

Article

From Cross-Border Cooperation to Transfrontierisation: Territorial Dynamics Along the French–Italian Alpine Border

Emma Brunet * and Federica Corrado *

Interuniversity Department of Regional and Urban Studies and Planning (DIST), Polytechnic University of Turin, 10129 Turin, Italy

* Correspondence: emma.brunet@polito.it (E.B.); federica.corrado@polito.it (F.C.)

Abstract

Cross-border regions have become key arenas for experimenting with new territorial configurations, particularly where functional interdependencies challenge inherited administrative boundaries. This article examines how cross-border cooperation contributes to innovative territorial construction along the French–Italian Alpine border, focusing on how territorial actors mobilise the border and how these dynamics relate to the emerging notion of transfrontierisation. The study centres on the urban–mountain system linking Savoie, the Aosta Valley, and the Metropolitan City of Turin, using the A-MONT project (Interreg ALCOTRA 2021–2027) as an empirical entry point. A mixed methodology was applied, combining quantitative analysis of ALCOTRA projects from the 2014 to 2020 and 2021 to 2027 programmes, qualitative fieldwork to local and supra-local actors, and a critical review of recent Integrated Territorial Plans (PITER). The results reveal a pronounced centre–periphery pattern in project participation, persistent disparities in administrative capacity, the development of informal networks that mitigate institutional fragmentation, and the emergence of shared territorial diagnoses. The article argues that these dynamics extend beyond project-based interaction and proposes the concept of transfrontierisation to describe the process through which cross-border cooperation reshapes supra-local networks, stabilises governance arrangements, and fosters shared territorial referents without replacing existing institutional frameworks.

Keywords: cross-border cooperation; alpine region; French–Italian alpine border; territorial dynamics; transfrontierisation

1. Introduction

Cross-border regions have become key arenas for experimenting with new territorial configurations, particularly where functional interdependencies challenge inherited administrative boundaries. The European Union has reinforced this trend by supporting the emergence of cooperation territories that test new forms of governance, planning, and policy coordination. In the Alpine region, where strong local anchoring intersects with transnational mobilities and marked geographic constraints, these dynamics provide a privileged laboratory for examining how borders are mobilised as resources [1] and how mountain territories emerge as political and institutional constructions [2].

Despite extensive research on cross-border cooperation, significant uncertainties remain regarding its capacity to generate lasting territorial effects. Existing studies already point to this ambivalence, highlighting both the transformative potential of cooperation and



Academic Editor: Miguel Amado

Received: 30 April 2026

Revised: 21 June 2026

Accepted: 15 July 2026

Published: 6 August 2026

Copyright: © 2026 by the authors.

Licensee MDPI, Basel, Switzerland.

This article is an open access article distributed under the terms and conditions of the [Creative Commons Attribution \(CC BY\)](https://creativecommons.org/licenses/by/4.0/) license.

the persistence of institutional asymmetries, fragmented competences, or short project cycles that limit long-term structuring effects. These ambivalent dynamics, which are further detailed in the theoretical framework below, justify the need to investigate more closely the mechanisms through which repeated interactions may contribute to territorial construction.

This article addresses this gap by focusing on the French–Italian Alpine border, a context where metropolitan areas, transit valleys, rural spaces, and high-mountain environments face shared challenges related to mobility, ecological transition, demographic change, risk management, and multi-actor governance [3]. The study examines how cross-border cooperation contributes to innovative territorial construction, with a specific focus on the notion and governance of transfrontierisation. In parallel, the analysis also considers how these cooperative dynamics intersect with environmental concerns, particularly in a mountain context where ecological interdependencies heighten the need for coordinated action.

This article pursues two main objectives: (1) to analyse how local, regional, and transnational actors mobilise the border in territorial projects, and how these practices reveal structural dynamics of cooperation; (2) to develop a conceptual interpretation of these cumulative and multi-scalar dynamics through the notion of transfrontierisation, understood as a progressive process through which cross-border cooperation reshapes networks, shared diagnoses, governance routines, and territorial configurations.

Our findings show that cross-border cooperation produces effects that extend beyond project implementation, notably through the consolidation of formal and informal networks, the emergence of shared territorial diagnoses, the stabilisation of governance routines, and the progressive reduction in informational asymmetries. These cumulative dynamics contribute to the gradual structuring of cross-border territorial configurations and, among other effects, support the emergence of shared narratives and identity elements. Cross-border cooperation also contributes to reshaping centre–periphery relations by strengthening the links between metropolitan centres and peripheral mountain municipalities. Several projects facilitate the circulation of expertise, technical support, and financial resources from urban administrations such as Turin or Grenoble toward smaller municipalities located in high-mountain valleys. These exchanges enable peripheral actors to access planning tools, risk-management instruments, and mobility strategies that would otherwise remain out of reach, thereby reducing informational and institutional asymmetries. Informal networks also emerge through concrete practices, particularly in the tourism and cultural sectors. Local associations, guides, accommodation providers, and cultural operators collaborate to organise thematic visits, cross-border itineraries, and overnight stays along the mountain border. These initiatives, often developed outside formal institutional frameworks, sustain regular interactions, foster trust, and contribute to shared representations of the cross-border territory.

We interpret these outcomes as manifestations of the broader process of transfrontierisation. Taken together, our findings suggest that the environmental dimensions emerging along the French–Italian Alpine border resonate with broader patterns identified in the literature on transboundary environmental governance. The consolidation of shared diagnoses, the stabilisation of cross-border routines, and the development of multi-scalar actor networks mirror mechanisms described in other regions, such as the Baltic Sea, the Kaliningrad–Lithuania–Poland cooperation area, or the Great Lakes Basin [4–6]. However, the Alpine case also reveals how these dynamics take shape in a highly constrained mountain environment, where ecological interdependencies, demographic pressures, and territorial fragmentation amplify the need for coordinated environmental action. In this sense, the process of transfrontierisation contributes not only to governance innovation but also to the gradual consolidation of shared environmental agendas across mountain

territories, reinforcing their capacity to address ecological challenges that transcend administrative boundaries.

In addition to its relevance for territorial studies, this research contributes to current debates on sustainability by examining how cross-border cooperation supports climate adaptation, biodiversity protection, and more resilient forms of resource management in mountain regions. The Alpine context, marked by environmental vulnerability and strong interdependencies, offers a particularly insightful setting for understanding how multi-level governance arrangements can address sustainability challenges that transcend administrative boundaries.

2. Theoretical Framework

2.1. Cross-Border Territories: From Interaction to Structuring

In its weakest sense, the adjective “cross-border” refers to the idea of crossing a boundary and to the existence of relations between two entities separated by that boundary. It thus implies a certain permeability of the border and is based on a logic of spatial proximity, although this proximity is ambivalent, insofar as the border, by marking a line of differentiation from the other, introduces “distance in proximity” [7]. This perspective entails an implicit recognition of discontinuity and of occasional interactions between two differentiated systems.

In a stronger and more analytical sense, cross-border does not simply refer to interactions but rather to a process of spatial and political structuring grounded in durable and stabilised relations built around shared practices and decisions [8]. This approach is based on the idea that the border can become a vector of transformation, or even of territorial recomposition, giving rise to the emergence of a coherent cross-border space, structured around coordination mechanisms, shared practices, and sometimes a common imaginary [7].

We thus move from a linear, separating view of territory to a more integrated reading [9], where the border becomes a zone rather than a line [10]. The cross-border territory thus emerges not as a pre-existing entity but as a functional and political construction [11]. Such a territory takes shape when local actors become aware of the growing mismatch between institutional delineations and the functional logics generated by cross-border interdependencies [12,13]. Territorial construction therefore stems from the tension between inherited political boundaries and evolving socio-economic practices. These dynamics echo broader analyses of European cross-border governance, which highlight the emergence of “soft spaces” and rescaled policy arenas shaped by multi-level interactions [14]. Such perspectives reinforce the idea that cross-border territories evolve not only through institutional arrangements but also through relational practices and networked forms of coordination.

This functional territory does not replace existing structures, as its dynamics depend both on local actors and on state institutions. It is more accurate to speak of an effect of superposition, a permanent interplay between different systems of belonging and organisation, where local concerns constantly interfere with the injunctions of national regulations [15].

Cross-border cooperation can therefore be understood as a variable process of territorial structuring, whose intensity depends on the degree to which governance mechanisms stabilise interactions and shared representations emerge. This distinction between interaction and structuring provides the analytical foundation for examining how governance arrangements mediate territorial transformation.

2.2. Multi-Level Cross-Border Governance and Territorial Sustainability

Within the study of borders, this section focuses specifically on cross-border cooperation and its implications for territorial governance. It encompasses organised actions by subnational actors across borders, including planning, negotiation, and project implementation, sometimes extending responsibilities traditionally held by national authorities.

Cross-border cooperation can be defined as “any kind of concerted action between the public institutions of two (or more) neighboring states, implemented in zones or territories located on either side of a border, with the aim of strengthening neighborly relations between these states and their respective local authorities, by using all available means of cooperation” [16]. This definition highlights both the institutional and functional dimensions of cooperation and underlines its role as a framework for collaboration among subnational actors.

In practice, cross-border cooperation creates spaces where local and regional actors develop decision-making tools, negotiation forums, and agreements, while remaining embedded in national and European legal frameworks. This phenomenon can be described as “small foreign policy”: a form of territorial diplomacy in which subnational actors engage in external relations without challenging national sovereignty [17]. Such local diplomacy allows for subnational authorities to exercise operational and strategic authority over cross-border initiatives, reshaping borders institutionally rather than physically [18].

The emergence of this governance reflects the growing autonomy and capacity of local actors to manage cooperation projects [19]. While operating under national and EU frameworks, their authority is no longer purely delegated: they coordinate activities, allocate resources, and negotiate with partners, often acting as primary interlocutors of European institutions such as the European Commission. Traditional diplomatic actors are often limited to monitoring, oversight, and formal recognition rather than direct management of daily operations [17,20,21].

This redistribution of authority has several implications. First, it produces governance arrangements where decision-making responsibilities are shared across levels, blending functional and institutional territories [12,22,23]. Second, it supports more continuous and operationally grounded interactions among actors, enabling sustained projects, networks, and shared practices [24,25]. Third, it shows how local and regional authorities can foster cooperation initiatives that strengthen cross-border integration while remaining aligned with national policies [26,27].

Overall, cross-border cooperation generates a form of governance that is simultaneously local, transnational, and embedded in national legal frameworks. It illustrates how territorial actors exercise influence, develop new negotiation practices, and manage multi-level responsibilities in concrete ways, offering a clear example of Wassenberg’s small foreign policy. Such configurations resonate with analyses emphasising the importance of cross-border actor networks and the relational dimension of territorial cooperation, where repeated interactions contribute to stabilising shared practices and governance routines [28].

In addition to its relevance for territorial studies, this research contributes to current debates on sustainability by examining how cross-border cooperation supports climate adaptation, biodiversity protection, and more resilient forms of resource management in mountain regions. The cross-border projects analysed show a significant consideration of climate and environmental issues, notably through coordinated natural risk management, the protection of Alpine ecosystems, and the development of shared territorial diagnoses, in continuity with orientations observed in Alpine cooperation frameworks. These dynamics echo analyses of the territorial effects of Interreg programmes, which highlight their contribution to territorial cohesion and multi-level environmental governance [29].

They also align with a broader tradition of cross-border environmental governance that stresses the need to articulate local, regional, and Alpine scales to address ecological dynamics that transcend administrative boundaries, as demonstrated by work on the political construction of mountain regions [30].

Beyond environmental sustainability alone, recent studies emphasise that cross-border sustainability also encompasses economic and social dimensions, particularly in mountain regions where tourism transitions, soft mobility, and green tourism niches play a structuring role. Evidence from other European borderlands shows that cross-border projects can foster forms of green and soft tourism, enhance the social acceptability of ecological transitions, and support more resilient economic models [31]. These findings resonate with OECD analyses identifying cross-border regions as strategic spaces for experimenting with climate resilience strategies, sustainable resource management, and economic diversification [32].

A broader comparative perspective also shows that the environmental orientations observed in the Alpine region are consistent with wider patterns of transboundary environmental governance. Studies of cross-border cooperation highlight that shared ecological systems often encourage the development of joint monitoring tools, harmonised environmental indicators, and coordinated management practices, mechanisms that strengthen multi-level environmental governance and reduce regulatory fragmentation across borders [4]. Similar dynamics have been documented in cross-border tourism initiatives, where cooperation has supported soft mobility, ecosystem conservation, and low-impact tourism models, as illustrated by projects linking Kaliningrad, Lithuania, and Poland [5]. Beyond Europe, research on the US–Canada border, particularly in shared basins such as the Great Lakes, shows how transboundary institutions can facilitate the alignment of environmental objectives and the co-production of climate adaptation strategies [6]. These examples demonstrate that such mechanisms are not specific to the Alpine context but reflect broader tendencies observed across diverse border regions.

2.3. A Focus on European Cross-Border Cooperation

In Europe, the development of cross-border cooperation is closely tied to that of the European Union, insofar as both pursue a common objective: the “reconciliation of border populations” [33,34].

Cross-border cooperation emerged in Europe as early as the late 1950s, through informal collaborations or legal frameworks based on private law, particularly associations governed by private law [35]. At that time, local authorities lacked public instruments within the realm of foreign policy (such as commissions, agreements, or treaties). Over the course of two decades, such initiatives gained momentum and expanded to several countries. It was not until the late 1970s that the European Community, aware of the absence of adequate legal frameworks and instruments to structure cross-border relations, decided to intervene in this field. However, its involvement focused primarily on regions, considered more as spatial units than as full-fledged actors, which it sought to support economically in order to reduce regional disparities [36]. This led to the creation of the European Regional Development Fund (ERDF) in 1975, initially conceived as an instrument intended for Member States, which retained full control over the redistribution of funds to their respective local authorities.

At the same time, the Council of Europe drafted the European Outline Convention on Transfrontier Cooperation between Territorial Communities or Authorities, commonly referred to as the Madrid Convention. Signed in 1980 and entering into force in 1981, this convention aimed to establish a reference legal framework for cross-border cooperation in Europe, particularly in the areas of regional, urban, and rural development, environmental protection, infrastructure improvement, and emergency response to natural or human-

made disasters. The treaty does not seek to alter the domestic legal orders of signatory states and, as such, contains no directly operational provisions. Rather, it offers a set of legal, political, and administrative tools to facilitate cooperation, presented in the form of annexed models and templates. These consist mostly of agreements, statutes, and contracts intended to structure information exchanges or the sharing of good practices, but also more integrated commitments. The sole legal obligation imposed on the signatory states is to facilitate cross-border cooperation between territorial authorities and to promote the conclusion of agreements deemed necessary to that end. The framework also provides an official definition of cross-border cooperation as “any concerted action intended to strengthen and develop neighbourly relations between territorial communities or authorities of two or more Contracting Parties, including the conclusion of agreements and arrangements as may be necessary for this purpose.” France signed the convention in 1984, followed by Italy in 1985.

An additional protocol, drafted and adopted in 1995 by the Council of Europe, supplements the convention by recognising the right of local authorities to conclude cross-border cooperation agreements and to establish cross-border cooperation bodies, which may, if necessary, be granted legal personality [37].

A third additional protocol, introduced in November 2009, seeks to establish a common legal instrument for cooperation: the Euroregional Cooperation Grouping (ECG). This new tool complements the European Grouping of Territorial Cooperation (EGTC), created earlier in 2006 by the European Union, of which it is the functional equivalent. The EGTC enables local and regional authorities to establish a legal entity for their cooperation projects, without requiring an intergovernmental treaty.

To provide tangible support for the implementation of cross-border cooperation, the European Commission launched the Interreg programme in 1990, financed by the ERDF. This initiative aims to directly involve territorial authorities in the implementation of European regional policy and is structured around three cooperation strands: cross-border cooperation (Interreg A), transnational cooperation (Interreg B), and interregional cooperation (Interreg C).

The first strand, Interreg A, serves as the main operational framework for cross-border cooperation. The European Union covers up to 50% of the total cost of the projects, with the remainder funded by the regional partners. Although programming is negotiated with Member States, territorial authorities exercise operational responsibility on the ground, creating arenas in which local governance practices take shape [9]. This observation aligns with recent evaluations of Interreg programmes, which underline their contribution to territorial cohesion, institutional learning and the consolidation of multi-level governance structures across European border regions [29].

2.4. The Case of Italian–French Cross-Border Cooperation Programmes for Urban–Mountain Territories

The Franco-Italian border, mainly Alpine with a short maritime section, presents a complex physical and functional landscape shaping cooperation. Deep valleys, mountain passes, and transit corridors create functional continuities across administrative boundaries. These geographic and infrastructural features impose constraints on access, planning, and service provision, requiring multi-level governance in which local and regional actors coordinate within national and European frameworks. Specific instruments were designed to address these configurations.

In Italy, extensive decentralisation has granted regions legislative powers, including the management of national funds for cross-border programmes [38]. Regions thus have specific budget lines and act as the main interlocutors with European institutions, particularly the European Commission. In France, decentralisation is more limited, but the Law

of December 5, 2011 (Letchimy Law) recognises local authorities' right to participate in international negotiations under alignment with national foreign policy.

These arrangements enable Italian regions and French departmental councils to exercise significant operational authority in cross-border cooperation. Decision-making forums, negotiations, and coordination mechanisms increasingly occur at the subnational level, reflecting Birte Wassenberg's concept of "small foreign policy": local actors engage in forms of external action while operating within national and EU frameworks. This transforms the border not physically but institutionally, as local authorities manage cross-border projects outside the traditional scope of national foreign affairs.

Among the instruments supporting this governance, Interreg has played a central role. It has not only financed cooperation but also stabilised it institutionally, evolving from dispersed, sectoral actions to a more integrated territorial approach. In the Franco-Italian area, ALCOTRA (Alpi Latine Cooperazione Transfrontaliera) has become the main vehicle for cooperation, supporting nearly six hundred projects since 1990, including around 190 in the 2014–2020 cycle, and continuing into the 2021–2027 programming period with projects such as A-MONT. Interreg acts as a bridge between cohesion policy and interregional dynamics, consolidating actor networks through repeated administrative and personal contacts, and providing many territories with a key entry point into EU funding mechanisms and the technical culture of cross-border work [39]. These findings are consistent with research showing that cross-border cooperation often relies on dense interpersonal and organisational networks, which play a decisive role in sustaining coordination beyond formal structures [28]. These effects have professionalised cooperation which is anchored into the long term, despite persistent asymmetries between partners [40]. Similar patterns have been identified in broader assessments of cross-border programmes, which show that Interreg initiatives tend to reinforce existing territorial capacities while progressively fostering more integrated governance arrangements [29].

Within ALCOTRA, the Integrated Territorial Plans (PITER) illustrate a shift toward linking strategic reflection with operational project-making. Each PITER combines a shared strategy, a coordination and communication project (PCC), and several thematic projects. Their dual purpose is to enhance the effectiveness of interventions and to build a more durable form of cross-border governance not tied to a single programming period. Strategies draw on a common territorial diagnosis and address innovative themes, risk prevention, natural heritage, sustainable tourism, digital health, mobility, bilingualism, or smart villages [41], while integrating ALCOTRA's environmental and climate priorities. These strategies rely on a shared territorial diagnosis that synthesises a common understanding of challenges, vulnerabilities, and priorities across the border. By grounding strategic choices in jointly produced knowledge, they help align territorial representations among local and supra-local actors and reduce information asymmetries, thereby reinforcing the coherence and legitimacy of cross-border action.

Six PITERs have been approved in the current cycle, including three covering the area studied (HV2030, Graies ClimaLab, Parours+), demonstrating the ambition to connect diagnosis, action, and long-term institutionalisation. HV2030 focuses on strengthening territorial cohesion in the high valleys through coordinated actions on mobility, risk management, and sustainable tourism. Graies ClimaLab develops cross-border strategies for climate adaptation, natural risk prevention, and ecosystem management, building on shared environmental vulnerabilities. Parours+ promotes integrated development between urban and mountain areas by supporting soft mobility, cultural cooperation, and innovative services for residents and visitors.

Beyond financial tools, organisational and political structures also shape cooperation. The Mont Blanc Area (Espace Mont Blanc) and the Conference of High Valleys provide

platforms for multi-actor dialogue and project coordination. Established in the early 1990s over a 3500 km² shared massif, the Mont Blanc Area was conceived as an alternative to an international park, aiming to restore local capacity for development and environmental protection while balancing tourism pressures [42]. Over time, this governance architecture, sometimes described as a territorial laboratory [43], has introduced shared diagnostics, coordinated projects, and multi-level dialogue on risk management, mobility, and tourism diversification. The Conference of High Valleys, formalised in 2007, complements these efforts by providing a political and technical space to support joint initiatives and accompany PITER implementation (notably HV2030).

From a legal standpoint, the European Groupings of Territorial Cooperation (EGTC), created in 2006, offer a pathway to deeper institutionalisation, granting cross-border partnerships legal personality, budgetary capacity, and governance bodies. While 85 active EGTCs have expanded across Europe [44], their presence along the Franco-Italian border remains limited, with the Alpi Marittime–Mercantour EGTC focused on natural park cooperation being the most notable case.

Other platforms, such as the Franco-Italian Alpine Conference (CAFI) and the Alpes-Méditerranée Euroregion, provide additional coordination spaces at broader scales. Although their resources and visibility have fluctuated, they contribute to shaping shared agendas and giving political visibility to cross-border issues [20].

The Quirinal Treaty (signed in 2021 and implemented from 2023) represents an evolution in bilateral governance. By recognising the border as a shared strategic space and establishing a Cross-Border Committee (Article 10) including ministers, parliamentarians, local authorities, and operational actors, the treaty formalises new modalities of cooperation. In the short term, it strengthens institutional coordination and technical exchanges through multi-annual roadmaps; in the medium term, it helps identify and remove practical obstacles (mobility, public services, risk management, biodiversity protection) and enhances the capacity to implement structural projects. Overall, the Quirinal Treaty reinforces the stability, continuity, and political visibility of cross-border initiatives, enhancing their potential territorial impact. This interpretation is consistent with recent work emphasising that cross-border regions evolve through iterative processes of interaction, learning, and network-building rather than through the creation of new institutional entities [14,28].

Taken together, the Franco-Italian border now operates through a dense and complementary set of instruments: financial mechanisms (Interreg/ALCOTRA), strategic frameworks (PITER), territorial and sectoral governance structures (Mont Blanc Area, Conference of High Valleys), legal tools (EGTC), and strengthened bilateral frameworks (Quirinal Treaty). Their combined effect illustrates how local and regional actors exercise operational autonomy while remaining embedded in national frameworks, shaping a coherent, though necessarily plural, architecture of cross-border cooperation.

3. Material and Methods

3.1. The Study Area

This article deals with cross-border cooperation and territorial dynamics, examining the territorial setting that brings together the Department of Savoie, the Aosta Valley Region, and the Metropolitan City of Turin within the Piedmont Region. This area represents a part of the urban–mountain Franco-Italian border and maintains historical or cultural links across it. The main administrative centres are Chambéry, Aosta, and Turin, reflecting their structuring role within the regional systems. The resulting area covers roughly 16,000 km², including the entire Department of Savoie, the whole Aosta Valley Region, and the full extent of the Città Metropolitana of Turin. The spatial distribution of the study area is illustrated in Figure 1.

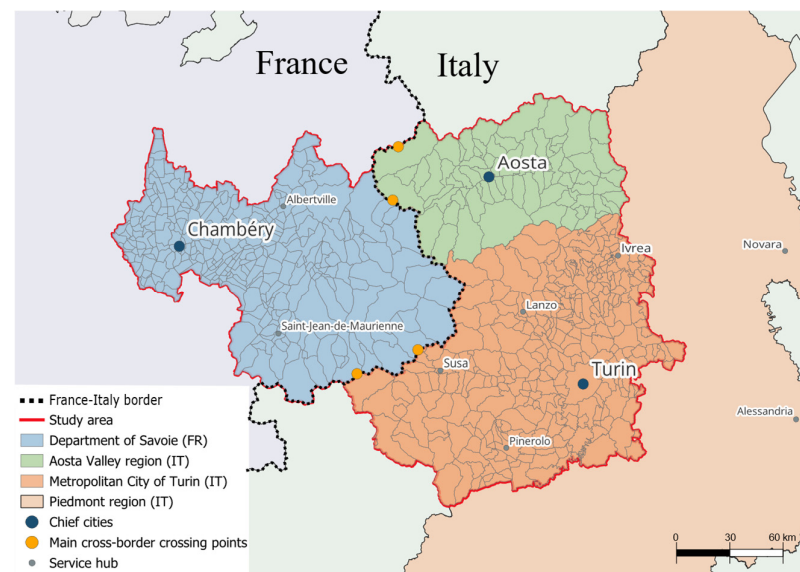


Figure 1. Study area covering the Department of Savoie, the Aosta Valley Region, and the Metropolitan City of Turin along the French–Italian Alpine border.

On the French side, Savoie covers 6028 km² and has around 440,000 inhabitants. It is structured around three major districts: Chambéry (main urban and administrative centre), Albertville (second-largest town and gateway to the Tarentaise valley, highly specialised in winter tourism), and Saint-Jean-de-Maurienne (Maurienne Valley, a major Alpine corridor hosting the motorway and railway of the Lyon–Turin connection). Once strongly industrialised, the Maurienne is now undergoing economic and territorial adjustment, with mountain tourism gaining importance. Demographic ageing is particularly pronounced in this valley, accentuating structural fragilities. Overall, Savoie is predominantly mountainous, with nearly 90% of its territory located in mountain areas.

The Aosta Valley covers 3260 km² and has approximately 125,000 inhabitants. Entirely mountainous, it benefits from autonomous status and extended powers in water management, hydroelectric energy, agriculture, and natural resource planning. Its economy is largely based on tourism, complemented by agriculture and pastoralism. The region corresponds to the upper basin of the Dora Baltea and connects to Savoie via the Little St Bernard Pass and the Mont Blanc massif, and to Piedmont through the A5 motorway and railway, as well as to France via the Mont Blanc Tunnel between Courmayeur and Chamonix.

In Piedmont, only the territory of the Città Metropolitana di Torino was included as part of the urban–mountain territories. The Città Metropolitana di Torino covers 6827 km² and includes around 2.2 million inhabitants. It combines a major metropolitan core (Turin) with extensive mountainous hinterlands. The mountain areas form two main ensembles, namely the Canavese and Eporediese to the north, stretching towards the Aosta Valley along the A5 corridor, and the Susa Valley to the west, the largest and most populated valley in Piedmont. The Susa Valley presents a diverse territorial structure, with industrial and urbanised areas under Turin’s influence at its entrance, ski resorts and agricultural/pastoral activities in its upper part, and a historical role as a passage towards France through the Fréjus road tunnel, the historical rail line, and the Lyon–Turin high-speed rail project.

Historically, Savoie, the Aosta Valley, and Piedmont belonged to the same political entity (the Duchy of Savoy, later the States of Savoy) from 1416 until 1860. Chambéry served as the capital until 1563, when it moved to Turin. This long-standing political unity ended in 1860, when the Savoy territories were ceded to France following the plebiscite accompanying Italian unification. For over four centuries, these territories shared a common territorial organisation, structured around châtellenies. Linguistically, while Latin remained

the official language until the fifteenth century, French then became the administrative language in Savoie and the Aosta Valley, while Italian took this role in Piedmont [45]. Local populations nevertheless shared a common dialect continuum: Francoprovençal, with numerous local variations. The Aosta Valley still maintains an institutional bilingual framework (French and Italian), although the social use of French has declined in favour of Italian, remaining mostly within institutional and cultural domains [46].

Beyond its empirical relevance, the selected portion of the French–Italian Alpine border can be interpreted as a paradigmatic configuration for understanding cross-border dynamics in mountain regions. Its long standing historical ties, cultural continuities, and deeply interdependent environmental systems mirror conditions found across many Alpine borderlands [2]. At the same time, its position along major transnational corridors places local communities within a necessarily trans scalar framework, where everyday practices intersect with national and European governance arrangements [47,48]. This combination of rooted territorial specificities and strategic connectivity makes the area a particularly insightful lens through which broader Alpine cross-border processes can be observed.

3.2. Methodological Approach and the A-MONT Action–Research Framework

The empirical analysis developed in this article builds on the methodological framework elaborated within the A-MONT project (Accord-cadre transfrontalier sur la montagne/Accordo Quadro Transfrontaliero Montano), an Interreg ALCOTRA 2021–2027 initiative conducted by French (Département de Savoie) and Italian (Aosta Valley and Piedmont) partners. A-MONT constitutes the primary action–research setting from which the methodological tools used in this study were derived. The project focuses on the territories analysed in this article and aims to “strengthen the institutional capacity of the bodies involved and to lay the foundations for coordinated and lasting governance, with particular attention to the cross-border area” [49]. Through an action–research approach, it examines mobility patterns, socio-economic dynamics, and environmental heritage, identifying both opportunities and limitations in the operationalisation of cross-border governance. These analytical tools (territorial diagnosis, actor mapping, and governance assessment) provided the methodological basis for the broader empirical work conducted in this research.

Building on this foundation and integrating additional research–action activities, the empirical analysis focuses on the territorial capabilities that enable cross-border relations, the strengths and weaknesses emerging during their construction, and the key issues shared by local and supra-local actors. The analysis is articulated in four complementary components (Figure 2).

- Quantitative analysis of the Italy–France Interreg ALCOTRA programme for the 2014–2020 and 2021–2027 periods, taking into account that the latter is still ongoing. This analysis was divided into two parts: the first examined the territorial distribution and type of partners able to engage in joint projects; the second assessed the distribution of projects by thematic sector, including environment, education and culture, research and innovation, public services, climate change, and territorial and administrative governance.
- Qualitative analysis based on collection data aimed to identify critical issues and potential opportunities in cross-border governance. Qualitative analyses have been carried out on the following: a. reading reports and articles that refer to the studied territory; b. participation in local and cross-border workshops or events that gave the possibility of deepening different aspects: the challenges of inter-institutional coordination, the operational capacity of local actors, the spontaneous creation of informal networks, and perceptions of the border as both a constraint and an opportunity for cooperation. These materials were coded through an iterative thematic procedure and

systematically compared with quantitative patterns to ensure consistency between observed territorial trends and actors' interpretations.

- Project analysis referred to more recent PITER projects that elaborate on the study area, focusing on four aspects: general objectives, specific actions, strengths of the cross-border approach, and weaknesses of the cross-border approach. These projects were analysed through the lens of how they conceptualise the border, articulate a shared territorial diagnosis, and structure governance arrangements accordingly. Analysis of the PITER projects regards the PITER+ PARCOURS+ that started in 2024, the PITER+ Graies ClimaLab that started in 2024, and the PITER+ Hautes Vallées 2030 that started in 2014.
- Critical examination of the concept of cross-border cooperation in the institutional plan. Referring to the institutional territorial planning of Italian and French contexts, in the various plans corresponding to specific levels of territorial government, the idea of implementing cross-border cooperation and the ways in which it is grounded in the institutional addresses have been highlighted.
- The following diagram synthesises the methodological approach adopted in this analysis.

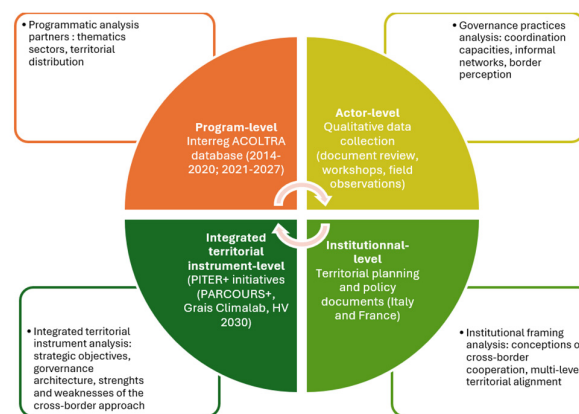


Figure 2. Methodological approach of the study.

While the quantitative analysis provides essential macro-level insights into project distribution, thematic orientations, and territorial clustering, such data necessarily capture only surface dynamics. To understand the structural factors underpinning these patterns, a qualitative approach was required. The qualitative analysis was based on systematic data collection, including the review of reports and academic literature related to the study area, as well as participation in local and cross-border workshops and events. These activities made it possible to deepen several key dimensions of cross-border cooperation: the role of actors, the interplay between formal and informal relations, the modalities of connection, and the sedimentation of past exchanges, ideas, and practices. These elements (what Raffestin describes as the “deposits” and “traces” of territorial interactions) cannot be grasped through statistical indicators alone, yet they are crucial for interpreting the quantitative patterns observed [50]. The quantitative analysis constituted the first level of investigation and provided a broad structural overview of cross-border dynamics, allowing us to identify key variables and territorial patterns. Building on this initial layer, the qualitative component functioned as an analytical “core sample”, developed through face-to-face exchanges with practitioners, participatory workshops, and collective storytelling activities. The articulation between these two levels can be understood as a telescopic perspective, moving from macro-level territorial structures to micro-level cooperation practices. This multi-scalar approach facilitated the triangulation of quantitative indicators,

coded qualitative material, and narrative accounts, thereby strengthening the robustness of the findings.

Before presenting the detailed findings, it is important to note that the analysis was conducted from three complementary perspectives: the territorial distribution of projects, their thematic distribution, and the identification of agglomeration or territorial clusters. These three analytical lenses make it possible to capture not only the spatial patterns of cross-border cooperation but also the functional orientations and the territorial logics that underpin the structuring of cross-border relations.

4. Results

4.1. Implementation of Cross-Border Cooperation in the Study Area

To assess the territorial anchoring of cross-border cooperation, the spatial distribution of ALCOTRA projects across the study area was first examined, as illustrated in Figure 3.

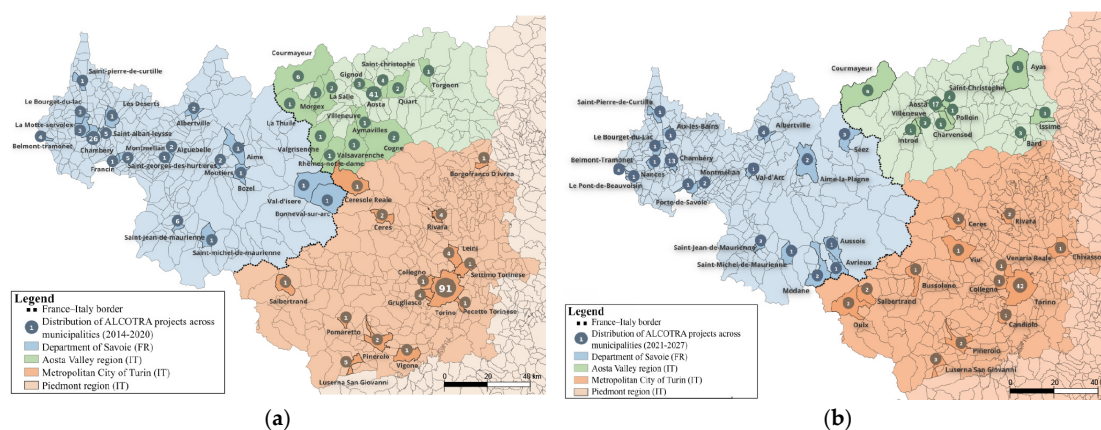


Figure 3. Project distribution by thematic sector within the ALCOTRA programme: (a) 2014–2020; (b) 2021–2027.

Focusing the analysis on ALCOTRA projects provides us with a map of territorial distribution: the results highlight a marked concentration in the three main cities of the relevant territorial entities: Chambéry (26 projects in 2014–2020), Aosta (41), and Turin (91). This pattern continues in the 2021–2027 programming period, although the numbers are lower due to the programme still being in progress (13 for Chambéry, 17 for Aosta, and 42 for Turin).

This concentration reflects a centre–periphery structure consistent with processes of metropolisation, a pattern frequently observed in Alpine Mountain regions [51]. Large urban centres concentrate administrative expertise, financial engineering capacities, and institutional networks that facilitate access to European funding [52]. Participation in European projects requires specialised governance capacities, cross-border relational capital, and co-financing abilities [53,54]. Peripheral municipalities enter into the influence systems of these central cities (in terms of flows, services, and networks), which explains their relative presence in the projects [52]. These structural advantages account for the recurrence of the same municipalities from one programming period to another.

Border areas follow differentiated trajectories. While some municipalities in the Aosta Valley were heavily involved in 2014–2020 but less so in 2021–2027, the Susa Valley and Haute Maurienne see increased participation in the current cycle. In these territories, the border functions as a strategic resource [55,56]. Cross-border cooperation can compensate for a peripheral position within national systems while enhancing the benefits of geographical proximity. The dynamics observed in 2021–2027 may also relate to major infrastructure projects (notably the Lyon–Turin rail link) and to the consolidation of integrated territorial

initiatives (PITER, particularly present in A-MONT within the Susa Valley in Italy and the Maurienne Valley in France).

Beyond this structural effect, the spatial patterns also reveal a strong “path dependency” dynamic: municipalities already engaged in 2014–2020 tend to remain active in 2021–2027. This persistence suggests that cross-border cooperation operates as a cumulative process, shaped by administrative learning, repeated interactions, and the stabilisation of interpersonal and organisational ties, as highlighted by Walther and Scott. In this sense, ALCOTRA appears to reinforce existing cooperation networks rather than generate entirely new ones.

To visualise these agglomeration effects, Figure 4a and Figure 4b present the mapping of territorial project nodes for the ALCOTRA programme in the 2014–2020 and 2021–2027 periods, respectively.

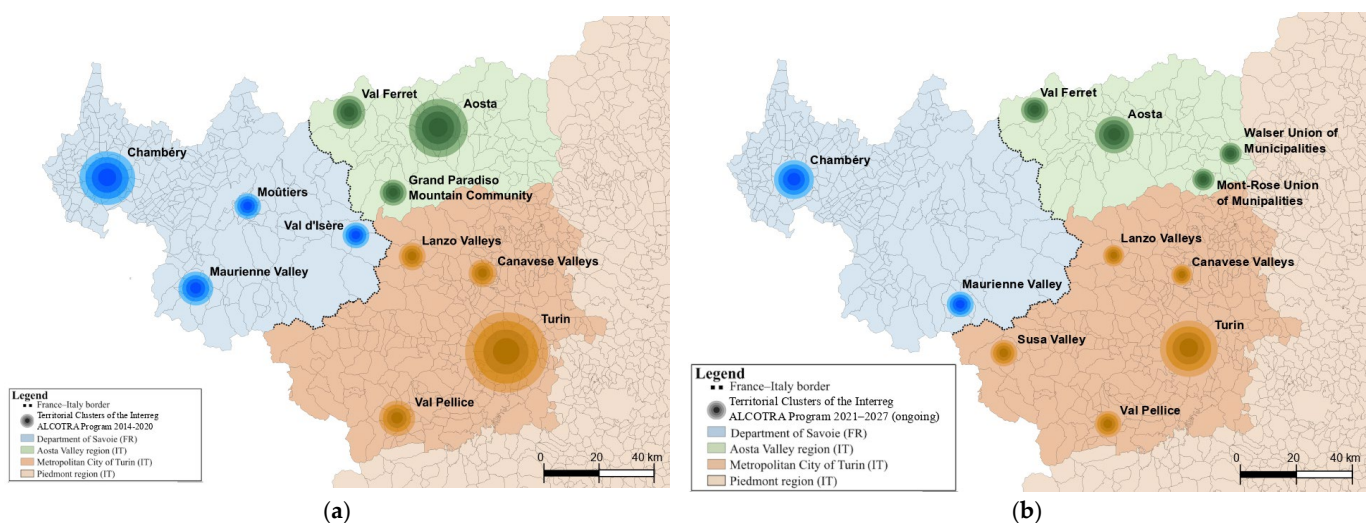


Figure 4. Territorial clusters within the ALCOTRA programme: (a) 2014–2020; (b) 2021–2027.

The size of the circles is proportional to the number of projects. These maps confirm the concentration dynamics described above and facilitate the identification of territorial systems, whether structured around dominant urban centres or functional territorial units [57]. Finally, the latest clusters highlighted on these maps are the valley areas. This confirms the relevance of valleys as fundamental functional units in mountainous regions, structuring flows of employment, mobility, infrastructure, and services [58]. On the French side, this organisation often reflects inter-municipal structures; in the Aosta Valley, it corresponds to municipal aggregations at the valley level. In this sense, cooperation dynamics reflect pre-existing territorial morphologies rather than producing entirely new configurations.

The emergence of these valley-based clusters reinforces the idea that cross-border cooperation is most effective when it builds on existing socio-spatial structures. Rather than creating new territorial configurations, ALCOTRA tends to strengthen functional units that already organise daily life, mobility, and governance practices.

4.2. Territorial Projects in the Study Area and the Importance of Being Cross-Border

Territorial projects were classified by thematic categories to identify the functional orientation of cross-border cooperation. This classification allows for analysis of the territorial functions reinforced by EU-funded initiatives [55,59]. Thematic orientation contributes to identity-building processes. Spatial practices shape collective representations; sectoral priorities thus influence the way territories define themselves and are perceived [60].

Figure 5 shows a clear evolution in thematic priorities between the two programming periods. While 2014–2020 emphasised education, culture, research, and environmental risk management, the 2021–2027 period displays a stronger focus on climate change adaptation, environmental protection, and territorial governance. This shift reflects the EU’s reinforced climate agenda and the growing urgency of environmental challenges in Alpine regions. It also indicates a maturation of cross-border cooperation, moving from sectoral projects toward more integrated governance-oriented interventions.

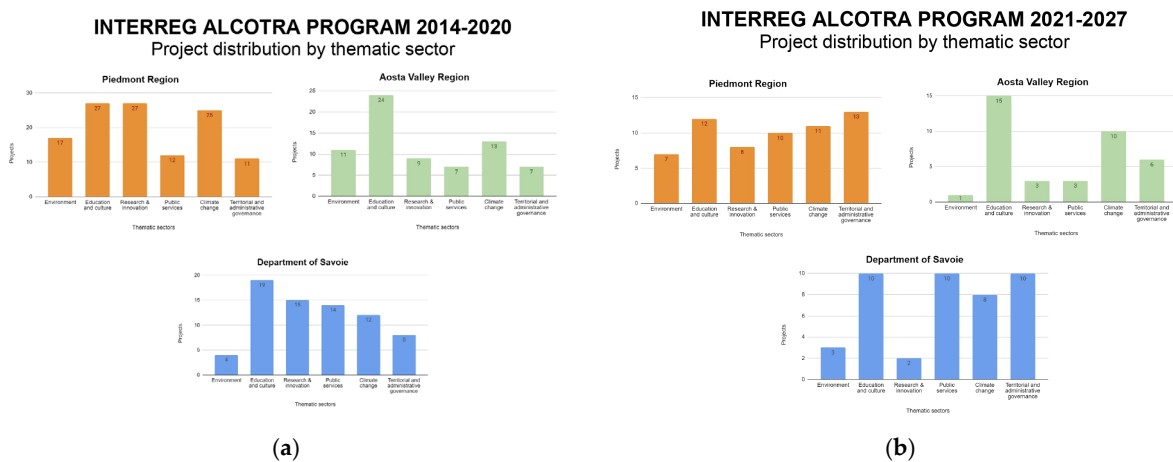


Figure 5. Project distribution by thematic sector within (a) the ALCOTRA 2014–2020 program; (b) the ALCOTRA 2021–2027 program.

Regional variations further nuance this picture. Piedmont shows a balanced thematic distribution, consistent with its administrative capacity and diversified territorial needs. The Aosta Valley prioritises education/culture and climate change, reflecting its tourism-based economy and environmental vulnerabilities. Savoie maintains a strong focus on public services and governance, aligned with its inter-municipal structures. These thematic orientations contribute to identity-building processes, shaping how territories perceive themselves and how they position their cross-border action [56].

Finally, the analysis focused on Integrated Territorial Plans of the 2021–2027 Interreg ALCOTRA programme (PITER+) Hautes Vallées 2030, Graies ClimaLab+, and Parcours+, which carried out the complex variable geometry of cross-border relations. The specific study of PITER is justified by their place within the broader evolution of cohesion policy towards an integrated territorial approach. At the European level, PITER correspond to Integrated Territorial Investments (ITIs), formalised under Regulation (EU) 2021/1060 (Common Provisions Regulation) for the 2021–2027 period [61]. This instrument aligns with the place-based approach in cohesion policy as advocated in the broader debate on place-based regional development [47,62], emphasising adaptation to local specificities through coordinated territorial strategies and strengthened local governance ITIs that aim to ensure coherent implementation of multiple interventions within a single strategic framework [63,64].

The three PITER+ strategies were thus analysed through the lens of their treatment of the cross-border issue: how they conceptualise the border, articulate a shared diagnosis of their relationship to it, and structure governance arrangements accordingly. The comparative analysis of the three PITER+ strategies implemented in the study area is summarised in Table 1.

Table 1. Comparative analysis of the cross-border dimension of PITER+ strategies (Parcours+, Graies ClimaLab+, Hautes Vallées 2030) under the Interreg ALCOTRA 2021–2027 programme.

PITER Name	General Objective	Specific Actions	Strengths of the Cross-Border Approach	Weaknesses of the Cross-Border Approach
PITER+ Parcours+	Strengthening a cross-border community capable of collectively adapting to territorial mutations and to the social, economic, and environmental transformations affecting the mountain region.	Developing shared socio-economic and cultural dynamics.	The successful implementation of journalistic residencies in schools, providing an innovative way to engage young people in cross-border issues and offering strong development potential.	Significant social, economic, and cultural diversity within the communities of each Mont Blanc country, making it difficult to define common objectives for future development.
		Involving young people and residents in cross-border territorial challenges.	The existence of a cross-border network of heritage-interpretation professionals, acting as ambassadors of cultural values and major future challenges (including climate change), and enabling innovative forms of cultural mediation.	Complexity and long duration of cross-border projects, which may limit the visibility of partners' efforts and investments.
		Reinforcing territorial resilience in the face of new environmental and ecological conditions. Mapping existing data and producing missing datasets at the cross-border scale.	The structuring role of the French language, which remains a key instrument of cooperation across the three national contexts.	Fragmentation of administrative competences, complicating the establishment of partnerships able to work swiftly across borders.
PITER+ Graies ClimaLab	Reducing the vulnerability of natural resources and socio-economic systems while enhancing the ability of the cross-border territory to engage in a transition pathway adapted to the impacts of climate change.	Implementing awareness-raising, knowledge-building, information, and training activities.	Consolidation and development of cross-border cooperation between public and private actors through better alignment of strategies and combined use of different sources of funding (regional, national, European).	The fragile unity of the GraiesLab territory, marked by the geographic dispersion of partners, the absence of direct territorial continuity and limited transport connections, which restrict the creation of operational linkages and concrete synergies.
		Carrying out pilot actions across the cross-border territory.	Growing willingness among economic operators to work in networks and system-based logics, aiming to maximise both direct and indirect impacts at a local scale.	Partnership dynamics still rely predominantly on historically established bilateral relations (Savoie–Piedmont/Piedmont–Aosta Valley), while fully transversal connections among all programme partners remain relatively recent and not yet fully stabilised.
		Strengthening shared planning and regulatory instruments.		
PITER+ Hautes Vallées 2030	Contributing to the consolidation of the use and recognition of the Upper Valleys territory as a transboundary and mountain living area, by activating enabling conditions for innovation and resilience in the environmental, economic, and social domains.	Strengthening a shared sense of belonging beyond the border through identifiable cross-border services of general interest.	Cross-border and interregional mountain territory displaying notable similarities in terms of population and mobility flows, largely driven by its central and strategic Alpine location, well connected and close to major Alpine metropolitan areas (within two hours of Lyon, Turin, Geneva, Grenoble, Chambéry and Gap) as well as coastal areas, and situated along major transnational, European, and interregional corridors.	Risk of being reduced to a transit cross-border territory, rather than a fully integrated functional space.
		Anticipating and mitigating climate change impacts to enhance socio-economic resilience, based on innovation and experimentation.	Existing and significant cross-border population flows, reflecting established patterns of mobility and interaction.	Risk of over-concentration of resources and efforts on tourism-related cooperation, given its existing maturity, potentially to the detriment of other locally embedded and structurally integrative needs.
		Preserving and enhancing common natural and cultural heritage as a foundation of cross-border mountain identity.	Shared historical background and more than 25 years of experience in cross-border cooperation and governance, notably through the institutionalisation of cooperation frameworks (creation of the Conference of the High Valleys in 2000, reinforced in 2007).	Institutional fragility linked to frequent administrative and political reorganisations, amplified by the cross-border nature of the territory and its inclusion within multiple French and Italian regions, weakening governance stability and the continuity of cooperation.
		Developing multimodal, low-carbon cross-border mobility solutions for residents and tourists.	A territory embedded within internationally recognised tourist destinations, already demonstrating strong performance and experience in Alpine cross-border tourism cooperation.	

The comparison reveals that each PITER+ mobilises a distinct territorial rationale and governance model. *Parcours+* frames the border primarily as a cultural and social interface, mobilising youth engagement, heritage-interpretation networks, and linguistic resources to strengthen cross-border identity. Its strengths lie in its capacity to activate symbolic and cultural levers of cooperation, but its weaknesses stem from socio-cultural heterogeneity and administrative fragmentation, which complicate the emergence of shared long-term objectives. *Graies ClimaLab+* adopts a markedly different approach, conceptualising the border as an ecological system requiring coordinated adaptation. Its strengths include the consolidation of cross-border cooperation between public and private actors, the alignment of strategies, and the mobilisation of multiple funding sources. However, its territorial discontinuity, limited transport connections, and reliance on historically bilateral relations (Savoie–Piedmont, Piedmont–Aosta Valley) hinder the emergence of fully transversal governance structures. *Hautes Vallées 2030*, in contrast, builds on a long-standing history of cooperation and shared mobility flows, framing the border as a functional living area. Its strengths include strong demographic and mobility interdependencies, a consolidated institutional framework (notably the Conference of the High Valleys), and a strategic Alpine position connected to major metropolitan areas. However, this PITER+ also faces structural vulnerabilities: the risk of being reduced to a transit corridor, the over-concentration of cooperation efforts on tourism, and institutional fragilities linked to frequent administrative reorganisations.

Taken together, these results show that the three PITER+ strategies do not simply differ in thematic focus but embody distinct territorial logics, governance architectures, and cross-border imaginaries. They illustrate how cross-border cooperation is shaped by the interplay between functional geographies, institutional histories, and socio-cultural configurations, confirming the multi-dimensional nature of cross-border governance highlighted in the literature.

5. Conclusions

5.1. *Toward the Concept of Transfrontierisation*

The results provide an empirical perspective on the construction of actorial relations and innovative and unexpected territorial (re)configurations enabled and brought out by cross-border cooperation. The activities and the approach carried out in cooperation projects allow us to assess how the border is perceived and mobilised by actors: in some cases, it serves as an operational coordination space to support institutional policies and interests [65,66], while in others, it functions as the “laboratory” for a shared territorial project and a place to experiment with integration [67]. The spatial and thematic maps produced offer insights about the sectors of action considered more important and practicable inside a cross-border project, underlining the role of the environmental context (particularly climate change and environmental protection) as a shared heritage on which to invest in a common territorial vision. The cultural factor supports inter-territorial networks rooted in collective identities, while innovation and research emerge as crucial elements for constructing sustainable and efficient territories. In contrast, the lower concentration of projects in public services highlights the difficulty of producing homogeneous solutions across the Alpine arc due to national and regional policy constraints.

The idea of transfrontalierity, particularly applied in the PITER+ projects analysed, allows us to observe empirically how local and supra-local networks contribute to crossing institutional borders through formal and informal relations, activating territorial clusters that operate shapes of re-territorialisation and structuring of territorial systems. On this line, the analysis of the PITER+ provides further insight, showing that the cross-border dimension is mobilised both as a framework for action and as a vector of shared identity.

The strengths identified (existing networks, cooperation experience, geographic centrality, and cross-border flows) demonstrate the territory's capacity to build structured, common projects. At the same time, the limitations (partner dispersion, administrative fragmentation, institutional fragility) highlight the constraints inherent to multi-level governance and the complexity of cross-border projects. In this case, common natural environments and rooted history emerge not only as important project sectors but also as "grips" to recognise a potential collective context in which to act. Discussing these results underscores the relevance of this approach for the academic field, as it provides concrete evidence of the territorial and functional effects of cross-border cooperation and clarifies how projects and planning instruments contribute to new territorial configurations and forms of transborder identity.

In the Alpine context, cross-border cooperation has been interpreted as producing ambivalent territorial effects, combining processes of de- and re-bordering and generating both inclusion and exclusion within asymmetric governance arrangements [29,68]. From this perspective, the notion of transfrontierisation takes shape and refers to the processes through which a cross-border space moves beyond being merely a functional framework of cooperation to become a governed, practiced, and symbolically invested territory. In other words, it describes how cross-border interactions progressively generate their own territorial consistency, a space shaped by shared practices, representations, and governance arrangements, without erasing or replacing existing institutional affiliations. In its most synthetic sense, transfrontierisation can be defined as the combination of formal and informal governance dynamics based on a common sense of history, transborder and intergenerational discourses, and the emergence of shared identity, leading to a certain form of integrated territorial construction, getting over existing institutional delimitation. It is not referred to as a systematic or homogeneous phenomenon but a variable process of territorial construction, capable of integrating decision-making centres, everyday practices, cultural nodes, and collective representations within a single continuum. While the literature on cross-border integration, functional regions, and the territorialisation of governance has extensively documented interaction mechanisms and coordination frameworks, the notion of transfrontierisation proposed here seeks to capture more processual and cumulative territorial dynamics, in which governance arrangements operated by local communities and shared territorial referents co-evolve over time [69], without implying full institutional or functional integration. So, this concept could be considered as an elaboration that, differently from what is expressed in geopolitical studies in terms of "frontierisation" based on an idea of hostile border inside migration processes [70,71], reveals a reverse process in which human–nature interactions together with horizontal actorial relationships dismantled socio-political barriers in favour of innovative connections in a historical frame and a new territorial recomposition and centrality. These findings confirm the analytical relevance of the notion of transfrontierisation, understood as a gradual process combining governance transformations, everyday practices and policies, and the emergence of shared identity referents. This concept of transfrontierisation is proposed as a heuristic and analytical tool derived from this specific empirical context and does not claim immediate generalisation beyond comparable cross-border governance settings.

5.2. Contributions to Sustainability Transitions and Cross-Border Policy Design

While cross-border projects already demonstrate a strong engagement with environmental and climate issues, the notion of transfrontierisation highlights a deeper and more structural contribution to sustainability. Rather than producing isolated environmental benefits, transfrontierisation consolidates these project-based advances into a more stable territorial framework, where climate adaptation, biodiversity conservation, circular

economy principles, and socio-economic resilience become shared and co-produced responsibilities. In this sense, it strengthens long-term cooperation routines and the continuity of practices across the border, thereby transforming punctual environmental actions into an integrated and durable multi-level governance system.

Beyond this conceptual clarification, the results also contribute to ongoing theoretical debates on cross-border regionalism. While Perkmann sees cross-border regions as institutionalised spaces structured by stabilised cooperation arrangements, and Scott emphasises the emergence of soft spaces and rescaled policy arenas, the notion of transfrontierisation proposed here highlights a more historically rooted, environmentally embedded, and relational process. It captures the cumulative effects of shared practices, territorial diagnoses, and cooperation routines that progressively transform territorial reference frameworks without aiming to create a new regional entity. Similarly, while the concept of small foreign policy sheds light on the diplomatic agency of subnational actors, recent work insists on the role of multi-level networks and cross-border interactions in structuring border spaces. Transfrontierisation brings these strands together by describing a diffuse, multi-scalar, and practice-based territorial transformation.

Several experiences documented in the Alpine literature illustrate concretely the mechanisms of transfrontierisation. Work on the Mont Blanc Area shows how the joint production of environmental diagnoses, coordination of risk-management policies, and networking of local actors have progressively structured a durable cooperation space beyond administrative borders [30]. These dynamics resonate with analyses of how European border spaces are constructed through relational practices and multi-level networks [14,28]. Similarly, cooperation initiatives in the high Franco-Italian valleys show how the repetition of projects, circulation of technical knowledge, and stabilisation of shared practices have contributed to the emergence of common reference frameworks and strengthened the continuity of cross-border interactions. Comparable mechanisms have been observed in other mountain borderlands, suggesting that these dynamics are not specific to the Alps but reflect broader patterns of transfrontierisation in high-relief regions. In the Pyrenees, long-term cooperation between French and Spanish actors around biodiversity management, pastoral mobility, and risk prevention has progressively generated shared territorial diagnoses and multi-scalar governance arrangements, despite strong administrative asymmetries [72]. In the Carpathians, cross-border initiatives on protected-area management and rural development have similarly fostered stable professional networks and common planning tools, illustrating how repeated interactions and shared environmental challenges can consolidate cross-border territoriality over time [73]. These examples confirm that transfrontierisation emerges not from formal institutional reforms alone but from the cumulative sedimentation of practices, routines, and shared problem framings across mountain borders.

Finally, the recognition of transfrontierisation carries practical implications for cross-border policy design. Understanding transfrontierisation as a cumulative and multi-scalar process can support the development of bottom-up territorial initiatives that rely on flexible and variable geometry territorial aggregates grounded in socio-cultural and environmental continuities rather than solely in administrative delineations. Such an approach enables policymakers to recover the functional and ecological coherence of Alpine borderlands as a basis for promoting sustainable territorial development, thereby overcoming institutional discontinuities that often constrain cooperation. From this perspective, the transfrontierisation framework can inform future Interreg programming by encouraging the alignment of project logics with shared territorial diagnoses, by strengthening long-term governance routines, and by supporting coordination mechanisms that reflect the lived geographies and socio-ecological interdependencies of mountain regions. More broadly, acknowl-

edging these dynamics can help regional authorities and European institutions design territorial strategies that reinforce cross-border capabilities, reduce asymmetries, and consolidate multi-level governance architectures capable of addressing environmental and socio-economic challenges that transcend national borders.

By situating these mechanisms within the wider framework of European instruments (particularly ALCOTRA, PITER+, and the renewed bilateral architecture of the Quirinal Treaty), this study clarifies the conditions under which cross-border cooperation can move beyond episodic interaction and support durable forms of territorial construction. It also opens up avenues for further research, notably on the territorial impacts of cooperation, comparative analyses with other Alpine or non-Alpine border regions, and the institutional innovations that may accompany the evolution of European cross-border territories.

Author Contributions: Conceptualization, E.B. and F.C.; methodology, E.B. and F.C.; formal analysis, E.B. and F.C.; investigation, E.B. and F.C.; resources, E.B. and F.C.; data curation, E.B. and F.C.; writing—original draft preparation, E.B. and F.C.; writing—review and editing, E.B. and F.C.; visualization, E.B. and F.C.; supervision, E.B. and F.C.; project administration, E.B. and F.C. All authors have read and agreed to the published version of the manuscript.

Funding: This research received no external funding.

Institutional Review Board Statement: Not applicable.

Informed Consent Statement: Not applicable.

Data Availability Statement: The original contributions presented in this study are included in the article. Further inquiries can be directed to the corresponding authors.

Conflicts of Interest: The authors declare no conflicts of interest. The funders had no role in the design of the study; in the collection, analyses, or interpretation of the data; in the writing of the manuscript; or in the decision to publish the results.

Abbreviations

The following abbreviations are used in this manuscript:

ACOLTRA	Alps-Latin Cross-Border Cooperation Programme
A-MONT	Accord-cadre transfrontalier sur la montagne/Accordo Quadro Transfrontaliero Montano
CAFI	Franco-Italian Alpine Conference
ECG	Euroregional Cooperation Grouping
EGTC	European Grouping of Territorial Cooperation
ERDF	European Regional Development Fund
EU	European Union
ITI	Integrated Territorial Investment
PITER	Integrated Territorial Plan

References

1. Rudaz, G. Territorial redefinition and the governance of mountain regions. *J. Alp. Res.* **2009**, *97*. [[CrossRef](#)]
2. Debarbieux, B.; Rudaz, G. *Les Faiseurs de Montagne*; CNRS Éditions: Paris, France, 2015.
3. Tucker, C.M.; Alcantara-Ayala, I.; Gunya, A.; Jimenez, E.; Klein, J.A.; Xu, J.; Bigler, S.L. Challenges for governing mountains sustainably: Insights from a global survey. *Mt. Res. Dev.* **2021**, *41*, R10–R20. [[CrossRef](#)]
4. Kern, K. Governance for sustainable development in the Baltic Sea Region. *J. Balt. Stud.* **2011**, *42*, 21–35. [[CrossRef](#)]
5. Kropinova, E. Transnational and cross-border cooperation for sustainable tourism development in the Baltic Sea Region. *Sustainability* **2021**, *13*, 2111. [[CrossRef](#)]
6. Brooks, S.; Olive, A. (Eds.) *Transboundary Environmental Governance Across the World's Longest Border*; University of Manitoba Press: Winnipeg, MB, Canada, 2018.

7. Arbaret-Schulz, C.; Beyer, A.; Piernay, J.-L.; Reitel, B.; Selimanovski, C.; Sohn, C.; Zander, P. La Frontière, un Objet Spatial en Mutation. *EspacesTemps.net*. 2004. Available online: <https://www.espacetemps.net/articles/la-frontiere-un-objet-spatial-en-mutation/> (accessed on 12 March 2024).
8. Perkmann, M. Construction of new territorial scales: A framework and case study of the EUREGIO cross-border region. *Reg. Stud.* **2007**, *41*, 253–266. [[CrossRef](#)]
9. Konrad, V. Toward a theory of borders in motion. *J. Borderl. Stud.* **2015**, *30*, 1–17. [[CrossRef](#)]
10. Prescott, J.R.V. *Political Frontiers and Boundaries*; Allen & Unwin: London, UK; Boston, MA, USA, 1987.
11. Jessop, B.; Brenner, N.; Jones, M. Theorizing sociospatial relations. *Environ. Plan. D Soc. Space* **2008**, *26*, 389–401. [[CrossRef](#)]
12. Leresche, J.-P.; Saez, G. Identités territoriales et régimes politiques de la frontière. *Pôle Sud* **1997**, *7*, 27–47. [[CrossRef](#)]
13. Faludi, A. Territorial cohesion, territorial governance. *Eur. Plan. Stud.* **2013**, *21*, 1590–1606.
14. Scott, J.W. *European Politics of Borders and Bordering*; Routledge: London, UK, 2012.
15. Hamez, G. Chapitre 5. La région transfrontalière. In *Frontières*; Armand Colin: Paris, France, 2020.
16. Pérez González, M. Algunas observaciones sobre el empleo de la técnica convencional en la cooperación transfronteriza entre colectividades territoriales. In *Hacia un Nuevo Orden Internacional y Europeo: Estudios en Homenaje al Profesor don Manuel Díez de Velasco*; Tecnos: Madrid, Spain, 1993; pp. 545–564.
17. Wassenberg, B. Diplomatie territoriale et coopération transfrontalière en Europe depuis 1945. *Relat. Int.* **2019**, *179*, 9–24. [[CrossRef](#)]
18. Scott, J.W. Bordering, border politics and cross-border cooperation in Europe. *J. Borderl. Stud.* **2015**, *30*, 27–44. [[CrossRef](#)]
19. Zumbusch, K.; Scherer, R. Cross-border governance: Balancing formalized and less formalized co-operations. *Soc. Sci.* **2015**, *4*, 499–519. [[CrossRef](#)]
20. Darnis, J.-P. Les politiques transfrontalières France–Italie et les nouveaux enjeux territoriaux. *Espaces Soc.* **2015**, *160–161*, 37–49. [[CrossRef](#)]
21. Gros, C. Demandes ethniques et politiques publiques en Amérique latine. *Probl. Am. Lat.* **2003**, *48*, 11–31. [[CrossRef](#)]
22. Gros, C.; Strigler, M.-C. (Eds.) Être indien dans les Amériques. Spoliations et résistance. In *Mobilisations Ethniques et Politiques du Multiculturalisme*; Éditions de l'Institut des Amériques/Éditions de l'HEAL: Paris, France, 2006.
23. Hooghe, L.; Marks, G. Unraveling the central state, but how? Types of multi-level governance. *Am. Polit. Sci. Rev.* **2003**, *97*, 233–243. [[CrossRef](#)]
24. Walsh, C. Territorial governance and cross-border regions: Networks, institutions and scales. *Reg. Stud.* **2019**, *53*, 409–420.
25. Benz, A.; Fürst, D. Policy learning in regional networks. *Eur. Urban Reg. Stud.* **2002**, *9*, 21–35. [[CrossRef](#)]
26. Wassenberg, B. From local to European governance: Cross-border cooperation in Europe. *Eur. View* **2015**, *14*, 269–278.
27. Evrard, E. The political geographies of cross-border cooperation: A comparative perspective. *J. Borderl. Stud.* **2016**, *31*, 331–344.
28. Walther, O. *Cross-Border Co-Operation Networks in West Africa*; West African Papers 6; OECD Publishing: Paris, France, 2017.
29. Medeiros, E. Territorial Impact Assessment and Cross-Border Cooperation. *Reg. Stud.* **2014**, *48*, 508–523.
30. Debarbieux, B.; Rudaz, G. *The Mountain: A Political History from the Enlightenment to the Present*; University of Chicago Press: Chicago, IL, USA, 2010.
31. Rudan, E.; Zadel, Z.; Agbaba, R. Tourism and Sustainable Development in the Croatia–Slovenia Cross-Border Rural Area: Attitudes of Local Residents and Visitors. *Sustainability* **2025**, *17*, 11345. [[CrossRef](#)]
32. OECD. *Building More Resilient Cross-Border Regions: Considerations in Governance and Partnerships*; OECD: Paris, France, 2024.
33. Nagelschmidt, M. Les systèmes à niveaux multiples dans les régions transfrontalières en Europe. Le cas du Rhin supérieur et des nouvelles coopérations à la frontière est de la RFA. *Rev. Int. Polit. Comp.* **2005**, *12*, 223–236. [[CrossRef](#)]
34. Defrance, C. Les jumelages franco-allemands: Aspect d'une coopération transnationale. *Vingtième Siècle* **2008**, *99*, 189–201. [[CrossRef](#)]
35. Osman, F. Un nouveau champ d'exploration pour le droit international privé: La coopération transfrontière entre collectivités publiques infra-étatiques. *RCDIP* **1997**, *3*, 403.
36. Mestre, C. *Les Incidences de L'achèvement du Marche Unique sur les Régions Frontalières*; Council of Europe: Strasbourg, France, 1992.
37. Mettan, N. Enjeux et perspectives de la coopération transfrontalière dans le domaine de l'aménagement du territoire: L'exemple de la Suisse romande. *RERU* **2003**, *5*, 951–972. [[CrossRef](#)]
38. Marcou, G. Le représentant territorial de l'État et le fait régional dans les États européens. *RFAP* **2010**, *135*, 567–582.
39. Bolgherini, S.; Roux, C. Les régions d'Europe et l'enjeu des coopérations. *Pôle Sud* **2008**, *29*, 111–130.
40. Sala, S.; Lostrangio, M.C.; Zampatti, M.; De Luca, G.; Landoni, M.; Giorgi, A. What governance for sustainable development in the mountains? Insights from the Alpine region. *Mt. Res. Dev.* **2024**, *44*, A1–A10. [[CrossRef](#)]
41. Cantiani, M.G.; Geitner, C.; Haida, C.; Maino, F.; Tattoni, C.; Vettorato, D.; Ciolli, M. Balancing economic development and environmental conservation for a new governance of Alpine areas. *Sustainability* **2016**, *8*, 802. [[CrossRef](#)]
42. Moullé, F. L'Espace Mont-Blanc, un laboratoire de coopération transfrontalière au service des territoires locaux. *Inf. Géogr.* **2020**, *84*, 9–23. [[CrossRef](#)]

43. Leloup, F. *L'Espace Mont Blanc: Un Laboratoire de Coopération Transfrontalière*; CTMB: Chamonix, France; Courmayeur, Italy; Martigny, Switzerland, 2010.
44. De Tanoüarn, A. Les GECT, une forme de gouvernance transfrontalière. *Action Publique* **2025**, *24*, 53–54.
45. Coquet, M. Dynamiques linguistiques et constructions territoriales dans les Alpes occidentales. In *Les Montagnes: Discours et Enjeux Géographiques*; Sedes: Paris, France, 2003.
46. Fondazione Émile Chanoux. *Rapporto sul Sondaggio Linguistico Della Valle d'Aosta*; Fondazione Émile Chanoux: Aosta, Italy, 2001.
47. Perkmann, M. Cross Border Regions in Europe: Significance and Drivers of Regional Cross Border Co Operation. *Eur. Urban Reg. Stud.* **2003**, *10*, 153–171. [[CrossRef](#)]
48. Sohn, C. The Border as a Resource in the Global Urban Space: A Contribution to the Cross Border Metropolis Hypothesis. *Int. J. Urban Reg. Res.* **2014**, *38*, 1697–1711.
49. A MONT Mission: A New Cross Border Strategy for the Northern Alps. *Espaces Transfrontaliers.org*. 2025. Available online: <https://www.espaces-transfrontaliers.org/mission-a-mont-une-nouvelle-strategie-transfrontaliere-pour-les-alpes-du-nord/> (accessed on 14 July 2026).
50. Raffestin, C. *Pour une Géographie du Pouvoir*; LITEC: Paris, France, 1980.
51. Perlik, M.; Messerli, P. Urban strategies and regional development in the Alps. *Mt. Res. Dev.* **2004**, *24*, 215–219. [[CrossRef](#)]
52. Krugman, P. Increasing Returns and Economic Geography. *J. Polit. Econ.* **1991**, *99*, 483–499. [[CrossRef](#)]
53. Zdanowska, N. Exploring cities of Central and Eastern Europe within transnational company networks: The core periphery effect. *arXiv* **2019**, arXiv:1910.14652.
54. Marks, G. Structural Policy and Multilevel Governance in the EC. In *The State of the European Community*; Longman: London, UK, 1993; Volume 2.
55. Scott, A.J.; Storper, M. Regions, Globalization, Development. *Reg. Stud.* **2003**, *37*, 579–593. [[CrossRef](#)]
56. Debarbieux, B. Les montagnes: Représentations et constructions culturelles. In *Les Montagnes: Discours et Enjeux Géographiques*; Sedes: Paris, France, 2001.
57. Paasi, A. *Territories, Boundaries and Consciousness: The Changing Geographies of the Finnish Russian Border*; Wiley: Hoboken, NJ, USA, 1996.
58. Agnew, J. *Geopolitics: Re-Visioning World Politics*; Routledge: London, UK, 1998.
59. Union européenne. Règlement (UE) 2021/1060 du Parlement européen et du Conseil. *JO L* **2021**, *231*, 159–706.
60. Barca, F. *An Agenda for a Reformed Cohesion Policy: A Place Based Approach to Meeting European Union Challenges and Expectations*; EERI Research Paper Series; EERI: Oakland, CA, USA, 2008.
61. Barca, F.; McCann, P.; Rodríguez-Pose, A. The case for regional development intervention: Place-based versus place-neutral approaches. *J. Reg. Sci.* **2012**, *52*, 134–152. [[CrossRef](#)]
62. Celata, F.; Coletti, R. Place-based strategies or territorial cooperation? Regional development in transnational perspective in Italy. *Local Econ.* **2014**, *29*, 394–411. [[CrossRef](#)]
63. Kowalska, I. Integrated Territorial Investments in the Formula of Cohesion Policy 2014–2020. *Econ. Reg. Stud.* **2017**, *10*, 36–50. [[CrossRef](#)]
64. Ferry, M. *Integrated Territorial Investments as an Effective Tool of the Cohesion Policy*; European Parliament: Strasbourg, France, 2019.
65. Del Biaggio, C. L'institutionnalisation de la région alpine à travers l'étude de deux réseaux pan-alpins (Alliance dans les Alpes et ALPARC). *J. Alp. Res.* **2009**, *97*, 85–98.
66. Price, M.F. Towards co-operation across mountain frontiers: The Alpine Convention. *Eur. Environ.* **1999**, *9*, 83–89. [[CrossRef](#)]
67. Bertram, D.; Chilla, T.; Hippe, S. The laboratory dimension in cross-border development: Insights from the Czech–German border region. *Bus. Trends* **2023**, *13*, 4–16. [[CrossRef](#)]
68. Plangger, M. De-and re-bordering the Alpine Space: How cross-border cooperation intertwines spatial and institutional patterns of exclusion and inclusion, subordination and horizontality. *J. Borderl. Stud.* **2020**, *35*, 443–465.
69. Paasi, A. Region and place: Regional identity in question. *Prog. Hum. Geogr.* **2003**, *27*, 475–485. [[CrossRef](#)]
70. Cuttitta, P. La « frontiérization » de Lampedusa: Comment se construit une frontière. *Espace Polit.* **2015**, *25*, 16. [[CrossRef](#)]
71. Del Biaggio, C. La frontierizzazione delle Alpi. Appunti di ricerca: Un'analisi di come le politiche migratorie e le pratiche di controllo dei confini hanno trasformato l'arco alpino in una frontiera letale. In *Hostile Environments: The Political Ecology of Migration and Border Violence*; European Research Council: Bologna, Italy, 2023.
72. Sánchez Moral, S.; Lois González, R.C. Cross-border cooperation and mountain territoriality in the Pyrenees. *Eur. Plan. Stud.* **2018**, *26*, 1453–1472.
73. Turnock, D. Cross-border cooperation in the Carpathian region. *GeoJournal* **2002**, *54*, 73–89.

Disclaimer/Publisher's Note: The statements, opinions and data contained in all publications are solely those of the individual author(s) and contributor(s) and not of MDPI and/or the editor(s). MDPI and/or the editor(s) disclaim responsibility for any injury to people or property resulting from any ideas, methods, instructions or products referred to in the content.