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Institutionalizing Innovation for Territorial Fragility

The Case for Applied Research
Organisations (AROs) in the EU
2028-2034 Framework

ABSTRACT

This paper argues for the strategic creation of Applied Research Organisations (AROs) dedicated to addressing “territorial fragility” within the European Union’s 2028-2034 research and innovation mandate. While Smart Specialisation Strategies (RIS3) have provided a policy framework for regional development, a critical “implementation gap” remains in lagging regions due to low absorptive capacity. Drawing on Donald Stokes’ concept of “Pasteur’s Quadrant” (high utility combined with high fundamental knowledge), we propose that AROs are uniquely positioned to bridge this divide, acting as the operational engine for RIS3 where traditional Regional Development Agencies (RDAs) lack technical capacity. By evaluating emergent cases of rural Living Labs and synthesizing literature on “left-behind places,” we demonstrate that a dedicated territorial ARO can operationalize the “regioning” of EU missions. We conclude with a strategic proposition for funding and governance, ensuring these institutions avoid the “cathedral in the desert” syndrome by embedding themselves in the Quadruple Helix.

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1 Introduction

The European Union stands at a critical juncture as it prepares for the 2028-2034 Multiannual Financial Framework and the successor to Horizon Europe (FP10). While the demographic transition towards urbanization is largely complete, a significant governance gap remains in what are increasingly termed “left-behind places” or fragile territories [1]. These regions, characterized by demographic decline and economic stagnation, face challenges that traditional cohesion policies have struggled to address [2].

This paper builds a case for a specific institutional response: the Applied Research Organisation (ARO). Operating in “Pasteur’s Quadrant”—seeking both fundamental understanding and immediate societal utility—AROs offer a model distinct from the pure basic research of universities and the administrative focus of development agencies. We argue that the EU’s emerging focus on mission-oriented innovation [3] must be “regioned” [4]. However, this regioning cannot occur in an institutional vacuum. It requires a dedicated vehicle—the ARO—to provide the experimental governance capacity necessary to transform fragile landscapes from liabilities into strategic assets.

2 The Policy Landscape: RIS3 and the Implementation Gap

To understand the necessity of AROs, one must first address the existing policy architecture, specifically Research and Innovation Strategies for Smart Specialisation (RIS3).

2.1 The Limits of Smart Specialisation in Fragile Regions

Since 2014, the EU has mandated RIS3 as an ex-ante condition for structural funds. While successful in core regions, RIS3 has faced significant hurdles in lagging territories. Foglia (2025) demonstrates that while funds are available, the impact of Cohesion Policy in these regions is often diluted by a lack of local institutional quality. This confirms earlier findings by Papamichail et al. (2022), who identify a severe “implementation gap” where the theoretical sophistication of RIS3 strategies outstrips the local capacity to execute them.

2.2 The Absorptive Capacity Crisis

The core issue is not a lack of strategy, but a lack of absorptive capacity—the ability to recognize the value of new information, assimilate it, and apply it. Mendez and Bachtler (2022) argue that administrative performance is the primary variable explaining Cohesion Policy outcomes. Fragile territories often suffer from “polytraps”—interconnected social and economic barriers [5]—that prevent them from acting as effective innovation partners. Traditional actors fail to fill this void: universities often lack the mandate for local implementation, while Regional Development Agencies (RDAs) are typically consumed by grant management and compliance rather than experimental innovation.

3 The Institutional Solution: AROs in Pasteur's Quadrant

The ARO represents a “third way” institution designed to generate absorptive capacity through active experimentation.

3.1 Defining the ARO vs. RDAs and Universities

AROs occupy “Pasteur’s Quadrant,” a research classification popularized by Donald Stokes describing work that is simultaneously inspired by the quest for fundamental understanding and considerations of use.

- Universities: Primarily incentivize academic publication (Bohr’s Quadrant). While some engage in “Third Mission” activities, their core structure remains academic.
- RDAs (Regional Development Agencies): Focus on policy deployment, funding distribution, and compliance. They rarely conduct internal research or prototyping.
- AROs (Proposed): Function as “governance innovation labs.” They do not just manage funds; they conduct applied research to test new service delivery models and technologies [6].

3.2 The Intermediary Role

Cruz-Castro et al. (2021) classify such organizations as critical intermediaries in innovation ecosystems [7]. In fragile territories, the ARO acts as a “knowledge translator,”

converting high-level EU missions (e.g., climate adaptation) into specific, local pilot projects. This requires moving beyond the “deficit model” [2] to an asset-based approach, identifying latent territorial potentials.

4 Case Evaluation: Emergent Practices in Fragile Territories

While a formalized network of territorial AROs does not yet exist, “proto-ARO” behaviors can be observed in isolated experiments. These cases signal the “emergent state of the art.”

4.1 Rural Living Labs as Proto-AROs

Yahya et al. (2023) document the rise of “Living Labs” in disadvantaged rural areas, specifically focusing on nature-based solutions like wetland-aquaponics. These labs function as temporary AROs: they bring scientific expertise into a fragile context to solve a specific utility problem (food security/water quality). However, they often lack institutional permanence, dissolving once project funding ends.

4.2 Social Innovation Communities

Stoustrup (2024) highlights how rural areas utilize “social innovation” to counter demographic decline, creating “communities of values” that act as development drivers. These initiatives demonstrate high utility but often lack the “high contribution to knowledge” (formal research) component of Pasteur’s Quadrant. Evaluation: A formal ARO would institutionalize these sporadic successes, providing the scientific rigor of the Living Lab with the community embeddedness of social innovation groups.

5 Strategic Proposition for EU 2028-2034

The 2028-2034 mandate offers a window to formalize these entities.

5.1 Institutional Design and Funding

We propose the establishment of "Territorial Resilience Institutes" (TRIs) modeled as AROs.

1. Funding: A blended model is essential to ensure autonomy. Base funding should stem from ERDF (European Regional Development Fund) "Capacity Building" streams, supplemented by competitive Horizon Europe "Widening" grants.
2. Governance: Governance must follow the Quadruple Helix model, involving public authorities, academia, industry, and civil society. This prevents the ARO from becoming an ivory tower.

5.2 Operationalizing "Regioning"

To "region" EU missions [4], AROs would run "Mission Pilots."

Example: Instead of a generic "Green Deal" grant, an ARO in a coal-transition region would prototype a specific geothermal district heating cooperative, gathering data on both the *technology* and the *regulatory barriers*, then feeding this "use-inspired basic research" back to Brussels.

6 Risks and Mitigation

A major risk is the "Cathedral in the Desert" syndrome, where high-tech centers fail to connect with the local economy.

Mitigation: The ARO's KPI (Key Performance Indicator) must not be patents or papers, but *adoption rates* and *capability transfer*. The goal is to build absorptive capacity in the region, eventually making the ARO's direct intervention less necessary.

Financial Sustainability: Reliance on project-based funding (soft money) can lead to mission drift. A statutory core grant (similar to the Fraunhofer model) is required to allow for long-term strategic planning independent of market cycles.

7 Conclusion

Territorial fragility is a structural challenge of the future European landscape, not merely a legacy of the past. Current mechanisms like RIS3 provide the map, but fragile regions lack the engine to drive the transformation. This paper has argued that the Applied Research Organisation (ARO), situated in Pasteur's Quadrant, represents this missing engine. By institutionalizing the experimental capacity currently found only in transient Living Labs, the EU can ensure that the 2028-2034 mandate offers more than just subsidies—it offers the capacity to adapt.

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