorisation depends on individual initiatives rather than coordinated mechanisms. Living Lab approaches exist but lack procedural clarity, visibility and structured implementation frameworks.

This directly reinforces the strategic relevance of GLUE’s Meta-Living Lab approach, which aims to move from episodic experimentation toward systematic quadruple helix orchestration.

4.2 Weak Entrepreneurial Culture and Limited Academic Preparedness

Another structural bottleneck concerns the internal entrepreneurial capacity of universities.

Participants noted:

- Training in entrepreneurship knowledge is needed within the academic community;
- A lack of structured knowledge about open innovation;
- Good HR and research talent not fully connected to education and product development pathways;
- A spin-off deficit and limited infrastructure for systematic start-up generation.

This reveals a transformation challenge at institutional level.

The ecosystem contains companies and industrial actors, in some regions up to 100,000 companies around universities, yet the link between academia and entrepreneurial development remains weak and insufficiently structured.

The gap is not simply external (SME innovation deficits), but internal (entrepreneurial mindset and capability within universities).

This strongly aligns with GLUE’s institutional transformation dimension (WP4) and acceleration mechanisms (WP5), which aim to build entrepreneurial competencies and structured venture pipelines, as well as the embedding of entrepreneurial education and open innovation (WP2/3)

4.3 Ecosystem Fragmentation and Coordination Deficit

The most recurrent and systemic bottleneck identified during the discussion concerns coordination.

Participants repeatedly emphasised that:

- The ecosystem needs to be more coordinated;
- Many actors are already present;
- Integration across ecosystems and territories is insufficient;
- Ecosystems lack structured coordination mechanisms;
- Similar patterns appear across multiple UNITA regions (e.g. UPNA, UNIBS, UVT).

This confirms a systemic pattern rather than isolated territorial issues.

The innovation landscape is actor-rich but architecture-poor.

There is limited:

- Integration of SMEs into innovation pathways;
- Systematic orchestration of quadruple helix representation;
- Structured communication and visibility of Living Lab procedures;
- Alliance-level ecosystem governance.

The problem is relational density, not institutional presence.

This diagnosis validates GLUE's ambition to act as a structured ecosystem integrator rather than an additional project-based initiative.

4.4 Rural SME Innovation Gap

Participants also explicitly identified that mountain/rural SMEs lack innovation capacity and structured integration into innovation systems.

This links directly to:

- Limited open innovation awareness;
- Weak diffusion between rural and urban innovation nodes;
- Insufficient alignment between companies and university research infrastructures.

The presence of strong corporate actors contrasts with weaker SME integration, particularly in rural and mountain territories.

This reflects the broader European territorial baseline previously discussed and reinforces the need for structured SME engagement and acceleration pipelines.

4.5 Living Labs: Potential Without Systematisation

Living Labs emerged repeatedly in the discussion, both implicitly and explicitly.

However, participants noted:

- Lack of procedures and visibility around Living Lab implementation;
- Absence of systematic orchestration;
- Need to formalise quadruple helix representation.

This indicates that Living Labs are recognised the potential tool that can bridge above mentioned gaps, but not yet embedded as a structured governance mechanism.

GLUE's Meta-Living Lab framework therefore responds directly to a clearly articulated ecosystem need: transforming informal or fragmented Living Lab experiences into institutionalised, alliance-level mechanisms.

4.6 A Systemic Reading of the Bottlenecks

When synthesised, the bottlenecks converge around four structural constraints:

1. Weak translation from research to innovation and entrepreneurship.
2. Limited entrepreneurial culture and institutional preparedness within universities.
3. Fragmented ecosystem coordination across actors and territories.
4. Insufficient integration of SMEs, particularly in rural contexts.

These constraints are relational and institutional rather than purely economic.

The ecosystem does not lack actors, companies or research excellence. It lacks structured orchestration mechanisms capable of aligning:

- Research infrastructures;
- Entrepreneurial training;
- Industrial demand;
- Territorial governance;
- Alliance-level coordination.

This systemic diagnosis provides a strong internal validation of GLUE's transformation logic.

4.7 Coherence with GLUE Intervention Logic

The bottlenecks identified map coherently onto GLUE's architecture:

- WP3 - Open Innovation Pathways embedded in education.
- WP4 - addresses academic entrepreneurial capacity and internal structural preparedness.
- WP5 - responds to spin-off deficits and SME integration gaps.
- WP6 - tackles fragmentation, cross-territorial coordination and integration with EIT Ecosystem.
- WP7 - ensures that transformation moves from anecdotal success stories to measurable structural change.

The exercise therefore confirms that GLUE does not artificially impose a transformation agenda. It responds to bottlenecks already recognised by ecosystem actors themselves.

BOTTLENECKS FOR INNOVATION + ENTREPRENEURSHIP

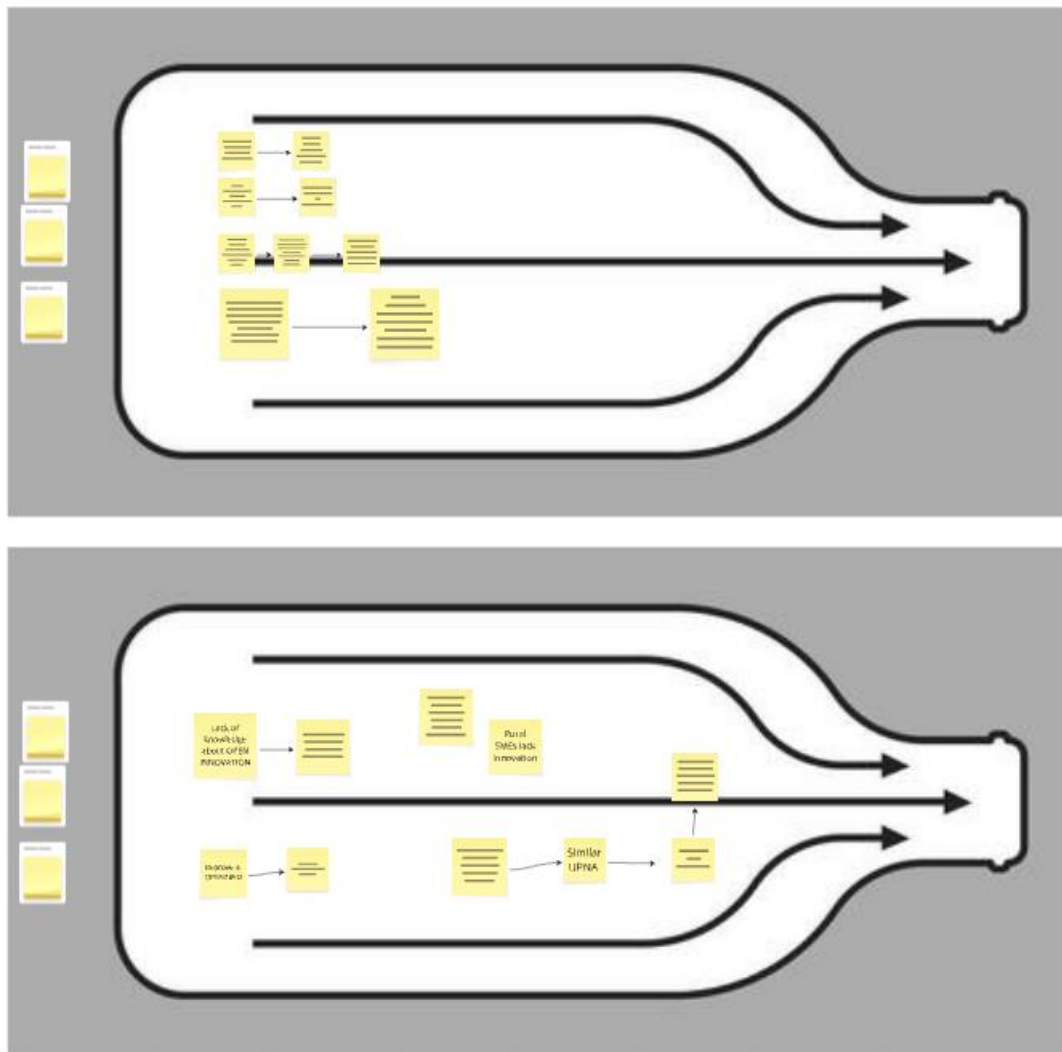


Figure 4. Miro Board: Bottlenecks for I&E

5. Quintuple Helix Diagnosis – From Relational Gaps to Transformation Levers

The third phase of the exercise applied a structured Quintuple Helix +1 lens to the ecosystem mapping and bottleneck analysis. Rather than focusing on individual actors, participants assessed the quality of relationships between actors, identifying where connections are strong, where structural gaps persist, and where GLUE is expected to intervene.

The analysis confirms that UNITA ecosystems are not disconnected, but unevenly connected. Strong bilateral relationships coexist with systemic relational gaps.

5.1 Academia

Where actors are well connected

Participants highlighted that within universities:

- Technology Transfer Offices (TTOs) are established and functional in some regions (e.g. UVT national best practice);
- Entrepreneurship education is embedded in bachelor and masters' curricula across faculties in certain institutions;
- Applied research infrastructures are strong;
- Academic staff and students are active in research-driven initiatives.

This confirms that foundational institutional components for an entrepreneurial university model exist.

Where weak links persist

However, several structural weaknesses were identified:

- Limited number of patent applications;
- Differences in legal frameworks across countries;
- Lack of systematisation in Living Lab/open innovation approaches;
- Insufficient orchestration of quadruple helix representation within university-driven initiatives;
- Limited bridging between TRL–SRL levels for student-developed products.

The internal capacity exists, but coordination mechanisms and standardised processes are uneven.

The academic system is structurally equipped but not fully transformation-ready.

Where GLUE is expected to intervene

Participants identified GLUE's role in:

- Stimulating challenge-based applied research to facilitate structured KT/TT;
- Systematising Living Lab/open innovation approaches across entrepreneurship education;
- Providing staff training and entrepreneurial capacity development;
- Leveraging best practices across UNITA partners;
- Bridging TRL–SRL gaps in student innovation pipelines.

This aligns directly with WP2, WP3, WP4 and WP5.

5.2 Industries and SMEs

Where actors are well connected

Participants recognised:

- Industry partners acting as challenge-owners in some faculties;
- Applied research cooperation in digitalisation projects;
- Strong local ecosystem connections (e.g. USMB);
- Some systematic collaboration with industry for knowledge transfer.

Industrial presence and bilateral cooperation exist.

Where weak links persist

However, systemic limitations include:

- Limited collaboration for technology transfer and licensing;
- SME access to university lab infrastructure not structured;
- Relationships often “connected but not truly objective-oriented”;
- Entrepreneurship education not fully integrated with industry pipelines;
- Coordination gaps across territories.

SMEs appear present but not structurally embedded in innovation governance.

Where GLUE is expected to intervene

GLUE’s role is expected to:

- Strengthen coordination mechanisms;
- Develop municipal and territorial challenge-based R&D frameworks;
- Facilitate co-created technologies responding to industrial needs;
- Integrate SMEs into structured acceleration pathways;
- Improve basic entrepreneurial teaching aligned with industrial challenges.

This reinforces the rationale of WP3, WP5, WP6, and the Meta-Living Lab orchestration model.

5.3 Public Sector

Where actors are well connected

Participants noted:

- Alignment with smart city policies;
- Institutional representation in regional innovation boards;
- Project-based partnerships in environmental and community engagement fields.
- Euromontana’s representation in national and EU institutional platforms.

Public sector actors are present and engaged in specific initiatives.

Where weak links persist

However:

- Interaction with universities remains difficult and episodic;
- Public sector actors rarely act as challenge-owners in entrepreneurship education or applied research;
- User engagement methodologies are inconsistent;
- Living Lab integration in public–academic collaboration lacks streamlining.

The public sector participates in projects, but not in structured co-governance models.

Where GLUE is expected to intervene

GLUE is expected to:

- Provide structured spaces for interaction;
- Develop distributed Living Labs co-governed by local authorities;
- Facilitate structured integration of Living Lab approaches into public–academic collaboration;
- Strengthen joint pilot design capabilities.

This clearly supports GLUE’s ambition to institutionalise quadruple helix governance rather than project-based collaboration.

5.4 Civil Society

Where actors are well connected

Participants observed:

- Strong project-based partnerships in social and community engagement;
- Social aspects often well integrated in initiatives.

Civil society engagement exists, particularly in socially oriented projects.

Where weak links persist

- Lack of knowledge on societal needs at systemic level;
- NGOs not structurally integrated into applied research projects;

- User engagement methodologies absent or inconsistent across Living Labs;
- Civil society representation not systematically embedded.

Engagement is episodic rather than structural.

Where GLUE is expected to intervene

GLUE should:

- Provide participatory innovation design frameworks;
- Develop Living Lab toolkits and methodologies;
- Strengthen representation of civil society within UNITA governance;
- Integrate societal actors during implementation phases.

This strengthens the social legitimacy dimension of the Meta-Living Lab approach.

5.5 Strategic Ecosystem (EIT, Networks, Innovation Platforms)

Where actors are well connected

Participants identified:

- UVT acting as Climate KIC Hub;
- UNITO as EIT Food KIC member;
- Unknown leads specific EIT Food Initiatives;
- Existing links with EIT ecosystem;
- Opportunities for learning and capacity development.
- Strong Euromontana's connections in mountainous and rural ecosystems.

Strategic networks are accessible but not fully activated.

Where weak links persist

However:

- Limited EIT engagement across the Alliance;
- Weak commercialisation bridges;
- Fragmented interaction between UNITA innovation initiatives and EIT ecosystem.

Engagement remains institution-specific rather than alliance-wide.

Where GLUE is expected to intervene

GLUE is expected to:

- Strengthen capacity development linked to EIT Ecosystem;
- Systematise commercialisation bridges;
- Activate alliance-level engagement with strategic networks;
- Integrate EIT pathways into acceleration and Living Lab frameworks.

This directly aligns with WP4, WP5, WP6 and the broader ambition to position UNITA as a structured innovation intermediary.

5.6 A Systemic Interpretation of the Helix Diagnosis

The Quintuple Helix diagnosis confirms a consistent pattern across all actors:

- Bilateral collaborations exist.
- Institutional components are in place.
- Industrial and public actors are present.
- Civil society engagement occurs in projects.

Yet, structural orchestration is weak.

The main gap is not the absence of relationships, but the absence of a coordinated architecture capable of transforming fragmented connections into a coherent alliance-level innovation system.

GLUE is therefore positioned not as an additional actor within the helix, but as a governance and orchestration mechanism across the helix.

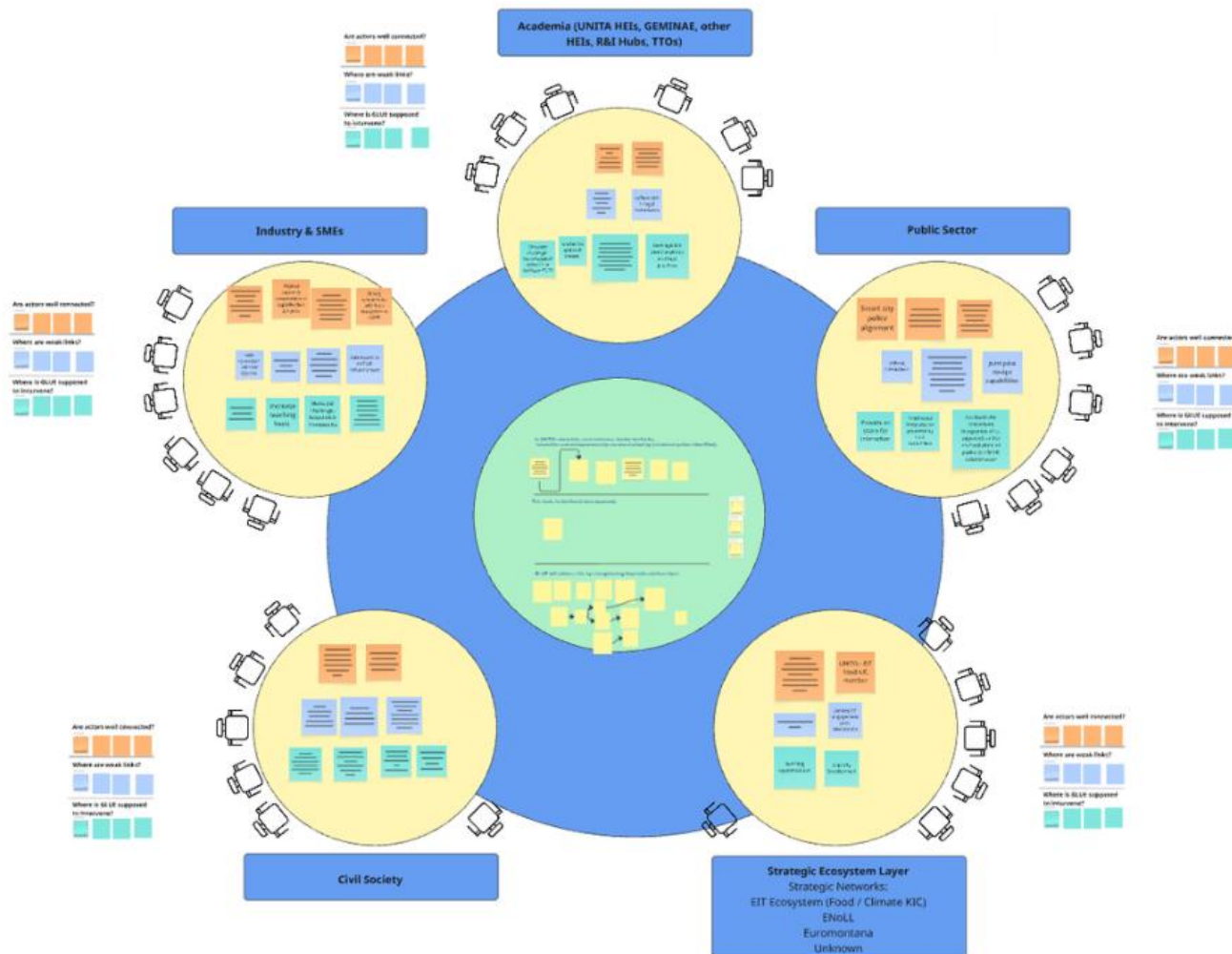


Figure 5. Quintuple Helix Diagnosis

6. From Diagnosis to System Challenge

The final stage of the exercise required participants to synthesise the ecosystem diagnosis into a single structural statement capturing:

- The underlying constraint;
- The territorial consequence;
- The transformation ambition of GLUE.

6.1 Structural Pattern Identified

Participants collectively recognised that:

In UNITA's mountain, rural and cross-border territories, innovation and entrepreneurship are constrained by fragmented articulation of innovation demand from SMEs and civil society, underutilisation of academic research capacity, weak cross-helix orchestration, limited institutional prioritisation of innovation, and insufficient structural resources.

These constraints are not isolated or purely financial. They reflect a systemic coordination deficit combined with uneven institutional transformation.

Innovation remains costly and difficult to manage in low-density territories where relational infrastructure is weak and where structured brokerage mechanisms are limited.

6.2 Territorial Consequences

Building on the previous exercises, the structural constraints lead to a set of territorial consequences that extend beyond "lack of ecosystem coordination."

The consequences include:

- Underutilisation of research infrastructures and academic talent;
- Limited generation of spin-offs and start-ups;
- Weak SME integration into innovation pipelines;
- Fragmented innovation demand from rural actors;
- Reduced attractiveness of rural and mountain territories for entrepreneurial investment;
- Difficulty in bridging the "valley of death" between research and market;
- Institutional initiatives that remain project-based rather than structurally embedded.

In short, the lack of structured ecosystem coordination results in lost territorial innovation potential. Rather than acting as integrated innovation systems, UNITA territories operate as parallel constellations of actors with insufficient alignment.

This directly confirms the systemic reading of previous sections: the issue is not actor absence, but orchestration weakness.

6.3 GLUE's Transformation Logic

In response, participants articulated a transformation ambition centred on strengthening key helix relationships and institutionalising coordination mechanisms.

GLUE is expected to:

- Strengthen academia–SME linkages through structured territorial innovation brokerage;
- Leverage open innovation and knowledge valorisation mechanisms;
- Create structured spaces for quadruple helix exchange;
- Institutionalise Living Lab approaches across territories;
- Address the "valley of death" in rural and mountain regions;
- Build new structures starting from existing best practices across different territories;
- Develop a twofold approach: leveraging existing assets while creating missing orchestration mechanisms;
- Integrate investors and commercialisation bridges to strengthen venture pipelines;
- Elevate innovation and entrepreneurship as strategic priorities within UNITA governance.

This intervention logic does not aim to replicate metropolitan innovation models, but to adapt and embed structured mechanisms tailored to rural and mountain contexts.

GLUE therefore positions itself as a systemic integrator rather than an additional project-based initiative.

6.4 A Consolidated System Challenge Statement

Synthesising the exercise, the following consolidated statement reflects the collective diagnosis:

In UNITA's mountain, rural and cross-border territories, innovation and entrepreneurship are constrained by fragmented cross-helix coordination, underutilisation of academic research capacity, weak articulation of SME and societal demand, and limited institutional prioritisation of structured innovation governance.

This leads to underexploited research potential, weak spin-off generation, insufficient SME integration, and reduced territorial innovation performance.

GLUE will address this by institutionalising a Meta-Living Lab ecosystem model that strengthens key helix relationships, builds structured brokerage mechanisms, bridges the research-to-market gap, and embeds innovation and entrepreneurship as strategic priorities across the Alliance, tailored on the need of mountain, rural and cross-border areas.

7. Strategic Synthesis – From Fragmented Ecosystems to Structured Alliance-Level Innovation

The system mapping exercise confirms that UNITA operates in territories characterised by strong sectoral assets, committed institutional actors and emerging innovation ecosystems. Research infrastructures are solid, industrial anchors are present, entrepreneurship education is developing, and connections with strategic networks such as EIT and KICs already exist in several partner institutions. However, across all frames of the exercise, a consistent structural pattern emerged: the ecosystem is actor-rich but architecture-poor.

7.1 Ecosystem Needs

The core needs identified are not primarily financial, but structural and relational:

- Stronger articulation of innovation demand from SMEs and civil society;
- Systematic valorisation of research results beyond isolated success stories;
- Institutionalisation of Living Lab and open innovation approaches;
- Enhanced entrepreneurial capacity within academia;
- Structured coordination across territories and helix actors;
- Integration of rural and mountain SMEs into innovation pipelines;
- Stronger bridges between research, commercialisation and investment.

In low-density, mountain, rural and cross-border regions, innovation does not fail because actors are absent. It underperforms when relationships are episodic, governance is fragmented and brokerage mechanisms are weak.

The challenge is therefore systemic orchestration.

7.2 GLUE Assets and Contributions

The exercise also confirms that GLUE builds on existing strengths rather than creating parallel structures.

GLUE's assets include:

- Established TTOs and entrepreneurship curricula within partner universities;
- Industrial cooperation experiences and challenge-based research practices;
- Participation in EIT KIC ecosystems and regional innovation boards;
- Emerging Living Lab experiences;
- Cross-border territorial identity and collaboration culture.

GLUE's added value lies in its capacity to:

- Systematise what currently operates in isolation;
- Leverage best practices across territories;
- Create alliance-level brokerage mechanisms;
- Institutionalise a Meta-Living Lab model adapted to mountain and rural contexts;
- Elevate innovation and entrepreneurship as strategic governance priorities within UNITA;
- Bridge the “valley of death” through structured acceleration and investor engagement;
- Move from project-based collaboration to embedded ecosystem governance.

GLUE does not introduce innovation to UNITA territories, it organises it.

7.3 Existing Relationships to Consolidate

The mapping confirms several relationship clusters that are already functioning and can be strengthened:

- Academia–Industry cooperation in applied research and digitalisation projects;
- Entrepreneurship education embedded in some university curricula;
- Engagement with regional innovation agencies and smart city initiatives;
- Participation in EIT networks;
- Project-based collaboration with civil society organisations.

These relationships represent the foundational layer upon which GLUE can build.

7.4 Relationships That Need to Be Boosted

At the same time, the exercise clearly identified priority relational gaps:

- Structured Academia–SME brokerage mechanisms across territories;
- Systematic SME access to research infrastructures and Living Lab platforms;
- Public sector engagement as challenge-owners in entrepreneurship education;
- Civil society integration within applied research and innovation design (user centered);
- Alliance-level coordination across UNITA territories;
- Stronger commercialisation bridges and investor engagement pipelines;
- Harmonisation of innovation governance across different legal and institutional contexts.

These are not isolated weaknesses. They represent the core transformation frontier for UNITA.

7.5 Strategic Positioning of GLUE

Synthesising all exercises, GLUE can be strategically positioned as:

- A governance innovation instrument;
- A cross-territorial orchestration mechanism;
- A structured brokerage platform between academia, SMEs, public authorities and civil society;
- A transformation driver embedding entrepreneurial capacity within universities;
- A bridge between rural/mountain ecosystems and European innovation networks.

In doing so, GLUE contributes to shifting UNITA from a constellation of strong but partially disconnected regional ecosystems toward a coherent, alliance-level innovation system.

The mapping exercise therefore validates both the necessity and the relevance of GLUE. It demonstrates that transformation requires not new actors, but new structures, capable of activating and aligning the considerable innovation potential already present across UNITA territories.