RURALITIC

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Deliverable 3.1 / 3.2

European Typology of Rural Areas: A report on the conceptualisation, methodology, construction and interpretation of the RURALITIC rural typology map

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Project summary

Over the past few decades, rural areas have experienced profound socio-demographic transformations, driven by their roles in ecological, digital, and bio-economic transitions. These transformations, further accelerated by the Covid-19 pandemic, have led to significant diversification, rendering rural regions complex and unequal – similar in many ways to major cities. Thus, a key problem concerns our knowledge about – and perception of these places because the tools, concepts, and above all the public policies traditionally applied are no longer suited to address the increasing diversity of contemporary rural areas. Our consortium, RURALITIC, is academically armed and well prepared and to tackle these challenges. The first step involves rethinking 'the rural' and examining the intricate relationship between social groups and geographical spaces. This conceptual requalification of what rural areas is, and can be, will enable the production of new scientific concepts and tools, including new data, surveys, indicators, knowledge and typologies, enabling a new and synthesised view of the current dynamics and processes of change and aid in foresight for public authorities. Secondly these new concepts and typologies will then be deployed to analyse the drivers of attractiveness, existing public policies, and innovative initiatives within rural areas. By implementing pilot projects and creating an initiative library, we'll tailor recommendations to diverse social and rural contexts. Finally, RURALITIC aims to envision and produce various scenarios for Europe's rural future. The main outcome will be a reorientation of public policies, from general policies to policies tailored to different rural areas, while maintaining the main orientations of European policies, focusing on sustainable prosperity, resilience, connectivity, and infrastructure.

Project keywords

Sociology, Covid, circulations, social morphology, statistical survey, ethnography, econometrics, cluster, rural social spaces, perception, attractiveness, public policies, library of initiatives, typology.

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PU	Public	☒
SEN	Sensitive, only for members of the consortium (including the Commission Services)	☐
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D3.1 / D3.2 European Typology of Rural Areas

A report on the conceptualisation, methodology, construction and interpretation of the RURALITIC rural typology map

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Executive summary

This report presents the conceptual framework, methodology and initial interpretation of the RURALITIC European rural typology. It responds to the limitations of broad rural–urban classifications by examining rural territories through three connected dimensions: physical, social, and symbolic space. The framework considers how these dimensions interact and are shaped by wider territorial relations. An extended analytical matrix connects them to four transition areas: post-COVID recovery, ecological transition (including energy), digital transition, and demographic and socio-economic change.

The analysis covers 654 NUTS 3 regions in which at least 40% of the population lives within a Functional Rural Area. Twelve indicators were selected for conceptual relevance, data availability and cross-country comparability, with four indicators assigned to each of the three dimensions. The indicators were standardised and used to construct the typology through a two-stage k-means clustering procedure. This identified six parent types, with seven subtypes across the first three, yielding ten final territorial profiles. The six-cluster solution offered the best compromise between stability, statistical differentiation and interpretability.

The results identify recurring combinations of territorial assets and constraints. Some types exhibit stronger socio-economic potential alongside relatively favourable civic and demographic characteristics. Other types stand out for accessibility, housing affordability and material conditions, although employment and age profiles are more mixed. Finally, some types combine constrained socio-economic opportunities with different assets, including energy capacity, demographic features, institutional perceptions and migration dynamism. The geographical analysis reveals macro-regional concentrations and profiles recurring across national borders, with varying levels of national and within-type variation.

The typology is a comparative and exploratory framework for territorial diagnosis and policy reflection, not a definitive classification of individual regions or a basis for prescribing policy packages. Its NUTS 3 scale, selective indicators and modest cluster separation limit its ability to capture local heterogeneity or reconstruct social space. Type profiles represent averages and should be interpreted alongside country-level analysis, case studies and local knowledge.

By bringing physical, social and symbolic conditions into a common framework, the typology supports a differentiated and integrated reflection on rural development, as well as European comparison and policy learning. Its relationship with other RURALITIC work packages is reciprocal: evidence on perceptions, communities, mobility, housing, policy and governance enriches the interpretation of the profiles, while the typology helps situate and compare these findings and provides a basis for territorial scenarios. Further work will deepen the characterisation of the types through an atlas (D3.3) and explore a digital platform for visualisation and potential updates (D3.4), subject to available capabilities and resources.

Note on source material

Parts of the problem framing and indicator framework in this deliverable draw on Marh Echtai's unpublished Go/No-Go report for the PhD project *The Right to the Rural: A Framework for Just and Resilient Rural Futures* (Echtai, 2025), prepared under the supervision of Caroline Newton and Rodrigo V. Cardoso. The critical review of existing rural typologies draws on the published journal article Echtai, M., Cardoso, R. and Newton, C. (2026) Reclassifying the Rural: A critical review of European rural typologies through a socio-relational and justice lens. *Journal of Rural Studies*, 104521 [forthcoming]. https://doi.org/10.1016/j.jrurstud.2026.104521.

The framing of both documents has been adapted here for the purpose of this deliverable.

1. Introduction: Why a new rural typology map is needed

1.1 Rural Europe in the transition era

Rural territories are increasingly important for Europe's future. They are expected to support food production, renewable energy, biodiversity protection, climate adaptation, digital connectivity, and new forms of work. The European Commission's Long-Term Vision for Rural Areas reflects this shift in their 2040 agenda for stronger, connected, resilient, and prosperous rural regions (European Commission, 2021, 2024).

Yet these expectations land unevenly across rural Europe. Some rural areas are close to metropolitan labour markets and benefit from commuting, service access, and investment. Others face depopulation, ageing, limited public transport, poor digital infrastructure, or reduced access to health and education services. Many areas also carry specific transition pressures, such as renewable energy siting, tourism seasonality, agricultural restructuring, or housing pressure linked to amenity and second-home economies (Mantino et al., 2023; Woods, 2007).

This means that rural areas cannot be treated as one uniform category. A remote mountain region, an intensive agricultural production area, a tourism-oriented coastal region, and a rural commuter belt may all be labelled "rural," but they face different opportunities, constraints, and policy needs. For rural typology classifications, this creates a three-layered problem: a **conceptual** problem, because rural areas are often treated uniformly through broad urban-rural categories; an **empirical** problem, because demographic change, uneven service access, ageing infrastructure, or limited local institutional capacities are difficult to capture through standard indicators; and an **instrumental** problem, because the blind spots of existing typologies can weaken policy targeting as technological, ecological, and economic transitions exert different pressures across different rural areas (Echtai et al., 2025).

This report addresses this need for differentiation by presenting a novel European typology of rural areas based on a wide range of physical, social and symbolic indicators that assess dimensions of rural territoriality that have not been explored in combination. The map does not aim to capture every local detail and all the regional heterogeneity within and between rural areas. Its purpose is to provide a clear overview of broad rural profiles across Europe and to support further discussion, comparison, and analysis within RURALITIC.

1.2 The limits of existing rural classifications

Territorial classifications are necessary for European comparison. They help define rural areas, monitor territorial change, and support policy targeting across different national contexts. Common frameworks, such as DEGURBA, OECD regional typologies, ESPON typologies, and national rural classifications, provide shared categories for describing settlement patterns, accessibility, demographic change, and functional links between rural and urban areas (European Commission et al., 2021; OECD, 2019; ESPON, 2011).

However, these classifications also have limits. Many still rely strongly on population density, settlement morphology, administrative boundaries, or proximity to urban centres. These criteria often describe rural areas through spatial and structural attributes, and often in opposition to the urban as a normative threshold, while saying less about the relations, pressures, and capacities that shape rural development. Dimensions such as institutional capacity, symbolic recognition, exposure to transition pressures, and uneven access to services are often less visible in standard rural classifications (Echtai et al., 2026).

This matters because similar rural areas on paper may function very differently in practice. A low-density agricultural region connected to export markets, a remote tourism area shaped by seasonal labour, and a commuter rural belt near a metropolitan region may share statistical characteristics, but they face different development pressures. Rural typologies, and the variable they use to define rural conditions, opportunities or disadvantages, therefore do more than describe a territory. They influence which differences become visible for governance, comparison, and policy intervention (Echtai et al., 2026). To better uncover their blind spots and gaps, section 2 of this report reviews existing European rural typologies, explains the logics behind them by grouping them into nine categories, and describes how RURALITC rethinks rural clusters using a socio-relational approach.

1.3 Purpose of the report

This report presents the RURALITIC rural typology, including synthesis maps and profiles providing a broad overview of recurring territorial configurations across rural Europe, but also providing insights on types, countries and regions vary, supported by graphs, tables, heatmaps and boxplots. The deliverable is meant to provide a clear and accessible overview of rural diversity across Europe, allowing project partners and stakeholders to see how rural territories differ – and what they have in common – according to selected demographic, spatial, socio-economic, infrastructural, and environmental indicators. The deliverable is equally meant to clearly explain the purpose of constructing a rural typology in RURALITIC, explore its scope and limitations, and outline what it can offer to the project, and rural policymaking in general.

The report critically reviews current approaches to typology-making, introduces the RURALITIC conceptual framework, explains the steps followed to construct the typology, introduces the resulting rural types, and provides analytic insights regarding how the maps and the various supporting evidence can be read. It provides a methodological account of the clustering process, indicator justification, data treatment, and robustness checks. These elements incorporate the technical and methodological report originally planned for D3.2, meaning that both D3.1 and D3.2 can now be read in conjunction. Further characterisation of the types, including studies on indicator variation between and within countries and regions, analysis of additional variables covering social class, employment structure, gender, age, household composition, migration and other social dimensions, as well insights from detailed case studies conducted in subsequent

work packages will be presented in deliverable D3.3. The present report should therefore be read as a first interpretive output. It translates the typology-building work into maps, summary statistics, analytic insights, and a concise description of rural types.

The report is structured as follows. Section 2 reviews the existing European typologies and explains how RURALITIC's relational approach differs from existing typologies of rural areas, leading to the project's unique conceptual framework. Section 3 then outlines how the typology was developed as a derivation from that framework, discusses the various methodological specifications and alternatives, and explains the conceptual and operational considerations that led to the final model. Section 4 presents the results, including summary statistics, the main geographical maps of rural types and subtypes, heatmaps reflecting the corresponding territorial profiles, boxplots depicting how indicators vary within types, and tables and maps revealing the distribution of types across countries and how different countries have specific profiles within individual types. Section 5 presents a clear and structured overview of the resulting rural types, including their distinctive features and a brief interpretation of their combinations of territorial conditions. The limitations and conditions of use of the typology are explored in section 6, while section 7 discusses the policy relevance of the results. Finally, section 8 explains the mutual interactions between the typology and the other work packages within RURALITIC. A series of Annexes presenting complementary material are also made available.

2. Critical review: European rural typologies

This section is a condensed version of a manuscript accepted for publication: Echtai M., Cardoso R. and Newton C. (2026) Reclassifying the Rural: A critical review of European rural typologies through a socio-relational and justice lens. *Journal of Rural Studies, 104521* [forthcoming]. https://doi.org/10.1016/j.jrurstud.2026.104521.

Typologies are useful in European planning and policy because they describe territories in consistent terms across jurisdictions, make statistics comparable, and give cohesion and rural development policy a workable basis for eligibility and targeting (OECD, 2019; European Commission: Eurostat, 2021). Yet, the classificatory frameworks used to create them are largely anchored on structural-functional logics that define rural areas through sets of stable territorial attributes, fixed settlements forms, and/or in opposition to the urban. To account for the conceptual, empirical and instrumental implications of typology-making processes, the multiple existing classifications of rural areas are analysed before building the RURALITC typology. This section explains the main principles in rural classification systems, then describes the different families of rural classification, and highlights the gaps in these typologies. Finally, it explains how RURALITC uses these insights to advance a socio-relational approach to address these gaps. The approaches reviewed draw on Féret et al. (2020), which reviews rural definitions and operational frameworks in European policy, and the GRANULAR Typology Scoping Report (2023) which maps a wide range of European rural typologies. These sources are read alongside European and

national classification frameworks developed by organisations such as the OECD, Eurostat, ESPON/EDORA, INSEE, and ANCT. They include both rural-specific typologies and broader classifications in which rurality appears as part of an urban-rural continuum.

2.1. Rural delimitation and differentiation

Rural typologies in Europe vary in scale, purpose, and institutional setting, yet they follow a limited set of recurring classification logics. A key distinction can be made between delimitation and differentiation. Delimitation defines the boundaries between rural and non-rural territory, usually relying on morphological criteria (such as population density and settlement form) or functional criteria (such as commuting flows and travel times to centres). Instruments such as DEGURBA and the OECD TL3 regional typology primarily serve this delimitation function.

Differentiation, on the other hand, classifies internal diversity within rural areas once they have been established. It categorises rural areas according to dimensions such as land use, demographic trajectories, territorial integration, landscape character, policy or administrative status, foresight pathways, or hybrid combinations of these indicators.

Importantly, classification is never a neutral descriptive act. By engaging in territorial ordering, typologies translate complex social(-spatial) realities into simplified categories to make the territorial differences legible for governance (Scott, 1998). While this enables comparison between areas and territories, allowing policy targeting, it also selects which aspects and differences are considered relevant, leaving others invisible.

Three choices typically drive this selection: variables, spatial units, and thresholds. Variables determine which attributes are included; spatial units define the boundaries within which the data is collected and the scale at which it is aggregated; and thresholds indicate the beginning and the end of a classificatory category. Once the typology is integrated into administrative processes and indicators and begins to affect subsidy allocation and other policy decisions, these simplified classifications become operative, shape institutional perceptions of certain territories, and influence resource distribution directed towards them (Scott, 1998). To act on this insight, in section 7, the conditions under which the proposed RURALITIC typology should and should not be used are further discussed.

2.2. Existing classification logics for European rural areas

Across the existing classifications reviewed, nine recurring classification logics operate across two distinct layers: delimitation approaches (which define the boundary between rural and non-rural space) and differentiation approaches (which classify internal diversity within the rural field once established). The table below outlines the nine logics, detailing which aspects are measured by each one, institutional examples, their key contributions to territorial analysis, and their critical risks and limitations when embedded in policy and governance.

Logic	What it Measures	Examples	Key Contributions	Critical Risks / Limitations
Morphological / Density-based (Delimitation)	Population density, settlement size, built-up contiguity	DEGURBA (2021); OECD TL3 typology (2019); INSEE urban units	Transparent, replicable, and harmonized rural boundaries across countries	Reduces rurality to spatial form, neglects relational position or capacity
Functional Area-based (Delimitation)	Travel time, commuting flows, service catchments	JRC Functional Rural Areas (2023); EU-OECD Functional Urban Areas	Recognizes daily-life relations, functional links, and service dependence	Frames rural areas primarily through their dependence on urban, service centers, and catchments
Structural (Differentiation)	Infrastructure, economic profile, service access, land use, demography	ESPON EDORA; ANCT territorial categories; INSEE rural/urban zoning	Enables benchmarking and comparative monitoring across regions and scales	Treats territorial conditions as static traits rather than outcomes of wider political-economic processes
Territorial Integration (Differentiation)	Proximity, accessibility gradients, and connectivity to urban systems	OECD Extended Region. Typology; ESPON urban-rural typologies; Italy SNAI	Identifies gaps in access, infrastructure, and multi-scalar connectivity	Privileges urban integration as the primary measure of territorial advantage
Demographic (Differentiation)	Ageing, net migration, depopulation, population growth and decline	ESPON DEMIFER; *Typologie des campagnes françaises*	Anticipates service pressure, labour market changes, and demographic needs	Attaches deficit and decline-oriented labels to territories, obscuring local capacities
Policy-driven / Administrative (Differentiation)	Legal status, eligibility criteria, intervention zones, programme boundaries	CAP Areas with Natural Constraints (ANC); Less Favoured Areas (LFA); France ZFRR; LEADER/CLLD	Connects categories directly to policy delivery, funding allocation, and implementation	Rewards administrative capacity and narrows rural needs to what institutions can actually fund
Landscape / Morphological (Differentiation)	Land cover, landscape character, ecological conditions, morphology	National Character Areas (England); Natura 2000 protected areas	Recognizes environmental, ecological, and cultural distinctiveness	Aestheticizes territory and sidelines issues of labor, housing, land ownership, and inequality

Hybrid / Systemic (Differentiation)	Multiple combined indicator families (physical, social, economic)	DATAR-INRAE *Typologie des campagnes françaises*	Captures multidimensional complexity beyond single-variable metrics	Stacks indicators without changing underlying logics; methodologically opaque
Scenario-based (Differentiation)	Plausible futures, transition pathways, exploratory narratives	FARO-EU foresight typology; SHERPA foresight prospects	Opens future-oriented policy learning and anticipatory governance	Presents highly uncertain futures as stable, deterministic territorial pathways

Table 1. Classification logics of the European rural typologies

The table shows how the logic underlying the purpose of the various typologies includes certain territorial conditions while excluding others. Morphological, structural, and policy-driven approaches use data that are comparable across countries and can be monitored over time. This makes them suitable for statistical reporting, defining eligibility rules, and allocating funding. However, they provide little information on how rural places are experienced, how they are represented, or who takes part in defining them. Functional and territorial integration approaches add positionality, usually measured as distance or travel time to an urban centre. This captures only one type of relation, representing the rural not by its territorial conditions but in terms of its relation to the city. Finally, hybrid and scenario-based approaches combine more dimensions or look ahead. Their results still depend on which indicators, assumptions, and voices are included.

2.3 Limits of current typologies for rural policy

Three dimensions require attention when critically reviewing the classification practices above. First, the relational positioning of rural areas is underspecified beyond geographical aspects; second, (symbolic) recognition is implicit but lacks a critical assessment of its implications; and third, institutional capacity and governance dynamics receive little attention. In addition, the analysis of existing typologies also shows how they can mediate distributional, recognition, and procedural justice outcomes.

Relational positioning

Most rural typologies define territories through internal attributes, such as density, infrastructure, and demographic characteristics. Some incorporate functional relations, particularly accessibility and proximity to urban centres, as in the OECD Extended Regional Typology (Brezzi et al., 2011). However, the relational positioning of rural territories remains largely limited to geographical accessibility, overlooking how they are embedded within wider networks of production, labour, investment, and governance (Woods, 2007). Consequently, territories with similar spatial characteristics, as detected by spatial-functional typologies, may occupy very

different relational positions through their connections to export markets, seasonal labour, renewable energy systems, or tourism investment.

Symbolic recognition

Second, existing classification systems pay little attention to the symbolic effects of their labels and categories. Terms such as 'peripheral', 'underdeveloped' or 'remote' have an impact on reputation and can eventually become entrenched in policy or institutional responses (Wacquant 2007; 2023). For example, Italy's National Strategy for Inland Areas (SNAI) classifies municipalities by their distance from core service centers. While this classification fosters investment in areas with population decline and few amenities, it also frames those areas in terms of remoteness and vulnerability. Many typologies see categories as mere technical descriptions, without considering how labelling these categories can influence investment (expectations), policy narratives, and local self-perception.

Institutional capacity and governance dynamics

While policy-driven typologies do link the different categories to policy measures or instruments, such as tax relief or subsidy mechanisms, they rarely complement this with research into the actual capacities or the institutional capital of these places to navigate the bureaucracy and actually employ and activate these instruments. For instance, the French initiative *Zones de Revitalisation Rurale* (ZRR) targeted rural areas with low population and demographic or economic decline through tax-based and social measures (ANCT, 2024). On 1 July 2024, *France Ruralités Revitalisation* (ZFRR) replaced the ZRR. Both policies aim to make vulnerable rural areas more attractive through fiscal and social support for eligible companies (Service-Public.fr, 2024). In both cases, the benefits depend on eligibility rules and administrative procedures, but also on whether these companies, municipalities, and local actors understand and can navigate the administrative requirements and bureaucracy.

EU studies of territorial and rural development policy reach a similar conclusion: how much a place gains from a place-based instrument depends on the performance of its administration, the quality of its governance, how complex delivery is and how heavy the application burden is. (Mendez and Bachtler, 2024; Kah, 2024). More recently, Rauhut (2026) criticises place-based approaches that apparently empower regional agency while assigning to struggling regions responsibility for solving structural problems beyond their capacity.

Classification and justice outcomes

Classifications can also mediate spatial justice outcomes, particularly through distribution (how resources and opportunities are allocated), recognition (whose conditions, identities and claims are acknowledged and valued), and procedure (who participates in defining categories and influencing decisions). Regarding distribution, typologies can influence where infrastructure, services, and funding are allocated. Thresholds and the choice of indicators determine which areas are eligible for support, which means a small change in population density or population

size can mean that a region falls within or outside a particular category and is therefore eligible or ineligible for support. Classifications that favour places already connected to larger centres can also make it more difficult to justify funding decisions for more isolated areas. On the aspect of recognition, broad, population density-based, administrative or demographic codes tend to treat rural areas as homogeneous. While demographic labels do identify pressure factors, once they are incorporated into policy discourse without nuance, they can reduce an area to being merely 'in decline' or 'ageing'. Young (1990) emphasises that injustice can arise from misrecognition when differentiated identities and circumstances are levelled out or marginalised. Finally, regarding procedural dimensions of justice, most typologies are designed by statistical offices, spatial planning authorities, and consortia of experts. The local (rural) population has little say over the categories, indicators and thresholds that apply to them. Instruments that require local participation in the formulation of strategies could potentially address this, but the administrative burden limits who can actually take part.

Taken together, these findings suggest that the limitations of existing rural typologies concern both the dimensions they capture and the assumptions guiding their construction and use. As discussed by Echtai et al. (2026), addressing these limitations requires greater reflexivity in the selection of variables, spatial units, and thresholds; transparency about the relationship between classification and policy intervention; stronger attention to the relational positioning of rural territories; and consideration of the recognitional and procedural implications of territorial categorisation. These considerations do not necessarily call for increasingly complex classifications but for a clearer conceptual basis for interpreting rural differences and a more explicit acknowledgement of what regional indicators can and cannot represent. They provide the starting point for RURALITIC's approach, which develops a socio-relational understanding of rural territorial differentiation and translates it into an analytical framework connecting physical, social, and symbolic space.

2.4 The RURALITIC Approach

Building on these considerations, RURALITIC develops a socio-relational approach to rural differentiation through three connected stages: a conceptual understanding of rural regions as territorial positions; an analytical framework organised through physical, social and symbolic space; and a selective translation of this framework into measurable regional indicators.

Conceptual approach

The conceptual starting point is that rural territories develop through relations extending beyond their administrative boundaries. Labour migration, agricultural production, public investment, tourism, energy systems and ecological processes connect rural places to wider networks and institutions. Relational rural scholarship explains how these connections produce differentiated rural conditions (Woods, 2007). Assemblage thinking adds attention to how people, institutions, infrastructures, regulations and environments come together, endure and change in particular

places (Woods et al., 2021). For RURALITIC, these perspectives inform how territorial differences are understood and operationalised. The typology identifies recurring combinations of regional conditions shaped within these wider relations, while recognising that a statistical classification cannot capture the full histories, social relations and mechanisms through which these combinations emerge in each region. Rural areas are approached as dynamic, relational, and internally differentiated, rather than as stable, self-contained or homogeneous.

The object of classification is therefore a rural territorial position: the relative configuration of material conditions, socioeconomic and demographic resources, and institutional and symbolic conditions through which a region participates in wider territorial relations. Rurality defines the analytical domain – the selection of regions, as explained in section 3 – while the typology differentiates positions within that domain. This means that two regions with similar settlement densities or land use patterns may occupy different positions because they differ in accessibility, demographic trajectory, employment profile, energy production, or political participation.

This approach also makes the consequences of classification explicit. Following Bourdieu (1989), the categories used to describe social differences participate in how those differences are recognised and legitimised. Naming a territory as declining, attractive or transition-ready directs attention towards particular conditions and possible interventions. The RURALITIC approach therefore focuses on combinations of territorial conditions across material, social, demographic, and institutional aspects that affect rural areas, and aims to identify potential mismatches and convergences between these dimensions. It does not reduce regions to a single descriptive label and does not prescribe static interpretations or blanket interventions.

However, a classification also requires attention to differences within regions: a territorial profile can identify recurring conditions which influence the scope of territorial relations, but it cannot establish how these conditions are experienced by women and men, different age groups, migrants, workers or households with care responsibilities. This points again to the relation of complementarity between the typology and the collection of detailed, case study-based data based on core variables of social space provided in subsequent work packages of the project.

The concept of territorial position thus provides a regional-level perspective on the conditions within which social spaces are constituted and transformed. It does not seek to reconstruct the social space of the population within each region, understood in Bourdieusian terms as a relational distribution of social actors according to their positions and forms of capital. It rather identifies contextual configurations of different territories that can inform and be investigated through more detailed analysis of social positions, territorial practices, and power relations. This approach is consistent with the theoretical framework of the project and with the qualifications highlighted in Deliverable 2.1 – while information across work packages should be preserved, the core variables for constructing rural social space are primarily designed for individual-level research, and adaptations are required when working with region-level data, as in WP3.

Analytical framework

RURALITIC translates this conceptual approach through the interaction of physical, social, and symbolic space, adapting the Bourdieusian trialectic articulated by Wacquant (2022). Physical space concerns the material organisation of infrastructure, services, land, and environmental exposure. Social space concerns the distribution of resources and capacities, including economic production, housing, employment and demographic reproduction. Symbolic space concerns the categories, representations, and judgements through which places and people are valued, recognised or marginalised, including questions of institutional legitimacy and political participation. These three spaces are related through homologies, but their relations can also involve failures of correspondence or disarticulations (Wacquant, 2023). Therefore, the typology does not treat the three dimensions of space as independent explanatory categories. It sees them as interconnected aspects of a territorial position, where rural advantage in one dimension or indicator cannot be assumed to translate into other dimensions.

For example, renewable energy production implies interventions that occupy land and change landscapes, involves ownership and investment relations, and may generate competing claims about local benefit, fairness, and belonging – an example of possible disarticulation between dimensions of space. Potential energy capacity can describe one material feature of this configuration, but understanding who controls that capacity, who benefits, and whether and why residents support or contest it requires additional evidence. The three dimensions therefore organise the analysis without imposing separate causal explanations or a single scale of rural advantage. The allocation of indicators to individual dimensions is therefore an analytical and operational choice which does not assume that the underlying conditions are mutually exclusive. Several indicators capture phenomena that connect physical, social and symbolic processes, and their interpretation – often contextual and informed by detailed case studies – needs to consider these relationships.

While social space provides the theoretical point of departure in the Bourdieusian approach, the regional typology adopts the three dimensions as complementary analytical lenses through which to identify territorial configurations across rural Europe. Giving them a broadly equivalent representation in the analytical framework reflects the aim of capturing the interaction between material conditions, socioeconomic and demographic characteristics, and institutional and symbolic conditions. This avoids reducing rural differentiation to social stratification alone, recognising that the physical organisation and symbolic positioning of territories are also constitutive of their development conditions and trajectories. The resulting framework emphasises the combinations and potential disconnections between these dimensions.

The operationalisation of the framework at NUTS 3 level is necessarily selective, focusing on observable conditions and attributes for which satisfactory data exists. As a result, this operational step does not seek to reconstruct the full social, symbolic and physical relations through which rural spaces are produced and transformed over time. It is worth noting that a NUTS 3 region is not, in itself, a social space in the Bourdieusian sense. While social space

describes a relational distribution of agents' positions and resources, a NUTS region is a data-bound territorial context within which social spaces are produced, reproduced, and transformed. This distinction means that a classification of regional conditions should not be confused with a reconstruction of the social positions of the people living in those regions – that is the task of other work packages, for which the typology provides a structured comparative framework.

An extended framework of analytical concerns

To translate the conceptual approach into a broader set of analytic topics of concern, an extended matrix was developed (see Annex C) organising relevant attributes, topics and questions about rural areas around the three dimensions of physical, social and symbolic space. It considers how these dimensions are implicated in four areas of transition relevant for rural areas and for RURALITIC: the COVID-19 crisis and recovery, which is relevant for health, economic resilience and rural recovery policies; the ecological transition (including energy), which intersects with climate change, sustainability and land use challenges; the digital transition, which implicates connectivity, rural technological development, and smart systems; and demographic and socio-economic transitions, which are relevant to understand trends such as migration, ageing, gentrification and urban-rural circulations.

For each intersection, the matrix identifies relevant attributes and analytical questions through which rural territorial conditions and their underlying processes can be investigated. Table 2 summarises its structure, while the complete matrix in the Annex provides a more detailed set of topics and questions, subdividing physical, social and symbolic space into specific theoretical questions. The matrix thus offers a common conceptual and analytical reference for research within the project, extending beyond the specific indicators selected for the regional typology.

Dimension	Analytical concerns developed in the matrix
Symbolic space	Embodied capital and local legitimacy; habitus, agency and internalised perceptions; symbolic boundaries and classification struggles; internalised spatial practices.
Social space	Capital distribution; formal relational structures and institutional distances; institutional pathways for social mobility; formal boundary-making and group formation.
Physical space	Materialisation of capital and inequality; physical inertia and layered spatial histories; spatial access and physical segregation; spatialised symbolic boundaries and physical classification.

Table 2. Structure of the extended conceptual and analytical matrix

For each dimension of space in the extended matrix, there are four key questions, 16 analytic intersections with the transitions, and 48 topics of analysis. Each intersection thereby identifies

attributes or points of concern and becomes a lens through which they could be investigated. These include, for instance, the legitimacy of local knowledge, the exclusion of particular groups from decision-making, or the effects of inherited infrastructure on present access. Investigating these processes may require interviews, institutional analysis, historical evidence, or local spatial investigation.

By bringing together the conceptual and analytical frameworks, the extended matrix makes conceptual linkages explicit before selecting what can be measured through comparable regional data. Its contribution extends across RURALITIC, by providing a common vocabulary for connecting the regional patterns identified by the typology with conceptually aligned accounts of lived experience, policy arrangements, institutional relations, and possible futures. Project partners can select questions relevant to their research while retaining a shared account of how those questions relate to territorial differentiation. Table 3 sets out proposed uses aligned with the work-package links identified in this deliverable.

Work package	Use of the framework and contribution to interpretation
WP3	Guide indicator selection and type characterisation; identify evidence gaps; connect the map, methodological report, atlas and digital platform (D3.2/3.3/3.4)
WP4 and WP5	Connect citizen narratives and perceptions of conflict and change to territorial conditions. Use questions on identity, legitimacy, stigma and everyday practices to examine variation within and between types as well as within and between regions.
WP6	Organise investigation of policy equity and effectiveness through resource allocation, eligibility, access and the distribution of benefits and burdens. Explore mechanisms connecting changing patterns of housing, mobility and land use to broader territorial profiles.
WP7	Relate institutional trust and barriers to recognition, decision-making, institutional distance and perceived fairness. Examine the processes behind regional proxy measures. Connect insights on stakeholder dynamics and policy coherence patterns with typological profiles.
WP8	Develop scenario priorities and alternatives from the interaction of material conditions, resources and legitimacy. Assess whose capacities, access and participation in different futures would change in different territorial settings.

Table 3. Contributions to the project's research work packages

For project-wide coordination, stakeholder engagement, and communication, the matrix also offers a consistent way to explain why particular questions and indicators have been selected. Its use should remain reciprocal: the typology can support case selection and comparison, while qualitative and policy research can identify mechanisms, differences, and omissions that the regional classification cannot resolve. Regions sharing a type need not share the same history or require identical interventions.

From attributes to measurable regional indicators

The reduced matrix (see Annex D) makes a selective operational translation of the extended matrix, drawing on its conceptual structure to define a set of measurable indicators to build the final typology. It retains physical, social, and symbolic space but focuses on attributes for which plausible regional proxies and datasets can be identified. Therefore, the two matrices have different functions. The extended matrix establishes the broader research scope and identifies processes for potential investigation throughout different methods and work packages of RURALITIC in alignment with the theoretical framework. The reduced matrix derives from that alignment a limited set of conditions that can be measured consistently at the regional scale and used for the typology.

This reduction is necessary because many theoretically relevant processes have no harmonised European measure at the required spatial scale, while including numerous overlapping variables would make statistical classification difficult to interpret. This is particularly relevant to social stratification variables, such as class, income, or education, which are not included in the indicator set. On one hand, the lack of sufficiently consistent data at NUTS 3 level would inevitably exclude relevant variables, potentially creating misleading interpretations of social space. On the other, reducing the relational and multidimensional characteristics of social stratification to a limited set of aggregate indexes would provide only a partial representation of that space, potentially obscuring differences in the forms of capital and the differentiation of regional population. Similarly, the typology cannot capture the mechanisms through which resources and capital are accumulated in rural areas, the distribution of control over territorial assets, the strategies through which social groups maintain or improve their positions, or the processes through which rural territories become attractive or stigmatised. These questions are better suited to the extended matrix and can be examined through the core variables of social space underlying the remaining empirical work of RURALITIC.

The approach therefore makes an explicit distinction between three analytical levels. First, individual social space, the distribution of social actors according to their positions and capital. Second, territorial conditions, namely the demographic, socioeconomic, cultural, institutional characteristics of regions. Third, territorial configurations, the combinations of these regional conditions identified by the classification process. The typology operates mainly at the third level but draws strongly on selected attributes of the second to establish a context within which the first level can be investigated.

The indicator selection follows a sequence from analytical concern to measurable attribute, viable proxy, existing dataset, and coherent spatial unit. A measure must have a clear conceptual role, sufficient geographical coverage, comparable definitions and reference periods, and an appropriate territorial resolution. Its relationship to other variables must also be examined to avoid repeatedly representing the same underlying condition. These requirements limit what enters the clustering but do not determine which concerns are relevant to the project.

The operational specification reported in this deliverable comprises twelve indicators, with four assigned to each dimension. Note that having four indicators in each dimension gives them an equal number of variables in the clustering but is not automatically equivalent to equal theoretical or statistical weighing. The clustering algorithm operates on the 12 standardised variables rather than constructing three equally weighted composite dimensions. Therefore, according to the distribution of values and correlations, different variables will contribute differently to the cluster differentiation and the classification. The final indicators and the rationale behind them will be explained in the next section.

3. Methodology of the typology-building process

3.1 Unit of analysis and definition of rural territories

The first step in constructing the typology is to define the unit of analysis. Since the project depends on harmonised data covering the EU, it must rely on existing territorial divisions for which relevant indicators can be assembled with sufficient geographic coverage and comparability. At the European level, this corresponds to NUTS 3 divisions, which provides the finest geographical scale at which the full indicator set can be assembled consistently.

However, the project is critical of ex-ante definitions which allocate single “rural”, “urban” or “intermediate” labels to these regions. It treats rurality as a contextual condition that shapes how physical, social and symbolic territorial characteristics manifest. “Rurality” therefore serves as an inclusion criterion for the typology, rather than a categorical classification. Existing European classifications, such as Eurostat’s Urban-Rural Typology and Degree of Urbanisation (DEGURBA) provide useful ways for identifying and comparing urban and rural areas, but their predefined categories do not directly serve this analytical purpose. The project does not seek a rural vs. non-rural attribution, but a conditioning filter for which rural conditions are analytically meaningful.

For this analysis, we did not identify such a harmonised, continuous measure of rurality, which could be associated with NUTS-level datasets. Therefore, rather than deriving that new measure from existing urban-rural classifications (e.g. by intersecting them with population density or other continuous data), the project adopts a functional approach to defining rural territories, using the recent Functional Rural Areas (FRA) framework developed by the Joint Research Centre’s Rural Observatory (Dijkstra & Jacobs-Crisioni, 2023). Rather than starting by predefined administrative divisions, this framework defines rural areas in relation to rural population centres and their catchment areas, excluding Functional Urban Areas. Its functional perspective is consistent with RURALITIC’s relational approach to rural spaces and societies, in which rural conditions are understood in relation to the wider systems in which they are embedded.

The FRA geography is then associated with NUTS 3 boundaries from which data can be collected, thus establishing the analytic domain. A dataset provided by the Joint Research Centre identifies, for each NUTS 3 region, the percentage of its population living in an FRA. The question thereby

becomes where to draw the threshold for selecting regions in which rural conditions are sufficiently relevant for the territories under investigation.

Several alternatives were examined to determine the appropriate inclusion criterion. A threshold of at least 40% of the population living in an FRA was selected as a compromise between retaining sufficient territorial diversity and ensuring that rural conditions remain a structural component of the regions included in the analysis. The threshold is used solely to delimit the analytic domain, not to define a boundary of rurality or to classify individual regions. Regions over the 40% threshold were then manually checked for misleading attributions, leading to the exclusion of 17 small NUTS 3 regions in Germany which are fully within an FRA but are classified as cities ('Kreisfreie Städte). Keeping these regions would be widen indicator distributions and possible construct artificial clusters with distinctively 'non-rural' characteristics. The resulting analytical sample comprises 654 NUTS 3 regions, with FRA populations ranging from 40% to 100% (see coverage map below).

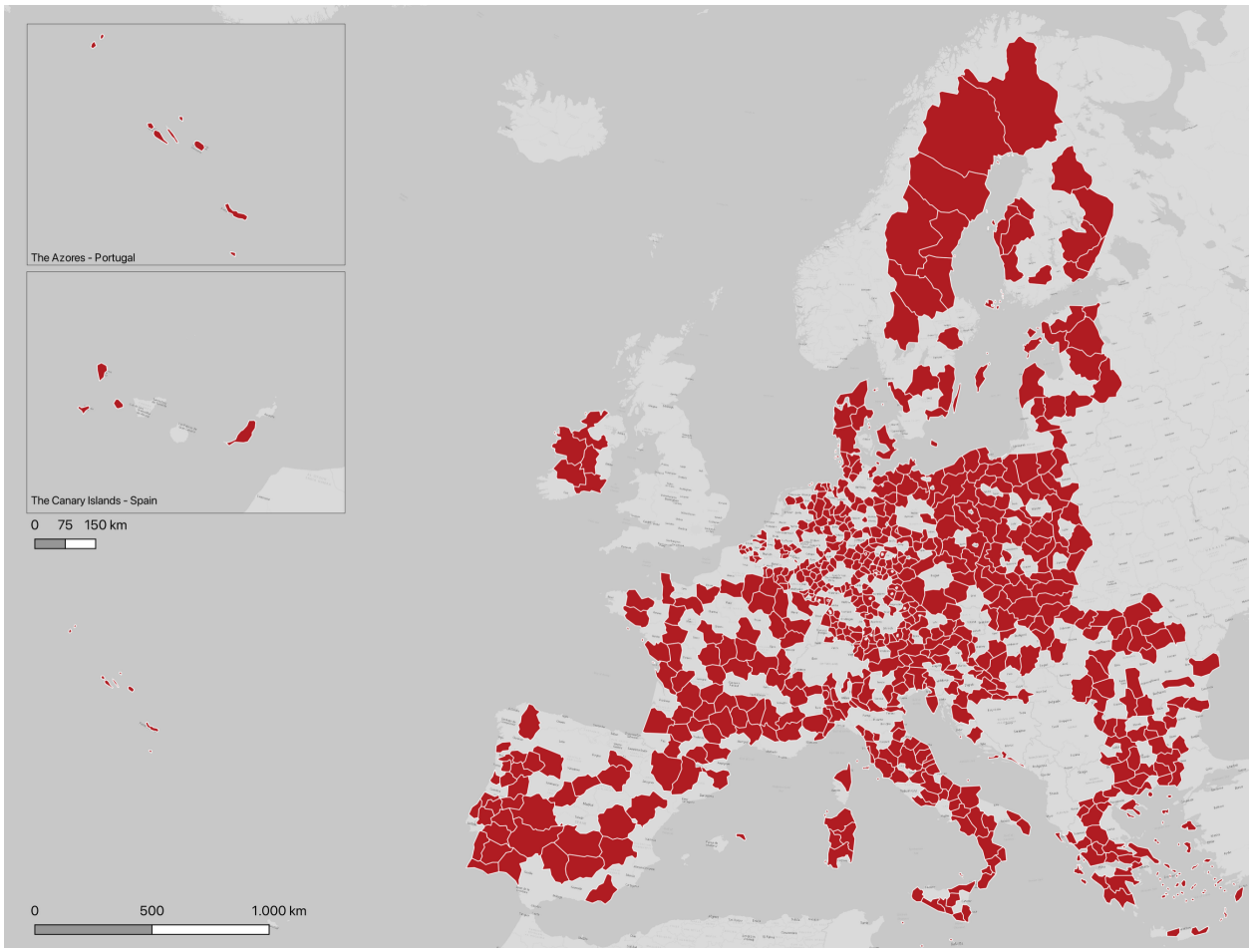


Figure 1. Map of rural territories (over 40% FRA pop.) aligned with NUTS 3 boundaries

3.2 Indicator selection

The typology is built around the interaction of three dimensions of territoriality which frame the analysis of rural conditions and transitions: physical, social and symbolic space. Physical space captures the material and infrastructural conditions through which environmental, energy, digital, and wellbeing transitions manifest. Social space captures the pressures and capacities shaping future territorial development. Symbolic space captures perceptions, legitimacy, participation and attractiveness, reflecting how territories are represented and contested.

As explained earlier, the indicators used for the typology are a conceptually coherent derivation from the larger matrix of attributes that contribute to the multidimensional understanding of rurality. They operationalize selected aspects of the Physical, Social and Symbolic dimensions discussed in the conceptual framework and are therefore simplified proxies for rural conditions. They allow the construction of a workable typology but do not exhaust all the aspects and interactions shaping rural development. The selected aspects are:

Physical space

Direct indicators of infrastructure, accessibility and environmental conditions, not capturing how physical space is socially produced or appropriated but rather the material inscription of how capital is embedded in rural infrastructure and land, aligned with the transitions studied in the project. The indicators capture the unequal geographical accessibility to essential services (*travel time to healthcare*), the provision of digital connectivity in territories (*fibre optic coverage*), the material consequences of environmental pressure (*land degradation*) and the concentration of productive assets for the energy transition (*potential energy production capacity*). While the interpretation of these indicators is conceptually coherent, their limitation, as discussed, is that they do not measure the different impacts, capacities or exposures of different social groups.

Social space

Identifies relevant socioeconomic and demographic conditions, not reconstructing social space in regions but providing contextual proxies relevant to the understanding how the distribution of resources, capacities and demographic capacities shape rural territorial positions. The indicators therefore capture the access conditions to the housing market (*housing rental affordability*), the long-term demographic reproduction of the territory (*population projections*), the economic vitality and opportunity context (*employment intensity*), and the pressures on social reproduction and service needs (*old age dependency*). While the interpretation of these indicators supports the analysis of the distribution and positions of social agents in space, their limitation, as previously argued, is that they do not operationalise social space at (sub-)regional scales.

Symbolic space

A heterogeneous approximation to how people evaluate and classify their surroundings, as well as how institutional recognition is perceived, suggesting potentials for local agency to shape rural futures. The indicators partly connect symbolic space with social and physical transformations but do not directly measure symbolic representations or valuation. They capture relevant aspects of political recognition and engagement (*voter turnout*), perceived institutional legitimacy (*institutional impartiality*), territorial attractiveness and aspects of symbolic external valuation (*tourism nights spent*), and the tension between sociodemographic stability and territorial dynamism (*migration volatility*).

Further indicator selection factors

Alongside conceptual fit, data availability, geographical coverage and cross-country comparability, the indicators were further examined for:

- Limited redundancy, to ensure that different variables measure different aspects of rurality. This was achieved by a correlation analysis. Highly correlated variables can overemphasize certain underlying dimensions and distort the typology structure. The correlation analysis is therefore a diagnostic to identify overlaps and ensure that each indicator contributes distinct information to the multidimensional space. As shown in table XX, pairwise correlations range from -0.35 to 0.45, indicating no problematic multicollinearity among indicators.
- Variation between and within countries, to ensure that regional heterogeneity is not excessively obscured by differences in national conditions. While some indicators may reflect national policy regimes and other country-level constraints, the selection prioritises indicators that capture meaningful differentiation among regions within the same national context. Indicators were excluded where within-country variation was negligible relative to between-country variation. The indicator list below reports the share of total variance across the 654 NUTS 3 regions that occurs within countries.

The final model aggregates 12 indicators, with each dimension represented by four indicators to ensure a balanced representation of physical, social and symbolic conditions. Table 4 below shows the list of indicators, including maximum pairwise correlation and share of within-country variation. Their definition, source, and reference period can be found in Annex A.

While some of these indicators could plausibly relate to more than one dimension, their allocation is an *a priori* conceptual decision, not an empirical finding emerging from the analysis. For instance, housing affordability reflects housing market conditions which have physical space implications, through different forms of urbanisation pressure. But here it serves as a proxy for a region's social equity, stability and justice, and therefore fits Social Space well. Similarly, migration volatility, how much a region's net migration deviates from the mean over time, has a strong role in the demographic dimension of social space. But here it indicates the potential

identity stability versus cultural dynamism of a geographic area and therefore fits Symbolic Space. As argued earlier, the list of 12 indicators is a viable synthesis of Physical, Social and Symbolic space attributes, but by no means exhausts all possible indicator combinations.

Indicator	Description	Max. correl. (abs. value)	Within-country variation share
Physical Indicators			*avg.: 0.53*
Travel Time to Health Services [INV_HEALTH_TRAVELTIME]	Accessibility to essential healthcare services	0.45	0.37
Fiber Optic Density [FIBER_OPTIC]	Quality of digital infrastructure coverage	0.23	0.78
Index of Land Degradation [INV_LAND_DEGRAD]	Environmental pressure on land resources	0.20	0.40
Energy Capacity [LOG_ENERGY.CAPACITY]	Potential capacity for renewable energy generation	0.43	0.57
Social Indicators			*avg.: 0.53*
Housing Rental Affordability [HOUSING_RENTm2]	Relative accessibility of housing markets	0.45	0.29
Population Projections 2050 [POPULATION.PROJ]	Expected demographic trajectory and future growth or decline	0.43	0.55
Employment Intensity [EMPLOY_INTENS]	Number of jobs in region divided by population	0.20	0.66
Old Age Dependency [INV_OLD_AGE_DEP]	Demographic balance between working-age and elderly populations	0.33	0.62
Symbolic Indicators			*avg.: 0.72*
Voter Turnout in National Elections [VOTER.TURNOUT]	Civic participation and engagement in democratic processes	0.18	0.88
European Quality of Government Index – Impartiality (Change) [EQI_IMPARTIALITY_CH]	Perceived change in fairness and impartiality of public institutions	0.08	0.68
Tourism Nights Spent [LOG_TOURISM]	Territorial attractiveness to visitors and temporary populations	0.29	0.78
Migration Volatility [MIGRATION_VOLAT]	Intensity of population turnover and demographic dynamism over time	0.16	0.54

Table 4. Indicator list, including name, description, maximum pairwise correlation and within-country variation share.

Relevance to the EU Long-term Vision for Rural Areas

The selected indicators connect the physical, social and symbolic dimensions of rural territories to the four pillars of the European Long-term Vision for Rural Areas: stronger, connected, resilient and prosperous rural areas. While all indicators represent interconnected conditions, voter turnout, institutional impartiality and access to housing and healthcare address conditions relevant to stronger rural communities. Fibre-optic infrastructure and healthcare accessibility capture aspects of connectivity, while employment intensity and tourism activity relate to rural prosperity. Land degradation, renewable energy potential and demographic trajectories reflect environmental and social conditions relevant to resilience. Several indicators span more than one pillar: digital infrastructure also supports economic activity, while housing access influences communities' capacity to retain residents. These connections provide a policy rationale for the selection and support the interpretation of rural types in relation to European priorities.

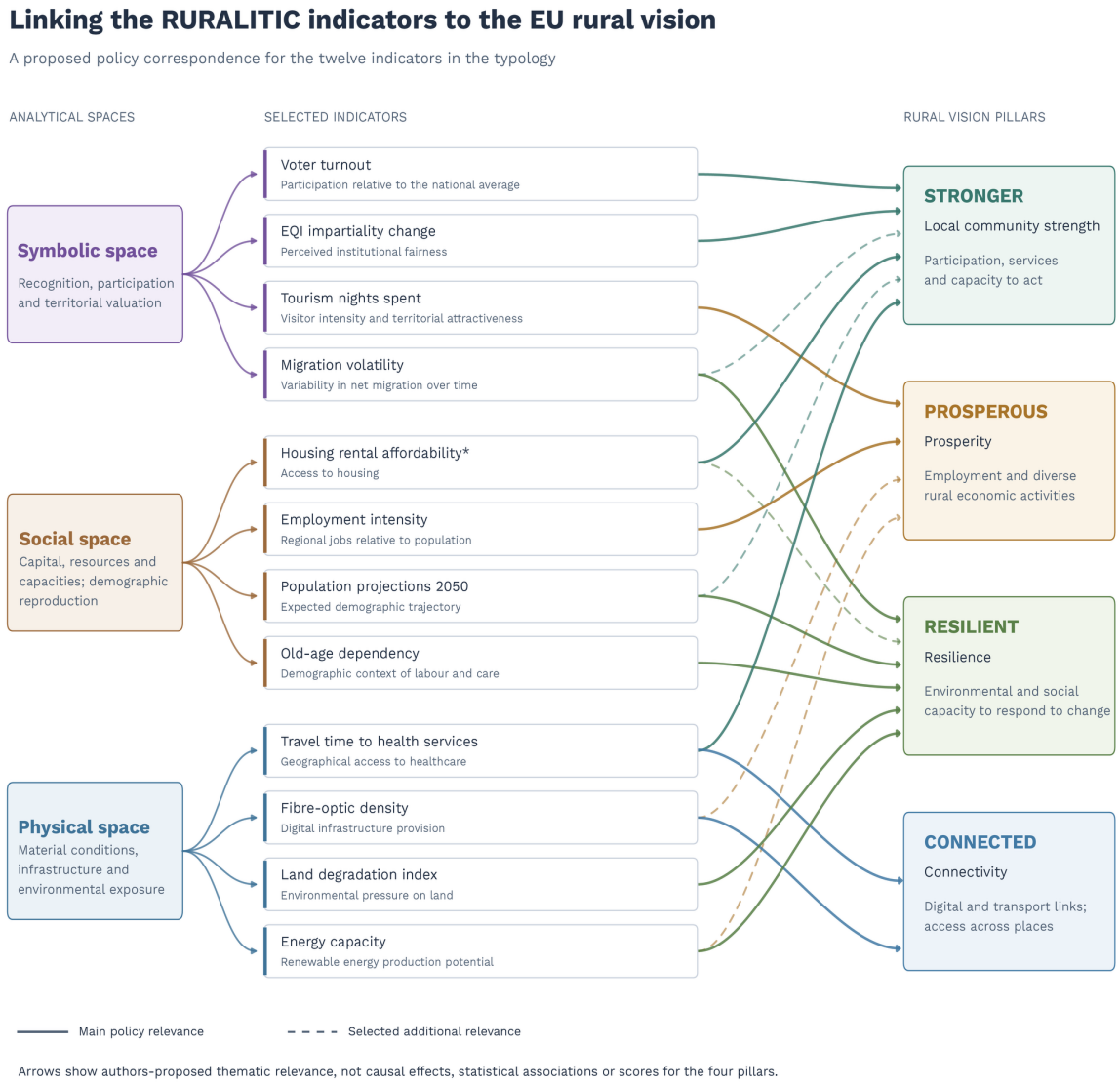


Figure 2. Linking the RURALITIC indicators to the EU Rural Vision

3.3 Data preparation

Data at the NUTS 3 level is gathered for all 12 indicators, drawing from the sources mentioned in the appendix. The exception is the European Quality of Government Index (EQI), for which data exists only at the NUTS 2 level. In this case, the same value is allocated to each NUTS 3 region within the larger subdivision. In cases where there is more than one indicator in the original dataset, several reference years must be considered, or a formula must be applied, a synthesis index is derived. Indicators expressed as absolute quantities are normalised by population to facilitate comparison between regions of different sizes. Indicators are also examined for skewness, and highly right-skewed variables are log-transformed to reduce the influence of extreme outliers and compress disproportionately large observations. Finally, indicators with an unambiguous directional interpretation, such as travel time to health, are reoriented, so that higher values correspond to higher levels of territorial advantage. Indicators whose direction does not have an inherently favourable or unfavourable interpretation, such as migration volatility, retain their substantive direction. All indicators are z-standardised (mean = 0, standard deviation = 1) prior to clustering so that indicators measured in different units contribute on a comparable scale, and all have equal weighing. The table below summarises the transformations.

Indicator	**Synthesis Index**	**Normalised by pop. (Y/N)**	**Log-transf. (Y/N)**	**Reoriented (Y/N)**
Travel Time to Health	-	N	N	**Y**
Fiber Optic Density	-	N	**Y**	N
Land Degradation	-	N	N	**Y**
Energy Capacity	Addition of solar, wind and hydro energy production potential	**Y**	**Y**	N
Housing Affordability	-	N	N	N
Population Projections	Percentage change between 2020 and 2050	N	N	N
Employment Intensity	6-year average 2020-2025	N	N	N
Old Age Dependency	-	N	N	**Y**
Voter Turnout	Difference between NUTS 3 and national turnout average	N	N	N
EQI Impartiality	Impartiality dimension of EQI index; index change 2017-2024	N	N	N
Tourism Nights	-	**Y**	**Y**	N
Migration Volatility	Mean net migration (%) 2010-2023; std. dev. of yearly net migration.	N	N	N

Table 5. List of indicator transformations.

3.4 Typology construction

K- means clustering is selected because the objective is to partition a large set of observations into internally similar and externally distinct territorial types based on continuous indicators. Compared with hierarchical clustering approaches, k-means is computationally efficient for large datasets and provides cluster centroids that support straightforward interpretation of the resulting typology. Still, k-means is sensitive to extreme values and assumes compact, distance-based clusters. Alternative clustering methods, namely k-medians and hierarchical clustering, were attempted but their results did not improve the cluster statistics or the interpretability of the results.

Following a R Studio workflow, Silhouette and Cluster Stability tests were conducted to determine the optimal number of clusters. Solutions with four, five, and six clusters were compared and the table below provides the main clustering statistics for K=4, K=5, and K=6. The results summarised in the table below show that a six-cluster model provides the more robust compromise between explanatory power, stability and interpretability. It has more balanced cluster sizes, a slightly higher silhouette (a measure of the quality of cluster separation) and a higher between/total SS (the proportion of the total variance explained by differences between clusters). K=6 also has a higher stability across 100 repetitions (measured by the Adjusted Rand Index-ARI values). All solutions have a low percentage of regions with negative silhouettes (regions whose assigned cluster is potentially a poor fit).

While these values are modest in absolute terms, they reflect the substantial heterogeneity of the 654 regions analysed and the multidimensional nature of the 12 weakly correlated indicators spanning physical, social and symbolic dimensions. As elaborated in the limitations section below, these resulting configurations do not correspond to sharply bounded or internally homogeneous categories, and some regions have characteristics common to several types. European rural areas navigate a spectrum of divergent, sometimes overlapping, conditions, which our classification turns into broad interpretable profiles.

Two further tests were conducted to confirm the six-cluster solution. First, the distribution of regions across types within countries is improved in K=6, compared to the alternatives, presenting a mean Herfindahl-Hirschmann Index (HHI) of 0.58 (mean region-weighted index 0.44). This indicates a meaningful degree of within-country differentiation, although regional assignments remain concentrated in a few types in some countries.

Second, one-way ANOVA F-statistics were calculated for each indicator to assess its discriminatory power across the resulting clusters. In the K=6 solution, these values are more evenly distributed across the Physical, Social and Symbolic dimensions, suggesting that cluster differentiation is less structured by a small number of indicators and reflects the multidimensional conceptual framework.

K	Cluster sizes	Mean Silhouette	% negative silhouettes	Between/Total SS	Mean ARI	F-statistic shares
K=4	200/126/218/110	0.117	6.422	0.253	0.598	29/48/23
K=5	183/147/121/100/103	0.123	8.257	0.301	0.787	30/49/21
K=6	81/89/97/106/162/119	0.135	7.645	0.341	0.815	31/44/25

Table 6. Main clustering statistics, 4, 5, and 6 cluster alternatives

Each NUTS3 region is given equal weight in the clustering, reflecting the aim of classifying territorial units rather than optimising the representation of the rural population. Population-weighted clustering was examined as a sensitivity analysis but did not improve the statistical quality or interpretability of the resulting classification. Rural population is therefore retained for supplementary analysis, rather than used to determine cluster formation.

To account for residual heterogeneity in the parent clusters, which contain regions with varying combinations of indicator values, the clustering procedure is repeated independently within each cluster. This hierarchical approach identifies subtypes that retain the overall characteristics of their parent classification while revealing meaningful variation in their territorial profiles. For each parent cluster, solutions with two and three subtypes are assessed in terms of silhouette statistics, cluster sizes, stability and interpretability. The number of subtypes is defined separately for each parent type and subdivisions are only retained where they provide sufficiently differentiated profiles. This approach increases the descriptive resolution of the typology without imposing unnecessary complexity. The final configuration generates seven subtypes across the first three parent types, while the remaining three parent types remain intact, resulting in ten final territorial profiles. See the complete workflow in the figure below.

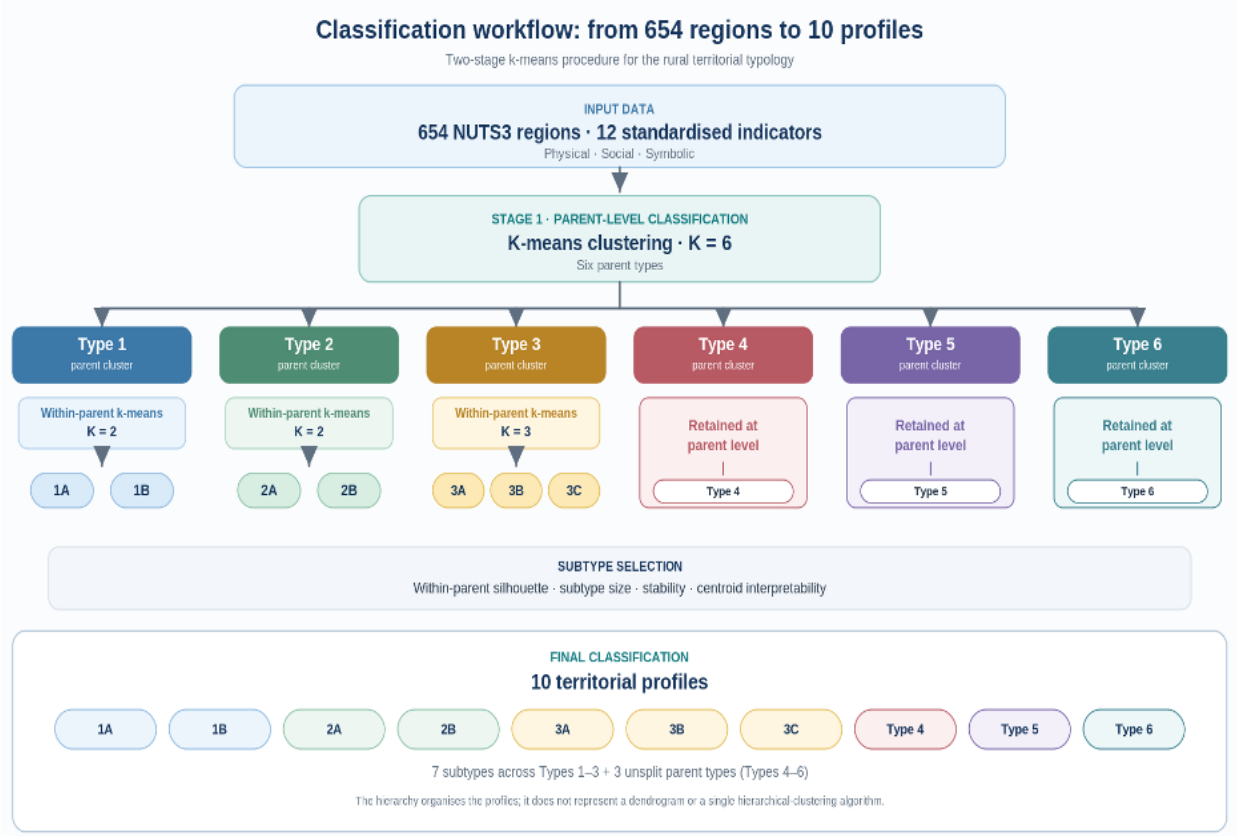


Figure 3. Classification workflow of the typology

Finally, the cluster membership tables are exported to GIS software, and the synthesis maps are produced. Cluster centroid heatmaps are used alongside indicator boxplots to interpret the resulting types and subtypes. Standardized centroid values indicate the extent to which each cluster deviates from the average profile of the study area across the 12 indicators.

3.5 Validation and interpretation procedures

Internal cluster validity: Silhouette values are analysed to assess cluster separation, including overall and cluster-wise mean silhouettes and the proportion of regions with negative silhouettes. Cluster stability is assessed using the Adjusted Rand Index (ARI) across repeated runs of the clustering procedure. Cluster-wise mean silhouettes are also verified at the sub-type level, to assess whether further subdivision produces sufficiently differentiated profiles.

Spatial coherence: The resulting classifications are mapped to assess their spatial distribution and whether the clusters form interpretable geographical patterns. This includes verifying whether type or subtype divisions emerge around known territorial differences (either geographical, economic or political) that warrant further interpretation,

and to what extent the typology captures within-country and between-country heterogeneity.

Substantive interpretability: Cluster centroids and indicator distributions are examined to identify the combinations of physical, social and symbolic characteristics defining each type. The interpretation considers the joint configuration of indicators rather than treating individual indicators as sufficient to characterise a type. The resulting profiles are examined in relation to documented territorial development trajectories and contextual knowledge of specific regions, assessing their plausibility and identifying patterns that require further investigation.

Stakeholder validation: Preliminary results were presented to project partners in RURALTIC events during the typology-building process. This included discussing whether the emerging profiles reflected recognised territorial realities, validating the chosen indicators and proposing new ones, comparing alternative strategies to generate subtypes, and refining type descriptions and naming. The feedback informed the refinement of the typology and its interpretation.

These procedures provide complementary evidence concerning the separation, stability, spatial distribution, and substantive interpretability of the typology. No single diagnostic is treated as sufficient to establish the validity of the classification, and the results are considered collectively, with attention to the limitations of each assessment. These will be elaborated in the Limitations section, focusing on NUTS 3 as the unit of analysis, the limits of indicator availability and comparability, the modest silhouette statistics, and the scope of regional differentiation.

4. Results: The European rural socio-relational typology

4.1 The typology at a glance

The European rural typology map shows the spatial distribution of the rural types identified in the analysis. Each colour on the first map corresponds to one of the six parent types, while the associated shades represent the subtypes identified by the within-cluster analysis. They group NUTS 3 regions that share similar territorial profiles across the selected indicators. The parent types should be used for the main interpretation, while the subtypes provide more detail where needed. The typology is based on regions where rural conditions are analytically relevant – in this case, NUTS 3 regions where at least 40% of the population lives within a Functional Rural Area. The map therefore represents a selected analytical domain, not the whole European territory. Higher resolution maps can be found in Annex B.

As discussed earlier, the map should be read as a comparative European overview rather than a detailed local diagnosis. Each region is assigned to the type it most closely resembles, but the quality of fit is not uniform for every region. On one hand, some regions have characteristics

compatible with more than one type; on the other hand, strong indicator variations are present within each type. This means that the map does not show whether an individual region has more or less favourable conditions than another, it does not capture every difference between regions, and it does not suggest that belonging to a specific type is an unchanging condition. The map shows which regions share similar combinations of territorial characteristics, within a reasonable scope of internal indicator variation. It should therefore be interpreted with caution, as it simplifies complex territorial realities into a limited number of categories, and is designed to support diagnostic, comparison and discussion. It should not replace the contextual knowledge provided by case studies, qualitative interpretation, or stakeholder validation.

The map can be read in three steps. First, identify the parent type of a region. Second, check whether the region belongs to a more specific subtype. Third, interpret the type description together with the additional evidence below (heatmaps and boxplots) and the region's wider territorial context. Note that region size varies immensely, therefore the simple number of regions per type should not be interpreted directly as relative importance of each type. How many people live in rural areas characterized by a given type may be a more relevant measure, therefore the Table below shows the number of regions per type and subtype, together with the size of the rural population (based on the FRA population within the NUTS 3 boundaries).

Parent Type	No. of regions	Sub-type	No. of regions	Rural Population
Type 1	81	1A	42	4,670,647
		1B	39	4,548,761
Type 2	89	2A	29	6,733,341
		2B	60	13,280,600
Type 3	97	3A	35	5,196,528
		3B	34	6,857,952
		3C	28	3,426,872
Type 4	106	-	-	29,621,215
Type 5	162	-	-	26,917,509
Type 6	119	-	-	24,653,606

Table 7. Number of regions and population in each type/sub-type.

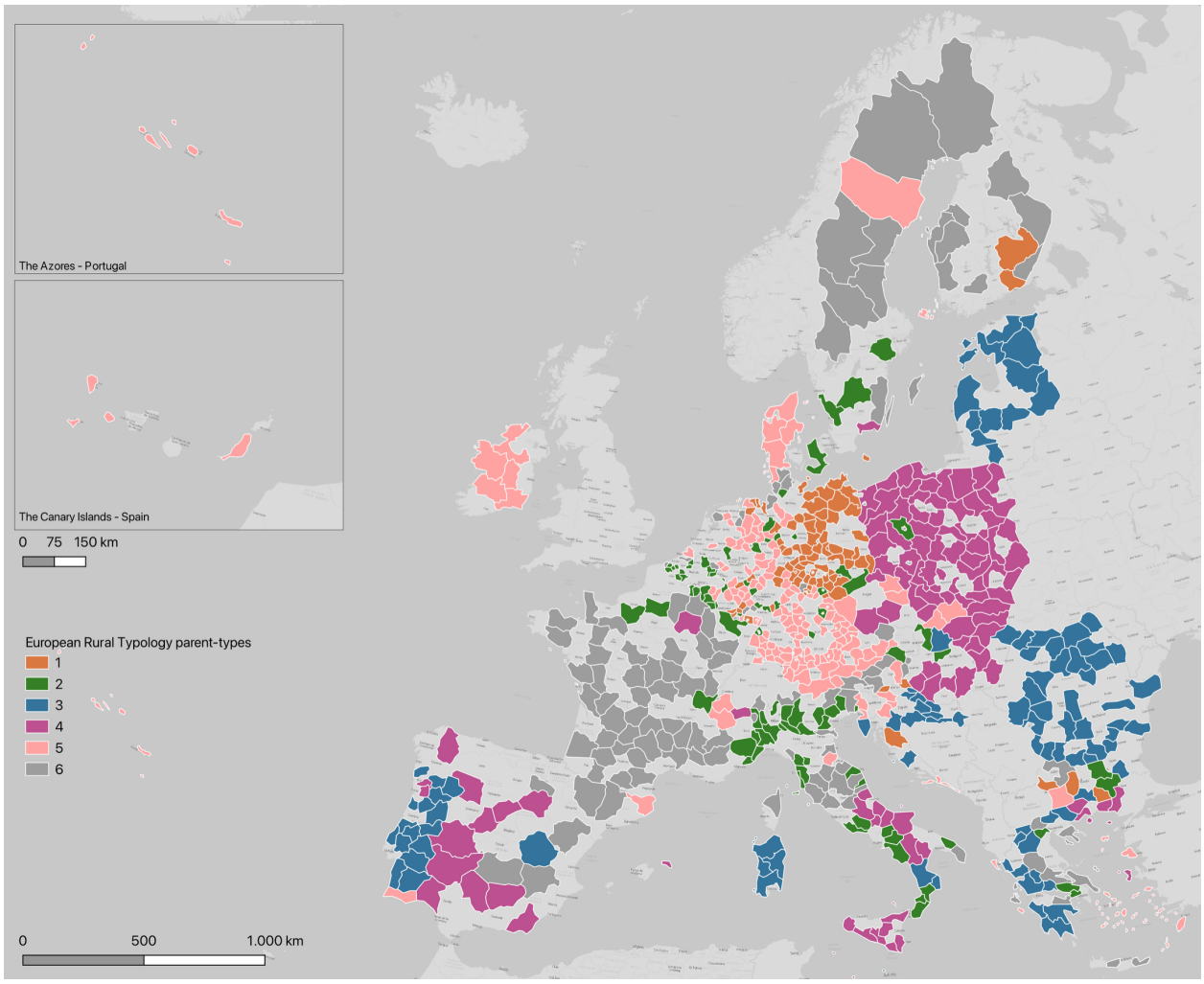


Figure 4. The six parent types map

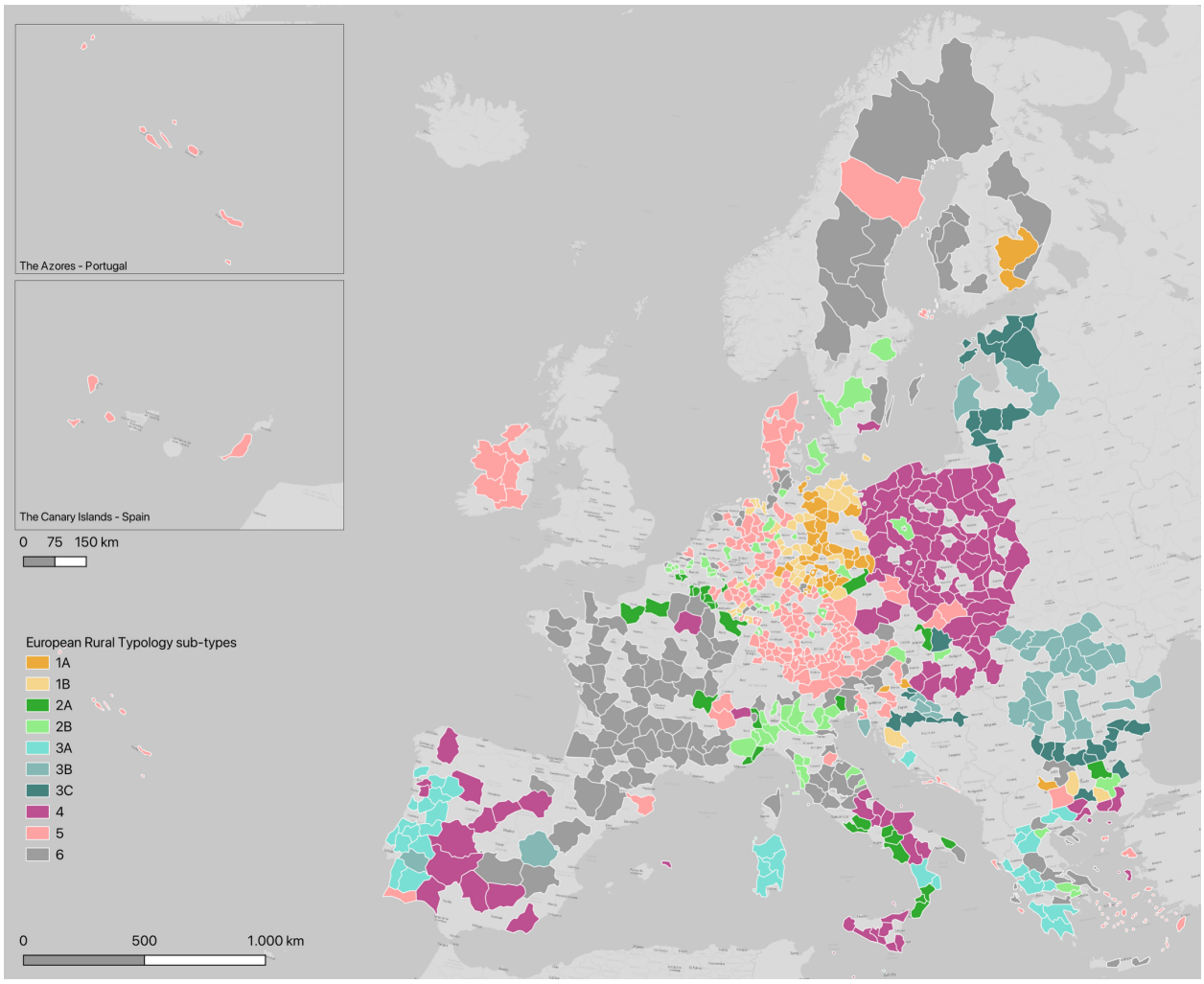


Figure 5. The 10 subtypes map

4.2 Main spatial patterns

The geographic distribution of the typology reveals both spatial concentrations and cross-national recurrence of territorial profiles. Some types exhibit clear macro-regional concentrations, most notably Type 4 across parts of central and eastern Europe, while others, such as Type 5, occur across a broader range of national contexts. Type 6 has a particularly strong presence in France and Sweden, illustrating the persistence of national concentrations within the classification. At the same time, countries differ in the extent to which their regions are distributed across multiple types: while some display a strong concentration in one profile, others, including Germany, Italy, Spain and Portugal, exhibit a more heterogeneous composition.

The subtype map adds detail to this picture. The three subtypes of Type 3 appear predominantly in peripheral parts of Europe, including parts of the Iberian Peninsula, southern Europe and the northern and eastern margins of the study area. Their distribution suggests that similar territorial configurations can recur across geographically distant areas – potentially having peripherality in common – rather than forming a single continuous region. The map also reveals a marked east–

west contrast in Germany: western Germany is mostly assigned to Type 5, with some cases of Types 2B and 6, whereas eastern Germany is characterised mainly by subtypes 1A and 1B, with a clear delineation along the German–Polish border. These patterns suggest that the typology captures some recognisable territorial contrasts while also revealing configurations that cross national boundaries. Regions sharing a typological profile do not necessarily form a contiguous geographic area, just as neighbouring regions may belong to different profiles.

Still, these broad patterns should be interpreted carefully. There is no strict separation of data points when generating the clusters, which is expected when measuring 12 heterogeneous, multi-dimensional indicators across 654 rural regions. Rural Europe reflects a combination of continuous variations, not a strict division into separate containers. Therefore, the types should be seen as constructed, interpretative groupings, rather than natural separations. The centroid and indicator distribution analyses that follow clarify the characteristics underlying the patterns.

4.3 Multidimensional indicator profiles and variation

The heatmaps below provide a synthetic overview of the six parent types and the ten final territorial profiles. The colours indicate how each indicator's standardised centroid deviates from zero, corresponding to the mean across the 654 regions.

Two key observations emerge from the results. First, the profiles do not form a single hierarchy from disadvantaged to advantaged territories. The heatmaps reveal different combinations of physical, social, and symbolic conditions rather than a single gradient separating rural territories. Some types combine relatively favourable conditions in one dimension with constraints in another. For instance, regions with overall superior conditions in the social and symbolic dimensions (see Type 5, for example) can show more mixed results in the physical dimension. Conversely, types with below-average conditions across the indicator set have often above-average results in particular areas (see Types 3 and 4). This reinforces the previously explained rationale for a multidimensional typology: territories that appear similar on one indicator may differ substantially in their overall configuration of conditions. This highlights the limitations of sectoral approaches to rural development, since interventions targeting a single dimension of rural disadvantage may produce different outcomes depending on the broader physical, social, and symbolic space realities.

Second, conditions within the same dimension also vary, and do not necessarily reinforce one another. While this is partly associated with the choice of indicators and their purposefully low correlation, there are often divergent signals within and across the three dimensions. As a result, the same above- or below-average indicator does not necessarily coincide with other indicator trajectories and can distinguish different profiles in different combinations. The typology therefore brings together characteristics that are often examined separately, potentially revealing combinations of conditions that single-domain classifications would overlook.

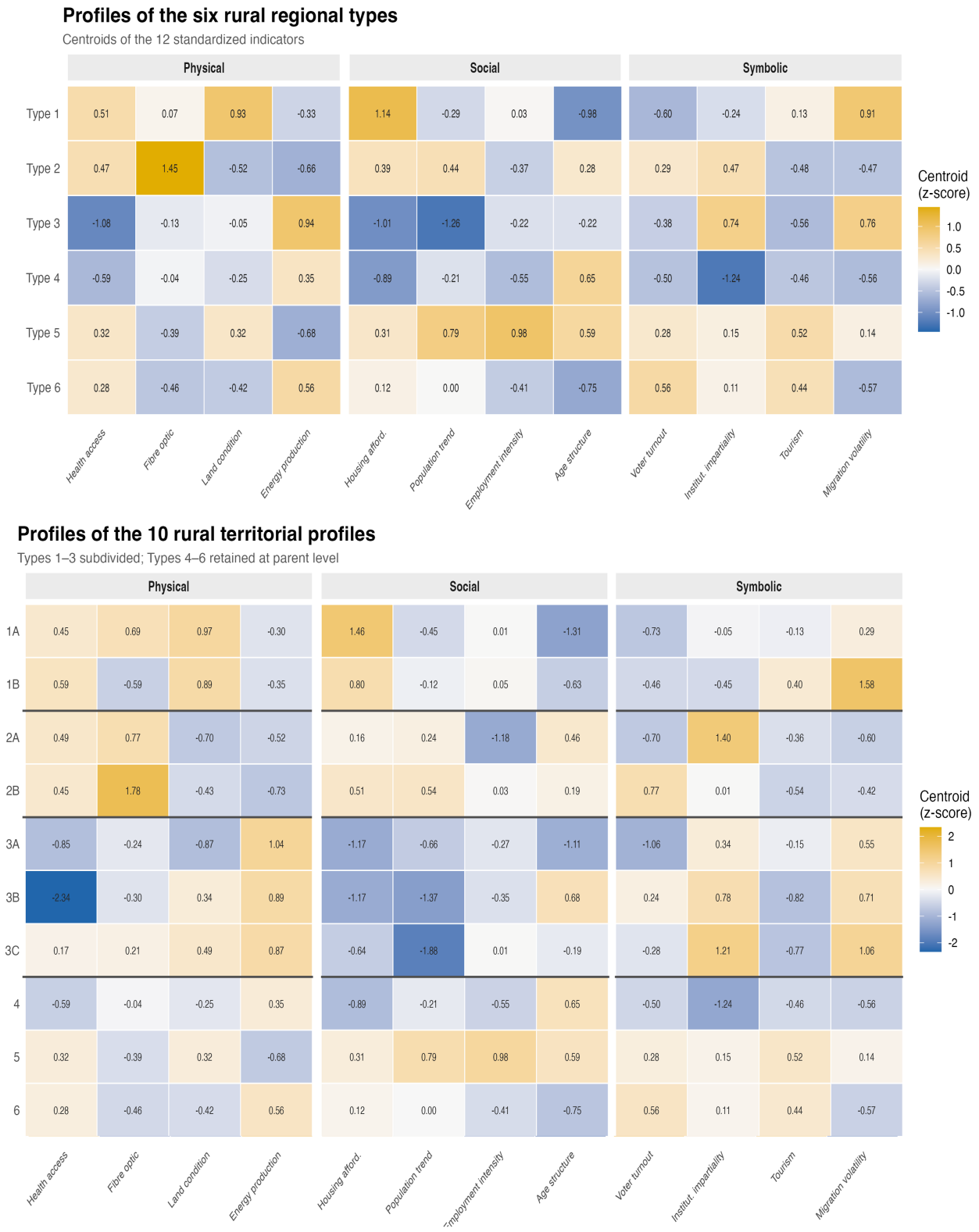


Figure 6. Heatmaps of the six parent types and the 10 final subtypes

Taken together, these patterns suggest potential forms of territorial specialisation and complementarity across rural regions. Territories struggling with affordability, demographic decline and attractiveness may possess other assets, such as energy production capacity; places experiencing ageing population and weak employment intensity may nevertheless exhibit high civic engagement and tourism activity. Such combinations suggest that different territorial assets and constraints need to be recognised within integrated rural development strategies. Comparisons between neighbouring territories may also reveal opportunities for complementarity, where different economic activities, resources and social capacities may contribute to wider regional prosperity. The typology does not establish that complementarities already exist or that the presence of a particular asset translates into local benefits, but it provides a framework for identifying and investigating such possibilities.

The subtypes introduce additional resolution to the main parent types. The parent centroids summarise broad configurations but can conceal meaningful variations among regions assigned to the same type. Running again a k-means algorithm within each main cluster helps understand how the average centroids are constructed, but every type returns distinct subgroup structures. Indeed, Types 1-3 reveal additional combinations of indicator values, justifying a finer level of description of regions whose differences are sufficiently meaningful. Type 1 regions strongly diverge in digital infrastructure coverage, housing affordability, and tourism attractiveness, for instance. Type 2 regions differ also in digital infrastructure and employment, but even more strongly in institutional indicators, where they diverge from the European average in opposite directions. Type 3 regions justify three subtypes, as accessibility, land degradation, population trend, age structure and voter turnout differ strongly. On the other hand, Types 4-6 remain undivided, although they are the largest in terms of population and number of regions, because the screening did not identify convincing subdivisions, despite their internal variation.

4.4 Within-type indicator variation

The boxplots in Figure 7 reveal the internal variation of the indicators within each type, showing why centroids must be interpreted as profiles of averages, not as results for individual regions. While the heatmaps summarise each type through its mean indicator values, the boxplots show the distribution of regional values within each parent type. Indeed, differences between centroid values may coexist with substantial overlap between the underlying regional distributions. Conversely, similar centroids may conceal different levels of internal variation. Indicators like energy production (physical), population projections (social) or voter turnout (symbolic) have little variation within each type, whereas land condition, housing affordability and tourist attractiveness vary more. Some indicators, such as health accessibility, institutional impartiality and migration volatility remain tightly around their mean in some types but differ substantially in others. For simplicity and ease of comparison, the boxplots focus on the six parent types.

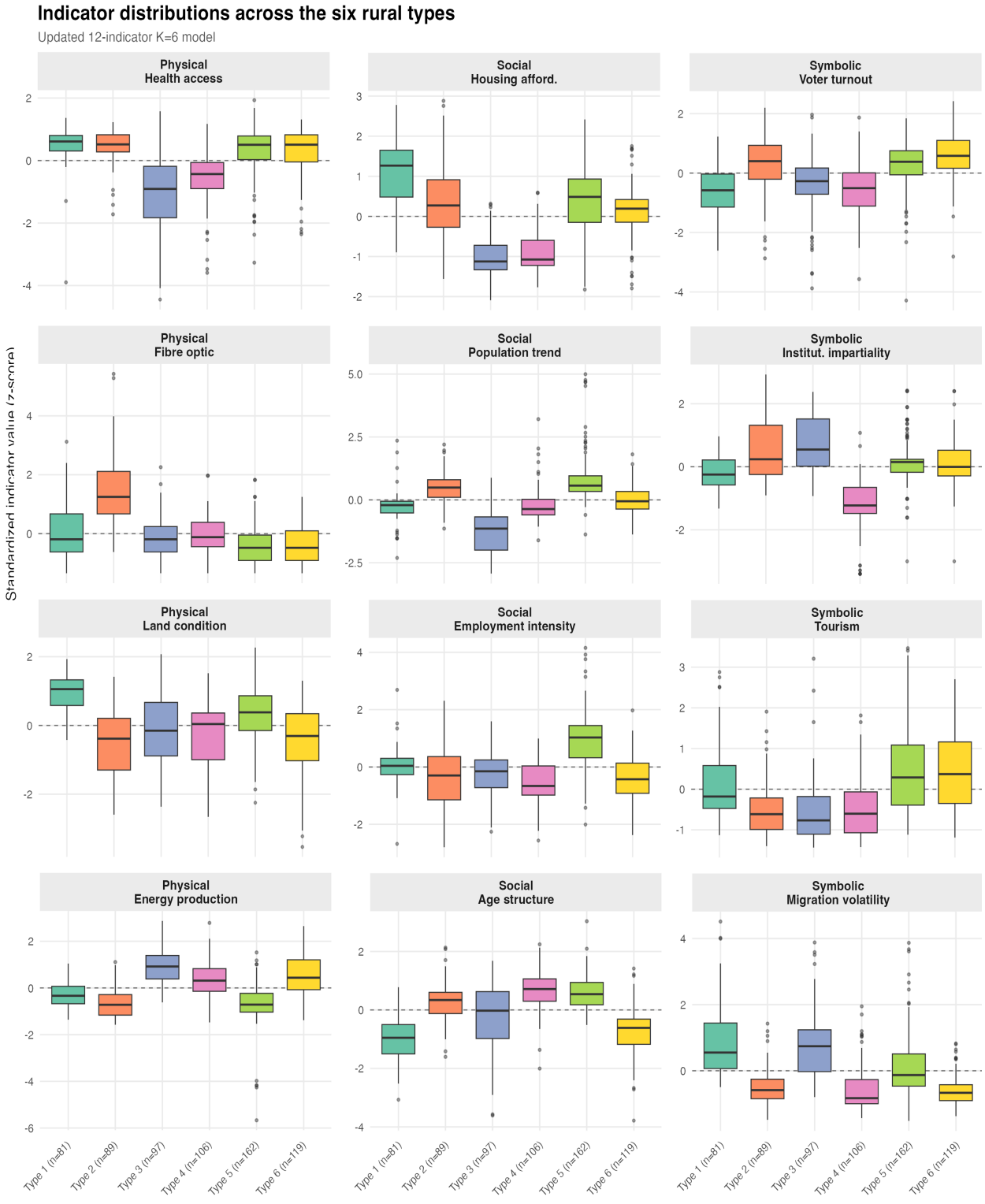


Figure 7. Boxplots of indicator distributions within each parent type.

The boxplots therefore provide a qualification to the heatmaps: the types reveal recurring combinations of rural conditions, but do not imply that all regions assigned to a type share those characteristics to the same degree. This is important given the statistically modest separation of some parent clusters. While expected due to the nature of the multidimensional indicator set, using the centroids alone is not enough to infer clear-cut categories, and they should be interpreted together with the boxplots. Moreover, the interpretation of the indicator values is not inherently normative. The heatmap colours indicate values above or below the mean, not directly better or worse conditions. Some indicators have a clear directional interpretation, such as health accessibility and land degradation. Others, including migration volatility and energy production, can have different implications depending on the territorial context.

The typology profiles provide a basis for examining how these different territorial conditions intersect, while acknowledging that their implications require context-specific interpretation. Questions that emerge from the joint interpretation of the heatmaps and the boxplots can examine the relation between the specific conditions denoted by one indicator and the extent to which territorial benefits, disadvantages or pressures extend to other indicators. For example, to that extent does the energy production capacity of Type 3 translate into wider benefits for rural regions? Energy production could generate employment and investment, but looking at other indicators, its presence alone does not establish that these benefits spread to the population. Similarly structured questions could be asked, for instance, about the relation between territorial dynamism and housing affordability, or digital infrastructure and economic activity.

Overall, this supports using the typology to identify comparable territories and formulate questions for policy analysis, while retaining attention to within-type variation. It also suggests a useful case study strategy, namely, to compare regions assigned to the same type but situated at different points of the distribution of specific indicators. Such comparisons could explain why similar broad territorial configurations lead to different local development trajectories. The section on the relevance of the typology for the subsequent Work Packages of RURALITIC will further elaborate on these potential research directions.

4.5 Geographic variation of the types

The internal variation revealed by the joint interpretation of cluster centroids and indicator boxplots also has a geographical dimension. Regions assigned to the same type may be distributed differently across countries, and their characteristics may vary according to national context. Examining the country composition of the types and the indicator averages within each country therefore provides a complementary perspective on the results. It helps distinguish between types concentrated in particular national contexts and those shared across countries. It also reveals differences between regions assigned to the same type in different countries.

The table below shows the distribution of each type and subtype across countries, expressed as percentages. The *[max]* column indicates the maximum share of regions in a country belonging to

a single type. Although small countries with only a few NUTS 3 regions may reach 100% concentration, the distribution is more balanced in several larger countries. The *[#ST]* column on the right shows the number of subtypes present in each country, ranging from two to seven, with exceptions among the smaller countries. Nevertheless, strong concentrations remain in some cases, particularly in France and Poland, as discussed above.

Country	1A	1B	2A	2B	3A	3B	3C	Type 4	Type 5	Type 6	max	#ST
AT	0.0	0.0	0.0	**4.3**	0.0	0.0	0.0	0.0	**65.2**	**30.4**	*65.2*	*3*
BE	0.0	0.0	**39.1**	**43.5**	0.0	0.0	0.0	0.0	**8.7**	**8.7**	*43.5*	*4*
BG	**5.3**	**10.5**	**5.3**	**5.3**	0.0	0.0	**63.2**	0.0	**5.3**	**5.3**	*63.2*	*7*
CZ	0.0	**9.1**	**9.1**	0.0	0.0	0.0	0.0	**54.5**	**27.3**	0.0	*54.5*	*4*
DE	**19.0**	**17.4**	0.0	**9.2**	0.0	0.0	0.0	0.0	**50.8**	**3.6**	*50.8*	*5*
DK	0.0	**16.7**	0.0	**16.7**	0.0	0.0	0.0	0.0	**66.7**	0.0	*66.7*	*3*
EE	0.0	0.0	0.0	0.0	0.0	0.0	**100.0**	0.0	0.0	0.0	*100.0*	*1*
EL	0.0	0.0	0.0	**8.1**	**35.1**	0.0	0.0	**13.5**	**16.2**	**27.0**	*35.1*	*5*
ES	0.0	0.0	0.0	0.0	0.0	**4.2**	0.0	**50.0**	**20.8**	**25.0**	*50.0*	*4*
FI	**16.7**	0.0	0.0	0.0	0.0	0.0	0.0	0.0	**8.3**	**75.0**	*75.0*	*3*
FR	0.0	0.0	**7.4**	0.0	0.0	0.0	0.0	**1.9**	**3.7**	**87.0**	*87.0*	*4*
HR	0.0	**7.1**	0.0	0.0	**7.1**	**35.7**	**42.9**	0.0	**7.1**	0.0	*42.9*	*5*
HU	0.0	0.0	0.0	**8.3**	0.0	**8.3**	0.0	**83.3**	0.0	0.0	*83.3*	*3*
IE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	**100.0**	0.0	*100.0*	*1*
IT	0.0	0.0	**17.1**	**27.6**	**7.9**	0.0	0.0	**21.1**	**2.6**	**23.7**	*27.6*	*6*
LT	0.0	0.0	0.0	0.0	0.0	0.0	**100.0**	0.0	0.0	0.0	*100.0*	*1*
LV	0.0	0.0	0.0	0.0	0.0	**100.0**	0.0	0.0	0.0	0.0	*100.0*	*1*
MT	0.0	0.0	0.0	0.0	0.0	**100.0**	0.0	0.0	0.0	0.0	*100.0*	*1*
NL	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	**60.0**	**40.0**	*60.0*	*2*
PL	0.0	0.0	0.0	**2.0**	0.0	0.0	0.0	**98.0**	0.0	0.0	*98.0*	*2*
PT	0.0	0.0	0.0	0.0	**75.0**	**5.0**	0.0	**10.0**	**10.0**	0.0	*75.0*	*4*
RO	0.0	0.0	0.0	0.0	0.0	**100.0**	0.0	0.0	0.0	0.0	*100.0*	*1*
SE	0.0	0.0	0.0	**23.1**	0.0	0.0	0.0	**7.7**	**7.7**	**61.5**	*61.5*	*4*
SI	**28.6**	0.0	0.0	0.0	0.0	0.0	0.0	0.0	**71.4**	0.0	*71.4*	*2*
SK	0.0	0.0	**14.3**	0.0	0.0	0.0	**14.3**	**42.9**	**28.6**	0.0	*42.9*	*4*
Ctr/Type	*4*	*5*	*6*	*10*	*4*	*7*	*5*	*10*	*18*	*11*		

Table 8. Share of each country's NUTS 3 regions assigned to each type or subtype.

The Herfindahl–Hirschman Index (HHI) provides a complementary summary of these patterns. The normalized HHI averages 0.58 when each country is weighted equally and 0.44 when countries are weighted by their number of NUTS 3 regions. This difference suggests that the distribution across types tends to be more even in countries with larger numbers of NUTS 3

regions, while some smaller countries exhibit greater concentration. The final row, *[Ctr/Type]*, indicates the number of countries represented in each type. No type is confined to a single country, reducing the likelihood that any type merely reflects a highly specific national context and supporting the typology's use as a pan-European framework for comparing rural conditions.

Their prevalence nevertheless varies considerably across national contexts, and the geographical reach of the final profiles is uneven. This raises the question of whether regions assigned to the same type retain similar configurations across countries or whether national contexts systematically shape their characteristics. Although none of the results can establish causality, if similar configurations occur under different national arrangements, comparisons may help identify which territorial challenges or assets recur across contexts. If their characteristics differ substantially between countries, the analysis can help identify where national institutions, policy or economic regimes may condition the broader territorial configuration.

To provide a basis for exploring this question, the country-level heatmaps below show the average standardised indicator values for regions belonging to each type within each country. For simplicity and ease of comparison, they focus on the six parent types rather than the ten final profiles. For each country–type combination, countries with fewer than five regions in a given type are excluded to avoid drawing from very small samples.

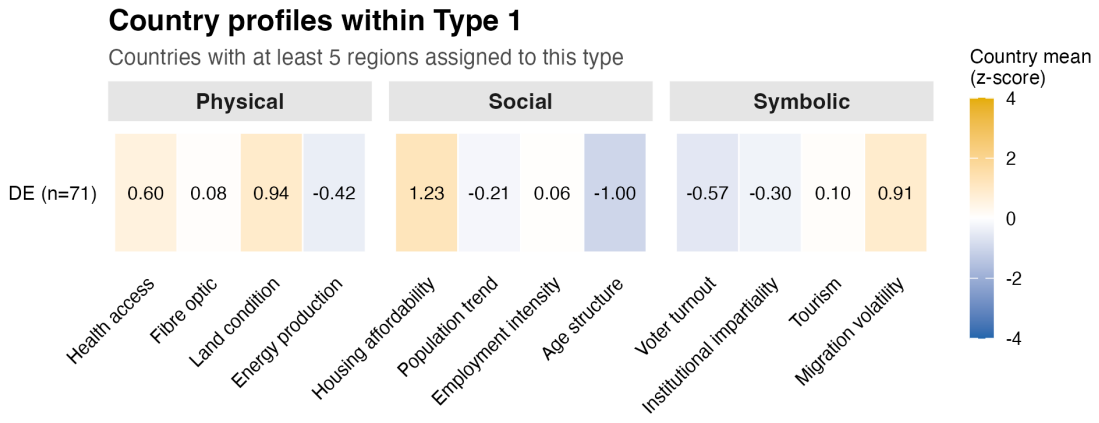


Figure 8. Country profile within Type 1 (only Germany).

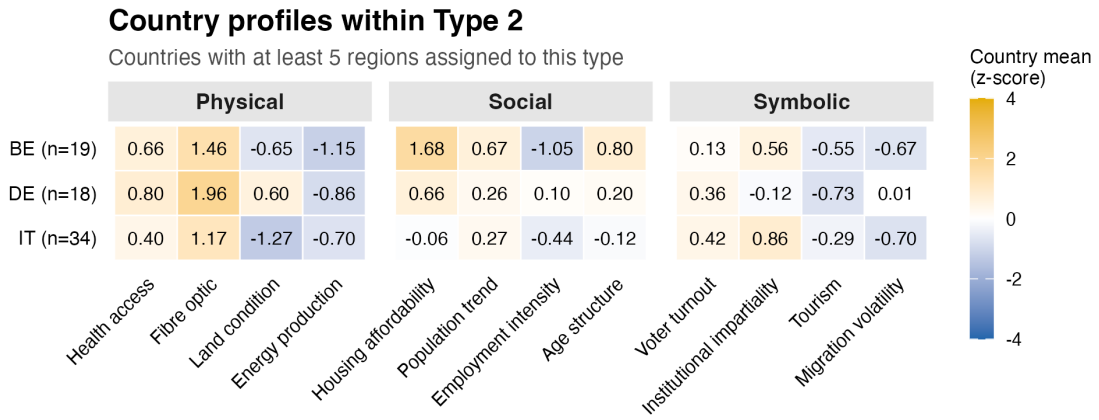


Figure 9. Country profiles within Type 2.

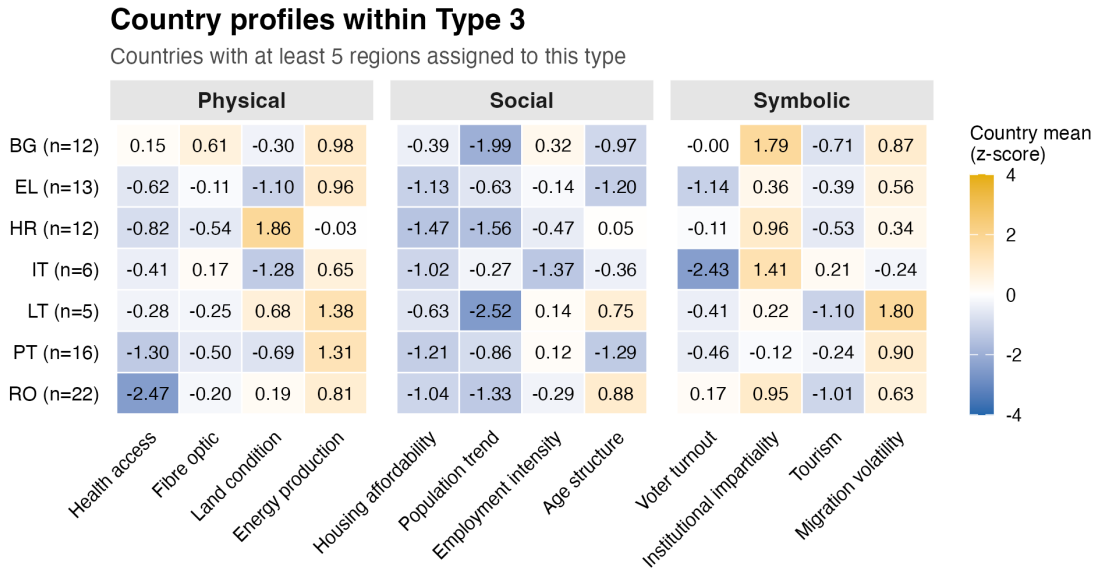


Figure 10. Country profiles within Type 3.

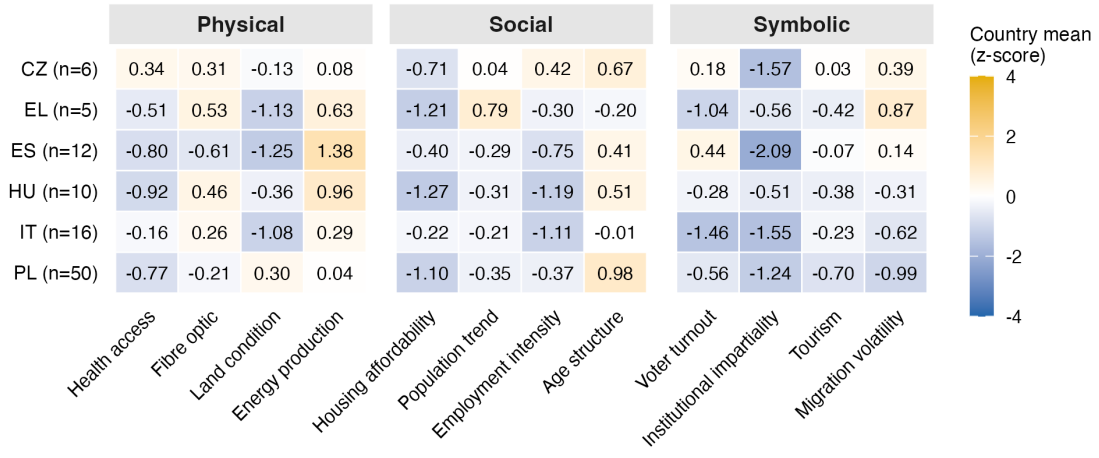


Figure 11. Country profiles within Type 4.

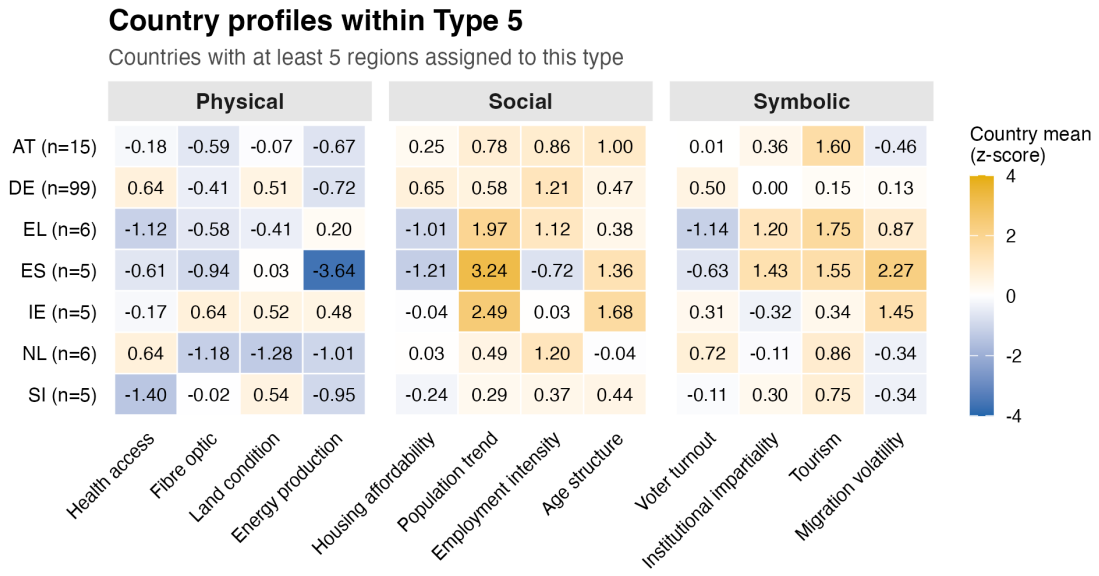


Figure 12. Country profiles within Type 5.

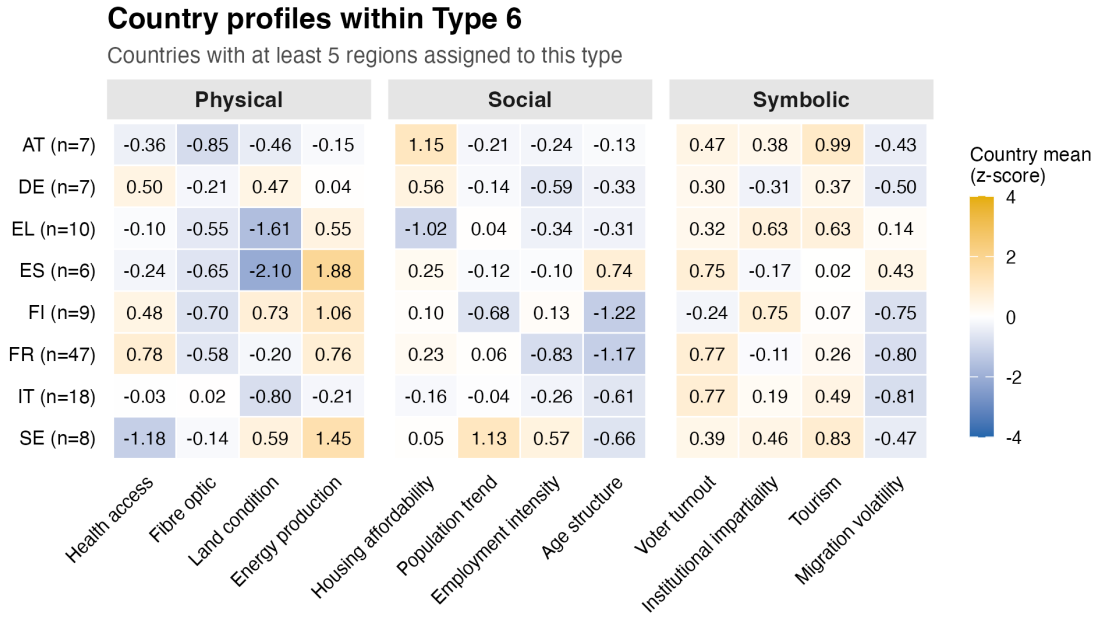


Figure 13. Country profiles within Type 6.

These heatmaps reveal that the characteristics of the parent types vary in their consistency across national contexts. Cross-country differences in the overall profiles are most pronounced in Types 3 and 5, while Types 4 and 6 have more moderate variation. Type 2 shows comparatively greater consistency across the countries represented, although it only covers three countries with more than five regions assigned to the type. Type 1 cannot be assessed comparatively since only Germany meets the minimum threshold of five regions. Country averages for regions

assigned to the same type sometimes differ both in their magnitude and direction of their deviation from the European mean across physical, social and symbolic space dimensions. This is often the case in the land degradation, old age dependency, and institutional impartiality indicators, for instance. Extreme values otherwise hidden by the parent type average are also visible, such as below average accessibility to health in Romania, population projections in Lithuania, and voter turnout in Italy (all in Type 3) or energy production capacity in Spain (Type 5). Further examples in the opposite direction include strongly above average population projections in Spain and Ireland (Type 5) or Fibre Optic coverage in Germany (Type 2).

This suggests that the types capture recurring territorial configurations without implying that these configurations are identical in every country. The differences raise the question of how far the rural configurations identified by the typology retain their features across national contexts, and how their expression is shaped by country-level conditions. The typology alone cannot demonstrate whether the observed differences are attributable to national conditions and arrangements, but it provides a basis for comparative investigation in the next stages of the project, namely in deliverable D3.3 and across the case studies in the other RURALITIC work packages. This research can provide insights for policy discussion, allowing us to ask whether a recurring territorial configuration points to a shared policy challenge or whether national contexts change its practical implications.

5. The rural types

What follows is a brief description of the main features of the parent types and subtypes, focusing on what the combinations of characteristics imply analytically. The interpretations use the physical, social, and symbolic domains as analytic structure, while drawing selectively on the pillars of the European long-term vision for rural areas – prosperity, resilience, connectivity and community strength – as cross-cutting themes. For ease of visualisation and comparability, the types are summarised in profile cards that include their distinctive features, subtype structure, and a short interpretative text. Further characterisation of the types, including implications of the indicator variation, patterns of national heterogeneity, cross-checking with additional variables, and insights from case studies, will be the purpose of Deliverable D3.3.

5.1 Parent Types and Subtypes: profile cards

Type 1

n=81 / rural pop: 9,219,408

DISTINCTIVE FEATURES

- Favourable living conditions (health, land, housing)
- Ageing population, poor demographic projections
- Low political participation, demographic instability.

SUBTYPE STRUCTURE

2 subtypes

- Subtype differences in material amenities and socio-demographic pressures within similar physical setting.

Accessible and affordable regions facing ageing

Type 1 combines favourable living conditions, including healthcare access, good land condition and high housing affordability, with an ageing demographic structure and below-average population projections. Employment intensity is close to the mean, suggesting that attractive material conditions do not necessarily coincide with economic dynamism or demographic renewal. The profile also combines low voter turnout with high migration volatility pointing to a potential divergence between a stable place identity and established forms of political participation. The subtypes reveal different configurations within this broader pattern.

Subtype 1A

n=42 / rural pop: 4,670,647

Well-equipped regions and pronounced ageing

While sharing healthcare access, land condition and affordability with the parent type, subtype 1A combines strong digital coverage and very high affordability with more pronounced ageing. An important question is how these territories can maintain their accessibility and affordability while addressing ageing and sustaining participation.

These regions are strongly concentrated in Eastern Germany, with some areas in Slovenia and Finland.

Subtype 1B

n=39 / rural pop: 4,548,761

Accessible territories with migration instability

Compared to the main type, subtype 1B has lower digital connectivity and affordability, but higher tourism and greater migration volatility, indicating a more socially mobile configuration, although the data does not establish whether these places have sustained in-migration or population turnover. The age structure is less skewed towards older groups.

These regions are concentrated in various parts of Germany and mix with Types 1A, 2B and 5.

Type 2

n=89 / rural pop: 20,013,941

DISTINCTIVE FEATURES

- Good accessibility and connectivity, land pressure.
- Young, growing population but limited employment.
- High civic engagement but poor attractiveness.

SUBTYPE STRUCTURE

2 subtypes

- Subtypes provide nuanced relationship between physical infrastructure and wider territorial dynamism.

Strong connectivity, mixed societal outcomes

Type 2 combines high digital connectivity with good healthcare access, favourable population projections and a younger demographic structure. Voter turnout and perceived government quality are also above average, alongside housing affordability. These features coexist with lower employment intensity, above-average land degradation, and below-average tourism attractiveness, showing that connectivity and demographic prospects do not necessarily match with stronger economic activity and territorial dynamism. The subtypes reveal two different alignments between infrastructure, civic indicators and socioeconomic conditions.

Subtype 2A

n=29 / rural pop: 6,733,341

Mixed civic indicators and low employment

The distinctive feature of subtype 2A is the very low employment intensity compared to the parent type and the lower voter turnout. This nevertheless coincides with a positive perception of government quality (impartiality). The profile raises questions about how institutional conditions relate to economic opportunities and political participation.

The regions are dispersed across Northern France and Belgium, together with Southwest Italy.

Subtype 2B

n=60 / rural pop: 13,280,600

Connectivity and demographic momentum

This profile stands out for its very strong digital connectivity combined with favourable housing affordability, population prospects and turnout, which inverts the direction of 2A. The configuration shows demographic and infrastructural potential, but without equally strong employment intensity and a weaker energy production potential.

These regions are mostly present in Northern Italy and spread across Belgium, Germany and Sweden.

Type 3

n=97 / rural pop: 15,481,352

DISTINCTIVE FEATURES

- High energy potential and poor living conditions.
- Demographic decline and low affordability.
- Institutional assets but poor attractiveness.

SUBTYPE STRUCTURE

3 subtypes

- Subtypes show quite similar demographic pressures coexisting with different physical/symbolic conditions.

Demographic decline amidst productive assets

Type 3 combines strongly negative population projections with poor healthcare accessibility and housing affordability. Employment intensity and tourism are also below average, indicating regions in which demographic pressures coincide with constraints on access, economic activity and attractiveness. These regions stand out for their high energy production potential, alongside a positive view of institutional impartiality and high migration volatility possibly affecting place identity. These features suggest demographic decline coexisting with productive and institutional assets, whose presence varies per subtype and does not translate into improved social conditions.

Subtype 3A

n=35 / rural pop: 5,196,528

Ageing demography and material pressures

Subtype 3A stands out for above average energy production, poorer land conditions and low affordability. Its older age structure and voter turnout add social and symbolic dimensions to these pressures. This suggests a potential mismatch between productive spatial assets and the conditions that support everyday living.

These are southern European regions mostly present in Portugal, Greece and Sardinia (Italy).

Subtype 3B

n=34 / rural pop: 6,857,952

Connectivity and demographic momentum

Profile 3B stands out for its particularly poor health accessibility and housing affordability, alongside negative population projections. Unlike 3A, it has a better land condition, a young population structure and above average institutional indicators. This suggests that these latter assets could potentially provide ways to address the persistent constraints.

These Eastern and Baltic regions are typically concentrated in Romania, Croatia and Latvia.

Subtype 3C

n=28 / rural pop: 3,426,872

Demographic decline and stronger conditions

This profile departs from the parent type across accessibility, connectivity and land condition, keeping high energy capacity and institutional impartiality scores. This coexists with low tourism and negative population trends. Understanding this divergence requires examining the processes behind population change and migration in 3C.

These are also Eastern and Baltic regions, mostly present in Bulgaria, Croatia, Lithuania and Estonia.

Type 4

n=106 / rural pop: 29,621,215

DISTINCTIVE FEATURES

- Poor material conditions and attractiveness.
- Socio-political disaffection amid younger population.
- Territorial assets mismatch capacity to mobilise them.

SUBTYPE STRUCTURE

No viable substructure.

Young demography, constrained opportunities

Type 4 combines relatively poor healthcare access, housing affordability, and employment intensity, alongside markedly low voter turnout and quality of government perception. Its younger demographic structure does not, by itself, imply stronger civic participation, employment opportunities, or more favourable material conditions. This profile bears some resemblance to the conditions noted in the literature on left-behind places, although the age structure and the presence of productive assets (energy) may distinguish it from most accounts. The type has no relevant subdivisions and is dominant in Poland, with strong presence in Spain, central and southern Italy, and Bulgaria.

Type 5

n=162 / rural pop: 26,917,509

DISTINCTIVE FEATURES

- Young, accessible regions, good land conditions.
- Strong employment and population projections.
- Attractive, dynamic regions with high turnout.

SUBTYPE STRUCTURE

No viable substructure.

Demographic and employment dynamism

Type 5 has the clearest combination of favourable socioeconomic and demographic characteristics among the six parent types. Positive employment intensity, population projections, health access and land conditions coincide with a younger age structure. Tourism and voter turnout are also above average. This configuration suggests that economic activity and demographic renewal reinforce an overall pattern of territorial dynamism, although the typology does not address causality. The boxplots also reveal variation within the type, so the profile is not a uniform account of every region. It is indeed a geographically diverse type, focused on Germany, Austria, Denmark and Ireland.

Type 6

n=119 / rural pop: 24,653,606

DISTINCTIVE FEATURES

- Accessibility and energy potential on land pressure.
- Employment and age structure pressures.
- Civically engaged and attractive territories.

SUBTYPE STRUCTURE

No viable substructure.

Ageing territories with civic and material assets

Type 6 combines good healthcare access, above average energy production and high voter turnout. Migration volatility is below average, indicating a stable population turnover over time. This coexists with an older demographic structure, and below average employment intensity. Connectivity is uneven and land condition is poor on average. The profile suggests that participation, tourism and energy production may be important territorial assets, even amidst demographic pressures. Type 6 is dominant in France, but its regions do differ internally, especially in land condition, population trends and tourism attractiveness. The type is also present in Sweden, Italy, Spain and Greece.

5.2 Bringing the types and the regions together: final observations

The typology suggests that the various aspirations of European rural futures are interdependent, but their territorial foundations are unevenly distributed. Indeed, viewed in relation to the four pillars of the European rural vision, the typology illustrates how the conditions underlying stronger, connected, resilient and prosperous rural areas are combined differently across territorial contexts. Types with strong socioeconomic potential, such as 2B and 5, approach prosperity dimensions more clearly, but their relatively favourable civic and demographic indicators suggest potentials for resilience and community strength. Types that stand out for accessibility, affordability and overall material conditions, such as 1A and 6, suggest potentials along connectivity and community strength, although their age structure and employment indicate mixed results in prosperity and resilience. Finally, types experiencing constrained opportunities, such as 3 and 4, diverge from the pillars but present different territorial assets (e.g. energy, age structure, quality of government, migration dynamism) which can help them approach prosperity and resilience in different ways. The results therefore point towards the importance of territorially differentiated but domain-integrated approaches to rural development, which build on existing territorial assets while addressing specific combinations of constraints.

A more detailed discussion of these differentiated configurations will be developed in deliverable D3.3, where a more granular characterisation of the types and subtypes will be provided. This will include analysis not only of their main characteristics, but also country- and region-specific insights based on how the indicators vary at these geographical scales. Indeed, in addition to the different profiles of countries within individual types, shown in the figures above, individual regions in a country assigned to the same type also vary. The four heatmaps below illustrate this, by showing the individual region profiles within a main type in France (Type 6), Poland (Type 4), Ireland (Type 5) and Portugal (Type 3). These countries have a relatively high concentration of regions within one parent type, providing an opportunity to examine how much regional variation exists even within a broadly similar territorial configuration.

Further analysis will explore these differences in greater depth, including potential sub-national patterns, comparison with additional social variables, relation to specific cases examined in other RURALITIC work packages, and the extent to which neighbouring regions exhibit similar or contrasting characteristics. The heatmaps below therefore illustrate ongoing work, with a more systematic analysis to be presented in D3.3.

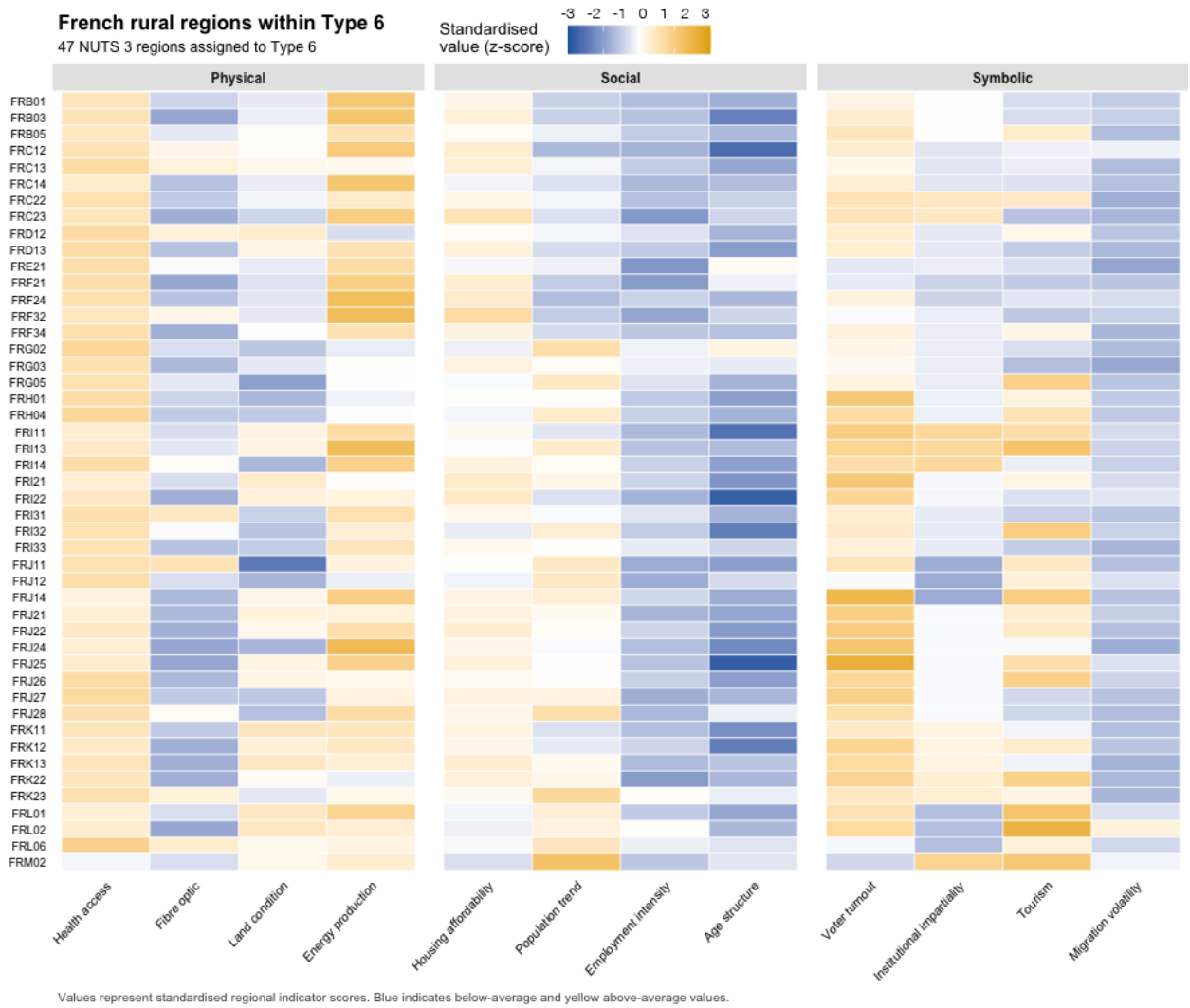


Figure 14. French region profiles within Type 6.

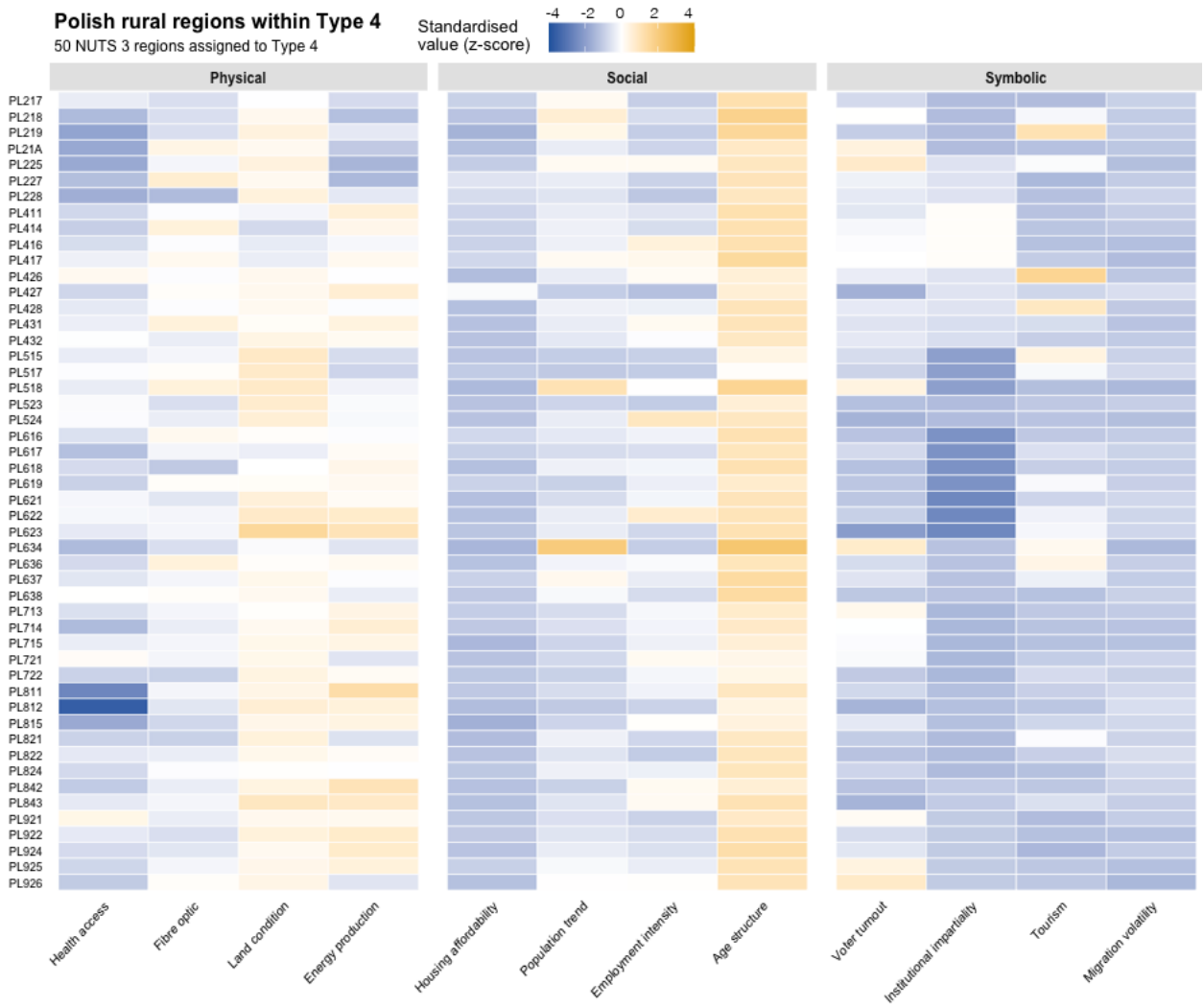


Figure 15. Polish region profiles within Type 4.

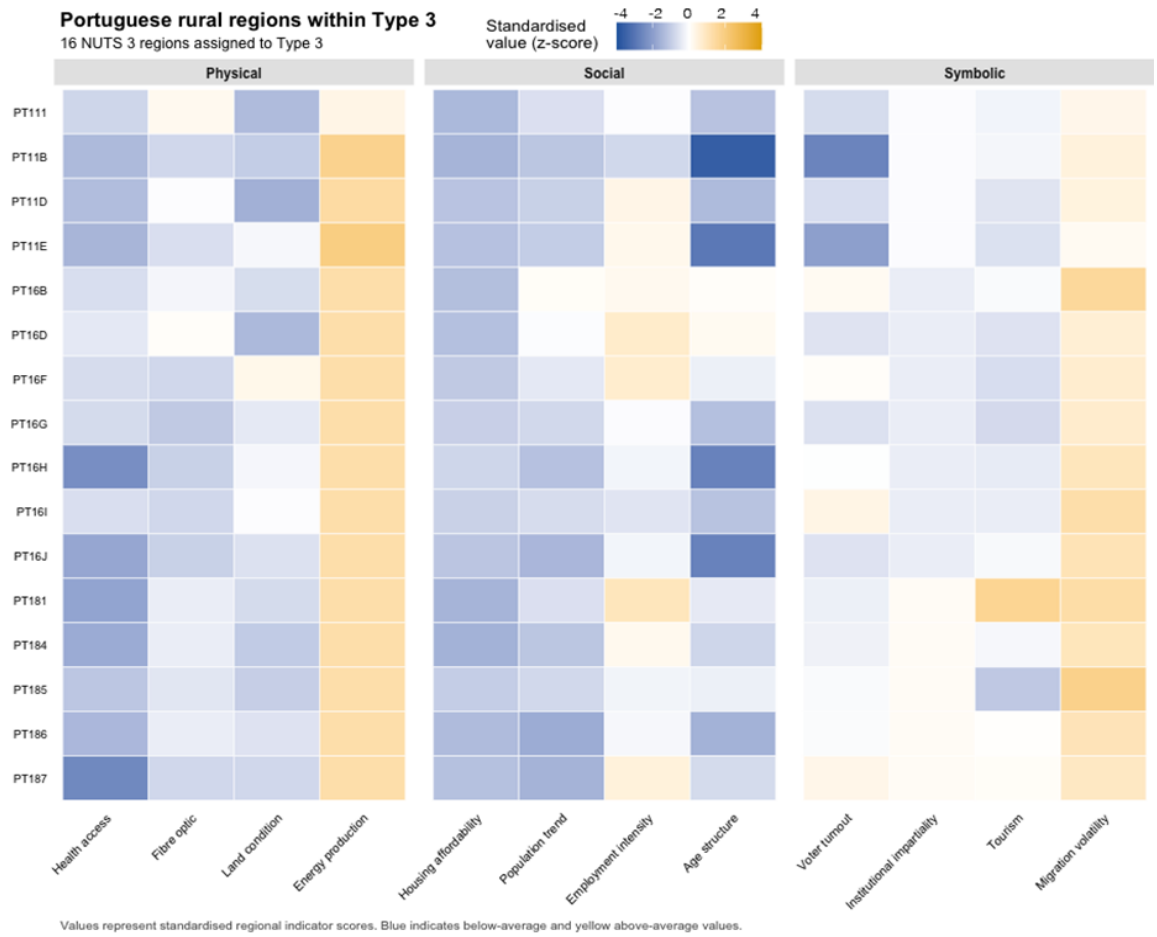


Figure 16. Portuguese region profiles within Type 3.

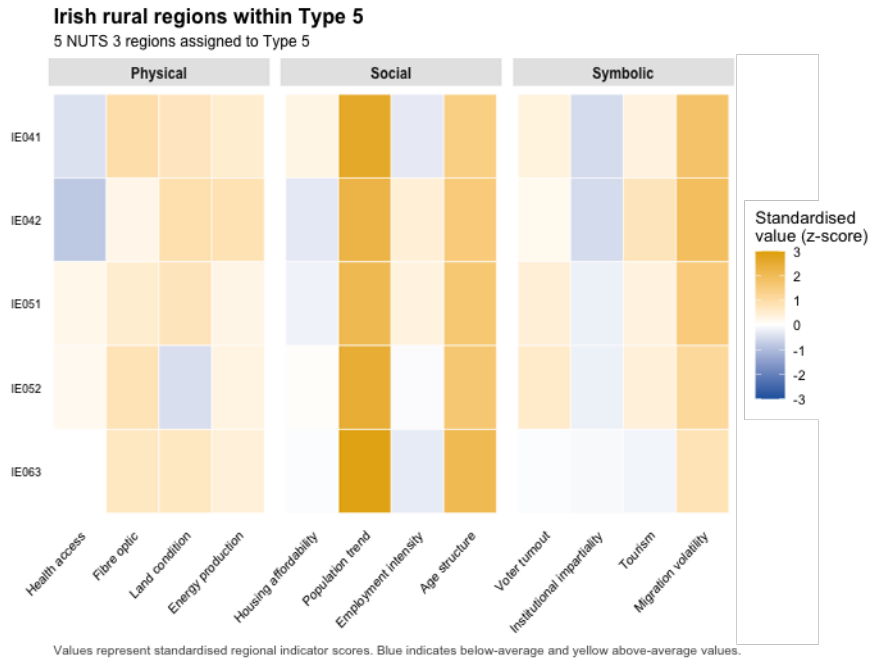


Figure 17. Irish region profiles within Type 6.

6. Limitations and scope of the typology

Like every model that simplifies socio-spatial reality, the typology has limitations, which emerge from the geographical scope of the analysis, the operational choices made for measurement and classification, and the conceptual and statistical limits of the empirical results.

Spatial scale and regional heterogeneity

NUTS 3 is the finest geographic level at which the full indicator set can be assembled with sufficient EU-level coverage and comparability, but it is not a scale capable of representing all local heterogeneity. It aggregates territories that may have substantial internal differences in settlement patterns, social structures, accessibility and economic activity. Therefore, while providing a comparative framework of recurring combinations of territorial features across 654 regions, the typology is not able to capture every difference between regions within a country, let alone variation within individual NUTS 3 regions. This is explored in RURALITIC through detailed case studies, for which the typology provides a consistent framework within which different local dynamics can be situated, compared and interpreted. In addition, it is also possible that countries with a significant number of regions in a Type have a different indicator profile, which pushes the indicator averages in different directions. We illustrated these aspects above by presenting country-level profiles within each parent type and examples of how regions assigned to one type vary within a country. The detailed characterization and analysis in Deliverable 3.3 will discuss these variations and their implications in greater detail

Therefore, assignment to the same type or subtype should not be interpreted as evidence that two regions – or the different localities within them – are otherwise equivalent. Their differences may concern variables not included in the model, variations within the indicator distributions, country-level constraints, or local dynamics that cannot be represented at this scale.

Selective representation of territorial conditions

The 12 indicators chosen to construct the typology are constrained by data availability, geographical coverage and cross-country comparability. They operationalize selected aspects of the Physical, Social and Symbolic dimensions presented in the conceptual framework, but they do not exhaust the conditions shaping rurality or the interactions between them. In the physical dimension, the four indicators are proxies for what we call ‘convergent transitions’ affecting rural areas, namely the post-Covid focus on health accessibility, land conditions shaping the green transition, the productive capacity for the energy transition, and the existing infrastructure supporting the digital transition. These territorial conditions interact in different ways with social and symbolic dimensions, which are equally constrained by the indicator choices. These do not measure in full social class structures, the internal distribution of different forms of capital, inequalities, power relations and recognition, for instance. The social and symbolic indicators

provide partial proxies for conditions associated with these social positions, such as labour and housing market conditions, pressures on inter-generational dynamics, perceived territorial attractiveness and civic engagement. But they do not offer a comprehensive empirical reconstruction of social space, which is beyond the purpose of an EU-wide comparative typology. The results should therefore not be seen as evidence of unique and unchanging conditions in individual rural areas, as other proxies could produce different territorial profiles. The typology is comparative rather than exhaustive.

Uneven differentiation between countries

Several clustering techniques, indicator weightings, and indicator selections were attempted in search of a balance between conceptual consistency, statistical robustness and interregional differentiation. This included k-medians and hierarchical partition algorithms, weighing national variation alongside EU variation for indicator standardization, and comparing the within-country and the between-country variation of different indicators. The present k-means solution of 12 indicators improves the trade-off when compared with all the alternatives, but national patterns remain visible, for instance in France, Ireland, and Poland, and the degree of within-country differentiation is not uniform.

Clearly, the use of social and symbolic indicators implies an influence of national policy arrangements, institutional settings and broader socio-economic trends, which more generic indicators, such as density or land use, do not experience. However, the fact that many regions in a country are assigned to the same (sub)type does not mean they are identical or lack heterogeneity. It just indicates that, given these indicators, they share a sufficiently similar profile (across the whole dataset) to be in the same category. Country-level patterns therefore should not be treated as methodological artifacts related to the choice of model. They may reflect substantive national contexts which are relevant for EU-level policies for rural areas. At the same time, it is important to distinguish the purpose of a European typology and that of a detailed investigation of rural heterogeneity. The typology seeks to identify recurring combinations of territorial characteristics across 654 regions using a common set of indicators. Since it is not intended to capture every difference between regions in a country, the role of case studies across the other WPs of RURALITIC becomes even more important to complement the analysis, investigating local and sub-regional variations, mechanisms and context-specific dynamics, and introducing differentiation among broadly similar territorial profiles.

Cluster separation and assignment uncertainty

The modest statistical separation between clusters (obtained from the silhouette values) places important limits to how the typology should be interpreted and used. This may partly reflect the conceptual choice to combine physical, social and symbolic indicators, which capture different

and potentially divergent aspects of territorial conditions. A classification based primarily on structural indicators, such as population density, land use or remoteness, might produce more clearly differentiated categories, but would provide a narrower understanding of rurality. While our approach tries to identify configurations that bring together material conditions, social and demographic trajectories, and institutional features, these may not vary in parallel. The resulting overlap suggests that these configurations do not correspond to sharply bounded or internally homogeneous categories, and that some regions have characteristics common to several types. Given the chosen indicators, European rural areas navigate a spectrum of divergent, sometimes overlapping, conditions, which our classification turns into interpretable profiles.

The typology should therefore not be treated as a definitive classification of individual territories or as a direct basis for deciding policy interventions. Its value lies in making a broader set of interrelated territorial conditions visible for European policymaking, providing a coherent framework for identifying and interpreting multidimensional configurations, drawing attention to potentially hidden similarities and differences between places, and informing further investigation. The combination of cluster profiles across the indicators, spatial analysis, country-level distributions, and case study evidence can help contextualise the results and explore contextual dynamics that the typology does not fully capture. Used in this way, the typology can support the formulation of hypotheses about the relationships between different dimensions of rural area conditions, alongside policy reflection and comparative learning. These hypotheses can be further explored through case studies and context-specific analysis.

7. Policy relevance

The discussion so far suggests a clear distinction between the ability to identify interpretable territorial profiles (which is the default purpose of a typology) and the ability to classify individual territories into clearly separated groups. The typology results provide evidence for the former but only limited evidence for the latter. Indeed, the boundaries between types are not sharp, the average profiles conceal internal variation, and the typology's level of detail is not equivalent to its level of certainty when individual region characteristics are at stake. Maps, country distributions and case studies should be used as complementary evidence.

This draws three boundaries for the subsequent use of the typology as a policy-relevant instrument. First, interpretations should concern average profiles, not every individual region. A type can be characterized by a particular combination of indicators even though some regions depart substantially from that profile. Second, the typology should not be used as a rigid classification instrument. It does not justify assigning regions to fixed policy categories, using type membership alone to determine interventions, or assuming that each type requires a distinct policy package. Third, the typology remains useful for comparative policy reflection. It helps identify recurring combinations of territorial conditions, draw attention to potential tensions between dimensions, and pinpoints regions that may require further investigation. The typology

can structure diagnosis and comparison but does not replace contextual examination or determine policy responses.

This is where the multidimensional approach, covering physical, social and symbolic dimensions, becomes relevant. As discussed in the critical assessment of existing typologies, even if the boundaries between types are imperfect, the profiles still reveal combinations of physical, social and symbolic conditions that a single-domain classification would not bring together. Moreover, the typology as a simplified model remains associated to the larger matrix of physical, social and symbolic attributes presented in section 2.4, which provides a basis for case study examination and the formulation of relevant policy questions.

The typology is therefore a comparative and exploratory framework for diagnosis and comparison whose policy relevance lies in helping policymakers recognize different combinations of territorial conditions in rural areas across Europe, consider their similarities, differences, frequencies, recurring indicator behaviours, geographical patterns, and relation to other external variables and metrics, and to reflect on how policy interventions need to respond to them. Given its strengths and limitations, it can be useful for three specific functions.

Moving beyond rural areas as a single policy category

European rural policy needs to address territories that differ considerably in their demographic trajectories, accessibility, digital infrastructure, employment conditions, institutional features, and participation in the energy transition, among other aspects. The typology provides a framework for distinguishing these combined characteristics across 654 regions, making different configurations visible, comparable and manageable. Regions are no longer classified in binary ways according to whether they are urban or rural, accessible or remote, declining or prosperous. The typology identifies configurations of territorial variables, some of which combine favourable conditions with significant constraints. Regions combining poor accessibility and population decline with high energy production capacity raise different policy questions from regions benefiting from stronger employment intensity, projected population growth, and tourism attractiveness, while dealing with environmental pressures. The implication is not that each type requires a different policy package, but that the same policy instruments may encounter different conditions, challenges and opportunities along these profiles.

Supporting the relational integration of policy domains

The typology provides a relational and multi-domain perspective on rural territorial differences. As previously discussed, the classification of territories is not a neutral exercise. The choice of indicators, their conceptual dimensions and the analytical approach to what counts as an asset or constraint shapes which conditions become visible, which differences are considered significant, and which challenges and opportunities are recognized in policymaking. Typologies

based primarily on structural and spatial indicators can identify relevant territorial disparities but may give less attention to the social and symbolic conditions through which rural transitions are experienced and negotiated. By combining physical, social and symbolic space dimensions, the typology broadens the basis on which rural territories can be compared and understood.

Although this multidimensional approach does not necessarily produce sharply separated groups, it creates opportunities to explore questions that a narrower set of indicators may neglect, for instance on aspect of socio-spatial justice that necessarily emerge as rural societies cope with territorial transitions. While the typology does not empirically reconstruct social space or directly measure socio-spatial justice, it provides a framework to identify combinations of mutually interacting conditions relevant to these issues, informing more context-sensitive policy reflection. The typology cannot tell us whether local populations benefit from a particular territorial asset identified by the indicators, but by examining which constraints recurringly emerge with that asset, it can identify a configuration that supports more precise policy questions. Potential cross-domain relationships become visible and open to examination.

Providing a European comparative frame for policy learning

The consistent geographical scale and indicator set provides a harmonized basis for comparing territorial profiles across national boundaries. This matters for policy because similar territorial challenges can be present in different institutional and national settings. Conversely, regions in the same country may experience different combinations of physical, social and symbolic conditions. The typology can help identify regions facing broadly comparable conditions across Europe and provide a starting point for asking which policy approaches are being used in those contexts and what can be learned from them. Of course, similar typological profiles do not guarantee that regions have the same policy needs and institutional capacities, or that they can benefit from similar interventions. They establish a basis for critical comparison, without assuming that policies can be transferred unchanged. The insights above showing how different countries and region within the same type exhibit different configurations help demonstrate that. The typology thereby proposes a division of analytic labour between the identification of patterns for classification, interaction and comparison, and the subsequent research that identifies their local significance and possible explanations.

As the research continues, each profile identified in the typology can be connected to different policy questions, such as:

- How can energy transition investments contribute to territorial development in places with high energy capacity experiencing poor accessibility and demographic decline?
- Are infrastructure provision and service provision keeping pace with demographic change and economic volatility?

- Under what conditions does digital connectivity translate into broader socioeconomic opportunities?
- How do perceived institutional quality and civic engagement respond to investments in accessibility and ecological regeneration?
- Which aspects of the territorial context influence how comparable interventions can be implemented?

These are questions rather than conclusions, because the indicator configurations do not establish causal relationships. Rather, they pinpoint combinations of conditions worth examining and can help identify mismatches between territorial challenges and policy assumptions.

In summary, the typology serves as a comparative framework of recurring configurations, not an exhaustive description of individual territories; it provides a legible diagnostic that can inform policy reflection, not a prescription of which intervention is appropriate; and it is complementary to place-based analysis, not a substitute for it. Its approach becomes more valuable when combined with local knowledge, including the detailed investigations undertaken in the remaining work packages of the RURALITIC project.

8. Contribution to RURALITIC and links to other work packages

The typology provides a comparative overview of recurring territorial configurations across rural Europe, connecting the analysis of regional conditions with the more detailed empirical and analytical investigations of other WPs. This relationship is reciprocal. On one hand, findings from WP4–WP8 can enrich the interpretation of the typological profiles by providing contextual depth and evidence on local perceptions, community dynamics, mobility and housing markets, policy and governance arrangements, and possible futures. In the characterisation atlas planned for D3.3, this evidence can be used to illustrate the types and subtypes, examine their similarities, differences, and national specificities, enriching the interpretation with more detailed territorial contexts. This can also reveal local dynamics and exceptions that are not captured by the regional indicators, thereby helping to assess and refine the interpretation of the profiles.

On the other hand, the typology provides a common framework for situating and comparing these findings within broader European territorial patterns, connecting the analysis of regional configurations with the investigation of local contexts and processes, and providing a comparative basis for the development of territorial scenarios. It can support the selection of case studies by identifying the wider territorial configurations in which different places are situated, while improving comparability across cases belonging to different types. The aim is to obtain a broad coverage of types across the empirical work of WP4-WP8, and while this coverage is still uneven at the time of writing, further case studies will broaden it as the project progresses.

In this way, the typology and the other WPs serve complementary analytical purposes: the typology identifies recurring configurations for comparison, while the more detailed empirical investigations help explain their local significance, heterogeneity and possible underlying processes. Table XX below summarises in concrete terms the intended reciprocal relation between WP3 and the other work packages.

WP	Support provided to typology interpretation	Support provided by typology
WP4	Findings on rural perceptions, narratives and the social construction of rural attractiveness help interpret how the regional conditions captured by the typology are experienced and negotiated in different places.	WP3 provides a framework for situating and comparing these findings within broader European territorial configurations, including differences between places assigned to the same type.
	Example: 38 further research sites still to be chosen in France, Denmark, Portugal and Sweden for Tasks 4.2/4.3/4.4 will extend the typological coverage of the surveys.	
WP5	Ethnographic case studies provide contextual depth, revealing how regional conditions are experienced locally and identifying dynamics and local variations not captured by regional indicators.	WP3 helps situate these case studies within wider territorial patterns and provides a basis for comparison across different types and contexts.
	Example: Case study findings in Task 5.3 will be matched with territorial conditions identified by the typology, examining variation and similarity both within and between types. The joint work with the Ethnography of Rural Worlds Network provides a chance to evaluate ethnographic findings of +100 research sites in light of the typology.	
WP6	Findings on mobility patterns, land use, and housing markets enrich the interpretation of how these processes relate to the physical, social and symbolic conditions represented in the typology.	WP3 offers a comparative framework for examining these findings across different regional configurations and investigating possible connections between local processes and wider territorial conditions.
	Example: Models of residential mobility in France and Spain, labour market dynamics in Sweden, France and the Netherlands, and housing market tensions in France, Spain and the Netherlands will allow quantitative associations to various type characteristics across countries with different typological heterogeneity.	
WP7	Findings on policy and governance initiatives help examine how stakeholder dynamics and policy coherence relate to territorial conditions and rural development processes.	WP3 provides a framework for situating and examining these findings across regions with different combinations of physical, social and symbolic characteristics.

	Example: The library of policy initiatives and governance arrangements collected in tasks 7.1/7.2 can be associated with the various types in search of recurring patterns and relations. The mapping of policy coherence (7.3) and good practices (7.4) can be validated and compared in light of typological similarities and differences.	
WP8	WP8 explores possible futures, extending the typology from the comparison of existing configurations towards consideration of their potential trajectories.	WP3 provides a comparative basis for exploring how possible, plausible and desirable futures may differ across rural territorial contexts, highlighting how combinations of conditions shape future challenges and opportunities.
	Example: Types are used as differentiation units for possible futures, so that each type is assigned a set of futures built from its trends and weak signals (8.1). For each type, preferred futures are tested (8.5) focusing on real-world regions across the typology.	

Table 9. Reciprocal relations between WP3 and other RURALITIC work packages

9. Conclusions

The present report presents the new European rural typology developed for the RURALITIC project. It introduces the need and purpose of such a typology and conducts a critical review of existing European rural classification approaches. It then presents a conceptual framework based on the trialectics of physical, social and symbolic space that adapt the project's relational understanding of rurality into a regional-level comparative framework that established broad profiles of European rural areas. The analytic approach is first made concrete through an extended matrix of topics and concerns that intersects the spatial trialectic with recognised rural transitions. This is further operationalised into a selected set of measurable and comparable indicators used to develop the EU-wide typology. The methodology outlines the details of the clustering process alongside the units of analysis, indicators, data preparation and validation, while the results are presented as initial interpretative insights where the broad profile of each rural type is described and specific insights about within-indicator, within-type and within-country variation are further discussed. Finally, the report clearly delimits the scope, limitations, conditions of use and policy relevance of the typology, distinguishing its purpose from the detailed models and case study analysis developed by other work packages, but highlighting the reciprocal relations of complementarity across the project.

This report, which combines Deliverables D3.1 and D3.2 will be followed by further research within WP3. Deliverable D3.3 aims to develop a detailed atlas characterising each type and subtype. This will include insights taken from the ongoing work packages, as exemplified in Table 9, that provide contextual depth to the typological interpretations. The approach will consider illustrative cases across the various types, situate them in relation to variations in indicator

values and national and sub-national profiles, and develop hypotheses about the mechanisms connecting the territorial contexts and the specific conditions of the various cases. These cases will examine how the broad types materialise spatially and socially in different real-world places. Where needed and suitable, this will be supported by insights from local policymakers. The atlas will also explore the relationship between the typological profiles and additional variables relating to social differentiation, such as class, gender, age, and migration. This comparison will seek to identify patterns and possible connections between regional territorial conditions and the social contexts in which they are embedded. This allows the formulation of new questions about how territorial conditions are related to social contexts and transformations, generating insights that may inform subsequent work packages.

Finally, deliverable D3.4 will develop the argument that a typology should not only be a static snapshot of territorial conditions, but an identification of configurations that are contingent to wider societal processes and therefore subject to change. The final piece of WP3 is envisaged as an accessible digital platform, provisionally associated with the RURALITIC website, through which the typology and its underlying data can be explored and, potentially, updated as new data and knowledge become available. The platform aims to provide the possibility of incorporating datasets from more recent reference periods and, where suitable structured and comparable data are available, additional indicators aligned with the spatial trialectic and the extended matrix. Potential outputs include geographical maps and heatmaps, as well as comparisons of regional profiles and changes in type membership over time. These functionalities would be supported by a user-friendly environment for visualisation and interaction, accessible to researchers, policymakers, and the wider public. The precise scope and functionality of the platform, particularly regarding the integration of datasets and the updating of the typology over time, will be subject to further assessment of the technical capabilities and resources available.

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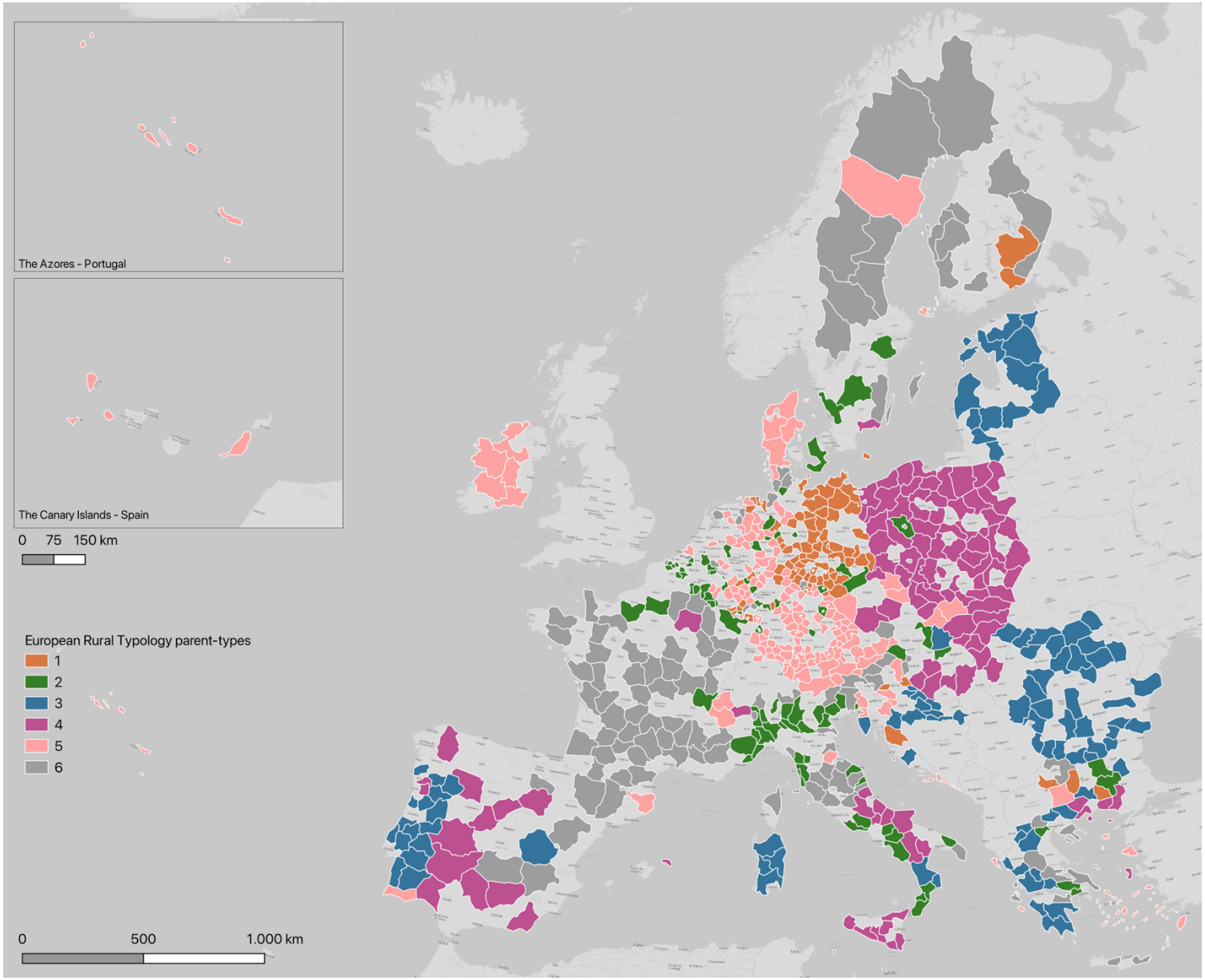
11. Annexes

Annex A: full table of indicators and their sources.

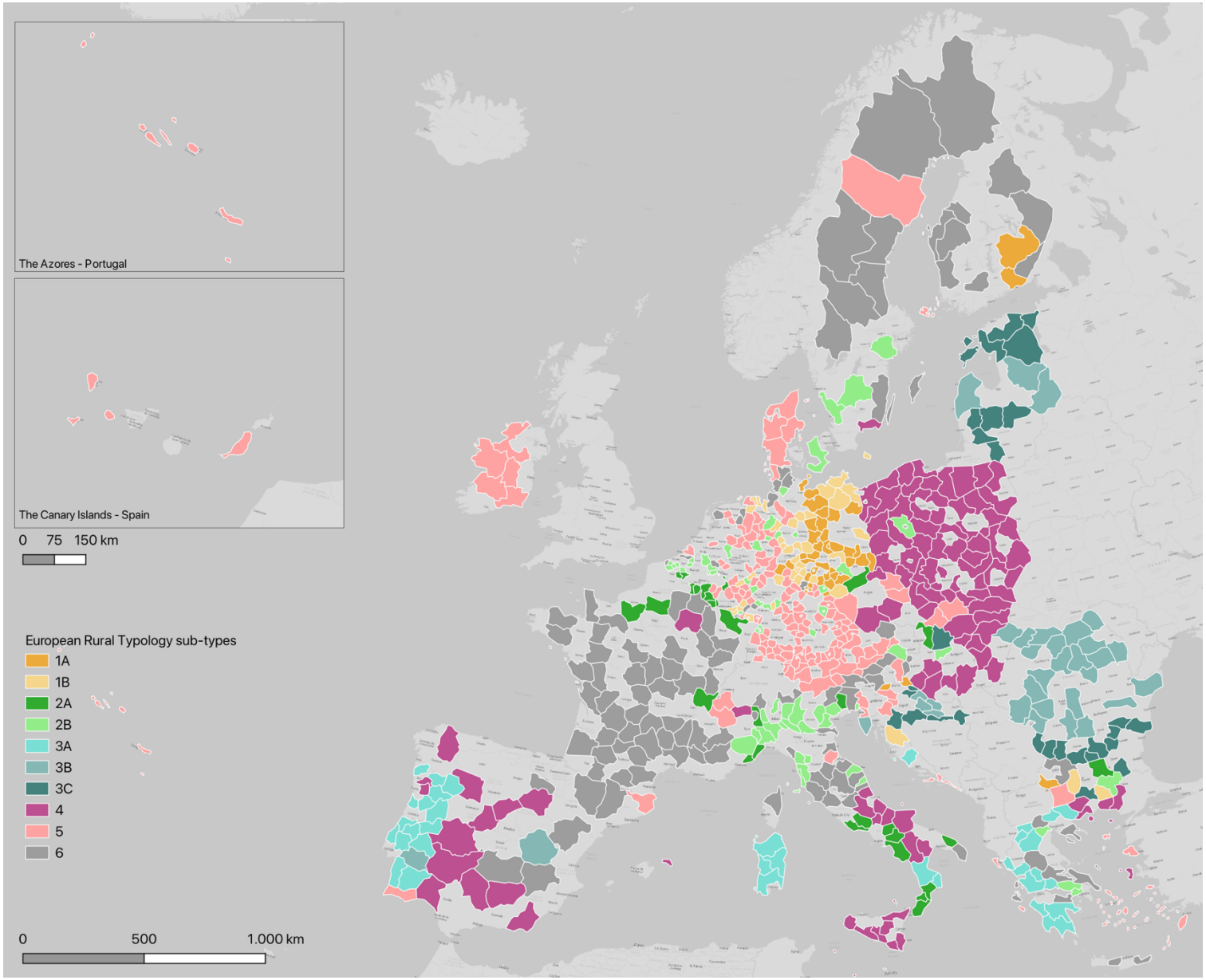
Space	Name of the indicator	Measured dimension	Source
Physical Space	Travel Time to Health Services	Accessibility to essential healthcare services.	European Environment Agency (2022). Average travel time to the nearest hospital in minutes, NUTS3 regions, 2020. Retrieved from https://sdi.eea.europa.eu/catalogue/srv/api/records/de17ed31-7474-4ff5-8f8c-bdd50c690a0a
	Fibre Optic Density	Density of digital connectivity	ESPON (2026). Territorial Perspectives on Digital Transition in European Regions (DIGIREG). [dataset]. Indicator: Total meters of fibre optic per square kilometer, NUTS 3 regions, 2025. Retrieved from https://gis-portal.espon.eu/arcgis/apps/sites/#/espon-hub/pages/digireg (accessed 2026-09-28).
	Index of Land Degradation	Environmental pressure on land resources	Prăvălie, R., Borrelli, P., Panagos, P., Ballabio, C., Lugato, E., Chappell, A., Miguez-Macho, G., Maggi, F., Peng, J., Niculiță, M. and Roșca, B., Patriche, C.,Dumitrașcu, M., Bandoc, G., Nita, I.A. and Birsan, M.V. 2024. A unifying modelling of multiple land degradation pathways in Europe. *Nature Communications*, *15*(1), 3862. DOI: 10.1038/s41467-024-48252-x Retrieved from https://esdac.jrc.ec.europa.eu/content/land-degradation-europe
	Energy Production Capacity	Annual technical potential production of renewable energy	Perpiña Castillo, C., Hormigos Feliu, C., Dorati, C., Kakoulaki, G., Peeters, L., Quaranta, E., Taylor, N., Uihlein, A., Auteri, D. and Dijkstra, L., Renewable Energy production and potential in EU Rural Areas, Publications Office of the European Union, Luxembourg, 2024, doi:10.2760/458970 (online), JRC135612. Datasets combined: Onshore wind technical potential, Solar PV technical potential, Hydropower untapped potential (2023). Retrieved from: https://observatory.rural-vision.europa.eu/map-view?lng=en&ctx=RUROBS&is=Complete&ts=RUROBS&cl=rural&pn=indicator-level&tl=3&clc=energy
Social Space	Housing Rental Affordability	Relative accessibility of housing markets	ESPON (2025). Access to affordable and quality housing for all people (HOUSE4ALL). Retrieved from https://www.espon.eu/projects/access-affordable-and-quality-housing-all-people-house4all
	Population Projections 2050	Projected demographic trajectory and population change	Eurostat. (2021). *EUROPOP2019: Population on 1st January by age, sex, type of projection and NUTS 3 region* [Dataset]. Online data code: **proj_19rp3**. https://doi.org/10.2908/proj_19rp3
	Employment Intensity	Number of jobs per capita	ARDECO (2026). *Employment per capita.* NUTS 3 regions. [ARDECO Explorer]. European Commission. Retrieved from https://territorial.ec.europa.eu/ardeco/explorer?lng=en#classification-1

	Old Age Dependency	Demographic balance between working-age and elderly populations	Eurostat. (2025). *Population structure indicators by NUTS 3 region* [Dataset]. Online data code: **demo_r_pjanind3**. European Commission. Retrieved from https://ec.europa.eu/eurostat/en/web/products-eurostat-news/w/ddn-20251001-2
Symbolic Space	Voter Turnout in National Elections	Degree of civic participation and engagement in democratic processes	European Commission, Directorate-General for Regional and Urban Policy. (2023). *The geography of EU discontent and the regional development trap*. European Commission. Retrieved from: https://ec.europa.eu/regional_policy/information-sources/publications/working-papers/2023/the-geography-of-eu-discontent-and-the-regional-development-trap_en
	European Quality of Government Index – Impartiality (Change)	Perceived change in fairness and impartiality of public institutions	Charron, Nicholas, Victor Lapuente, Monika Bauhr & Paola Annoni (2022) Change and Continuity in Quality of Government: Trends in subnational quality of government in EU member states. *Investigaciones Regionales-Journal of Regional Research,* 2022(53), 5-23. DOI: 10.38191/iirr-jorr.22.008
	Tourism Nights Spent	Territorial attractiveness to visitors and temporary populations	Eurostat. (2025). *Nights spent at tourist accommodation establishments by NUTS 3 regions* [Dataset]. Online data code: **tour_occ_nin3**. European Commission. Retrieved from https://doi.org/10.2908/tour_occ_nin3
	Migration Volatility	Intensity of population turnover and demographic dynamism	Adapted from: European Commission, Joint Research Centre. (2025). *ARDECO database: Net migration by NUTS region* [Dataset]. Territorial Data Platform. Retrieved from: https://territorial.ec.europa.eu/ardeco/viewer/SNMTN?jdvfys=asc&jdvfc=eu&jdvfnl=0%2C1%2C2%2C3%2C9

Annex B: full maps, high-resolution version



Parent types map



Subtypes map

Annex C. Conceptual and analytical matrix of rural transitions *Attributes organised by physical, social and symbolic space and their associated analytical principles.*

Physical Space focusing explicitly on the material and spatial manifestations of social dynamics:

Rural Transitions	**Materialization of Capital and Inequality** *(How is capital visibly embedded in rural infrastructure and land use?)*	**Physical Inertia and Layered Spatial Histories** *(How do historical spatial investments shape current rural inequalities?)*	**Spatial Access and Physical Segregation** *(How do spatial layouts affect access to services and reinforce rural inequalities?)*	**Spatialized Symbolic Boundaries and Physical Classification** *(How are rural areas marked through spatial designations?)*
Covid 19 crisis (Health, Economic Resilience, Rural Recovery Policies)	• Spatial disparities in healthcare infrastructure • Quality and accessibility of services during lockdowns • Recovery investment addressing or reinforcing spatial inequalities	• Ageing facilities and historical infrastructure underinvestment • Built-environment adaptability to pandemic needs • Pandemic exposure shaped by inherited settlement patterns	• Access to essential services under mobility restrictions • Unequal pandemic exposure through housing and spatial segregation • Access to digital infrastructure supporting remote activities	• Spatial marking of places as safe or risky • Exclusion made visible through pandemic spatial arrangements • Material expression of rural-urban pandemic stigma
Ecological transition (Climate Change, Sustainability, Land Use, Energy)	• Spatial distribution of ecological infrastructure • Landscape changes and benefits from ecological funding • Spatial patterns of environmental degradation and restoration	• Ecological vulnerability from historical land use • Physical and historical constraints on ecological retrofitting • Path dependencies in ecological zoning and planning	• Physical access to green infrastructure and ecosystem services • Spatial separation of polluting and green areas • Distance and infrastructure barriers to ecological participation	• Spatial labelling of eco-villages and sustainable zones • Greenwashing through landscape design • Spatial reclassification through ecological branding
Digital transition (Connectivity, Rural Tech Development, Smart Systems)	• Spatial distribution of broadband, fibre and mobile infrastructure • Location and accessibility of public digital facilities • Built-environment adaptation to digital needs	• Historical underinvestment in digital infrastructure • Legacy buildings constraining digital upgrades • Continued exclusion in digital infrastructure rollout	• Distance to digital hubs and service points • Spatial segregation between connected and disconnected areas • Physical access to shared digital infrastructure	• Spatial status of smart and non-smart rural areas • Digital signage and visual markers of symbolic boundaries • Place valorization or stigmatization through digital visibility
Demographic & Socio-Economic Transition (Migration, Ageing, Gentrification)	• Uneven investment in housing and amenities • Service locations for ageing populations and newcomers • Landscape changes associated with gentrification	• Legacy infrastructure mismatched with demographic needs • Persistent spatial neglect of marginalized settlements • Planning and zoning inertia constraining demographic adaptation	• Unequal access to housing, care and public services • Demographic clustering and spatial separation • Transport barriers between established residents and newcomers	• Symbolic classification of neighbourhoods and villages • Architecture and design expressing socio-economic hierarchies • Spatial marking of belonging or exclusion

Social Space Focusing on the distribution of capital, resources, capacities, and demographic conditions shaping territorial reproduction

Rural Transitions	Distribution of Capital and Resources *(How are resources and forms of capital distributed across rural territories and social groups?)*	Relational Structures and Social Positions *(How do unequal resources and social relations shape the positions of rural groups?)*	Social Mobility and Reproduction *(How do employment, knowledge and demographic conditions shape mobility and territorial reproduction?)*	Social Differentiation and Group Formation *(How do labour, livelihoods and demographic change shape rural social groups and divisions?)*
Covid 19 crisis (Health, Economic Resilience, Rural Recovery Policies)	• Distribution of pandemic aid and recovery investment • Household and business resources for coping with disruption • Resources available to sustain livelihoods and care	• Unequal exposure to income and employment losses • Support networks and dependence on external assistance • Social relations of solidarity or fragmentation	• Employment retention and prospects for recovery • Continuity of education, training and skills development • Capacity to sustain care and intergenerational support	• Occupational divisions in exposure and employment security • Differences in livelihood disruption across social groups • Unequal care responsibilities and access to support
Ecological transition (Climate Change, Sustainability, Land Use, Energy)	• Distribution of ecological investment and funding • Ownership and control of productive ecological assets • Resources available for adopting ecological practices	• Positions in green labour markets and production networks • Dependence on external capital, markets and expertise • Cooperation and conflict over transition costs and benefits	• Pathways into green employment and skills development • Capacity to sustain or diversify rural livelihoods • Retention and renewal of labour and knowledge	• Social divisions between established and emerging livelihoods • Distribution of transition gains and losses across groups • Formation of producer groups, cooperatives and alliances
Digital transition (Connectivity, Rural Tech Development, Smart Systems)	• Distribution of investment in digital transformation • Digital skills and knowledge as unevenly held resources • Household and business capacity to afford digital tools	• Positions in knowledge-intensive and digitally mediated work • Dependence on digital platforms and external expertise • Networks supporting digital participation and collaboration	• Digital learning and opportunities for social mobility • Employment restructuring and adaptation of skills • Retention and attraction of workers and knowledge	• Social differentiation through digital skills and employment • Divisions between secure, precarious and excluded workers • Formation of professional networks and digital communities
Demographic & Socio-Economic Transition (Migration, Ageing, Gentrification, Urban-Rural Shifts)	• Distribution of income, wealth and productive resources • Investment capacity under demographic growth or decline • Resources for housing, welfare and care across groups	• Labour-market positions of established residents and newcomers • Economic dependence between generations and households • Networks shaping access to employment and resources	• Population trajectories and workforce renewal • Ageing and care demands relative to working-age populations • Employment and learning opportunities across generations	• Changing occupational and socio-economic composition • Generational differentiation and changing household structures • Group formation around migration and livelihood change

Symbolic Space Focusing on internalized identities, perceptions, and cultural practices

Rural Transitions	Embodied Capital and Local Legitimacy *(How is local cultural knowledge and identity expressed and legitimized in rural development?)*	Habitus, Agency and Internalized Perceptions *(How do internalized rural stigmas affect local agency in shaping spatial futures?)*	Symbolic Boundaries and Classification Struggles *(How do symbolic boundaries within rural communities shape identity and exclusion?)*	Internalized Spatial Practices *(How do daily spatial practices reflect and reinforce rural symbolic meanings?)*
Covid 19 crisis (Health, Economic Resilience, Rural Recovery Policies)	• Local cultural responses to COVID-19 • Legitimacy of traditional and local knowledge • Adaptation of rituals and cultural heritage	• Perceived capacity for collective pandemic response • Internalized stigma affecting community engagement • Self-organized cultural groups reshaping local identities	• Symbolic boundaries reinforced or challenged by COVID-19 • Pandemic-related stigmatization of groups and places • Recognition of marginalized groups in pandemic policies	• Everyday spatial practices under pandemic restrictions • Mobility patterns expressing safety, access and belonging • Embodied relationships with significant local landmarks
Ecological transition (Climate Change, Sustainability, Land Use, Energy)	• Cultural values shaping ecological practices • Recognition of local ecological knowledge • Heritage and rituals adapted to ecological goals	• Perceived capacity to influence ecological outcomes • Internalized marginalization affecting ecological engagement • Self-organized groups promoting ecological agency	• Symbolic boundaries around ecological initiatives • Stigmatization linked to ecological participation or resistance • Recognition of marginalized ecological practices	• Everyday practices reflecting ecological awareness • Mobility patterns expressing ecological priorities • Embodied engagement with ecologically significant sites
Digital transition (Connectivity, Rural Tech Development, Smart Systems)	• Cultural attitudes towards digital technologies • Recognition of local digital knowledge and practices • Heritage practices enhanced or disrupted by digital tools	• Perceived community digital competencies • Internalized marginalization affecting digital adoption • Self-organized groups supporting digital empowerment	• Symbolic boundaries linked to digital access • Stigmatization linked to digital inclusion or exclusion • Visibility of marginalized groups in digital discourse	• Everyday spatial practices reshaped by connectivity • Mobility patterns shaped by digital technologies • Embodied engagement with digitally enhanced landmarks
Demographic & Socio-Economic Transition (Migration, Ageing, Gentrification, Urban-Rural Shifts)	• Cultural integration of newcomers • Legitimacy of diverse socio-economic practices • Demographic change affecting rituals and heritage	• Perceived capacity to manage demographic change • Internalized marginalization affecting demographic inclusion • Self-organized groups supporting demographic inclusion	• Symbolic boundaries shaped by demographic change • Stigmatization linked to demographic or socio-economic status • Recognition of marginalized groups in transition policies	• Everyday spatial practices reshaped by demographic change • Mobility patterns reflecting socio-economic transitions • Embodied engagement with spaces altered by demographic change

Annex D. Operational matrix of the RURALITIC typology

Space	Analytical meaning	Indicator used	Operational meaning in the typology	Spatial level
Physical Space **Materialization of Capital and Inequality** ***(How is capital visibly embedded in rural infrastructure and land use?)***	**Service accessibility**	**Travel Time to Health Services**	**Travel time to essential healthcare services; lower travel time indicates greater geographical accessibility. Reoriented for clustering.**	**NUTS 3**
	Digital infrastructure	**Fiber Optic Density**	**Density of fibre-optic infrastructure, used as a proxy for digital infrastructure provision. Log-transformed in the data-preparation specification.**	**NUTS 3**
	Ecological pressure	**Index of Land Degradation**	**Environmental pressure on land resources, represented by the land-degradation index. Reoriented for clustering.**	**NUTS 3**
	Transition readiness	**Energy Production Capacity**	**Combined solar, wind and hydro energy production potential, indicating role in energy transition. Normalised by population and log transformed.**	**NUTS 3**
Social Space ***Distribution of Capital and Resources*** ***How do the distribution of resources, employment capacities and demographic conditions shape rural territorial positions?***	**Housing access**	**Housing Rental Affordability**	**Relative accessibility of housing markets. Assigned to social space as a proxy for social equity and stability.**	**NUTS 3**
	Employment opportunities	**Employment Intensity**	**Number of jobs in the region divided by population, averaged over 2020–2025; a measure of regional employment intensity, proxy for economic opportunity.**	**NUTS 3**
	Demographic trajectory	**Population Projections 2050**	**Projected percentage population change between 2020 and 2050, indicating expected demographic growth or decline.**	**NUTS 3**
	Demographic pressure	**Old Age Dependency**	**Balance between older and working-age populations, indicating the demographic context of labour and care provision. Reoriented for clustering.**	**NUTS 3**

Symbolic Space **Habitus, Agency and Internalized Perceptions** ***How do internalized rural stigmas affect local agency in shaping spatial futures?***	**Participation**	**Voter Turnout in National Elections**	**Formal electoral participation, expressed as the difference between regional turnout and the national turnout average.**	**NUTS 3**
	Perceived institutional fairness	**European Quality of Government Index – Impartiality (Change)**	**Change in the impartiality dimension of the EQI between 2017 and 2024, representing perceived change in institutional fairness.**	**NUTS 2**
	Territorial attractiveness	**Tourism Nights Spent**	**Tourism nights per inhabitant, log-transformed; a proxy for attractiveness to visitors and temporary populations.**	**NUTS 3**
	Population stability / dynamism	**Migration Volatility**	**Variation in annual net migration relative to its mean over 2010–2023. Used to approach potential identity stability and cultural dynamism, without measuring either directly.**	**NUTS 3**

ANNEX E. Type membership list per NUTS 3 region

Country	NUTS 3 Region	TYPE	SUBTYPE
Austria	AT111	6	6
	AT113	6	6
	AT121	5	5
	AT122	2	2B
	AT123	5	5
	AT124	6	6
	AT212	6	6
	AT213	6	6
	AT222	5	5
	AT223	6	6
	AT224	5	5
	AT226	6	6
	AT311	5	5
	AT314	5	5
	AT315	5	5
	AT321	5	5
	AT322	5	5
	AT331	5	5
	AT333	5	5
	AT334	5	5
	AT335	5	5
	AT341	5	5
	AT342	5	5
Belgium	BE213	2	2B
	BE223	2	2B
	BE224	2	2B
	BE225	6	6
	BE232	2	2B
	BE235	2	2B
	BE236	2	2B
	BE252	2	2B
	BE253	2	2B
	BE256	2	2B
	BE257	2	2B
	BE258	6	6
	BE328	2	2A
	BE32A	2	2A
	BE32D	2	2A
	BE336	2	2A
	BE341	2	2A
	BE342	5	5
	BE343	5	5
	BE344	2	2A
	BE345	2	2A
	BE351	2	2A
	BE353	2	2A
Bulgaria	BG311	3	3C
	BG312	3	3C
	BG313	3	3C
	BG315	3	3C

Country	NUTS 3 Region	TYPE	SUBTYPE
	BG321	3	3C
	BG322	3	3C
	BG324	3	3C
	BG325	3	3C
	BG332	3	3C
	BG334	3	3C
	BG343	3	3C
	BG344	2	2A
	BG412	6	6
	BG413	5	5
	BG415	1	1A
	BG422	2	2B
	BG423	1	1B
	BG424	3	3C
	BG425	1	1B
Czechia	CZ031	4	4
	CZ032	5	5
	CZ041	1	1B
	CZ042	2	2A
	CZ051	4	4
	CZ052	5	5
	CZ053	5	5
	CZ063	4	4
	CZ071	4	4
	CZ072	4	4
	CZ080	4	4
Germany	DE119	5	5
	DE11A	5	5
	DE11B	5	5
	DE11C	5	5
	DE11D	5	5
	DE124	2	2B
	DE127	5	5
	DE12A	5	5
	DE12C	5	5
	DE134	5	5
	DE135	5	5
	DE136	5	5
	DE137	5	5
	DE138	5	5
	DE13A	5	5
	DE143	5	5
	DE146	5	5
	DE147	5	5
	DE148	5	5
	DE149	5	5
	DE214	5	5
	DE215	5	5
	DE216	5	5
	DE21D	5	5
	DE21E	5	5
	DE21F	5	5
	DE21G	5	5
	DE21I	2	2B
	DE21K	5	5

Country	NUTS 3 Region	TYPE	SUBTYPE
	DE21M	5	5
	DE21N	5	5
	DE224	5	5
	DE225	5	5
	DE226	5	5
	DE228	5	5
	DE229	5	5
	DE22A	5	5
	DE22B	5	5
	DE22C	5	5
	DE234	2	2B
	DE235	5	5
	DE236	5	5
	DE237	5	5
	DE239	5	5
	DE23A	5	5
	DE247	1	1A
	DE249	2	2B
	DE24A	5	5
	DE24B	5	5
	DE24C	5	5
	DE24D	1	1A
	DE256	5	5
	DE25A	5	5
	DE25C	5	5
	DE265	5	5
	DE266	5	5
	DE267	5	5

Country	NUTS 3 Region	TYPE	SUBTYPE
	DE268	5	5
	DE269	2	2B
	DE26A	5	5
	DE277	5	5
	DE278	5	5
	DE27A	5	5
	DE27B	5	5
	DE27C	5	5
	DE27D	5	5
	DE27E	5	5
	DE407	1	1A
	DE40B	1	1A
	DE40C	1	1B
	DE40D	1	1A
	DE40F	1	1A
	DE40I	1	1A
	DE715	2	2B
	DE71B	1	1B
	DE722	5	5
	DE723	5	5
	DE724	5	5
	DE725	1	1B
	DE732	5	5
	DE733	5	5
	DE735	1	1A
	DE736	5	5
	DE737	1	1A
	DE80J	1	1B

Country	NUTS 3 Region	TYPE	SUBTYPE
	DE80K	1	1B
	DE80L	1	1B
	DE80M	1	1A
	DE80N	1	1B
	DE80O	1	1A
	DE916	1	1B
	DE918	1	1B
	DE91A	2	2B
	DE922	2	2B
	DE923	1	1B
	DE926	1	1B
	DE927	1	1B
	DE928	2	2B
	DE931	1	1B
	DE932	6	6
	DE934	1	1B
	DE937	5	5
	DE938	5	5
	DE93A	1	1B
	DE947	5	5
	DE948	5	5
	DE949	5	5
	DE94A	1	1B
	DE94B	5	5
	DE94C	1	1B
	DE94E	5	5
	DE94F	5	5
	DE94G	1	1B

Country	NUTS 3 Region	TYPE	SUBTYPE
	DE94H	1	1B
	DEA1B	2	2B
	DEA28	5	5
	DEA29	5	5
	DEA2A	5	5
	DEA34	5	5
	DEA35	5	5
	DEA37	5	5
	DEA38	2	2B
	DEA43	2	2B
	DEA44	5	5
	DEA45	5	5
	DEA46	5	5
	DEA57	5	5
	DEA59	5	5
	DEA5B	5	5
	DEB12	1	1B
	DEB13	1	1B
	DEB14	5	5
	DEB15	1	1B
	DEB17	5	5
	DEB18	2	2B
	DEB1A	2	2B
	DEB1B	5	5
	DEB1C	5	5
	DEB1D	5	5
	DEB22	5	5
	DEB23	5	5

Country	NUTS 3 Region	TYPE	SUBTYPE
	DEB24	5	5
	DEB33	5	5
	DEB3B	2	2B
	DEB3D	6	6
	DEB3E	5	5
	DEB3G	6	6
	DEB3H	5	5
	DEB3K	1	1B
	DEC02	1	1B
	DEC03	2	2B
	DEC04	1	1B
	DEC05	5	5
	DEC06	1	1B
	DED2C	1	1A
	DED2D	1	1A
	DED2E	1	1A
	DED42	1	1A
	DED43	2	2B
	DED44	1	1A
	DED45	1	1A
	DED53	1	1B
	DEE01	1	1A
	DEE04	1	1A
	DEE05	1	1A
	DEE06	1	1A
	DEE07	1	1A
	DEE08	1	1A
	DEE09	1	1B
	DEE0A	1	1A
	DEE0C	1	1A
	DEE0D	1	1A
	DEE0E	1	1A
	DEF05	6	6
	DEF07	5	5
	DEF08	1	1A
	DEF0B	6	6
	DEF0C	6	6
	DEF0E	2	2B
	DEG06	1	1B
	DEG07	1	1A
	DEG09	1	1B
	DEG0A	1	1A
	DEG0B	1	1B
	DEG0C	1	1B
	DEG0E	6	6
	DEG0F	1	1A
	DEG0G	1	1A
	DEG0H	1	1A
	DEG0I	1	1B
	DEG0K	1	1A
	DEG0L	1	1A
	DEG0M	1	1A
	DEG0N	1	1A
	DEG0P	1	1B
Denmark	DK014	1	1B
	DK022	2	2B

Country	NUTS 3 Region	TYPE	SUBTYPE
	DK032	5	5
	DK041	5	5
	DK042	5	5
	DK050	5	5
Estonia	EE004	3	3C
	EE008	3	3C
	EE009	3	3C
	EE00A	3	3C
Greece	EL306	2	2B
	EL411	5	5
	EL412	5	5
	EL413	4	4
	EL421	5	5
	EL422	5	5
	EL432	6	6
	EL433	6	6
	EL511	4	4
	EL513	4	4
	EL514	4	4
	EL515	4	4
	EL521	2	2B
	EL523	3	3A
	EL524	6	6
	EL526	3	3A
	EL527	6	6
	EL531	3	3A
	EL532	3	3A
	EL533	3	3A
	EL541	3	3A
	EL542	3	3A
	EL611	6	6
	EL621	5	5
	EL622	5	5
	EL623	6	6
	EL624	6	6
	EL631	3	3A
	EL633	3	3A
	EL641	2	2B
	EL642	6	6
	EL643	3	3A
	EL644	6	6
	EL645	3	3A
	EL651	3	3A
	EL652	6	6
	EL653	3	3A
Spain	ES112	4	4
	ES230	6	6
	ES241	6	6
	ES242	6	6
	ES411	4	4
	ES416	4	4
	ES417	4	4
	ES419	4	4
	ES421	6	6
	ES422	6	6

Country	NUTS 3 Region	TYPE	SUBTYPE
	ES423	3	3B
	ES431	4	4
	ES432	4	4
	ES512	5	5
	ES513	6	6
	ES533	4	4
	ES611	4	4
	ES613	4	4
	ES615	4	4
	ES616	4	4
	ES703	5	5
	ES704	5	5
	ES706	5	5
	ES707	5	5
Finland	FI194	6	6
	FI195	6	6
	FI196	6	6
	FI1C2	6	6
	FI1C4	1	1A
	FI1C5	6	6
	FI1D1	1	1A
	FI1D3	6	6
	FI1D5	6	6
	FI1D7	6	6
	FI1D8	6	6
	FI200	5	5
France	FRB01	6	6
	FRB03	6	6

Country	NUTS 3 Region	TYPE	SUBTYPE
	FRB05	6	6
	FRC12	6	6
	FRC13	6	6
	FRC14	6	6
	FRC22	6	6
	FRC23	6	6
	FRD12	6	6
	FRD13	6	6
	FRD21	2	2A
	FRE21	6	6
	FRE22	2	2A
	FRF21	6	6
	FRF23	4	4
	FRF24	6	6
	FRF32	6	6
	FRF33	2	2A
	FRF34	6	6
	FRG02	6	6
	FRG03	6	6
	FRG05	6	6
	FRH01	6	6
	FRH04	6	6
	FRI11	6	6
	FRI13	6	6
	FRI14	6	6
	FRI21	6	6
	FRI22	6	6
	FRI31	6	6

Country	NUTS 3 Region	TYPE	SUBTYPE
	FRI32	6	6
	FRI33	6	6
	FRJ11	6	6
	FRJ12	6	6
	FRJ14	6	6
	FRJ21	6	6
	FRJ22	6	6
	FRJ24	6	6
	FRJ25	6	6
	FRJ26	6	6
	FRJ27	6	6
	FRJ28	6	6
	FRK11	6	6
	FRK12	6	6
	FRK13	6	6
	FRK21	2	2A
	FRK22	6	6
	FRK23	6	6
	FRK27	5	5
	FRK28	5	5
	FRL01	6	6
	FRL02	6	6
	FRL06	6	6
	FRM02	6	6
Croatia	HR021	3	3B
	HR022	3	3B
	HR023	3	3B
	HR024	3	3C
	HR026	3	3C
	HR027	3	3C
	HR028	3	3C
	HR032	1	1B
	HR034	3	3A
	HR036	3	3B
	HR037	5	5
	HR061	3	3C
	HR062	3	3C
	HR063	3	3B
Hungary	HU212	2	2B
	HU213	4	4
	HU223	4	4
	HU232	4	4
	HU233	4	4
	HU311	4	4
	HU312	4	4
	HU313	4	4
	HU322	4	4
	HU323	3	3B
	HU331	4	4
	HU332	4	4
Ireland	IE041	5	5
	IE042	5	5
	IE051	5	5
	IE052	5	5
	IE063	5	5
Italy	ITC12	2	2A

Country	NUTS 3 Region	TYPE	SUBTYPE
	ITC13	6	6
	ITC14	6	6
	ITC15	2	2B
	ITC16	2	2B
	ITC17	2	2B
	ITC18	2	2B
	ITC20	4	4
	ITC31	2	2A
	ITC32	2	2A
	ITC42	2	2B
	ITC44	6	6
	ITC46	2	2B
	ITC47	2	2B
	ITC48	2	2B
	ITC49	2	2B
	ITC4A	2	2B
	ITC4B	2	2B
	ITF11	4	4
	ITF12	4	4
	ITF14	4	4
	ITF21	4	4
	ITF22	4	4
	ITF32	2	2A
	ITF34	2	2A
	ITF35	2	2A
	ITF44	2	2A
	ITF45	6	6
	ITF46	4	4

Country	NUTS 3 Region	TYPE	SUBTYPE
	ITF51	4	4
	ITF52	4	4
	ITF61	3	3A
	ITF62	3	3A
	ITF63	2	2A
	ITF64	2	2A
	ITF65	2	2A
	ITG11	4	4
	ITG13	4	4
	ITG14	4	4
	ITG15	4	4
	ITG16	4	4
	ITG18	4	4
	ITG19	4	4
	ITG2D	3	3A
	ITG2E	3	3A
	ITG2G	3	3A
	ITG2H	3	3A
	ITH10	5	5
	ITH32	2	2B
	ITH33	6	6
	ITH34	2	2B
	ITH36	2	2B
	ITH37	6	6
	ITH41	2	2A
	ITH42	6	6
	ITH43	2	2B
	ITH57	6	6

Country	NUTS 3 Region	TYPE	SUBTYPE
	ITH58	5	5
	ITI11	6	6
	ITI12	2	2B
	ITI13	2	2B
	ITI16	2	2B
	ITI17	2	2B
	ITI18	6	6
	ITI19	6	6
	ITI1A	6	6
	ITI21	6	6
	ITI31	6	6
	ITI32	2	2B
	ITI33	6	6
	ITI34	6	6
	ITI35	2	2B
	ITI41	6	6
	ITI42	6	6
	ITI44	2	2A
	ITI45	2	2A
Lithuania	LT024	3	3C
	LT025	3	3C
	LT026	3	3C
	LT027	3	3C
	LT028	3	3C
Latvia	LV003	3	3B
	LV005	3	3B
	LV008	3	3B

Country	NUTS 3 Region	TYPE	SUBTYPE
MT	MT002	3	3B
Netherlands	NL111	6	6
	NL125	6	6
	NL126	5	5
	NL132	6	6
	NL133	5	5
	NL224	5	5
	NL225	5	5
	NL341	6	6
	NL342	5	5
	NL422	5	5
Poland	PL217	4	4
	PL218	4	4
	PL219	4	4
	PL21A	4	4
	PL225	4	4
	PL227	4	4
	PL228	4	4
	PL411	4	4
	PL414	4	4
	PL416	4	4
	PL417	4	4
	PL418	2	2B
	PL426	4	4
	PL427	4	4
	PL428	4	4
	PL431	4	4
	PL432	4	4

Country	NUTS 3 Region	TYPE	SUBTYPE
	PL515	4	4
	PL517	4	4
	PL518	4	4
	PL523	4	4
	PL524	4	4
	PL616	4	4
	PL617	4	4
	PL618	4	4
	PL619	4	4
	PL621	4	4
	PL622	4	4
	PL623	4	4
	PL634	4	4
	PL636	4	4
	PL637	4	4
	PL638	4	4
	PL713	4	4
	PL714	4	4
	PL715	4	4
	PL721	4	4
	PL722	4	4
	PL811	4	4
	PL812	4	4
	PL815	4	4
	PL821	4	4
	PL822	4	4
	PL824	4	4
	PL842	4	4
	PL843	4	4
	PL921	4	4
	PL922	4	4
	PL924	4	4
	PL925	4	4
	PL926	4	4
Portugal	PT111	3	3A
	PT119	4	4
	PT11B	3	3A
	PT11C	4	4
	PT11D	3	3A
	PT11E	3	3A
	PT150	5	5
	PT16B	3	3A
	PT16D	3	3A
	PT16F	3	3A
	PT16G	3	3A
	PT16H	3	3A
	PT16I	3	3A
	PT16J	3	3A
	PT181	3	3A
	PT184	3	3A
	PT185	3	3A
	PT186	3	3A
	PT187	3	3B
	PT200	5	5
Romania	RO112	3	3B
	RO114	3	3B

Country	NUTS 3 Region	TYPE	SUBTYPE
	RO115	3	3B
	RO116	3	3B
	RO121	3	3B
	RO123	3	3B
	RO124	3	3B
	RO125	3	3B
	RO211	3	3B
	RO212	3	3B
	RO214	3	3B
	RO215	3	3B
	RO216	3	3B
	RO225	3	3B
	RO311	3	3B
	RO315	3	3B
	RO317	3	3B
	RO412	3	3B
	RO413	3	3B
	RO414	3	3B
	RO422	3	3B
	RO423	3	3B
Sweden	SE122	2	2B
	SE211	2	2B
	SE213	6	6
	SE214	6	6
	SE221	4	4
	SE231	2	2B
	SE311	6	6
	SE312	6	6
	SE313	6	6
	SE321	6	6
	SE322	6	6
	SE331	5	5
	SE332	6	6
Slovenia	SI031	1	1A
	SI033	1	1A
	SI034	5	5
	SI036	5	5
	SI037	5	5
	SI043	5	5
	SI044	5	5
Slovakia	SK021	2	2A
	SK022	5	5
	SK023	3	3C
	SK031	5	5
	SK032	4	4
	SK041	4	4
	SK042	4	4