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EUROPEAN RESEARCH PROJECT //

Collecting and analysing data for the post-27 INTERREG (Core-IB)

Italy-Austria

Border profile

March 2026

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1 Introduction

1.1 Context and objective of the border profile

The ESPON Core-IB project (Collecting and analysing data for the post-27 INTERREG) provides evidence-based, non-binding analytical work to support the next generation of Interreg programmes post-2027. By collecting and analysing harmonised territorial data, the project highlights key socio-economic characteristics, cross-border interactions, and governance structures. Its spatial focus covers 48 cross-border cooperation areas (40 land and 8 maritime), including all EU internal border regions and those bordering Liechtenstein, Switzerland, and Norway. The findings are analytical and informative; they do not create regulatory or policy obligations for Member States, the European Commission, or programme authorities. Each border profile serves as a comparable knowledge base for policymakers at EU, national, and regional levels, supporting dialogue and reflection rather than prescribing policy choices. The profiles aim to provide consistent, data-driven territorial evidence that can inform strategic discussions about future cross-border cooperation and contribute to the preparation of Interreg programmes post-2027.

The Core-IB border profiles are designed to support the upcoming steps in the Interreg programming process with analyses based on data that is available at the European scale, including ESPON, Eurostat, DG REGIO, JRC, and Interreg databases. Their main purpose is to ensure comparability of data analyses and to provide programme areas with access to recent harmonised data at high geographical resolution (NUTS3 level or finer). Member States may hold additional or more detailed data which can further enrich or contextualise the findings beyond the Core-IB project. These national sources are essential for refining and validating territorial evidence in policymaking processes, including additional regional, fine-scale information and insights from political processes related to prioritisation and objective setting. All border profiles follow a systematic and methodologically robust approach. They provide territorial evidence, structured along 6 thematic dimensions, offering insights into the geographic, economic, environmental, socio-economic, border security and governance characteristics of the border region. Quantitative data and qualitative analyses are combined to ensure meaningful insights into all 48 border areas. Due to methodological constraints and limited resources, local studies and national datasets falling outside the European data framework could not be included. Visualisations, such as maps and charts based on descriptive statistics, facilitate understanding and support evidence-based policymaking. The profiles analyse the border region as a whole at NUTS3 (2021) level (corresponding to the current Interreg VI-A programme area)[1] and position it within a broader European context. For comparative purposes, several reference categories are applied:

- European averages (EU27 + Norway, Switzerland and Liechtenstein, depending on data availability)
- National averages
- National border region averages
- Aggregated border region averages

To complement the quantitative evidence, the profiles also draw on strategic and qualitative sources, including:

- Strategic documents from the Interreg Programme 2021-2027
- Border Orientation Papers from the 2021-2027 programming period
- Information from the keep.eu database on cross-border cooperation activities
- Information from the Cohesion Open Data platform
- Information from the b-solutions initiative

[1] As defined by Annex 1, Commission Implementing Decision (EU) 2022/74 of 17 January 2022, as amended by Commission Implementing Decision (EU) 2023/1638 of 14 August 2023 (OJ L204, 17.8.2023, p. 9): https://eur-lex.europa.eu/eli/dec_impl/2022/75/oj/eng

› Information from recent ESPON Projects (i.e., CROSSGOV, House4All, PROFECY Update, CPS 2.0)

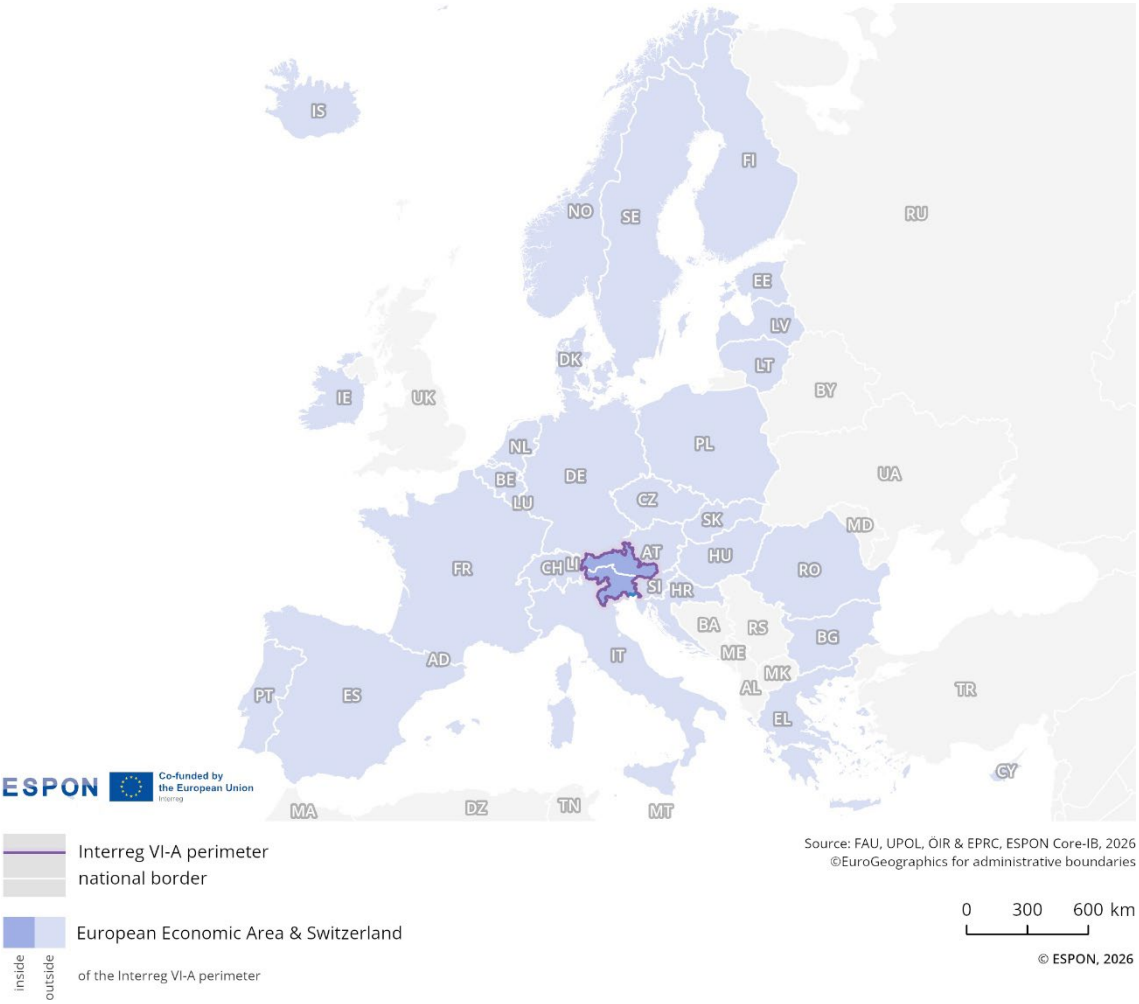
Within the ESPON framework, the CROSSGOV project (Governance mechanisms for cross-border functional areas) has been implemented in parallel to Core-IB. The CROSSGOV hub[2] provides a comprehensive platform for interactive data exploration, and selected data have been incorporated into this study.

Additional project-related information can be explored separately in the Core-IB **Final Report**. Further technical information on this border profile can be found in a separate **Technical Annex** providing an overview of data and methods.

1.2 Presentation of the border area

The Interreg VI-A border region 'Italy–Austria' covers the area between north-eastern Italy and south-western Austria (see Figure 1.1). In Italy, the programme area includes most of the regions of Veneto, South Tyrol, and Friuli-Venezia Giulia in north-eastern Italy, comprising a total of 8 NUTS3 regions. In Austria, it covers parts of the federal states of Tyrol, Carinthia, and Salzburg, located in western and southern Austria, encompassing a total of 11 NUTS3 regions.

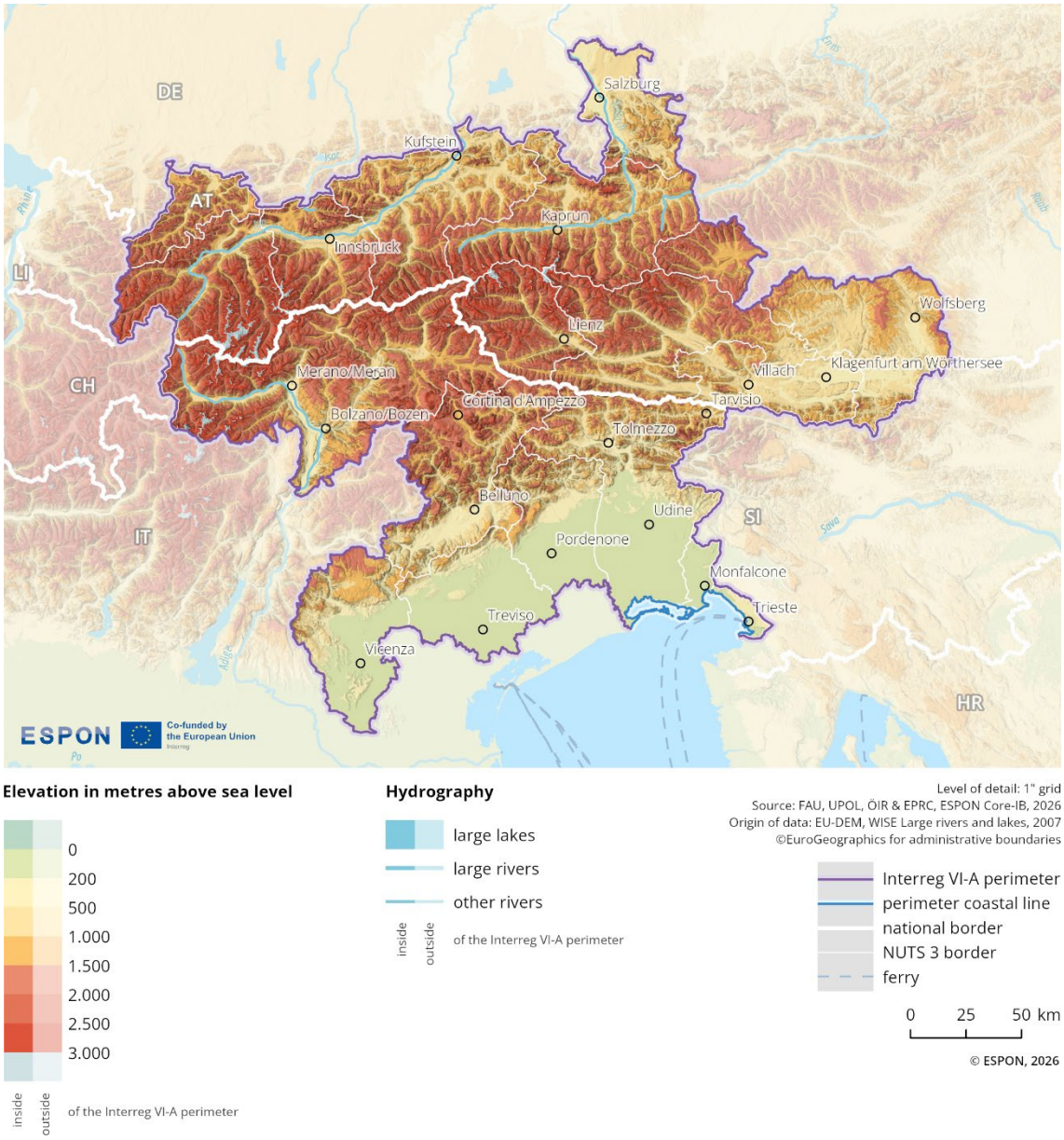
Figure 1.1: Overview map



[2] ESPON CROSSGOV Hub: https://gis-portal.espon.eu/arcgis/apps/experiencebuilder/experience/?id=27e3b86ef44441b08793a2239c370607

Figure 1.2 illustrates the cross-border region's geomorphological features and the perimeter of the current Interreg VI-A programme area. Spanning around 50,000 km², the border area is characterised by significant natural heterogeneity and a dominance of Alpine landscapes. Extending along the entire 430-kilometre length of the Austrian–Italian border, the region is dominated by high mountain ranges, deep valleys and a complex geological structure.

Figure 1.2: Geographical features and characteristics[3]



The terrain is predominantly mountainous and includes the Eastern Alps, such as the Carnic Alps, Julian Alps, Dolomites, Zillertal Alps and High Tauern. Elevations range from low foothills to peaks exceeding 3,000 metres, such as the Grossglockner and the Marmolada, resulting in significant vertical relief.

[3] The selection of displayed settlements is based on factors such as size, administrative or cultural importance, transport links, regional coverage and cartographic clarity. This is part of a standard cartographic generalisation process with no pre-set thresholds, and the main aim is to provide orientation

The topography is strongly shaped by historic glacial and fluvial processes. A significant portion of the cross-border region is covered by forest, particularly on the northern and southern flanks of the Alpine ranges. Above the tree line, the landscape is dominated by alpine meadows, rock faces, and glaciers. The border area includes several high mountain passes and forms a major European watershed between the Danube and Adige/Po river basins.

The natural environment is characterised by high biodiversity, varied microclimates and fragile ecosystems. The cross-border region's environmental and geological value is reflected in its protected areas, such as the Hohe Tauern and Dolomiti Bellunesi, as well as its UNESCO World Heritage and Natura 2000 sites. These geographical features contribute to the region’s distinct natural character, defining its role as a central section of the Alpine arc.

2 Cross-border analysis

2.1 Territorial dimension

The territorial dimension refers to the spatial characteristics and dynamics of a border region. It specifically depicts how factors such as population density, demographic trends, changes in settlement areas and accessibility influence and reflect cross-border integration.

2.1.1 Population and settlements

This sub-dimension illustrates the population characteristics and land use dynamics of the border region, based on analysed indicators. It examines population density, population development by age groups, and changes in settlement areas. The analysis highlights whether the border functions as a catalyst for integration or as a barrier. Comparisons with the respective countries and the EU average provide context for understanding the cross-border region's dynamics.

2.1.1.1 Population density

Indicator description

Population density refers to the number of residents per km². This indicator shows the number of inhabitants per square kilometre in a 1x1 km grid. It therefore provides information on the distribution and concentration of population across the region and allows to identify agglomerations of high density. In particular agglomerations at or close to the border area of key interest.

- **Source**: Eurostat
- **Temporal coverage**: 2021
- **Unit**: Inhabitants/km^2

Please refer to the technical annex for more information.

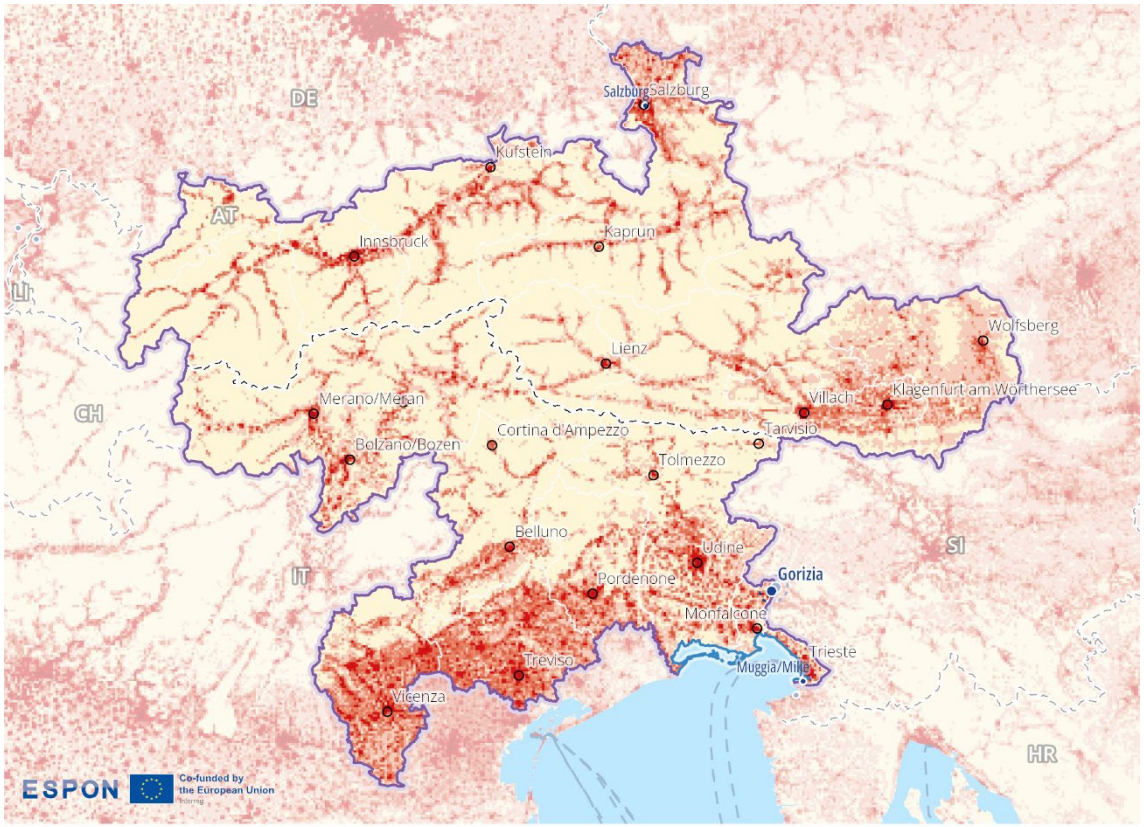
The border region includes 5 urban centres with a population of over 30,000 inhabitants. Figure 2.1 shows that the areas near the border from both sides are sparsely populated. In Austria, the population is concentrated in the Alpine valleys around the rivers Inn and Salzach. The bigger towns are Innsbruck (130,000 inhabitants) and Salzburg (155,000 inhabitants), surrounded by densely inhabited areas. The other towns are Kufstein, Villach and Lienz. In the Italian section of the border 2 distinct areas can be differentiated. The north is comparably sparsely inhabited, and the southern part is more and continuously inhabited. In the northwest, there are 2 bigger towns, Merano/Meran and Bolzano/Bozen. Towns like Vicenza, Treviso, Pordenone, and Udine each have populations under 100,000 inhabitants. Trieste, however, has 330,000 inhabitants.

The population density in this whole border region is 103 inhabitants/km², which is comparable to the EU average of 109 inhabitants/km² (according to EUROSTAT), and it is therefore lower than the aggregated average of all EU evaluated border regions, which is 125 inhabitants/km².

The part of the border region in Austria has an average population density of around 63 inhabitants/km². It is therefore lower than the national average population density in Austria (106 inhabitants/km²).

The part of the border region in Italy has an average population density of around 149 inhabitants/km². It is therefore lower than the national average population density in Italy (193 inhabitants/km²).

Figure 2.1: Spatial patterns of population distribution



Number of inhabitants/km² (2021)

- 1–50
- 51–100
- 101–200
- 201–500
- 501–1,000
- 1,001–5,000
- 5,001–56,158
- no population

inside / outside of the Interreg VI-A perimeter

Twin cities (2025)

cities/towns with 10,000+ inhabitants not further than 5km from another one accross a country border

Border cities (2025)

other cities/towns with 10,000+ inhabitants not further than 10km from another one accross a country border

Level of detail: 1km grid
Source: FAU, UPOL, ÖIR & EPRC, ESPON Core-IB, 2026
Origin of data: GISCO Population Grid (version 1.3), 2021
OpenStreetMap, 2025
©EuroGeographics for administrative boundaries

- Interreg VI-A perimeter
- perimeter coastal line
- national border
- NUTS 3 border
- ferry

0 25 50 km

2.1.1.2 Population development (by age groups)

Indicator description

Population development refers to the percentage change in population at regional level between 2014 and 2024. The data reflects on the total population, as well as on the age groups 0-14, 15-64 and 65+.

- **Source**: Annual Regional Database of the European Commission (ARDECO)
- **Temporal coverage**: 2014-2024
- **Unit**: Change in %

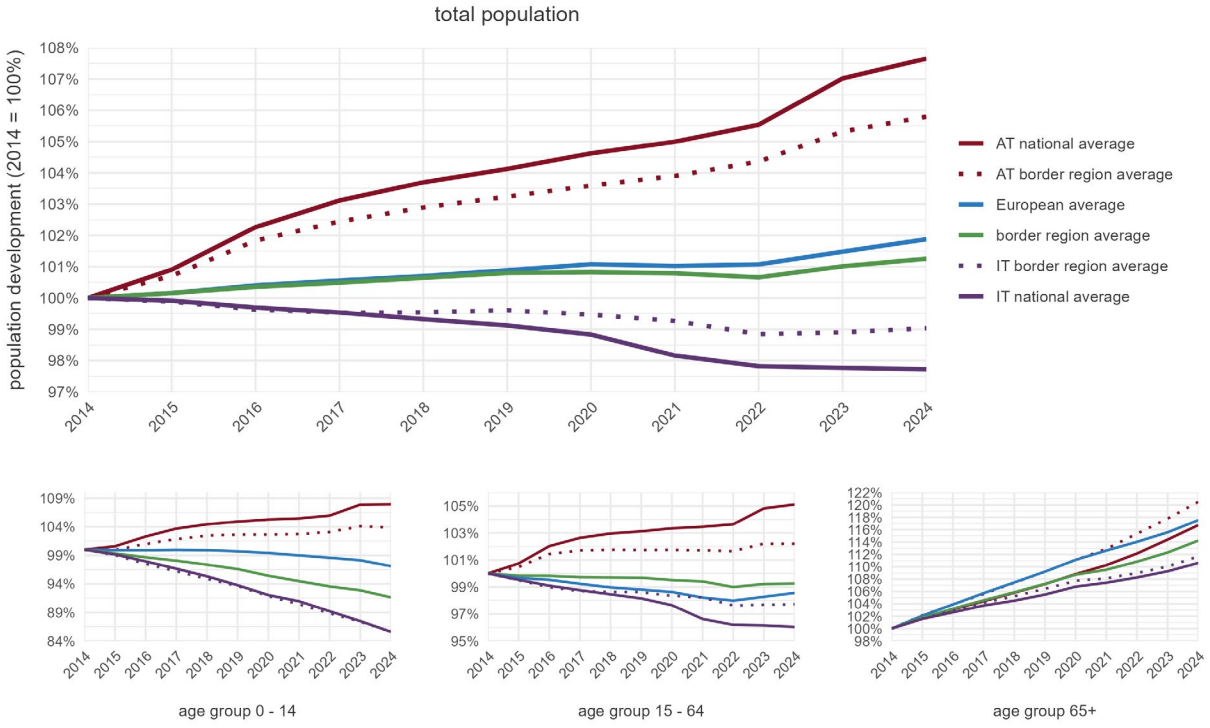
Please refer to the technical annex for more information.

Population in the Italy–Austria region in 2024 (Eurostat): 5.6 million inhabitants, of which:

- 65.6% in the Italian border territory (3.7 million inhabitants)
- 34.4% in the Austrian border territory (1.9 million inhabitants)
- Region within the border region with the highest population increase since 2014: Tiroler Unterland (AT335) at 8.6%

Figure 2.2 shows the population growth in the Italy–Austria region between 2014 and 2024. During this period, the whole cross-border region has experienced a slight growth of 1.3%, with the highest growth rate observed on the Austrian side.

Figure 2.2: Population development (2014=100)



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Population growth across the border region is slightly below the European average (1.3% vs. 1.9%) and very similar to the average development in all border regions (1.3% vs. 1.5%). While the Italian parts

show a decline both at the regional and national level (-1.0% vs. -2.3%), the Austrian border area shows moderately lower growth than the national average (5.8% vs. 7.7%).

In terms of the development of individual age groups in the whole cross-border region, the population aged 0–14 experienced a considerable decrease of -8.4%, while the working-age population (15–64) showed a slight decrease of -0.7%. The population aged 65 and over underwent a notable increase of 14.2%.

2.1.1.3 Change in settlement areas

Indicator description

The indicator shows the relative change in settlement areas per LAU in the border region. It considers changes in land cover, from non-artificial areas (such as agricultural, forest and seminatural areas, wetlands and water bodies) to artificial areas (such as urban, industrial, construction sites) between 2012 and 2018. This indicator has to be viewed alongside population development in particular.

- **Source/method of retrieval**: The indicator is retrieved via processing of raster data from CORINE Land cover. The raster information is crossed with Local Administrative Units (LAU) to calculate a change in %.
- **Temporal coverage**: 2012-2018
- **Unit**: Change in %

Please refer to the technical annex for more information.

Figure 2.3 illustrates the change in settlement areas at municipal level between 2012 and 2018. Overall, the map shows quite similar patterns of change in settlement areas on both sides of the Italian-Austrian border. Changes are evident in particular around the urban centres of Innsbruck, Salzburg, Pordenone and Vicenza. Kufstein, Lienz, Villach, Merano/Meran, Bolzano/Bozen, Tolmezzo, Udine, Trieste and Treviso show no significant changes during the observed time period. High growth in settlement areas is particularly evident between Treviso and Vicenza as well as in the valley between Innsbruck and Liezen. In close proximity to the national borders, the settlement area increases mainly around Zell am Ziller in Austria. The map also reflects the topographical characteristics of the border region, with hardly any changes in settlement areas visible in steep, high-altitude mountainous areas.

Figure 2.3: Settlement area dynamics

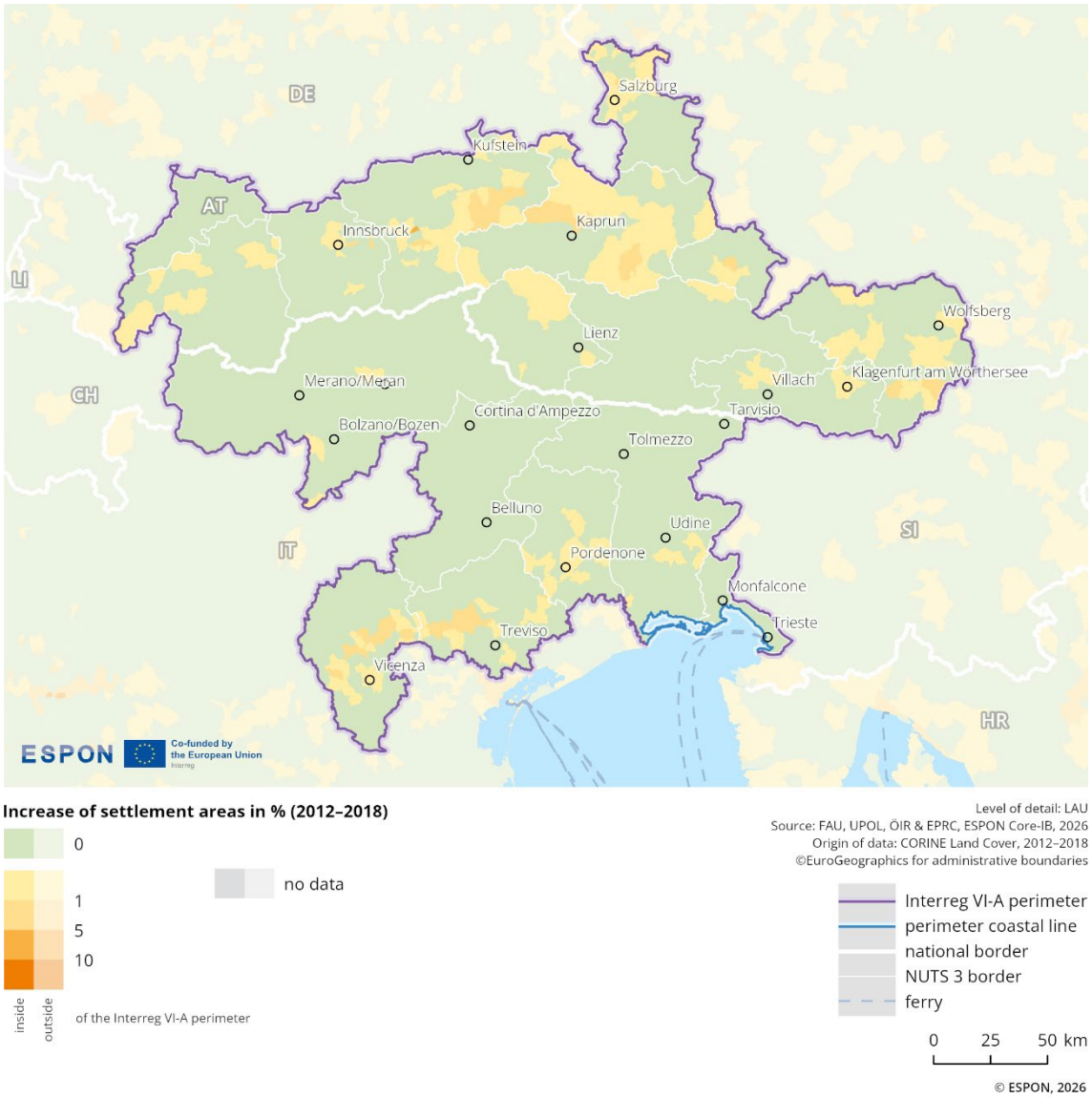
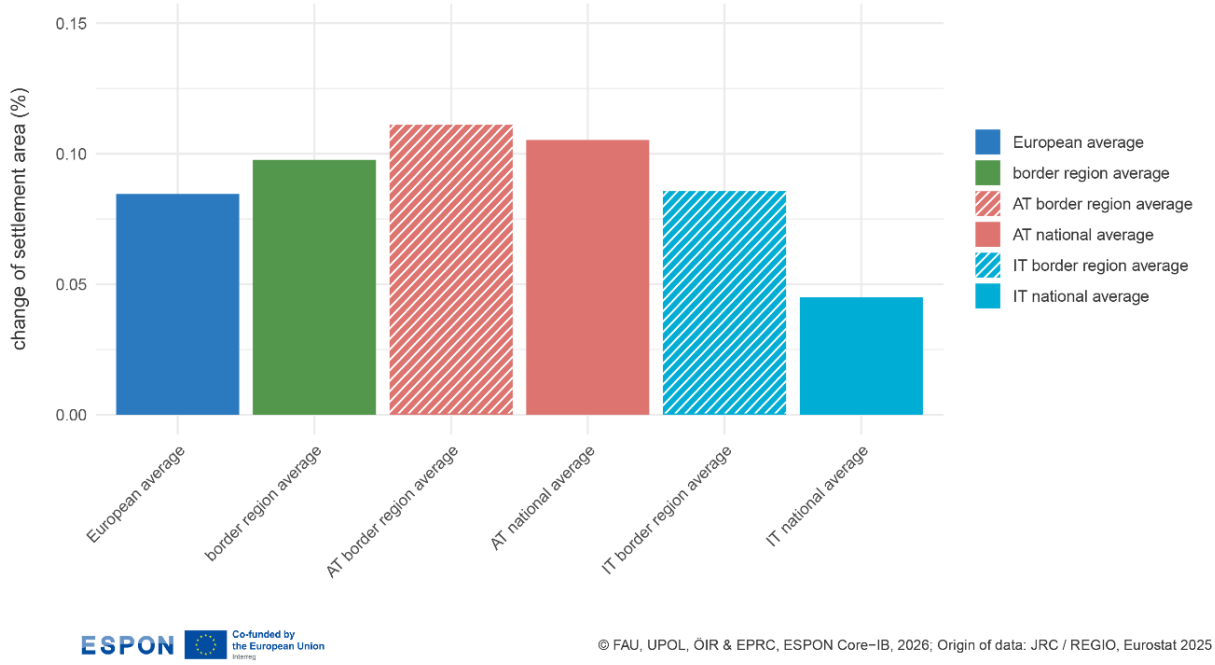


Figure 2.4 presents the change in settlement areas from a comparative perspective. The average for the Italy-Austria programme area is similar to the overall European average (around 0.09%), which includes both EU member states and the EFTA countries Liechtenstein, Switzerland and Norway. The Austrian values are higher than the Italian ones, which applies for both, the national average as well as the border regions. The Austrian border-regional average lies slightly above the national Austrian average (0.11% vs. 0.10%), whereas the Italian border-regional average is higher than the national Italian average (0.08% vs. 0.04%).

In general, the programme area shows a moderate settlement development. The need for an integrated approach to spatial development is obvious. Spatial development has to balance the various demands on land use (e.g., residential, commercial, tourism, transport, agriculture, and nature conservation), and this requires ongoing coordination and exchange, also across the border.

Figure 2.4: Change in settlement areas (2012-2018) (comparison)



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2.1.2 Accessibility of the border area

This sub-dimension illustrates the functional travel connections that already exist in the border region. It examines average cross-border travel times for different modes of transport and cross-border catchment areas based on mobility flows. It also considers travel times to and from border crossings. The analysis shows whether mobility flows are integrated between border regions or if the border hampers mobility.

2.1.2.1 Comparative quality of selected cross-border connections

Indicator description

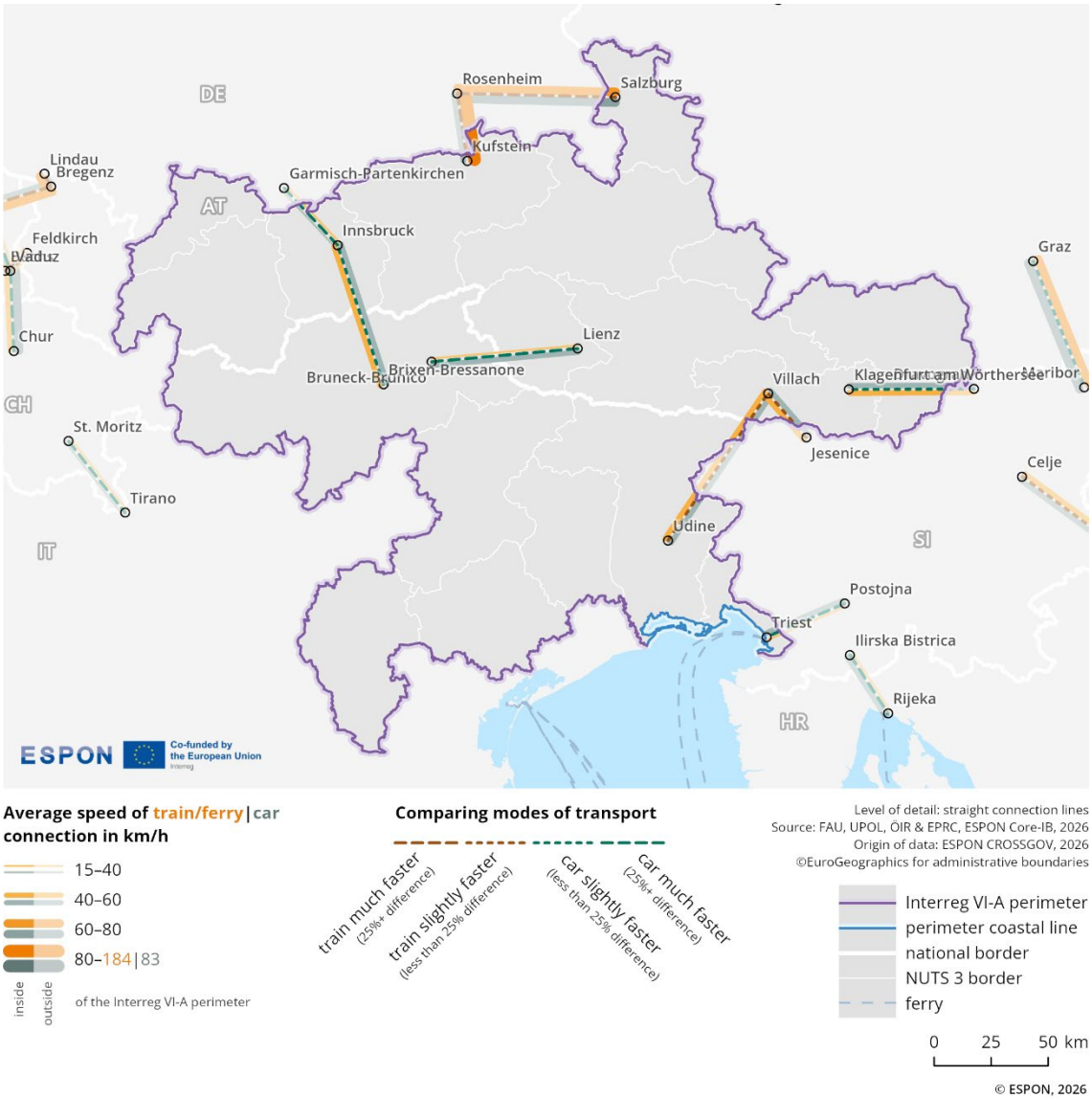
The indicator presents a comparative perspective for different modes of transport (public and private) and their average travel speed (so-called space-time-lines). As such it helps to understand and interpret accessibility patterns along the border and highlights the comparative quality of selected cross-border connections.

- **Source/method of retrieval**: Average number and speed of rail connections/ferries, average speed of car connections between selected cities and towns in border regions using Rail Travel Sites, Google Maps, luftlinie.org, Direct Ferries, local ferry companies
- **Temporal coverage**: 2025 (first quarter)
- **Unit**: km/h

Please refer to the technical annex for more information.

Cross-border accessibility shapes cross-border interactions. Figure 2.5 illustrates this using a "space-time-line" map, which shows parts of a European overview of car and train travel times in the Italy-Austria border region. This visualisation enables an assessment of transport quality by highlighting differences between public (train) and private (car) transport modes.

Figure 2.5: Comparative quality of selected cross-border connections



The selection of cities and connections covered is based on a set of criteria applied throughout Europe within the ESPON CROSSGOV project[4]. These criteria include the presence of a railway station, population size, distance to the border, node hub and functionality. The thickness of the lines (orange for trains, grey for cars) indicates the average speed of connections in km/h, with thicker lines representing faster connections. Dotted lines in-between reflect the indexed ratio between train and car speeds. A brown colour scale (values below 100) denotes that trains are faster than cars along the specific route, while a green scale (values above 100) indicates the opposite.

The selected connections within the programme area include Innsbruck–Brixen/Bressanone and Bruneck/Brunico–Lienz. On both of these routes, car travel outperforms train connections in terms of speed. The Bruneck/Brunico–Lienz connection only offers a very slow train option.

[4] ESPON CROSSGOV Atlas, see Storymap on 'Space-time-lines': https://gis-portal.espon.eu/arcgis/apps/storymaps/collections/345c978adf784ad-fac30c16b90219d35?item=4

2.1.2.2 Cross-border catchment area based on mobility flows

Indicator description

This indicator measures the movement of people across borders. The density of cross-border movements by Twitter/X users is displayed on a grid cell covering an area of 20x20 km. The indicator does not differentiate between reasons for movement.

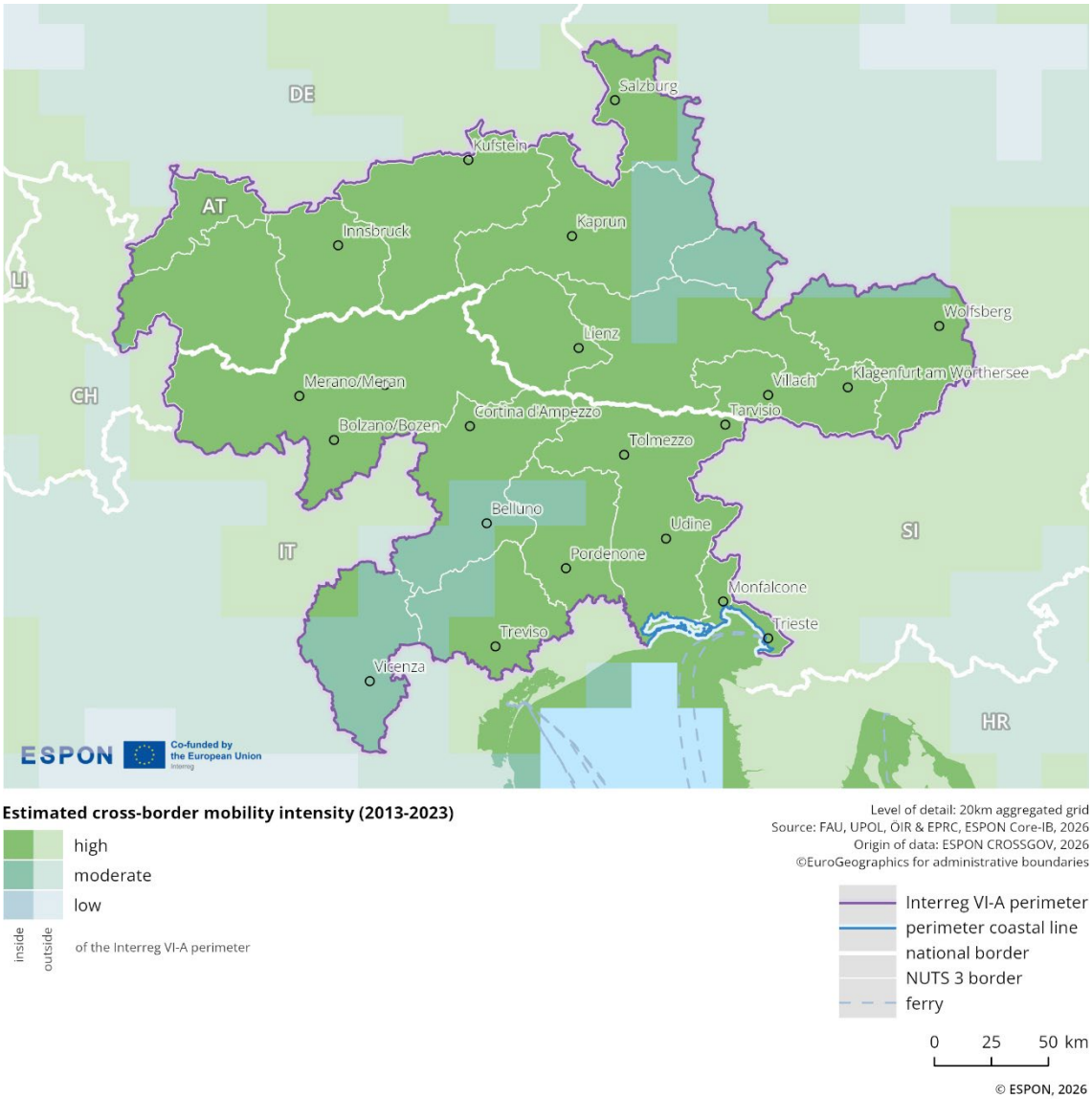
- **Source/method of retrieval**: The indicator is calculated based on Twitter (currently X) data. The digital footprint of individual users provides information about physical mobility flows and is used to calculate cross-border catchment areas of different intensity.
- **Temporal coverage**: 2013-2023
- **Unit**: n/a

Please refer to the technical annex for more information.

Figure 2.6 shows the cross-border catchment area in the border region based on mobility flows from 2013 to 2023, highlighting estimated cross-border mobility intensity across 3 different quartiles. The first quartile represents the 25% highest mobility intensity shown in dark green, the second quartile represents 25-50% coloured in green-blue, and the third quartile represents 50-75% in light blue.

The intensity of cross-border mobility of people within this cross-border region is homogeneous. The highest mobility intensity is recorded across most of the cross-border region's territory. Moderate mobility intensity is observed in the southern part of the Italian section of the region, around the city of Vicenza, and also in larger parts of the Land Salzburg.

Figure 2.6: Cross-border mobility intensity



2.1.2.3 Cross-border travel-time accessibility

Indicator description

The indicator shows the time it takes to travel from any location within a region to the next border crossing, using grid data and subsequent categorisations into accessibility groups of 30, 60 and 90 minutes. It reflects the accessibility in cross-border areas, considering road transport. The indicator can describe the quality and speed of road connections and thus spatial reach of the cross-border services.

- **Source/method of retrieval**: Based on the OpenStreetMap road network, the travel time to the border is calculated for a grid of the border are. Based on this, areas are calculated within which border crossings can be reached below thresholds of 30, 60 and 90 minutes. As additional visual element, key services pharmacies, doctors, hospitals and shops (retrieved from the ESPON PROFECY project) are displayed and categorised into the accessibility groups.
- **Temporal coverage**: 2025 (first quarter, for accessibility data), 2021 (for service facility data)
- **Unit**: Minutes

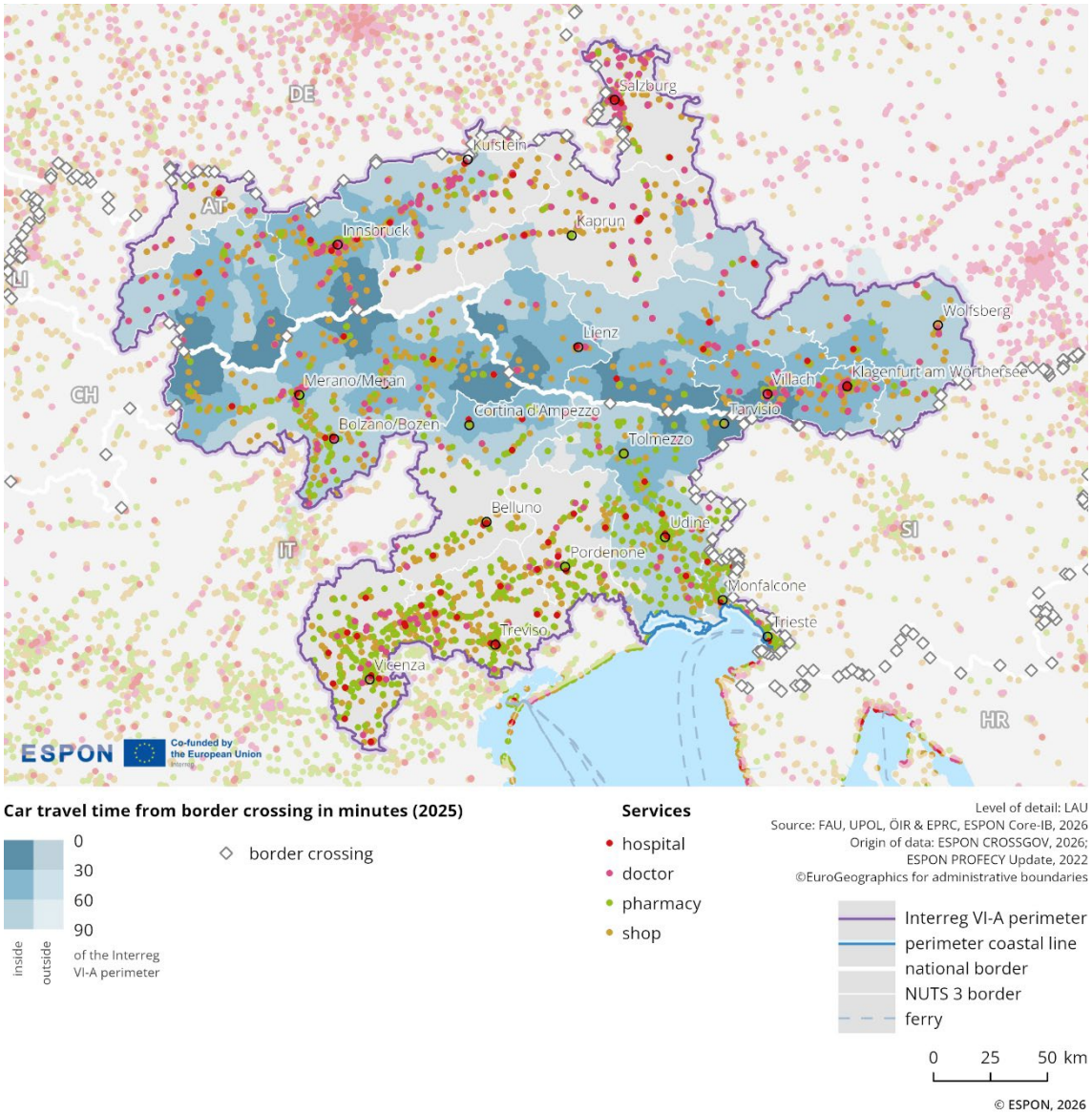
Please refer to the technical annex for more information.

Figure 2.7 illustrates cross-border travel time accessibility in the Interreg area, showing the time distance from the national border in 2025. The legend indicates 3 travel time categories in minutes (30, 60, 90) represented by different shades of blue. In addition, it marks the location of services, including hospitals, doctors (general practitioners), pharmacies, and shops (supermarkets and conventient stores), with distinct coloured symbols.

The map shows that along the entire cross-border region there is various travel time accessibility. In a few isolated areas near the border, accessibility is good, with travel times of less than 30 minutes. Only in about 3 areas is this short 30-minute accessibility available from both sides of the border. In other areas, accessibility is lower, with travel times of up to 60 minutes. In a few areas, accessibility is even up to 90 minutes. The variable accessibility along the border indicates a highly variable density of the road network and is particularly linked to the topographic conditions.

Services such as shops, hospitals, doctors' offices, and pharmacies are concentrated mainly around main roads where towns are located. The larger concentration of services are available in Villach (with a travel time of up to 30 minutes) and Innsbruck (with a travel time of up to 60 minutes). Other Italian towns, like Treviso or Vicenza, with a concentration of services, are far from the border, requiring more than 90 minutes of travel time.

Figure 2.7: Travel-time accessibility from border crossings



2.1.3 Key messages on the territorial dimension

Topographic conditions have a strong influence on the territorial structure of the Italy–Austria border region, as the alpine valley structure dominate a large part of the whole area, including almost all Austrian programme regions as well as the majority of Italian programme regions. This physical structure influences both settlement patterns and accessibility, however with some distinct differences between the 2 countries involved. Population is concentrated in valleys and larger towns such as Innsbruck, Salzburg, Bolzano/Bozen and Trieste, while large parts of the area naturally remain sparsely populated. Settlement structure is denser in the south of the programme area, which also includes the more dynamically developing regions. The north of Italian regions in the programme is characterised by scattered settlements and comparably limited growth. In contrast, Austrian valleys have seen moderate increases in settlement areas, particularly in the Inn valley and near towns such as Salzburg.

These spatial patterns are closely reflected in Demographic trends: characterised by an overall slight increase for the whole border area, the Austrian regions within the programme have experienced moderate population growth in the past decade (considerably exceeding European level development) while the Italian regions saw even a slight decline. Ageing on the other hand is a shared challenge, with

a shrinking proportion of younger age groups and an increasing elderly population throughout the whole cross-border region.

Accessibility reflects both natural constraints and uneven infrastructural development. Mountainous terrain naturally hinders cross-border connectivity, with only a few valleys providing feasible routes. Despite this structure aligning with the most densely populated areas, connectivity throughout the whole cross-border region is limited. Road connections in most cases outperform rail, and travel times to the border often exceed 60 or even 90 minutes. Consequently, access to services is highly uneven, with Austrian cities with high service provision being located usually within 60 minutes of the border, while Italian cities with high service provision oftentimes being located up to 90 minutes from the border.

From a territorial perspective, strong contrasts between the alpine north and centre and the interface and lowland regions from the centre to the south. Areas of comparably strong urban development and good connectivity exist same as sparsely populated mountainous regions where accessibility is challenging. Despite all those challenges, actual mobility of people within the border region is high in the European perspective, showing robust functional linkages despite natural obstacles.

2.2 Economic dimension

The economic dimension includes analyses of gross domestic product, labour market conditions, competitiveness, and key infrastructure and housing indicators. The aim is to illustrate the impact of the border on economic performance, whether it acts as a barrier or a bridge, and the extent to which integration is supported by labour mobility, remote working, and infrastructure connectivity.

2.2.1 Gross Domestic Product

This sub-dimension illustrates the economic situation of the border region by analysing gross domestic product (GDP). It shows economic development within the border region and how this has changed over time. Comparisons with the respective countries and the EU average provide important context for understanding the region's dynamics.

2.2.1.1 Gross domestic product per capita at current market prices

Indicator description

The indicator shows the regional GDP/capita in current prices and its development over the past years. It highlights structural differences and similarities between the border region and the respective national figures as well as the European average. Furthermore, it highlights patterns within the border region, although has to be interpreted with care in the case of a strong presence of commuters.

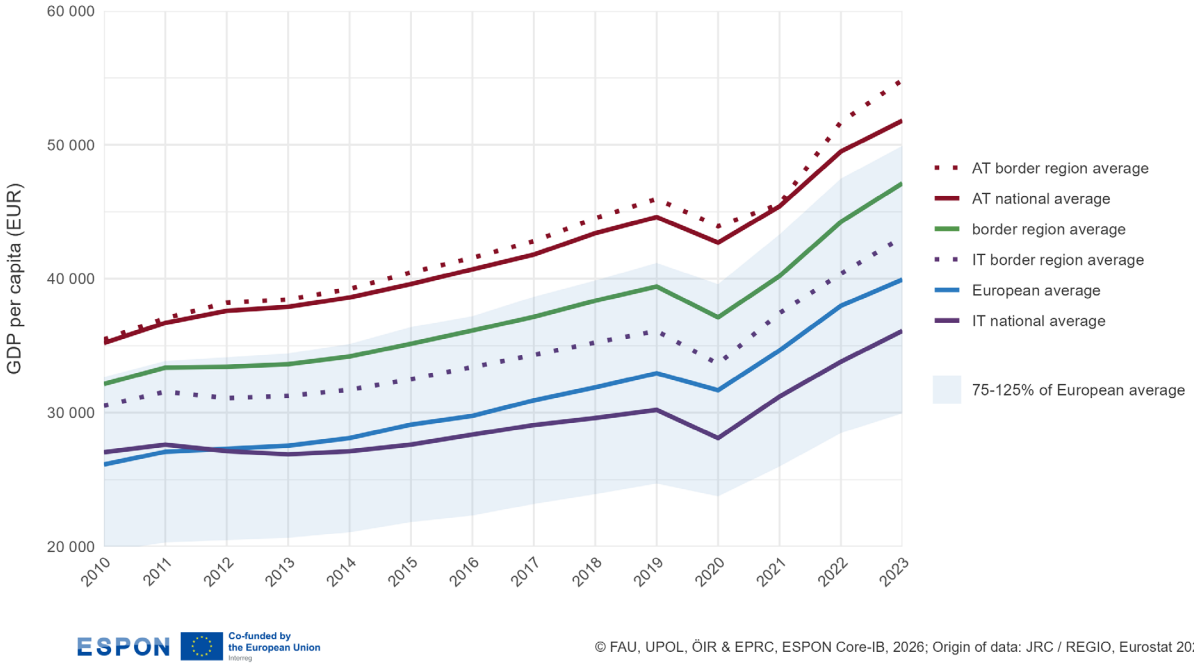
- **Source**: Eurostat, Annual Regional Database of the European Commission (ARDECO)
- **Temporal coverage**: 2010-2023
- **Unit**: Euro per capita

Please refer to the technical annex for more information.

The whole border region shows a GDP/capita value of 122.5% of the EU average in 2022 and 124.4% of the average of European border regions in general. The cross-border region marks a 30.0% increase

of GDP per capita in the border region between 2014 and 2022[5]. This corresponds to a 5.7 percentage points lower increase of GDP per capita in the border region compared to the EU average. Furthermore, this corresponds to a 5.2 percentage points lower increase of GDP per capita in the border region compared to the average of European border regions. The GDP per capita of the Italian border region is significantly higher than the Italian average. The growth in GDP per capita throughout the border region is similar to the EU average.

Figure 2.8: Gross domestic product at current market prices (per capita)



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[5] Percentage changes are calculated using Eurostat data to ensure harmonised statistics from official sources. The latest year for which full coverage of all European regions is available on Eurostat is 2022. For visualisation purposes, ARDECO data has been used to enable longer time series to be visualised by filling the official dataset's existing gaps with model-based estimates. Therefore, slight deviations between the calculation and visualisation are possible.

2.2.2 Labour market and commuting

This sub-dimension highlights the existing and potential functional links within the labour market of the border region. It examines the employment situation and commuting patterns, as well as the role of telework agreements, and considers developments over time based on analysed indicators. The analysis identifies factors that facilitate or hamper cross-border labour market integration.[6]

2.2.2.1 Share of employment

Indicator description

This indicator shows the share of employees in the population aged 15 to 64. Although it does not fully capture entrepreneurs, marginal employees, or civil servants, this is an important statistic for understanding general labour market patterns. It covers 2 aspects: first, high values can result from a high proportion of the resident population being employed. Second, high values can result from a high number of incoming commuters (from other NUTS3 regions within the country or from neighbouring countries). The same arguments apply to low values: they may indicate low levels of employment, or they may result from high shares of outgoing commuters. Values of more than 100% are possible, since the number of incoming commuters can exceed the number of inhabitants aged 15 to 64 (including both domestic and cross-border commuters).

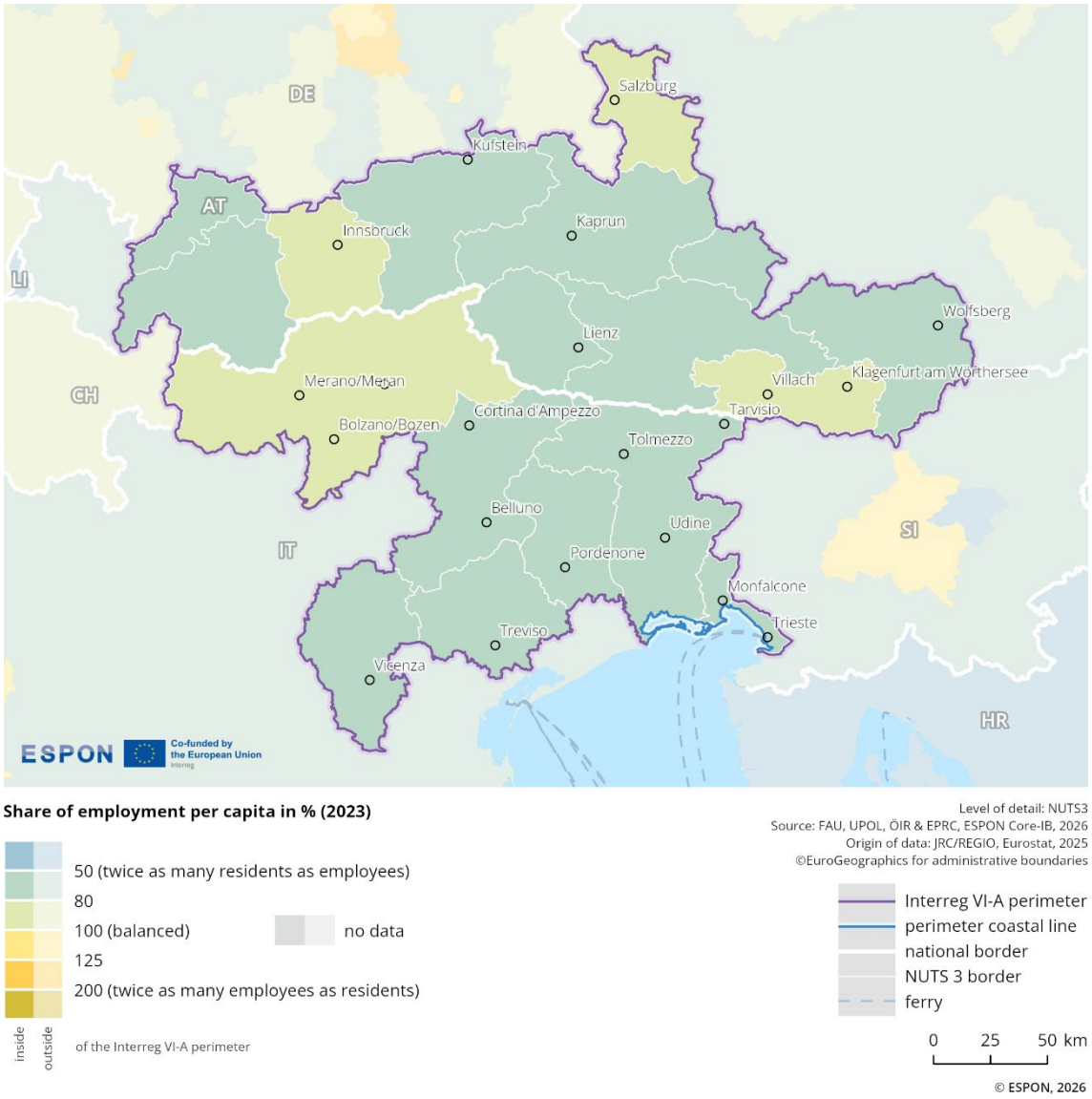
- **Source**: Eurostat, Annual Regional Database of the European Commission (ARDECO)
- **Temporal coverage**: 2014-2023
- **Unit**: Share in %

Please refer to the technical annex for more information.

Figure 2.9 illustrates the share of employment per capita in the population aged 15 to 64 in 2023. The data are categorised into ranges from below 50% (twice as many residents aged 15 to 64 as employees) to above 200% (twice as many employees as residents aged 15 to 64), with 100% representing a balanced ratio. Blue or green-coloured regions indicate more residents aged 15 to 64 than employees, while yellow regions indicate more employees than residents aged 15 to 64.

[6] See also: European Commission 2024: Cross-Border Regional Labour Market Analysis, https://op.europa.eu/s/AazM

Figure 2.9: Employment share[7]



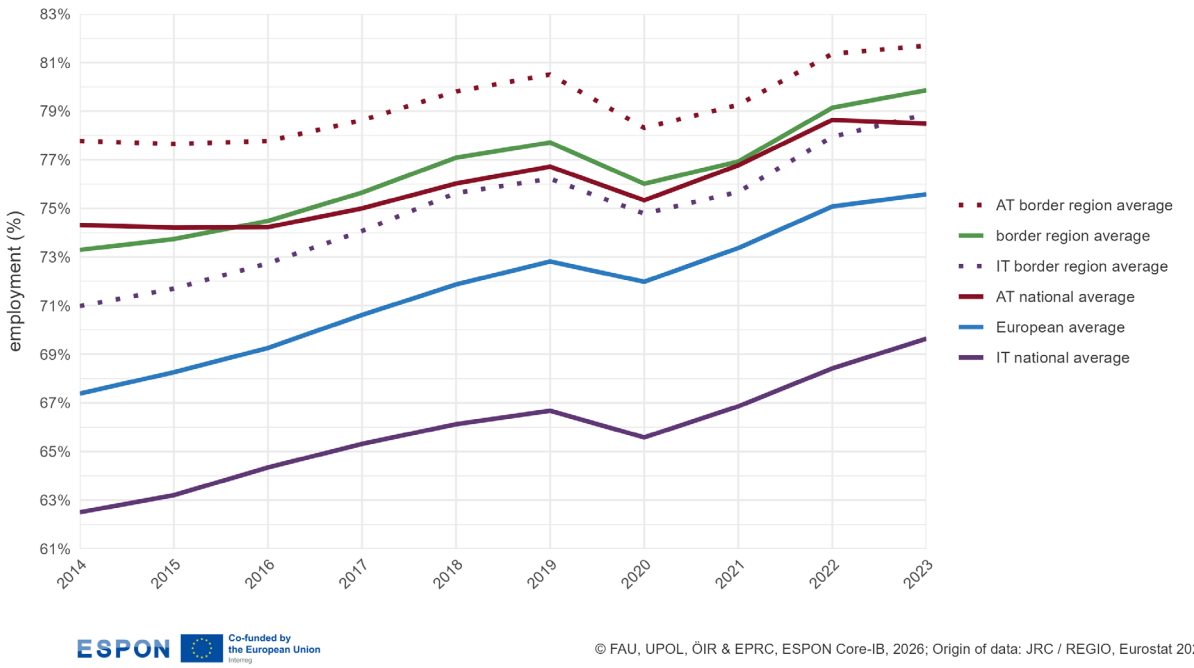
The share of employment in this border region is rather stable, with an average of 79.9% in 2023, representing an increase of 6.6 percentage points since 2014. Employment share values mostly range from 50% to 80% across much of the cross-border region. Around the cities of Innsbruck, Merano/Meran, Bolzano/Bozen, Salzburg, and Villach, the share of employment ranges from 80% to 100%. When comparing the share of employment in this border region with different averages, the following can be observed (see Figure 2.10):

- Compared to the European average, values in the cross-border region are higher by 4.3 percentage points; in 2014, the difference was 5.9 percentage points.
- Compared to the Italian average, values in the cross-border region are higher by 10.2 percentage points; in 2014, they were higher by 10.8 percentage points.
- Compared to the Austrian average, values in the cross-border region are higher by 1.4 percentage points; however, in 2014, they were lower by 1 percentage point.

[7] Note: In this map, 'residents' refers to the population aged 15 to 64.

- The Austrian border area reaches values 3.2 percentage points higher than the Austrian national average, while the Italian border area is 9.2 percentage points higher than the Italian national average.
- Compared to the average of all cross-border regions, values are higher by 5.4 percentage points, whereas in 2014 they were higher by 7 percentage points.

Figure 2.10: Employment share over time (comparison)



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2.2.2.2 Share of working-age population

Indicator description

This indicator shows the share of people aged 15 to 64 in the total population, reflecting the potential working-age population. The population counted includes all residents who live in the country permanently, excluding foreign students and military personnel. Using the 15–64 age range is a standard European statistical proxy, since differences in retirement age or labour participation across countries cannot be captured systematically. It allows for regional differentiation of potential workforce throughout the border region.

- **Source**: Eurostat, Annual Regional Database of the European Commission (ARDECO)
- **Temporal coverage**: 2014-2023
- **Unit**: Share in %

Please refer to the technical annex for more information.

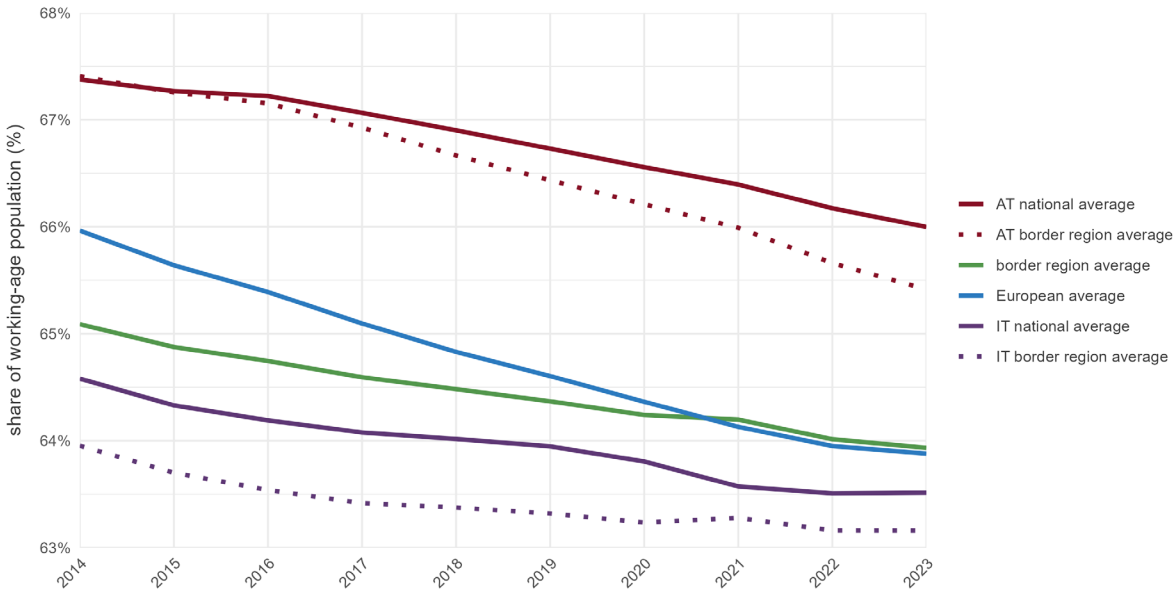
Figure 2.11 illustrates the evolution of the share of the working-age population in the Italy–Austria cross-border region between 2014 and 2023. In 2023, the whole cross-border region shows an average working-age population share of 63.9%, compared to the European average of 63.9% and 63.7% for the average of all cross-border regions.

The share of the working-age population in the whole cross-border region is moderately higher than the Italian border-region average (63.2%), and moderately lower than the Austrian border average (65.4%). Compared to national levels, it is moderately lower than the Austrian national average (66.0%), and very similar to the Italian national average (63.5%).

The whole cross-border region experienced a slight decrease of 1.2 percentage points in the share of the working-age population between 2014 (65.1%) and 2023 (63.9%). This decline is somewhat slower than the European average, which dropped by 2.1 percentage points in the same period. While all areas in the cross-border region show a declining trend, the rate of decline has been more pronounced in the Austrian parts (-2.0 percentage points at the border and -1.4 percentage points at the national level) than in the Italian parts (-0.8 percentage points at the border and -1.1 percentage points at the national level).

The Italy–Austria cross-border region experienced a slight overall decline in the share of the working-age population between 2014 and 2023. In 2023, the cross-border region remained close to the European and cross-border averages, with differences in the pace of change evident on both sides of the border.

Figure 2.11: Share of working-age population over time (comparison)



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2.2.2.3 Employment by sector

Indicator description

The indicator differentiates the number of jobs in a region by sector. This indicator focuses on workplace-based employment, providing insight into the employment landscape of a region. The dataset can be disaggregated according to "10-sector" NACE (Nomenclature statistique des activités économiques dans la Communauté européenne) classifications, allowing for detailed analysis of employment distribution across various industries.

- **Source**: Eurostat, Annual Regional Database of the European Commission (ARDECO)
- **Temporal coverage**: 2014-2023
- **Unit**: Share in %

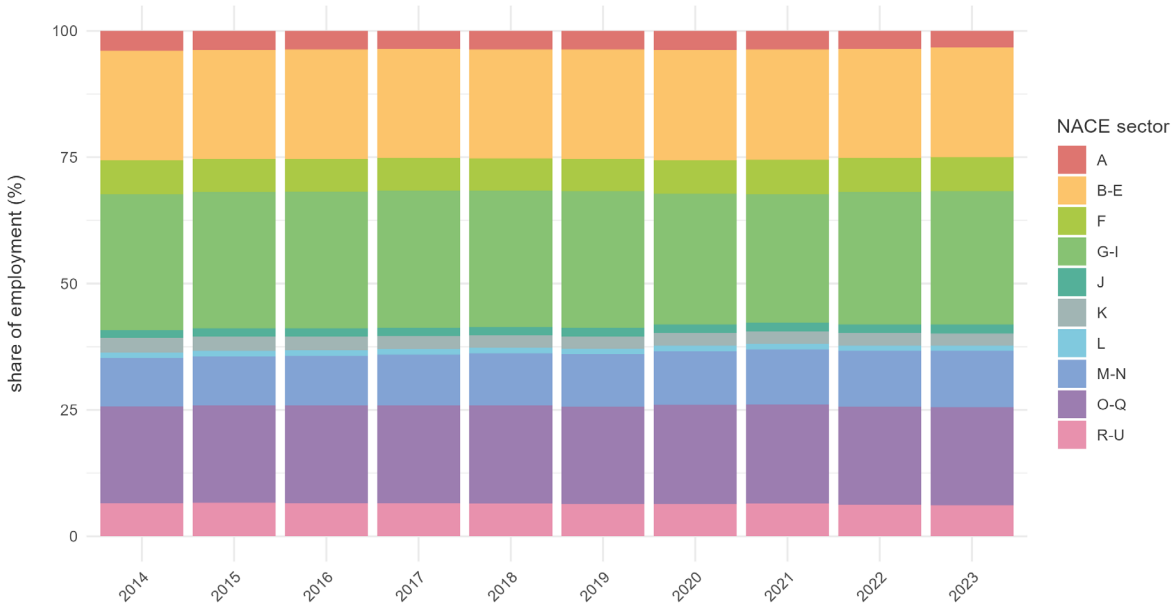
Please refer to the technical annex for more information.

Figure 2.12 illustrates the relative number of jobs in the border area differentiated by sectors. It shows where jobs are located (not where employed persons live). This workplace-based indicator offers insight into the employment structure of a region.

The dataset uses a '10-sector' classification based on NACE categories. The sectoral breakdown is as follows:

- A: Agriculture, forestry and fishing
- B-E: Mining and quarrying (B), Manufacturing (C), Electricity, gas, steam and air conditioning supply (D), Water supply; sewerage, waste management and remediation activities (E)
- F: Construction
- G-I: Wholesale and retail trade; repair of motor vehicles and motorcycles (G), Transportation and storage (H), Accommodation and food service activities (I)
- J: Information and communication
- K: Financial and insurance activities
- L: Real estate activities
- M-N: Professional, scientific and technical activities (M), Administrative and support service activities (N)
- O-Q: Education (O), Human health and social work activities (Q)
- R-U: Arts, entertainment and recreation R), Other service activities (S), Activities of households as employers; undifferentiated goods- and services-producing activities of households for own use (T), Activities of extraterritorial organisations and bodies (U)

Figure 2.12: Employment by sector (comparison)



A: Agriculture, forestry and fishing
B-E: Mining and quarrying (B), Manufacturing (C), Electricity, gas, steam and air conditioning supply (D), Water supply; sewerage, waste management and remediation activities (E)
F: Construction
G-I: Wholesale and retail trade; repair of motor vehicles and motorcycles (G), Transportation and storage (H), Accommodation and food service activities (I)
J: Information and communication
K: Financial and insurance activities
L: Real estate activities
M-N: Professional, scientific and technical activities (M), Administrative and support service activities (N)
O-Q: Education (O), Human health and social work activities (Q)
R-U: Arts, entertainment and recreation (R), Other service activities (S), Activities of households as employers; undifferentiated goods- and services-producing activities of households for own use (T), Activities of extraterritorial organisations and bodies (U)

Between 2014 and 2023, the relative number of jobs in the different sectors remained fairly stable. There is a slight decline in the share of employment in agriculture, forestry and fishing (A), wholesale and retail trade; repair of motor vehicles and motorcycles (G), Transportation and storage (H), Accommodation and food service activities (I). Conversely, there was a modest increase in the number of jobs in Professional, scientific and technical activities (M) and Administrative and support service activities (N).

Over the entire period, the sectors with the highest share of jobs were ‘B-E’ (mining, quarrying, manufacturing, electricity, gas, steam and air conditioning supply, water supply; sewerage, waste management and remediation activities, ‘G-I’ (wholesale and retail trade; repair of motor vehicles and motorcycles, transportation and storage, accommodation and food service activities) and ‘O-Q’ (education, human health and social work activities).

2.2.2.4 Outgoing cross-border commuters

Indicator description

The indicator shows outgoing cross-border commuting dynamics at NUTS3 level. Even though no origin-destination information can be provided, it is assumed that commuters primarily travel across the nearest border. Spatial, economic and population arguments are combined to calculate the number of outgoing cross-border commuters.

- **Source/method of retrieval**: Eurostat/LFS data on outgoing commuters currently available on NUTS2 level has been regionalised for NUTS3 by means of weighting by border length, NUTS3 population-weighted centroid distance to border, population per NUTS3 region (15–64 years old) and real compensation per employee
- **Temporal coverage**: 2015-2023
- **Unit**: Share in %

Please refer to the technical annex for more information.

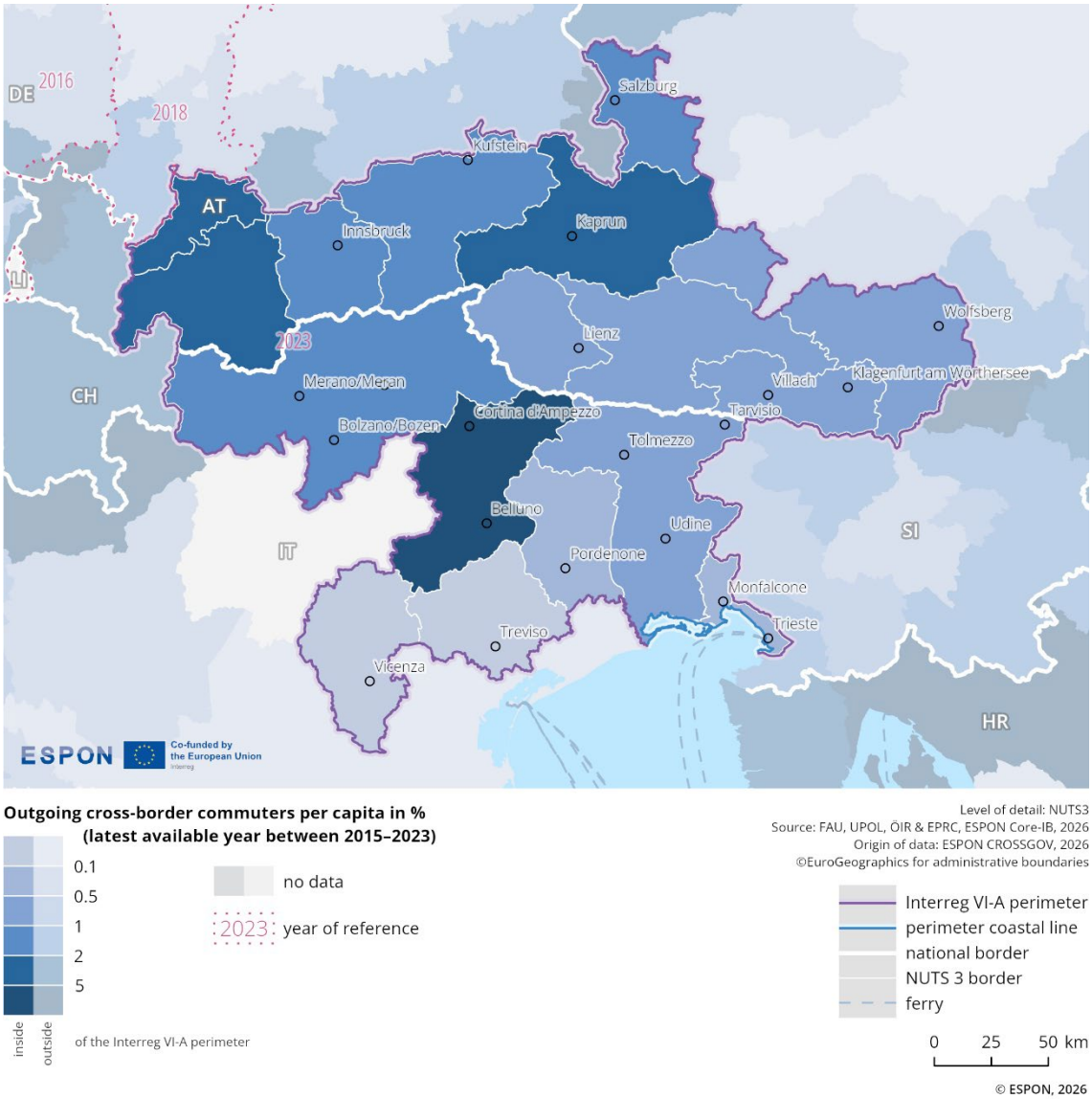
Commuting is one of the most relevant cross-border flows to identify functional linkages. Figure 2.13 illustrates the share of outgoing commuters per capita for each NUTS3 region (more concretely speaking the share of outgoing commuters among the residential population of the age group 15-64 years old, resembling the potential labour force). Origin-destination information cannot be provided, but the share of outgoing commuters in regions close to the border indicates the relevance of commuting. It highlights functional relations in the labour market within the cross-border region.

The map illustrates the share of cross-border commuters, based on the most recent available year of data. It shows relatively strong and fairly evenly distributed cross-border commuting activity in areas directly adjacent to the border on both the Austrian and Italian sides.

The Italian region Belluno and the Austrian regions of Tiroler Oberland, Außerfern and Pinzgau-Pongau stand out in particular, with high levels of outgoing commuters[8]. Notably, for Außerfern and Pinzgau-Pongau, cross-border commuting is directed mostly towards Germany, as accessibility and travel times are considerably lower. On the other hand, commuting from Belluno is likely directed mostly towards Austria.

[8] See Eurostat Statistical Atlas for NUTS3 (2021) regions: https://ec.europa.eu/statistical-atlas/viewer/?config=typologies.json&ch=NUTS&mids=BKGCNT,NUTS2021L3,CNTOVL&o=1,1,0.7&center=49.69576,14.3332,4&lcis=NUTS2021L3&

Figure 2.13: Outgoing cross-border commuting patterns



2.2.2.5 Cross-border telework agreements

Indicator description

The indicator shows what kind of legal framework for cross-border telework is enacted.

- **Source/method of retrieval**: The indicator is based on information about the legal framework for social security regarding cross-border teleworking, categorised by border pair.
- **Temporal coverage**: Status as of March 2025
- **Unit**: n/a

Please refer to the technical annex for more information.

The 2 countries involved in the programme are signatories of the 2023 Framework Agreement on Cross-Border Telework. Under this agreement, cross-border workers can telework from their country of residence for up to 50% of their total working time without affecting their social security affiliation.

2.2.3 Competitiveness

This sub-dimension illustrates the competitiveness of the border region by analysing the main industry sectors that contribute to its economic development. It assesses gross value added (GVA) at basic prices by sector, as well as nominal compensation per hour worked, in order to understand productivity levels and sectoral strengths.

2.2.3.1 Gross value added at basic prices by sector

Indicator description

The indicator shows the gross value added (GVA), which is a measure of the contribution of a country or region to the economy. Regional GVA represents the value generated by all units involved in the production of goods and services within a specific area. This indicator can be disaggregated by industry and service sector, allowing for a detailed analysis of economic contributions across different fields. Additionally, the sum of GVA across all industries or sectors, combined with taxes on products and minus subsidies on products, yields the gross domestic product (GDP) of the region. The dataset is available in "10-sector" NACE classifications, facilitating comprehensive evaluations of the regional economy.

- **Source**: Annual Regional Database of the European Commission (ARDECO)
- **Temporal coverage**: 2014-2023
- **Unit**: Million purchasing power standards (PPS)

Please refer to the technical annex for more information.

Figure 2.14 visualises gross value added (GVA), which is an important indicator of economic activity. GVA measures the value created by all economic activities involved in producing goods and services in a specific area. It is differentiated by sectors to provide detailed insights into the economic contributions of different fields.

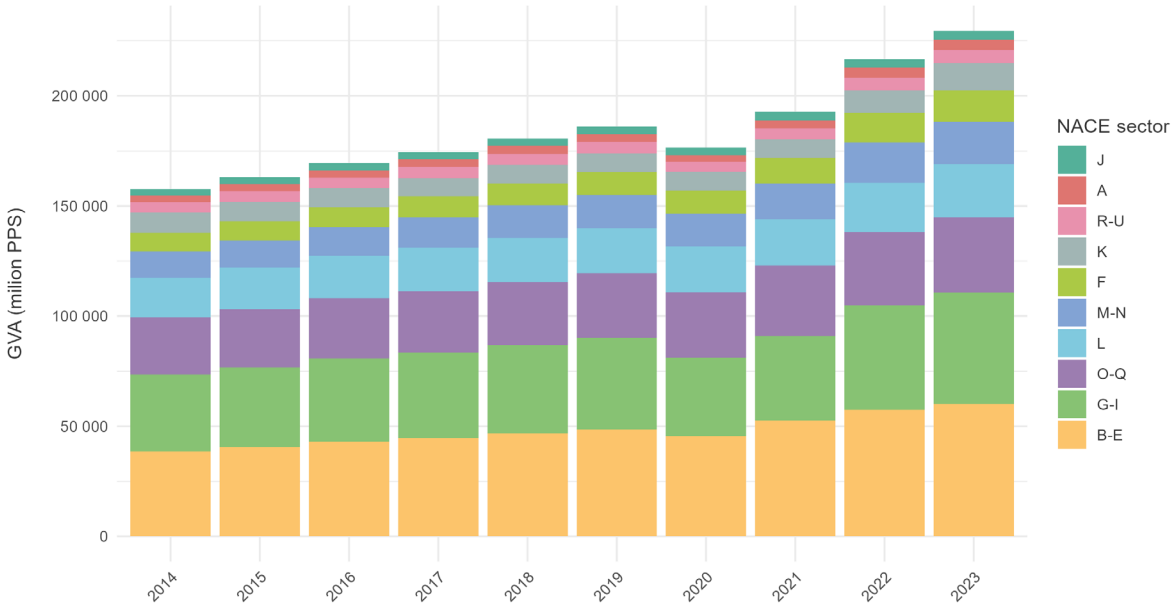
The dataset uses a '10-sector' classification based on NACE categories. The sectoral breakdown is as follows:

- A: Agriculture, forestry and fishing
- B-E: Mining and quarrying (B), Manufacturing (C), Electricity, gas, steam and air conditioning supply (D), Water supply; sewerage, waste management and remediation activities (E)
- F: Construction
- G-I: Wholesale and retail trade; repair of motor vehicles and motorcycles (G), Transportation and storage (H), Accommodation and food service activities (I)
- J: Information and communication
- K: Financial and insurance activities
- L: Real estate activities
- M-N: Professional, scientific and technical activities (M), Administrative and support service activities (N)
- O-Q: Public administration and defence; compulsory social security (O), Education (P), Human health and social work activities (Q)

› R-U: Arts, entertainment and recreation (R), Other service activities (S), Activities of households as employers; undifferentiated goods- and services-producing activities of households for own use (T), Activities of extraterritorial organisations and bodies (U)

Between 2014 and 2023, the GVA in the border area of Italy-Austria increased from 157,663 million purchasing power standards (PPS) to 229,516 million PPS, a growth of 46%. Sector groups B–E, G–I, and O–Q together make up over half of the total GVA, highlighting their significant contribution to the regional economy within the border area. The sector groups B–E contributed the largest share, with a total of 60,144 million PPS in 2023. This underlines the significance of sectors such as Mining and quarrying (B), Manufacturing (C), Electricity, gas, steam and air conditioning supply (D), Water supply; sewerage, waste management and remediation activities (E) in the Italy-Austria border region.

Figure 2.14: Gross value added at basic prices by sector (comparison)



A: Agriculture, forestry and fishing
B-E: Mining and quarrying (B), Manufacturing (C), Electricity, gas, steam and air conditioning supply (D), Water supply; sewerage, waste management and remediation activities (E)
F: Construction
G-I: Wholesale and retail trade; repair of motor vehicles and motorcycles (G), Transportation and storage (H), Accommodation and food service activities (I)
J: Information and communication
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L: Real estate activities
M-N: Professional, scientific and technical activities (M), Administrative and support service activities (N)
O-Q: Education (O), Human health and social work activities (Q)
R-U: Arts, entertainment and recreation (R), Other service activities (S), Activities of households as employers; undifferentiated goods- and services-producing activities of households for own use (T), Activities of extraterritorial organisations and bodies (U)

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2.2.3.2 Nominal compensation per hour worked

Indicator description

The indicator shows the average income paid for each hour worked, known as compensation per hour worked. This measure is calculated by dividing the "compensation of employees at current prices" by the total number of "hours worked (employees)." Employees, in this context, are defined as individuals engaged by contract in productive activities for a resident unit, receiving remuneration irrespective of their place of residence. The total hours worked is considered the most appropriate measure of labour input, representing the aggregate number of hours actually worked by employees. This indicator provides valuable insights into labour productivity and wage dynamics within the economy.

- **Source**: Annual Regional Database of the European Commission (ARDECO)
- **Temporal coverage**: 2023 (missing data from 2023 in Switzerland were supplemented by values from 2022)
- **Unit**: Euro

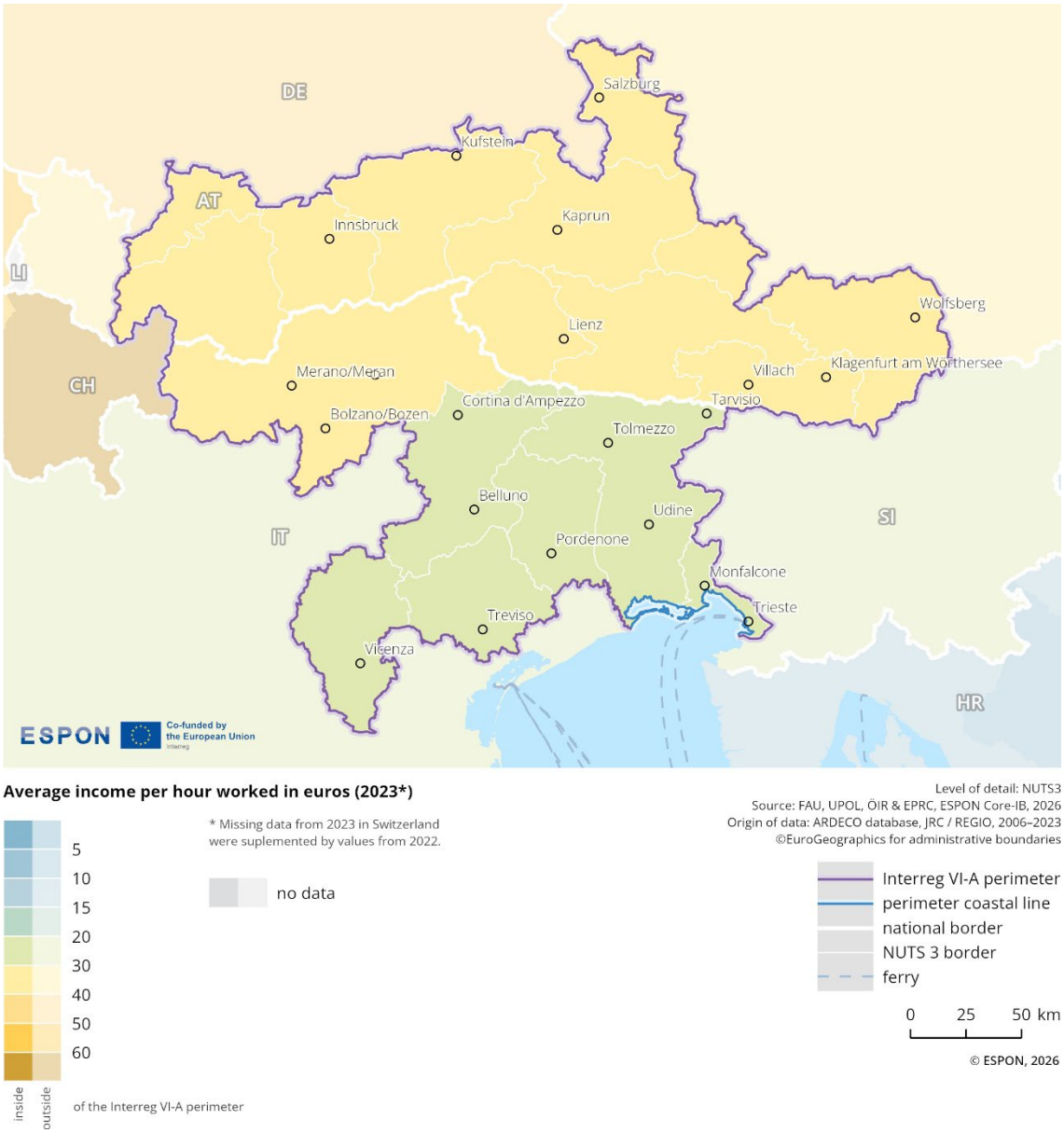
Please refer to the technical annex for more information.

Figure 2.15 shows the average values for the 'compensation per hour worked'. This indicator is calculated by dividing the total compensation of employees (at current prices) by the total number of hours worked by those employees. In this context, 'employees' are defined as individuals engaged by contract in productive activities. The data is available for the place of work, regardless of the place of residence. Total hours worked represent the actual number of hours worked by employees and are considered the most accurate measure of labour input.

In 2023, nominal compensation per hour worked in the Italy–Austria border region appears to be quite unevenly distributed. In the Austrian areas, the average hourly income is €37.90, with the NUTS3 region Salzburg (€38.20) reporting a value above this range. In the Italian areas, the average hourly income is €24.70, and regions such as Bolzano/Bozen (€30.60), as well as Pordenone and Trieste (€26.30) report values above this general range.

Cross-border wage differences can encourage labour migration from lower-wage areas to more economically prosperous neighbouring regions, creating both opportunities and challenges for local labour markets and social systems. However, in this particular border region, the wage differences do not appear to be especially significant.

Figure 2.15: Average income per hour



2.2.4 Infrastructure and housing

This sub-dimension shows the impact of the border on infrastructure and housing in the cross-border region. It assesses housing prices and average internet speed in order to identify cross-border effects, including potential price spillovers and disparities. The analysis reveals whether infrastructure and housing markets facilitate integration or expose structural challenges that are specific to the border area.

2.2.4.1 Advertised sales prices

Indicator description

The indicator shows the advertised sales price per square meter for houses/appartements as retrieved from commercial real estate websites at national level. In the cross-border region, local differences between average sales prices are highlighted and the "cutting" effect of the border and its influence on price levels is visualised.

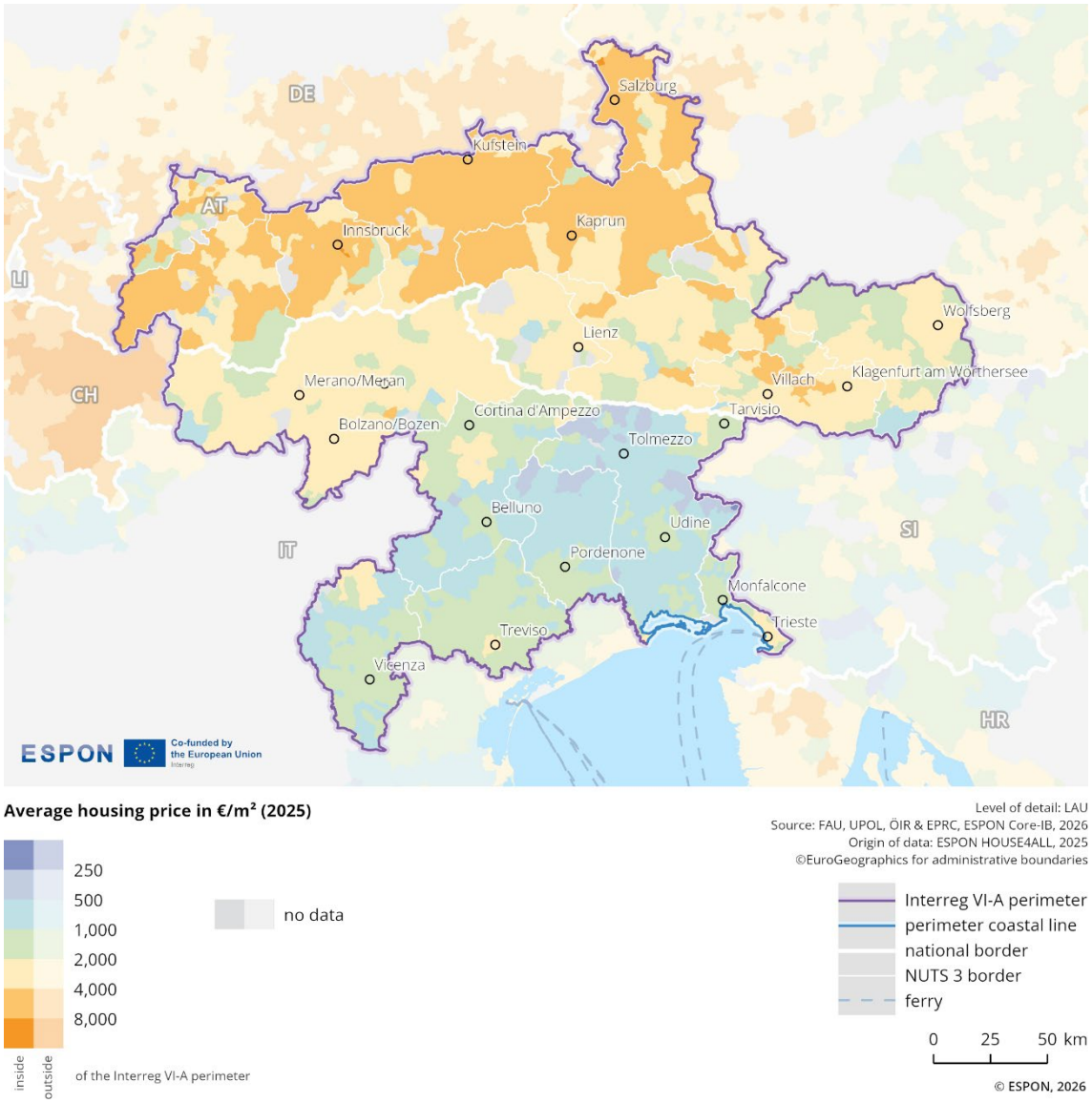
- **Source/method of retrieval**: Processed ESPON House4all data. The original data is collected via web-scraping of national listing websites over a one-year period.
- **Temporal coverage**: 2024/2025
- **Unit**: Average price per square meter (€/m^2)

Please refer to the technical annex for more information.

Figure 2.16 illustrates the advertised sales price of housing in 2025 across the border region. The data are categorised into ranges of average housing prices per square metre, from below 250 €/m² up to more than 8,000 €/m², shown in colours ranging from purple and blue to green, yellow and orange.

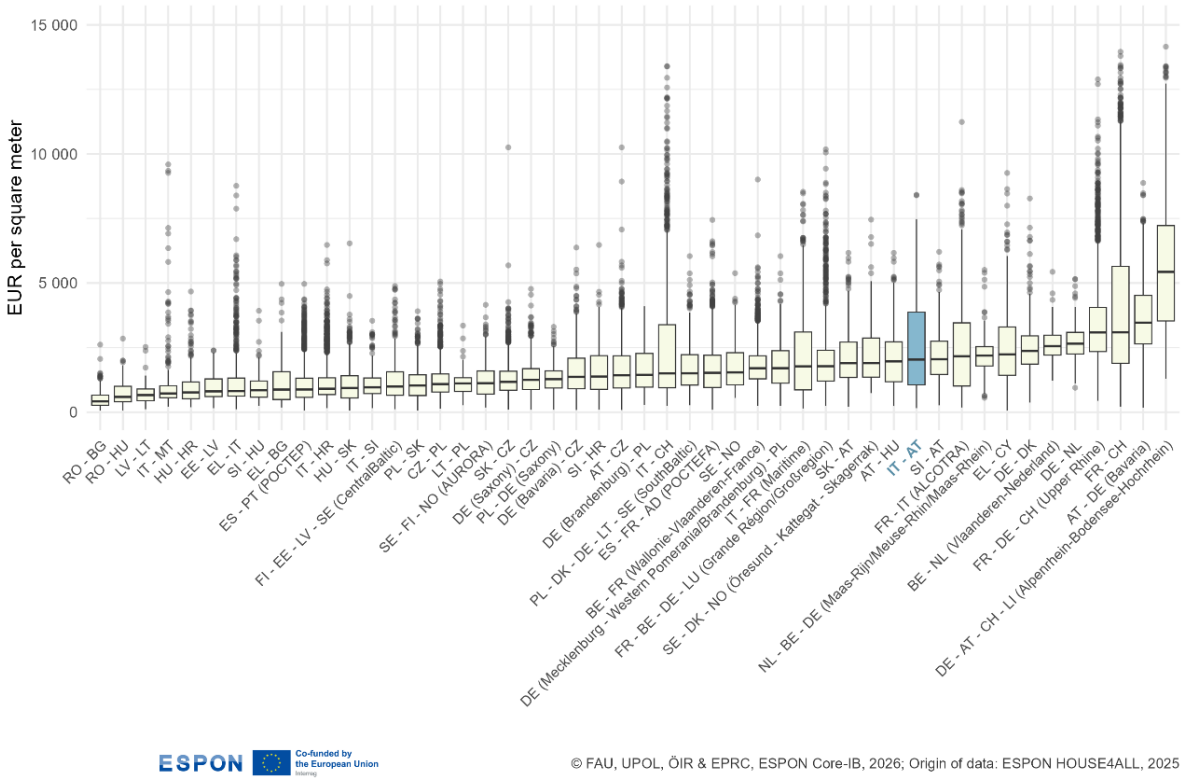
The map shows that the average prices are in the range of 250 to a maximum of 2,000 €/m² in the Italian part of the cross-border area. The exception is the area in the west, around the towns of Merano/Meran and Bolzano/Bozen, where the prices are higher (up to 4,000 €/m²). The average price predominantly ranges from 4,000 to a maximum of 8,000 €/m² in the western Austrian part (around Innsbruck). In the eastern Austrian part, the range of prices is lower, from 1,000 to 4,000 €/m². In Italy, prices are significantly lower than in Austria, thus the border marks a clear regional difference in average sales prices.

Figure 2.16: Advertised housing prices



The Italian part of the border region records an average advertised residential sales price of approximately €1,380 per square metre, while the Austrian part shows a substantially higher average price of about €3,957 per square metre. Overall, the average advertised sales price across the entire border region is estimated at €2,565 per square metre. This value exceeds the average for all EU-evaluated border regions (€1,900 per square metre) but remains below the European average of approximately €5,600 per square metre.

Figure 2.17: Advertised housing prices (comparison)



2.2.4.2 Average internet speed

Indicator description

The indicator shows the population weighted average internet speed available at municipal level. It highlights differences in the "digital preparedness". In border regions, this indicator is particularly relevant for identifying digital infrastructure gaps that may hamper balanced development and cross-border integration.

- **Source/method of retrieval**: Processing of data provided by Speedtest by Ookla Global Fixed and Mobile Network Performance Maps, based on Ookla's analysis of Speedtest Intelligence data.
- **Temporal coverage**: 2022
- **Unit**: Download speed in Mbps

Please refer to the technical annex for more information.

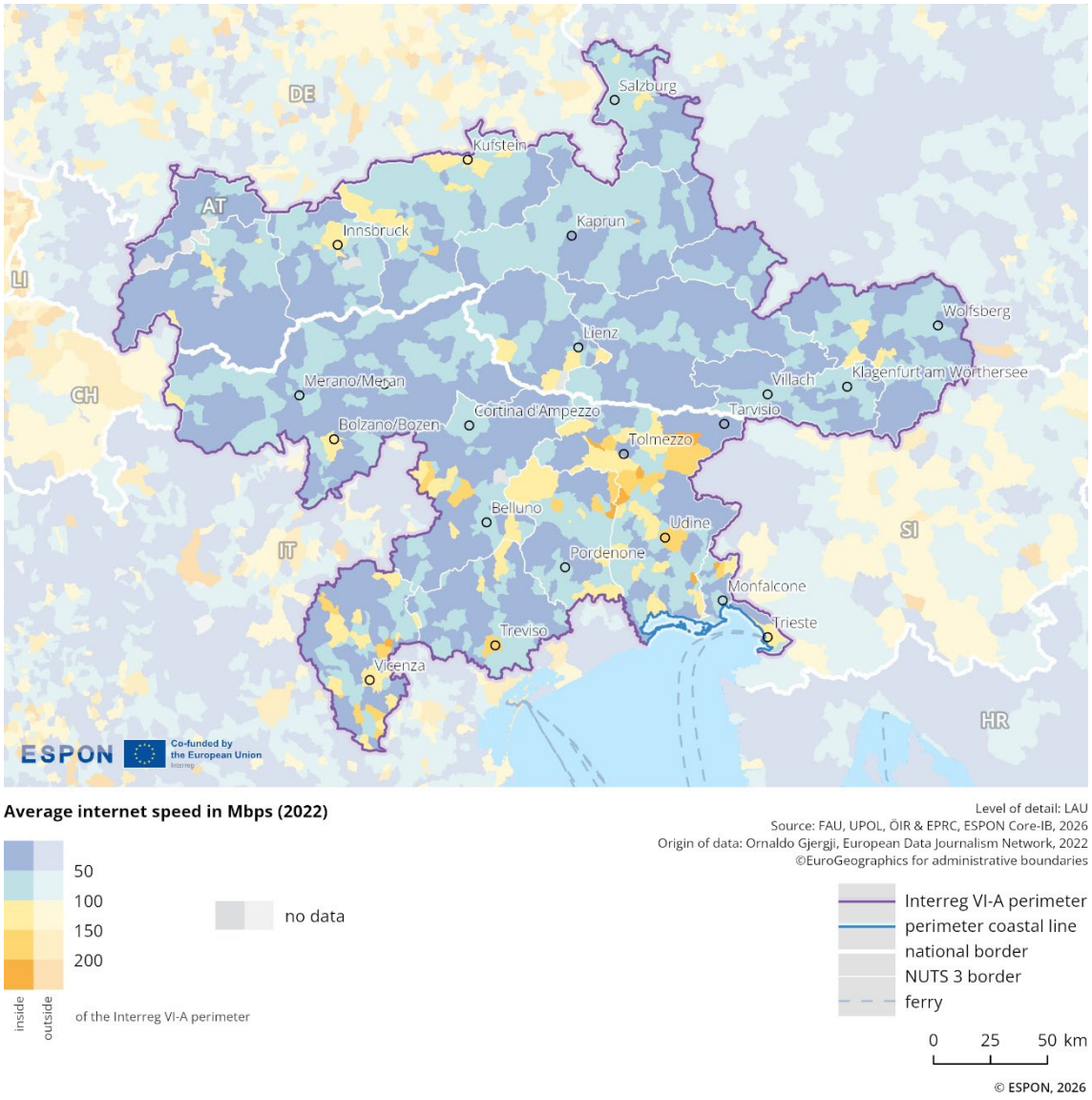
Digitalisation is a highly relevant issue in European border regions, with the overarching objective of ensuring appropriate digital access. It is widely recognised as a key precondition for successful regional and economic development. A major challenge in this process is preventing 'digital divides', i.e. avoiding significant disparities in economic, social, and spatial terms.

Average internet speed is a telling indicator of such disparities, highlighting differences in 'digital preparedness' at the local level. Figure 2.18 shows the average download speed at the municipality level. The colour scheme ranges from dark blue (very slow speeds) to orange (very fast speeds). The

data, prepared by OBC Transeuropa for EDJNet, is based on Speedtest Intelligence data from Speedtest/Ookla's Global Fixed and Mobile Network Performance Maps for the first quarter of 2022. The average download speeds are expressed in megabits per second (Mbps), not to be confused with megabytes per second (MBps).

Figure 2.18 reveals significant differences between urban and rural areas, with values ranging from under 50 Mbps to over 200 Mbps. Cities such as Bolzano/Bozen, Udine, Treviso, Vicenza, Trieste, Innsbruck, and Kufstein report relatively high average speeds, while the surrounding areas tend to have significantly lower values. This may be due to the greater return on investment typically associated with digital infrastructure projects in urban areas compared to rural ones. However, not all urban areas in this border region have high download speeds, for example, Salzburg, Lienz, Villach, Wolfsberg, Merano/Meran, Tolmezzo, and Pordenone do not stand out in this regard. Mountainous terrain on both sides of the border clearly poses a challenge in providing high-speed internet, although in Italy the average internet speed is higher than in Austria.

Figure 2.18: Average internet download speed



2.2.5 Key messages on the economic dimension

When analysing the economic aspects of the border region, some clear complementarities as well as some disparities become apparent. While the area as a whole performs above the European average in terms of GDP per capita, there are considerable differences in individual indicators between the Italian and Austrian regions involved in the programme. Austrian regions demonstrate higher levels of productivity and compensation, whereas despite being economically dynamic, Italian regions still lag behind in terms of hourly wages throughout the programme area. However, these disparities are less pronounced than in many other European border regions.

The economy in general is characterised by a strong role of manufacturing, services, and tourism, with education and health also of relative importance. The GVA reflects the employment structure and has demonstrated considerable growth in the past 10 years. Employment rates are comparatively high on both sides of the border, fairly balanced throughout all regions and are exceeding national averages. Nevertheless, a shrinking working-age population remains a challenge with especially Austrian regions declining considerably faster than national averages.

Commuting patterns reveal fairly low cross-border connections, with some exceptions in the Tiroler Oberland, Außerfern, Belluno and Osttirol areas, where a significant proportion of the workforce are commuters. Notably however, many of the cross-border commuting links of Austrian regions are likely with Germany and much less with Italy, Although wage differentials encourage mobility, the gaps are not as considerable as in other border contexts. The recent Framework Agreement on Cross-Border Telework enables workers to work remotely for up to half of their working week without losing their social security affiliation, which makes cross-border employment more appealing – however the practical effects cannot be measured.

The most considerable disparities are noted in the housing market, with property prices being significantly higher in Austria, particularly in the Inn valley and around Salzburg, with some Italian towns such as Bolzano/Bozen and Merano/Meran also recording above-average prices compared to their surroundings. This reflects the high pressure on limited supply of settlement area, strong demand in attractive Alpine urban centres and the influence of tourism. Differences in price levels across the border can at least in part be attributed to the difference in topographic conditions.

2.3 Green dimension

The green dimension highlights the environmental characteristics, vulnerabilities and sustainability-related interactions within the border region. The analysis provides insight into the environmental interdependence of border regions. Additionally, the spatial distribution of renewable and conventional energy infrastructure, alongside indicators of resources and the circular economy, reveals whether the border facilitates collaborative transitions towards sustainability.

2.3.1 Nature protection and pollution

This sub-dimension investigates cross-border functional links in protected areas and areas affected by air and water pollution. It analyses the presence of protected areas in order to identify cross-border ecological links and conservation efforts. It also highlights the extent to which air and water pollution affects people living in border regions.

2.3.1.1 Protected areas

Indicator description

The indicator shows the presence and territorial coverage of protected areas based on the combination of 3 data sources, i.e., Nationally designated areas, Natura 2000 Network and Emerald Network.

- **Source/method of retrieval**: The indicator represents a combination of nationally designated areas, Natura 2000 and Emerald network provided by EEA (European Environment Agency) Geospatial data catalogue.
- **Temporal coverage**: 2024
- **Unit**: n/a

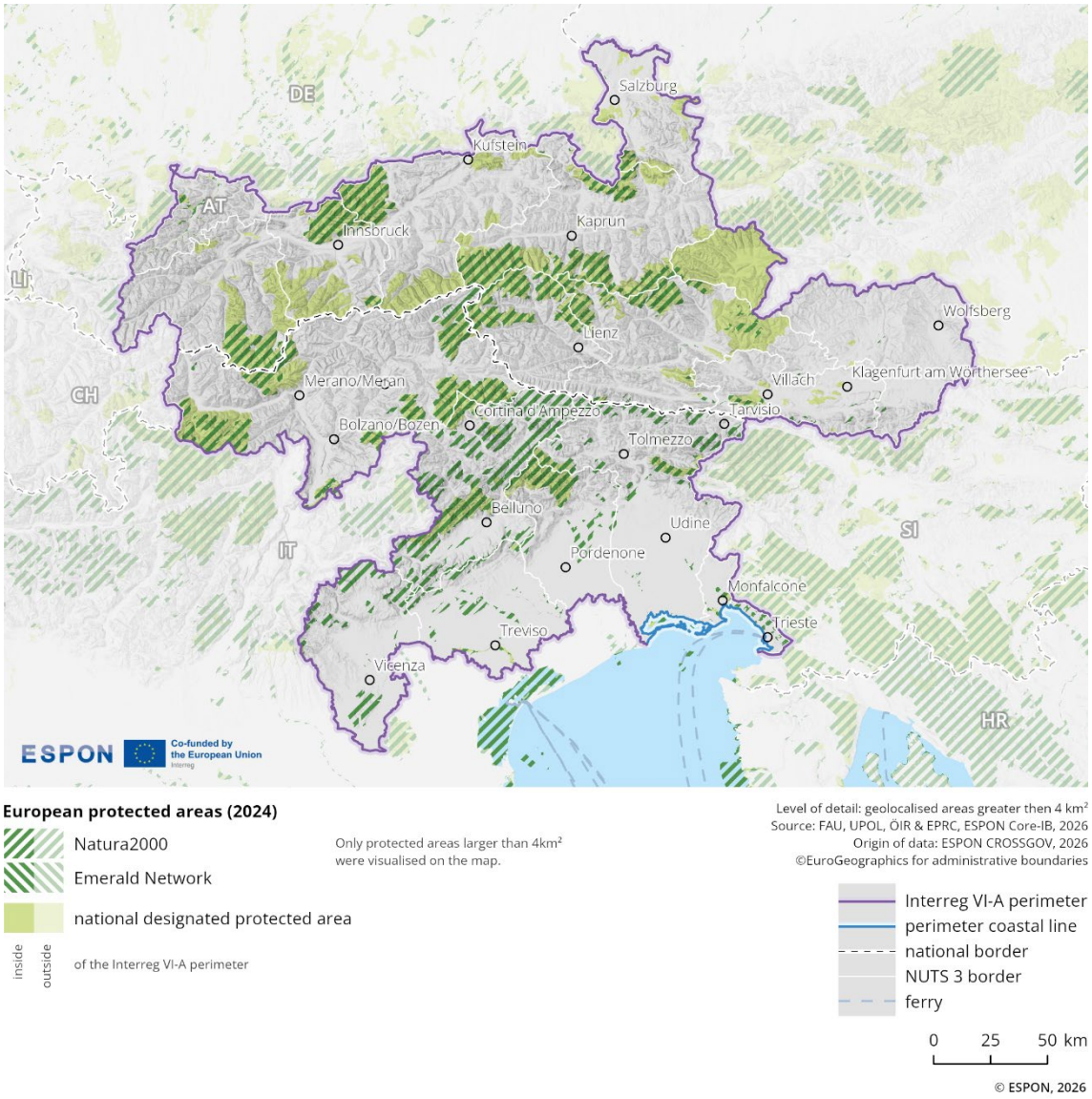
Please refer to the technical annex for more information.

Figure 2.19 illustrates the distribution of protected areas in 2024 across the border region. The data differentiate between Natura 2000 sites, the Emerald Network, and nationally designated protected areas, with only protected areas larger than 4 km² displayed.

Protected areas within the Interreg region are densely concentrated in the central section, especially in the areas close to Lienz, Tolmezzo, and Merano/Meran, where large contiguous Natura 2000 and national protected zones overlap. The alpine belt forms the dominant protected corridor across the region. Smaller and fragmented protected areas are present near Villach, Vicenza, and Pordenone. Northern areas around Innsbruck and Salzburg include several medium-sized protected units, while the southern and southeastern edges, particularly near Trieste and Vicenza, show a mix of gaps and smaller clusters.

The protected area around Merano/Meran and east of Lienz within the Interreg region have cross-border counterparts. These areas form continuous protected corridors across administrative borders. In contrast, the area around Tolmezzo displays fewer cross-border connections and more fragmented patterns, with protected areas mostly ending at the border.

Figure 2.19: Nature protected areas



2.3.1.2 Air pollution

Indicator description

The indicator shows the air pollution from fine particulates (PM2.5) at NUTS3 level. The data shows the population-weighted average air pollution level (µg/m³), providing an indication of the extent to which the regional population is affected by air pollution.

- **Source/method of retrieval**: Processing and analysis of European Environment Agency data
- **Temporal coverage**: 2022
- **Unit**: Population weighted average of µg/m³

Please refer to the technical annex for more information.

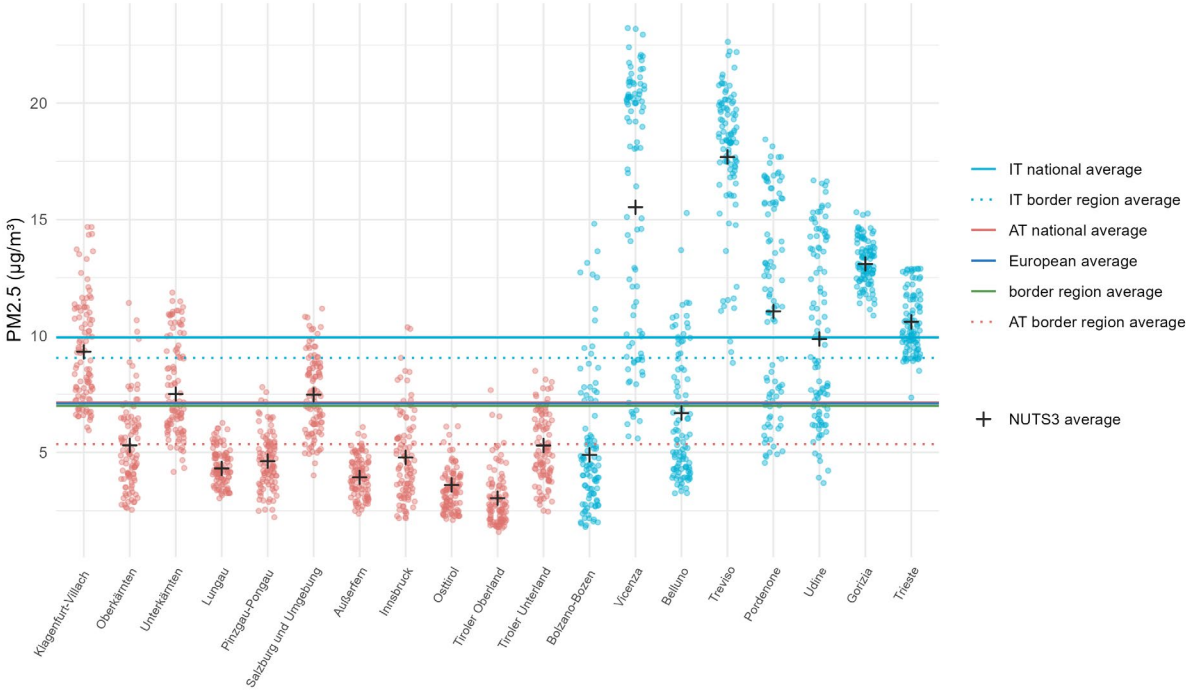
Figure 2.20 illustrates PM2.5 concentrations (in µg/m³) across NUTS3 regions in Italy and Austria. Each small dot represents an individual measurement, while the black crosses indicate the average PM2.5 concentration for each NUTS3[9] region. The regions are aligned along the x-axis, with Austrian regions on the left (in red) and Italian regions on the right (in blue).

PM2.5 measurements in the Italian regions show a wider range compared to those in the Austrian regions, where values are more concentrated and rarely exceed 10 µg/m³. Overall, Italy shows a higher national average PM2.5 level than Austria.

The Austrian border region average lies below the Austrian national average. A similar pattern is seen between the Italian national and border region averages, although the difference is less pronounced.

The European average, the cross-border region average, and the Austrian national average are almost aligned. Accordingly, the cross-border region average is higher than the Austrian border region average but lower than the Italian border region average.

Figure 2.20: Air pollution



[9] See Eurostat Statistical Atlas for NUTS3 (2021) regions: https://ec.europa.eu/statistical-atlas/viewer/?config=typologies.json&ch=NUTS&mids=BKGCNT,NUTS2021L3,CNTOVL&o=1,1,0.7&center=49.69576,14.3332,4&lcis=NUTS2021L3&

2.3.1.3 Water pollution

Indicator description

The indicator shows the ecological status or potential for coastal and river water bodies. It is based on an assessment of biological, hydro-morphological, chemical and physico-chemical quality elements.

- **Source/method of retrieval**: Processing and analysis of European Environment Agency data
- **Temporal coverage**: 2022 (supplemented by 2016 data)
- **Unit**: n/a

Please refer to the technical annex for more information.

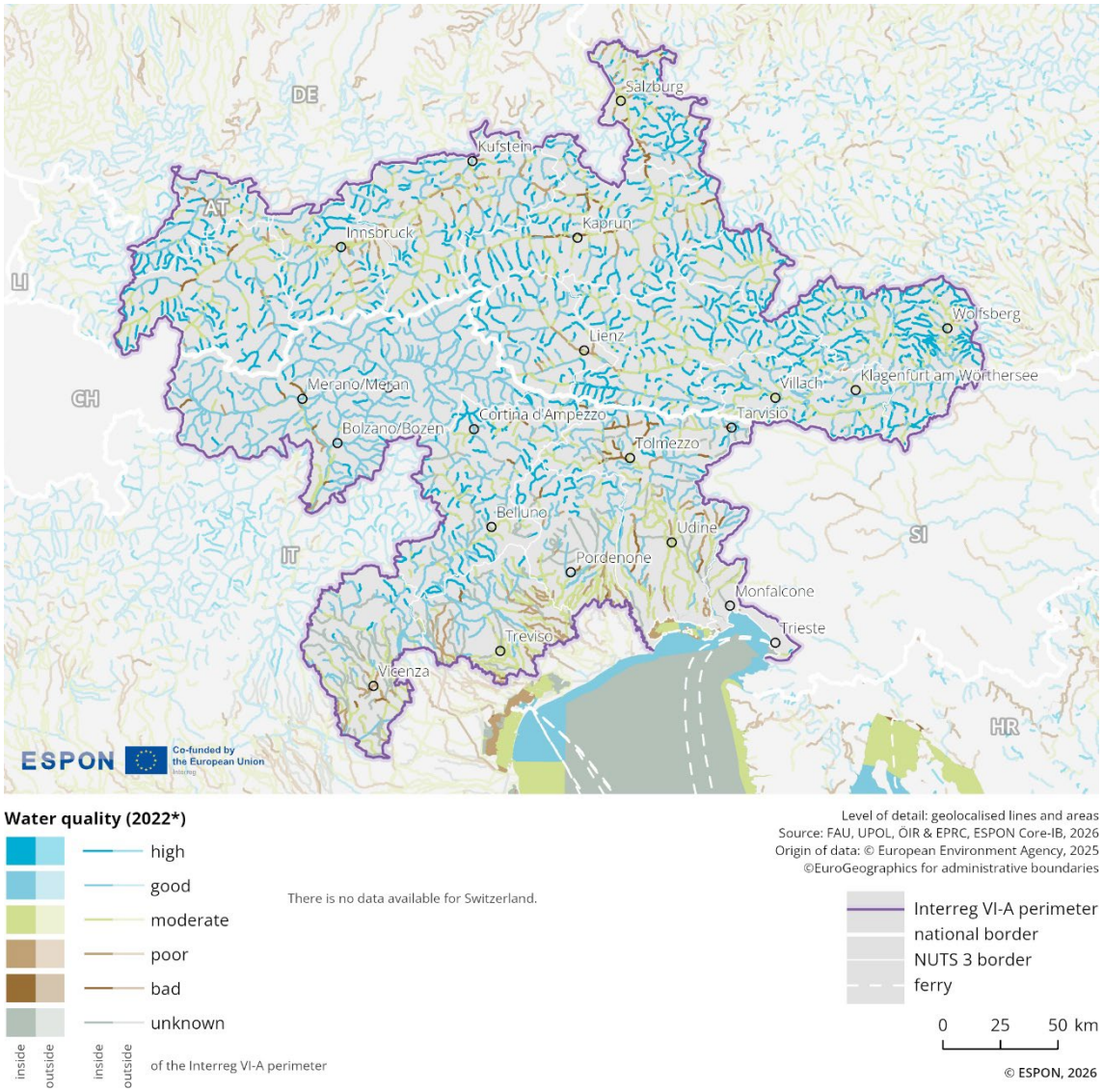
Figure 2.21 illustrates water pollution levels in the Italy–Austria Interreg region in 2022. Water quality is represented using 6 colour-coded categories, ranging from "bad" to "high", including an "unknown" category[10].

In the Austrian part of the Interreg region, the water quality of rivers is mostly rated as “good” and “high”. The highest variations are around cities, such as Innsbruck, Kufstein and Lienz, where the water quality is partly classified as “moderate” and “poor”.

In the Italian part of the Interreg region, rivers in the north are also mostly classified as “high” or “good”. Towards the south, more rivers are rated as “moderate” and “poor”.

[10] For more information see the Water Framework Directive Reporting Guidance (2022): https://cdr.eionet.europa.eu/help/WFD/WFD_715_2022

Figure 2.21: Water quality patterns



2.3.2 Climate risks and resilience

This sub-dimension examines cross-border functional links relating to climate risks and resilience. It analyses exposure to natural hazards such as landslides, earthquakes, droughts and floods in order to identify vulnerabilities and risks.[11]

2.3.2.1 Natural hazard risks

Indicator description

The indicator shows the risk the border region is facing in relation to natural hazards (floods, droughts, landslides and earthquakes). The map highlights potential cross-border affectedness and allows to judge the relative relevance of each risk for the cross-border region.

- **Source/method of retrieval**: The indicator is based on geodata from the Disaster Management Risk Knowledge Centre/JRC. It provides the likelihood of specific natural hazard events at grid level.
- **Temporal coverage**: 2024
- **Unit**: n/a

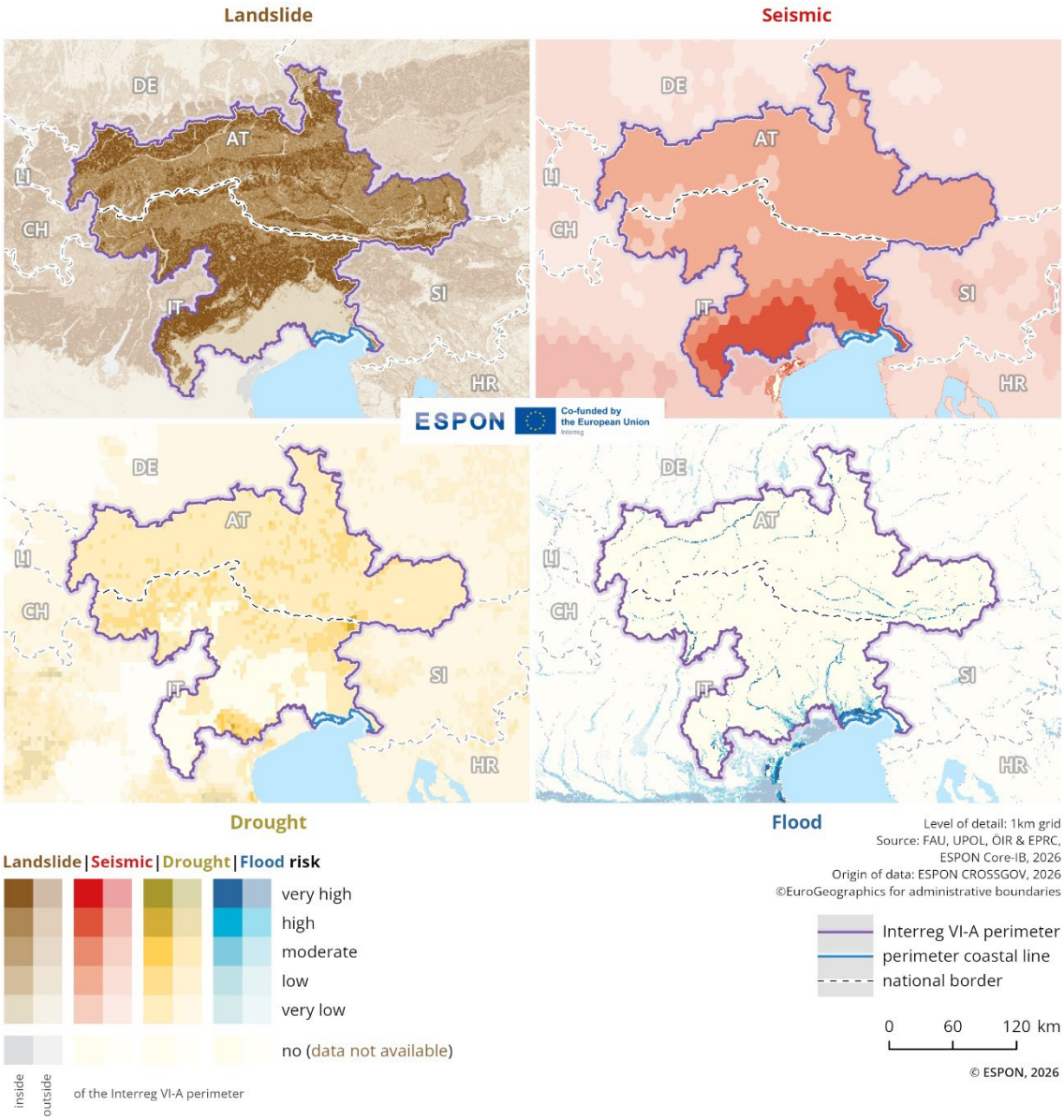
Please refer to the technical annex for more information.

Figure 2.22 illustrates the spatial distribution of natural hazards in the Italy-Austria region, highlighting areas where risks are shared across national boundaries and where risks are not necessarily cross-border relevant.

Except for the Adriatic Basin, vast parts of the cross-border region have a very high risk of landslides. As the Alps mark the border between Austria and Italy the issue of landslides has a lot of cross-border relevancy. Alongside the Adriatic Basin, a high risk of earthquakes exists, while droughts pose a low risk (at the moment, however likely increasing over time) throughout the region. Because the Alps function as a main European watershed, the issue of flooding has little cross-border relevance between Austria and Italy.

[11] See also: European Commission 2024: Strengthening the Resilience of EU Border Regions, https://ec.europa.eu/regional_policy/sources/studies/KN-02-24-586-2A-N.pdf

Figure 2.22: Natural hazard risks



2.3.3 (Renewable) Energy and energy infrastructure

This sub-dimension assesses cross-border functional links in energy supply and infrastructure, focusing on existing connections and missing links. The distribution of power lines, energy infrastructure and power stations is analysed to identify supply patterns and potential integration gaps. The analysis reveals whether the border facilitates energy cooperation and connectivity, or if infrastructural differences create barriers.

2.3.3.1 Power lines and energy infrastructure

Indicator description

The indicator shows the distribution of power lines and energy infrastructures in the cross-border region. The geodata highlights the existing links and gaps in the cross-border interconnections of the energy transmission network.

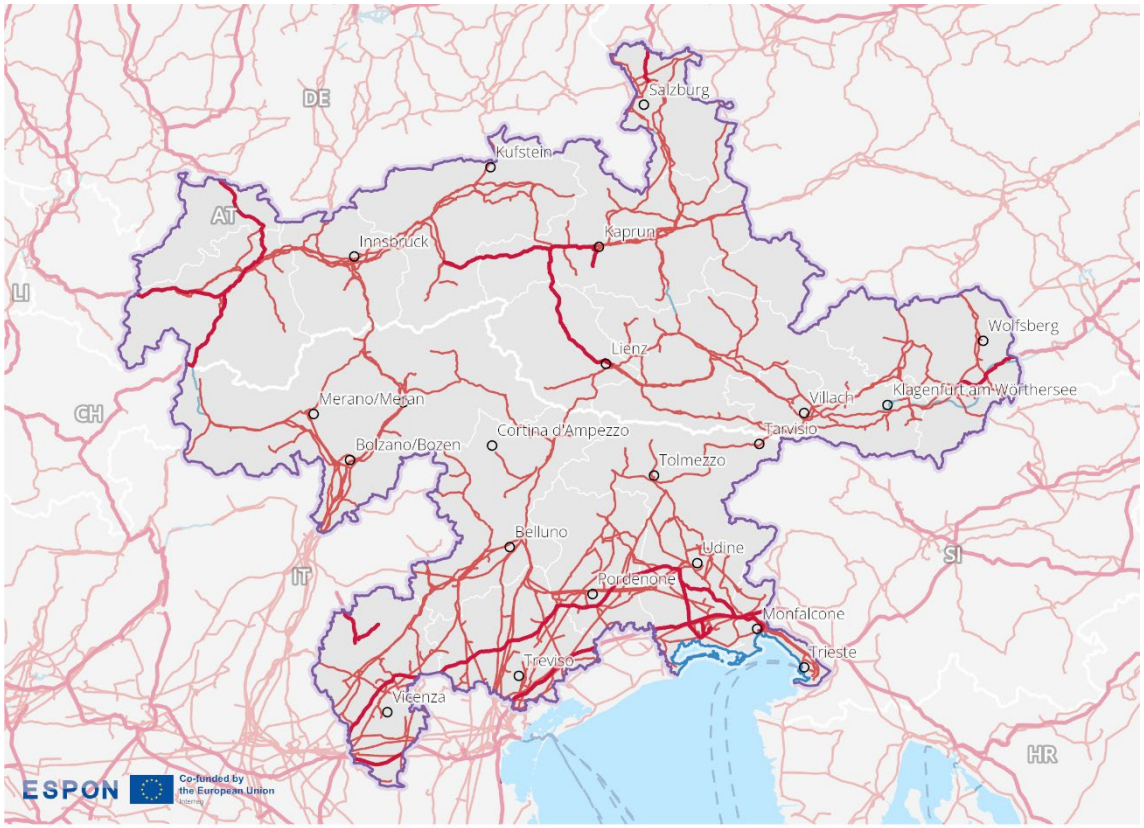
- **Source/method of retrieval**: Geodata on high-voltage energy infrastructure (100 kV and above) has been collected and processed from OpenStreetMap.
- **Temporal coverage**: 2025
- **Unit**: kV

Please refer to the technical annex for more information.

Figure 2.23 illustrates the distribution of power lines and cables in 2025 across the border region. The data distinguish between overhead and underground power lines, further classified into high-voltage (100-230 kV), extra high-voltage (230-1,000 kV), and ultra-high voltage (above 1,000 kV).

The cross-border region of Italy-Austria shows relatively extensive high- and extra high-voltage transmission infrastructure which, however, is spatially distributed rather unevenly across the territory. The borderline is crossed at a total of 4 points along the common border, with lower voltage levels. Extra high-voltage lines on the Austrian side follow the mountain valleys, while in Italy this type of power line runs along the coast, connecting the densely populated area from Trieste to Vicenza. In these parts of Italy, the electrical grid for both voltage levels is highly extensive and interwoven.

Figure 2.23: High-voltage transmission infrastructure



Overhead power lines (2025)

- High Voltage (100–230 kV)
- Extra High Voltage (230–1.000 kV)
- Ultra High Voltage (1.000 kV+)

Underground power cables (2025)

- High Voltage (100–230 kV)
- Extra High Voltage (230–1.000 kV)
- Ultra High Voltage (1.000 kV+)

inside / outside of the Interreg VI-A perimeter

ANSI Standard C84.1 was used for classification of power lines.

Level of detail: geolocated lines
Source: FAU, UPOL, ÖIR & EPRC, ESPON Core-IB, 2026
Origin of data: ESPON CROSSGOV, 2026
©EuroGeographics for administrative boundaries

- Interreg VI-A perimeter
- perimeter coastal line
- national border
- NUTS 3 border
- ferry

0 25 50 km

© ESPON, 2026

2.3.3.2 Power stations

Indicator description

The indicator shows the location of power stations by type and energy production levels (coal, gas and oil, nuclear, hydro). It can indicate differences and complementarities in the national energy supply systems as well as highlight potential supply-demand links when viewed in conjunction with power lines infrastructure.

- **Source**: OpenStreetMap, Global Energy Monitor, JRC Hydro-power plants database
- **Temporal coverage**: 2025
- **Unit**: MW

Please refer to the technical annex for more information.

In the Italy-Austria cross-border region, in total, there are 101 power station locations[12], while the dominant one is represented by hydroelectric power stations (see Table 1).

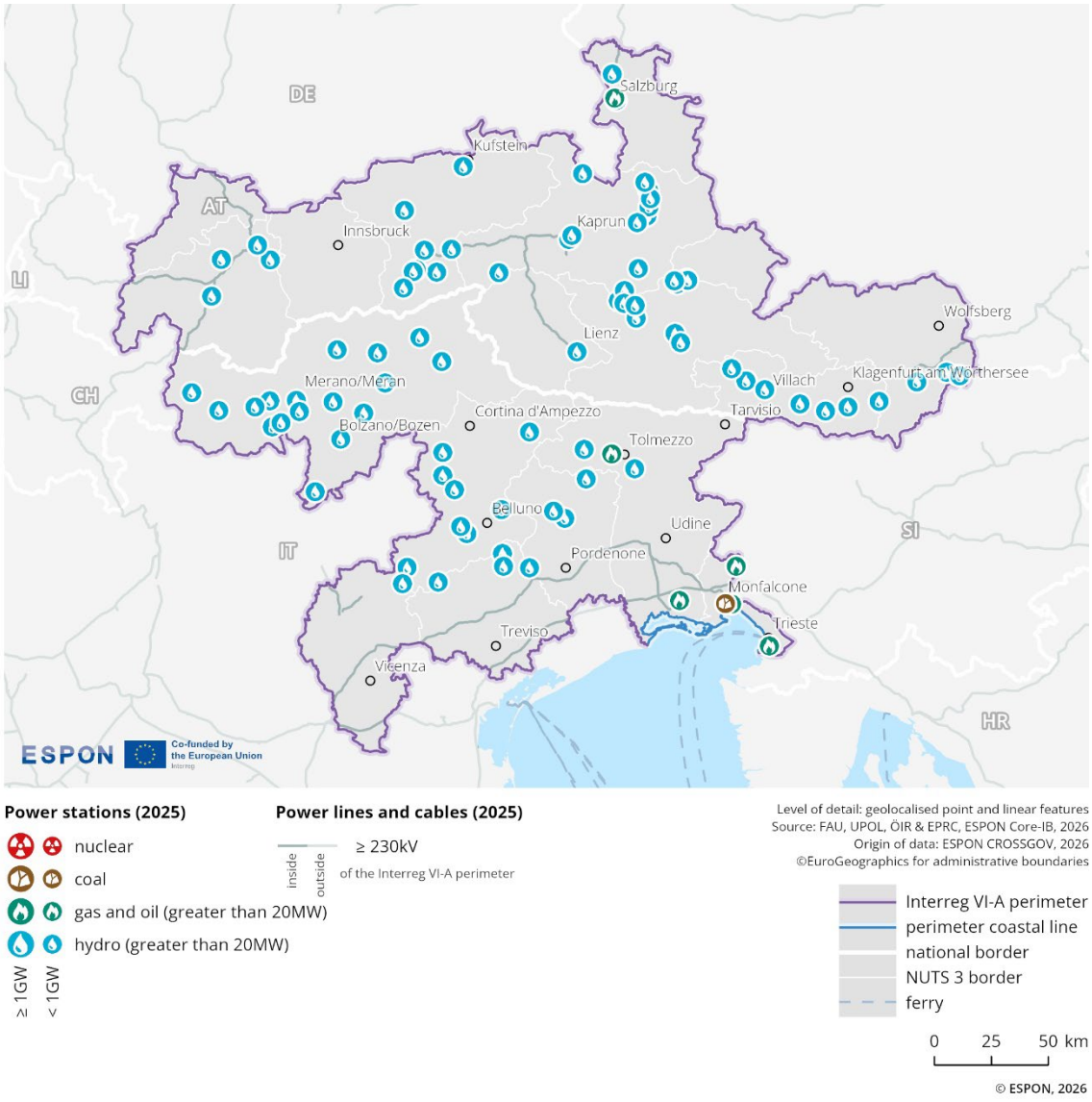
Table 1: Number and type of power stations

Power stations/plants	Less than 1GW	1GW and up
Nuclear	/	/
Coal	1	/
Gas and oil	6	/
Hydro	94	/

Such a large number, a total of 94 hydroelectric power stations, is inherently linked with the mountainous character of the cross-border region (see Figure 2.24). A total of 37 sites are located on the Italian side of the region and the remaining 57 on the Austrian side. Of the 6 gas and oil power stations, one is located in Austria, far from the common border near Salzburg in the northern tip of the cross-border region. Apart from one gas and oil power station near the city of Tolmezzo, the situation is similar in Italy, where the remaining 4 sites are located far from the common borderline in the south-eastern corner of this cross-border region. Finally, the only coal-fired power station is also located in this Italian part of the border region.

[12] For more information on cross-border energy communities between Austria and Italy see: European Commission: Directorate-General for Regional and Urban Policy, Spatial Foresight, Eurac, EureConsult, Handbook on Cross-border Energy Communities – Final report, Publications Office of the European Union, 2025; https://data.europa.eu/doi10.2776/8146582

Figure 2.24: Power stations infrastructure



2.3.4 Resources and circular economy

This sub-dimension focuses on resource use patterns in the border region and their implications for circular economy practices. It analyses resource productivity and waste generation in order to evaluate the efficiency and sustainability of resource utilisation across the border.

2.3.4.1 Resource productivity

Indicator description

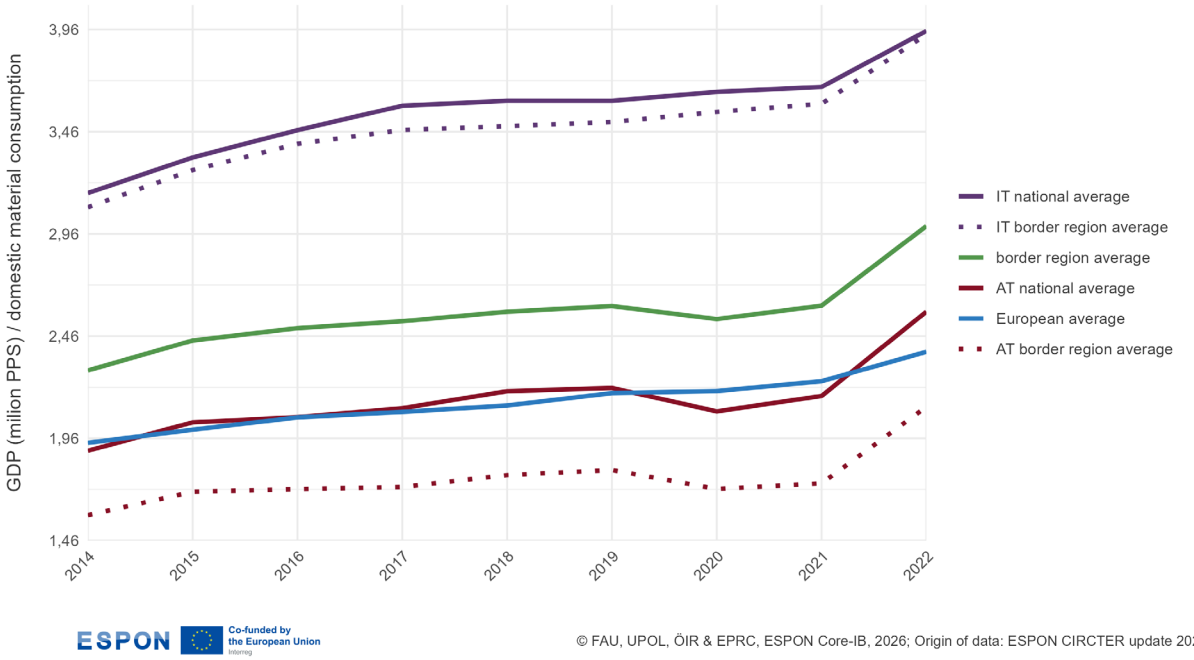
The indicator shows the economic value generated per unit of material consumed for each region within the cross-border area. Developments over time provide insights if the decoupling of productivity from resource use is progressing on regional level.

- **Source/method of retrieval**: Processing of Eurostat and ESPON CIRCTER (Circular Economy and Territorial Consequences) Update data
- **Temporal coverage**: 2014-2022
- **Unit**: PPS/tons

Please refer to the technical annex for more information.

The Italian national average of resource productivity is represented by the highest line in Figure 2.25, showing an increase over the period from approximately 3.26 in 2014 to around 3.96 million PPS/DMC (purchasing power standards per unit of domestic material consumption) in 2022.

Figure 2.25: Resource productivity



The Italian border region average follows a similar trend but remains slightly lower. The Austrian national average also shows an upward trend during the observed period, with a slight decline in 2020. After that, it increases sharply again, though it remains significantly below the Italian national average. The Austrian border region average follows a similar pattern, but at lower levels than the Austrian national average.

The European average lies significantly below the Italian national average, but is closely aligned with the Austrian national average. It is also lower than the overall border region average. The border region average represents the combined average of the lower Austrian border region values and the higher Italian border region values. However, notable disparities exist within the border region itself.

2.3.4.2 Generation of waste per GDP

Indicator description

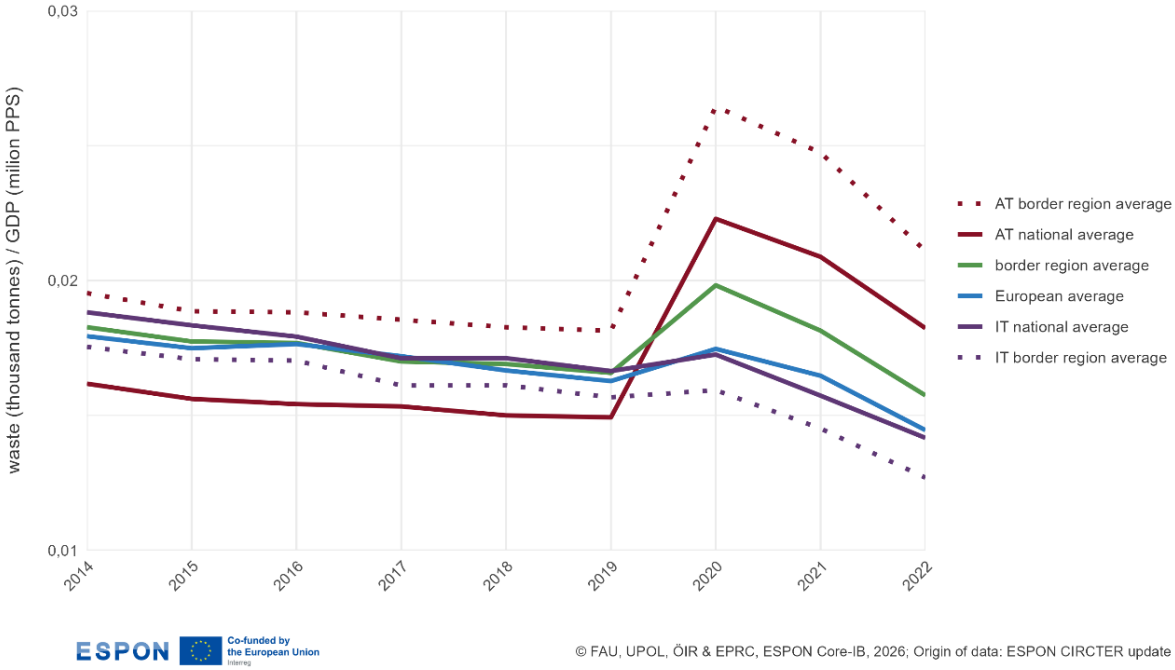
The indicator shows the regional distribution of waste creation in relation to the GDP development. Comparing waste generated to GDP reflects the waste intensity of the economy and provides a measure of "eco-efficiency". Observation of its change from year to year permits to assess whether the economy is able to produce more wealth while at same time generating less waste.

- **Source/method of retrieval**: Processing of Eurostat and ESPON CIRCTER Update data
- **Temporal coverage**: 2014-2022
- **Unit**: Tons/PPS

Please refer to the technical annex for more information.

Figure 2.26 illustrates the trend in waste generation relative to economic output, measured in tonnes of waste per million PPS (Purchasing Power Standard) of GDP from 2014 to 2022 in Italy, Austria and their Interreg border region.

Figure 2.26: Waste generation per GDP



The Italian national average of waste per GDP steadily decreases over time, reaching a value of approximately 0.013 tonnes of waste per GDP in 2022. The Italian border region average follows a similar trend, remaining slightly below the national average. Between 2014 and 2019, Austria's national average remains at a lower level than Italy's values, until 2019, when it experiences a sharp increase to over 0.02 tonnes of waste per GDP. The Austrian border region average follows a similar trend but

remains significantly higher than the Austrian national average and also higher than the Italian and European values. After 2020, both Austrian values decline again, but remain above the Italian values.

The European average gradually decreases from around 0.018 in 2014 to approximately 0.015 in 2022. Italy's national and border region values remain closely aligned with the European average throughout the period, but from 2019 onwards, the values for the Italian border region become notably lower. Austria's national values are below the European average until 2019, but then rise above it significantly from 2020 onwards.

The combined border region average steadily decreases until 2019, then rises in 2020, followed by a slight decline to approximately 0.016 tonnes of waste per million PPS in 2022. Over the observed period, the border region average remains closely aligned with the European average until 2019, after which it rises above it.

2.3.5 Key messages on the green dimension

The border region shows a mix of stronger and weaker ecological continuity, good environmental positions in some indicators and furthermore some shared vulnerabilities. Large contiguous protected areas extend across the Alpine arc, particularly around Merano/Meran and Lienz, where Natura 2000 zones align across the border. On the other hand, large parts of the border area are characterised by protected areas extending towards the national border but not continuing afterwards, thus limiting cross-border ecological integration.

The risk profile is dominated by landslides, which are widespread across the entire region and also of high cross-border relevance. Flooding is likewise present throughout the area, in particular linked to the valley structure. It is, however, of limited cross-border relevance due to the lack of cross-border rivers. Earthquake risks are concentrated in the Adriatic Basin, affecting mainly the Italian part of the programme area.

Energy infrastructure is extensive but not fully integrated across the border. High- and extra-high-voltage transmission lines exist in both countries, but infrastructure crossing the border is only represented by relatively low-voltage points. In terms of energy production, hydropower dominates the regional energy mix throughout the cross-border region, with 94 hydroelectric stations located mainly in alpine valleys. Fossil-fuel plants remain limited and are located mostly in the Italian part of the cross-border region, including the only coal-fired station. The region therefore shows a high potential for integrated cross-border networks and is a hotspot of renewable energy production. However, cross-border integration remains limited.

Potentially linked to differences in energy production (among others), air quality indicators show some asymmetries. Austrian regions report very low PM2.5 levels (in µg/m³), well below both national and European averages, while Italian border areas show a considerably wider spread ranging from below average to considerably above average. On the other hand, Italy's border regions show considerably higher resource productivity and a steady decrease in waste generation per unit of GDP, while Austrian border regions demonstrate considerably lower resource productivity and a higher waste intensity, peaking in 2020.

2.4 Socio-economic dimension

The socio-economic dimension examines patterns of social integration, tourism, and access to public services in the border region. It identifies how socio-cultural links, visitor flows and essential services influence development in the cross-border area. By examining interpersonal interactions via social media, language similarities, tourism intensity, and the accessibility of facilities such as secondary schools, grocery shops, hospitals, doctors, pharmacies and cinemas this dimension highlights both functional integration and potential socio-spatial differences.

2.4.1 Social integration

This sub-dimension evaluates the level of social integration in the border region by identifying areas with low or high cross-border interactions. It analyses cross-border connectivity in social media and language similarities across and along national borders to evaluate the potential for cultural and social integration.

2.4.1.1 Cross-border connectivity in social media

Indicator description

The indicator refers to the existing connections between users of META social media (in particular Facebook) across the border. It aims at giving an overview of the degree of personal connectivity between inhabitants of the border area. Even though not all these internet connections will relate to real communication exchanges but sometimes just "following" content from other users, they give an overview of interpersonal and cultural knowledge of the social media landscape from across the border.

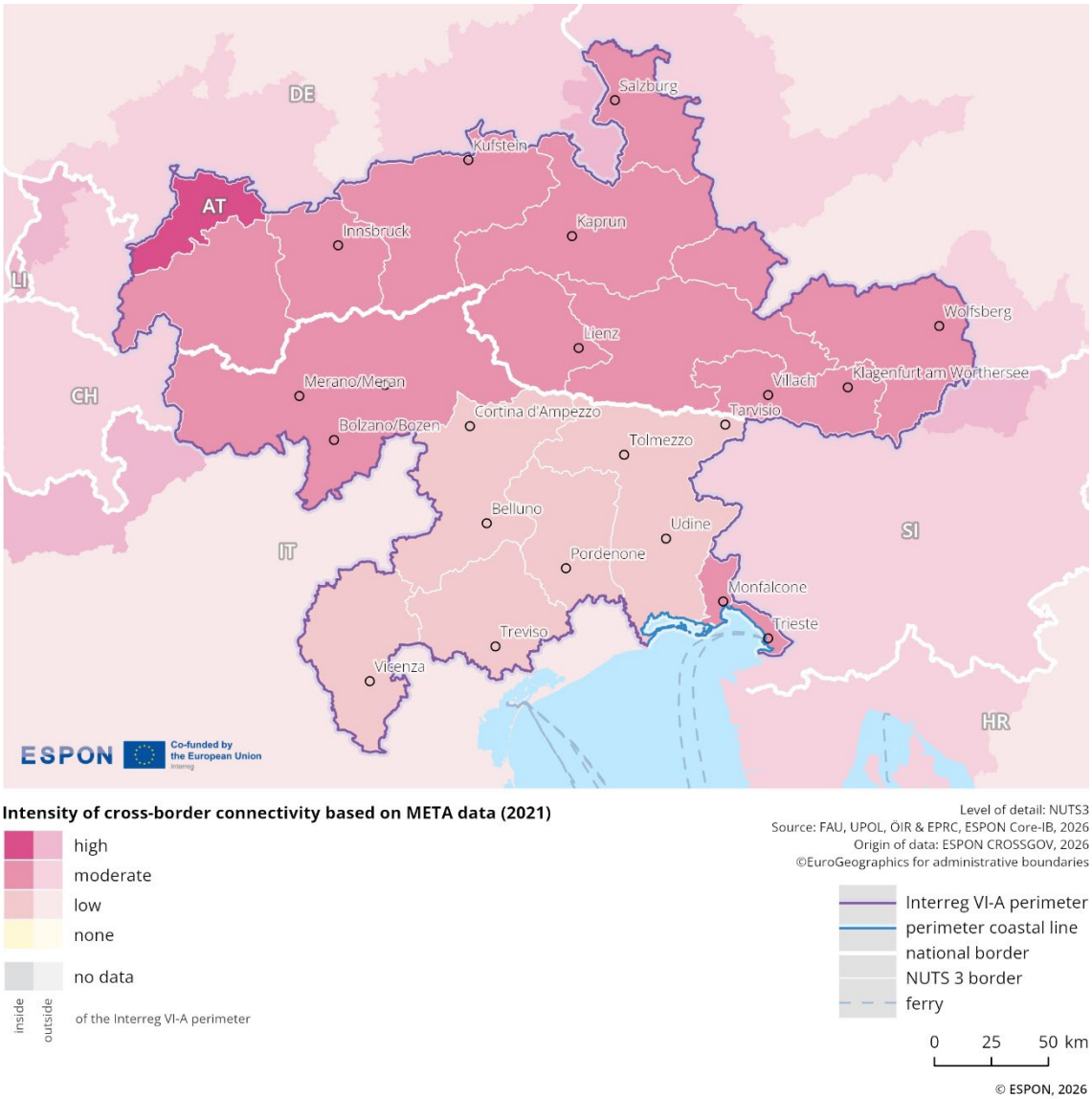
- **Source/method of retrieval**: Processing Facebook data on existing connections across the border (data for Good Meta)
- **Temporal coverage**: 2021
- **Unit**: n/a

Please refer to the technical annex for more information.

Figure 2.27 illustrates the spatial distribution of cross-border connectivity based on Facebook information in the border area. The different shades of pink indicate varying intensities of connectivity, ranging form low to high, with darker tones representing stronger intensity of cross-border connectivity in social media.

The intensity of cross-border interaction on social media among residents of this border region is rather heterogeneous. Due to slightly differing levels of intensity on both sides of the border, minor differences between the countries are observable. On the Austrian side of the cross-border region, moderate interaction intensity is recorded in most areas (including cities such as Innsbruck, Kufstein, Salzburg, Lienz, Villach, and Wolfsberg), with one area in the northwest of the Austrian part exhibiting high intensity. In contrast, interaction intensity in most of the Italian part of the region is low (including cities such as Vicenza, Treviso, Udine, and Tolmezzo), with moderate values observed around Merano/Meran, Bolzano/Bozen and Trieste.

Figure 2.27: Cross-border connectivity in social media



2.4.1.2 Language similarities along national borders

Indicator description

The indicator specifies whether the language is the same across the border, whether the respective national languages have commonalities, whether while different, there are local linguistic commonalities, and whether the language is different.

- **Source/method of retrieval**: ESPON cross-border public services (CPS) 2.0 database along border segments
- **Temporal coverage**: 2022
- **Unit**: n/a

Please refer to the technical annex for more information.

For the majority of the programme area, the respective national languages Italian and German dominate and thus no language similarities are recorded. However, the Italian Autonomous Province of Bolzano/Bozen–South Tyrol has a majority German speaking population, thus exhibiting no language barrier with the neighbouring Austrian regions.

2.4.2 Tourism

This sub-dimension identifies key tourism hotspots in the border region to highlight tourism dynamics. It analyses the number of nights spent in tourist accommodation establishments in order to evaluate the attractiveness of, and developments in, the tourism sector. Comparisons with the respective countries and the EU average provide context for understanding the region's dynamics.

2.4.2.1 Nights spent at tourist accommodation establishments

Indicator description

The indicator shows the number of nights a guest or tourist actually spends in a tourist accommodation establishment or non-rented accommodation (overnight stays). This may reveal the tourism attractiveness of a region and shed light on the role of tourism in the local economy, i.e., tourists/guests staying overnight may spend more in the region than one-day visitors.

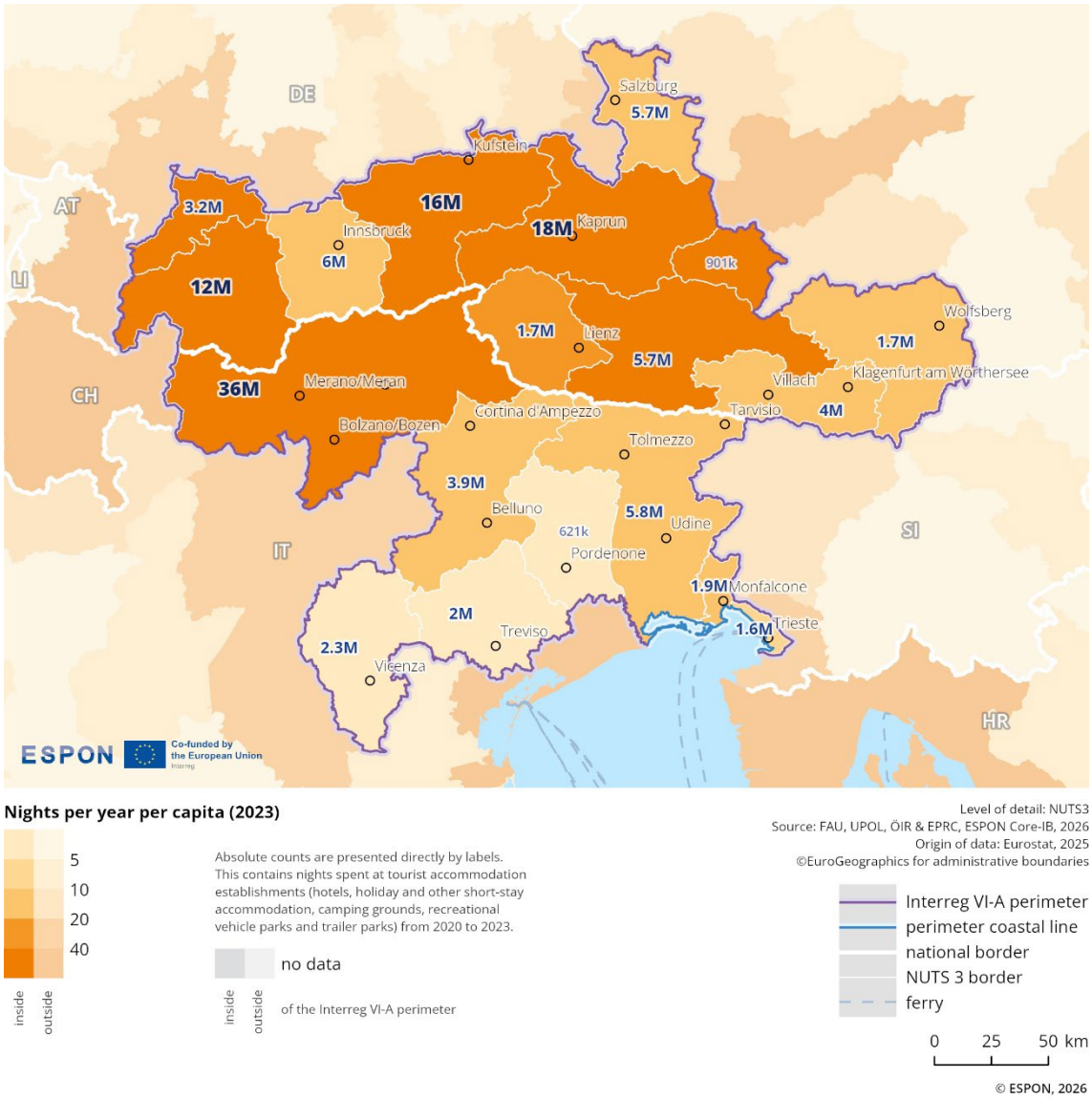
- **Source**: Eurostat
- **Temporal coverage**: 2020-2023
- **Unit**: Nights per capita

Please refer to the technical annex for more information.

The spatial distribution of overnight stays highlights the importance of key tourist destinations in border areas. Tourism contributes significantly to regional income, infrastructure development and employment, and thereby supports regional prosperity. At the same time, it affects environmental and living conditions, which may reduce local acceptance despite its economic benefits. This is in particular the case in places of overtourism, seasonal pressures, and increasing land-use conflicts.

Figure 2.28 shows the number of overnight stays per capita at tourist accommodation establishments in 2023. It includes hotels, holiday and other short-stay accommodation, as well as campsites, caravan and trailer parks. The map uses a colour gradient, with darker shades indicating a higher number of nights spent per capita in 2023. It also shows the cumulative number of overnight stays from 2020 to 2023.

Figure 2.28: Overnight stays in tourism



A particularly high intensity of overnight stays is evident on the Austrian side of the border. Several NUTS3[13] regions exceed 40 nights per capita in 2023, including Außerfern, Tiroler Oberland, Tiroler Unterland, Pinzgau-Pongau, Oberkärnten and Lungau. On the Italian side, the per capita figures are somewhat lower, though still relatively high in regions directly adjacent to the national border (e.g., Bolzano/Bozen).

In terms of total overnight stays over the 3-year period, the leading tourism regions are located mainly in Bolzano/Bozen (approx. 36 million, several popular UNESCO natural heritage sites are located in the Dolomites), Pinzgau-Pongau (approx. 18 million), Tiroler Unterland (approx. 16 million), Tiroler Oberland (approx. 12 million) and Innsbruck (approx. 6 million).

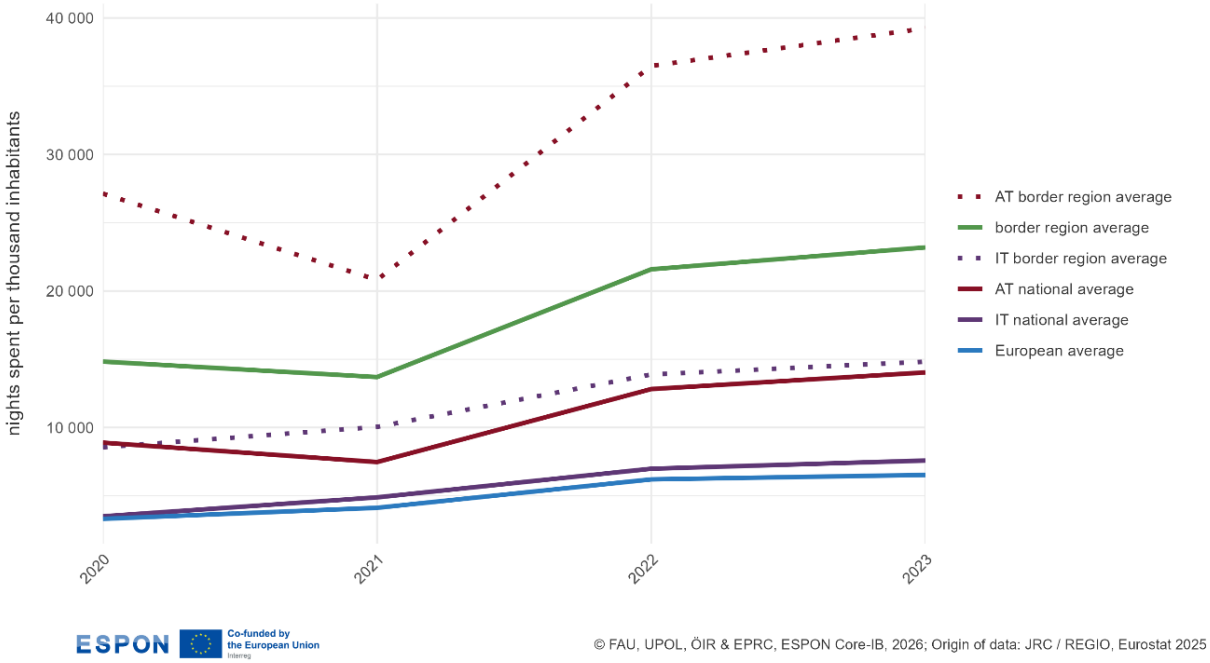
Figure 2.29 illustrates the development of nights spent at tourist establishments per thousand inhabitants from 2020 to 2023. Over the entire period, the average for the Italy-Austria programme area is higher than the overall European average, which includes both EU member states and the EFTA

[13]See Eurostat Statistical Atlas for NUTS3 (2021) regions: https://ec.europa.eu/statistical-atlas/viewer/?config=typologies.json&ch=NUTS&mids=BKGCNT,NUTS2021L3,CNTOVL&o=1,1,0.7&center=49.69576,14.3332,4&lcis=NUTS2021L3&

countries Iceland, Liechtenstein, Switzerland and Norway. In all 4 years, the border regional averages of both countries are higher than their respective national averages. Additionally, the regional average for the Austrian border area is significantly higher than that for the Italian side throughout the given period.

Touristic patterns have a series of implications for spatial development on either side of the border. Transport infrastructure has to consider peak volumes and balancing recreating activities with socio-cultural as well as environmental heritage can be a challenge.

Figure 2.29: Overnight stays in tourism (comparison)



2.4.3 Services of general interest

This sub-dimension looks at how accessible services of general interest (SGIs) are in the border region, identifying areas that are well-served and those that are more difficult to access. It analyses access to essential services such as secondary schools, grocery shops, hospitals, doctors, pharmacies and cinemas.

2.4.3.1 Accessibility to services of general interest

Indicator description

The indicator shows, for the below listed facilities and services, the average driving time to the nearest facility of a series of services of general interest.

- **Source/method of retrieval**: Processing and analysis of standardised travel-time accessibility to secondary schools, grocery shops, hospitals, doctors, pharmacies and cinemas available in the ESPON PROFECY Update (2022)
- **Temporal coverage**: 2021
- **Unit**: Minutes (in 2.5 x 2.5 km grid)

Please refer to the technical annex for more information.

Figures 2.30 to 2.35 visualise average car travel times to services of general interest within the programme area. The maps display accessibility to:

- Secondary schools (Figure 2.30)
- Grocery shops (Figure 2.31)
- Hospitals (Figure 2.32)
- Doctors (Figure 2.33)
- Pharmacies (Figure 2.34)
- Cinemas (Figure 2.35)

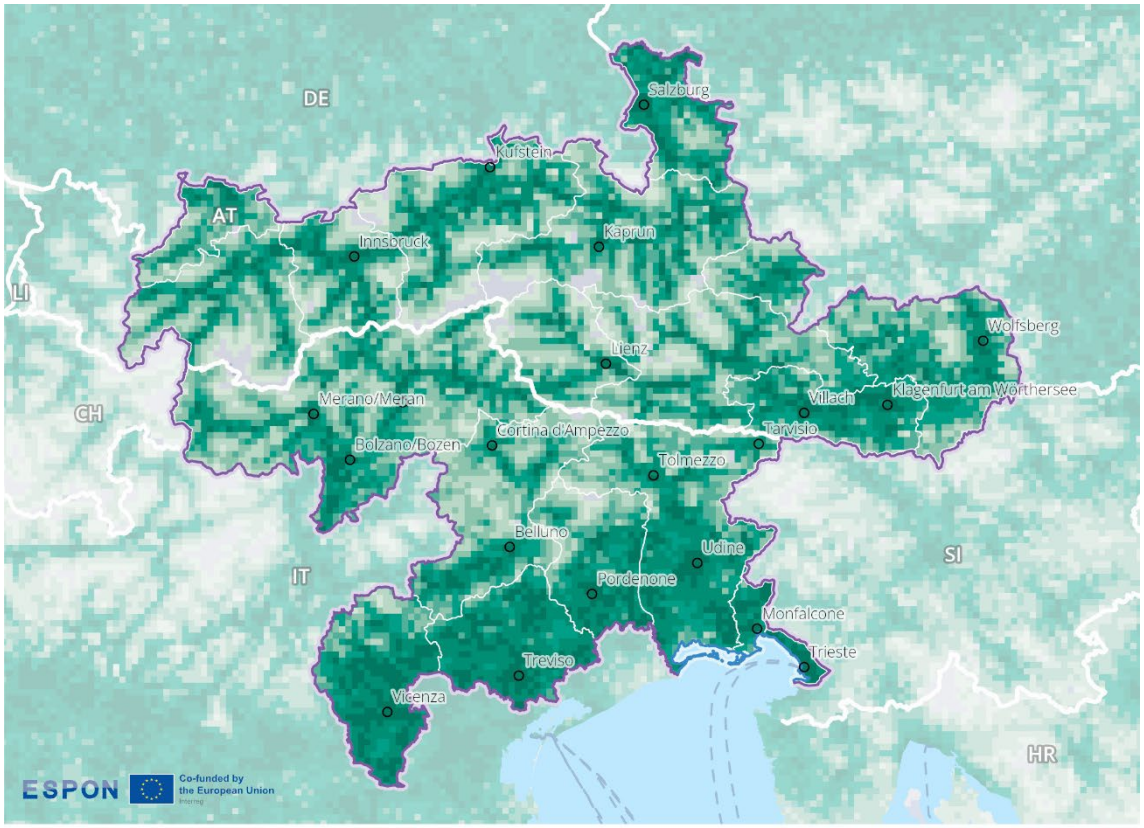
These indicators show how long, on average, it takes to reach the nearest facility by car. The data comes from the ESPON PROFECY Update project (2022) and is visualised based on a 2.5-kilometre grid.

In the Italy–Austria border area, essential services such as hospitals, doctors, pharmacies, schools, and grocery shops are evenly distributed across the southern Italian regions, resulting in overall good accessibility. In the Austrian and northern Italian regions, these services are mainly concentrated in the main valleys, which are also relatively well accessible.

However, the mountainous terrain along the border presents accessibility challenges. Some areas located directly at the national border are more difficult to reach. Steep mountains complicate the construction and maintenance of transport infrastructure. As a result, travel times to essential services can exceed one hour in these regions.

Cinemas, as cultural services, are mostly located in cities and more densely populated areas. This creates a clear urban–rural gradient, with shorter travel times in urban centres and longer ones in rural or remote regions.

Figure 2.30: Travel time to secondary schools



Car travel time to the nearest secondary school (2021)

5min
10min
15min
20min
30min
45min
1h
2h
3h
4h
6h
12h

inside outside of the Interreg VI-A perimeter

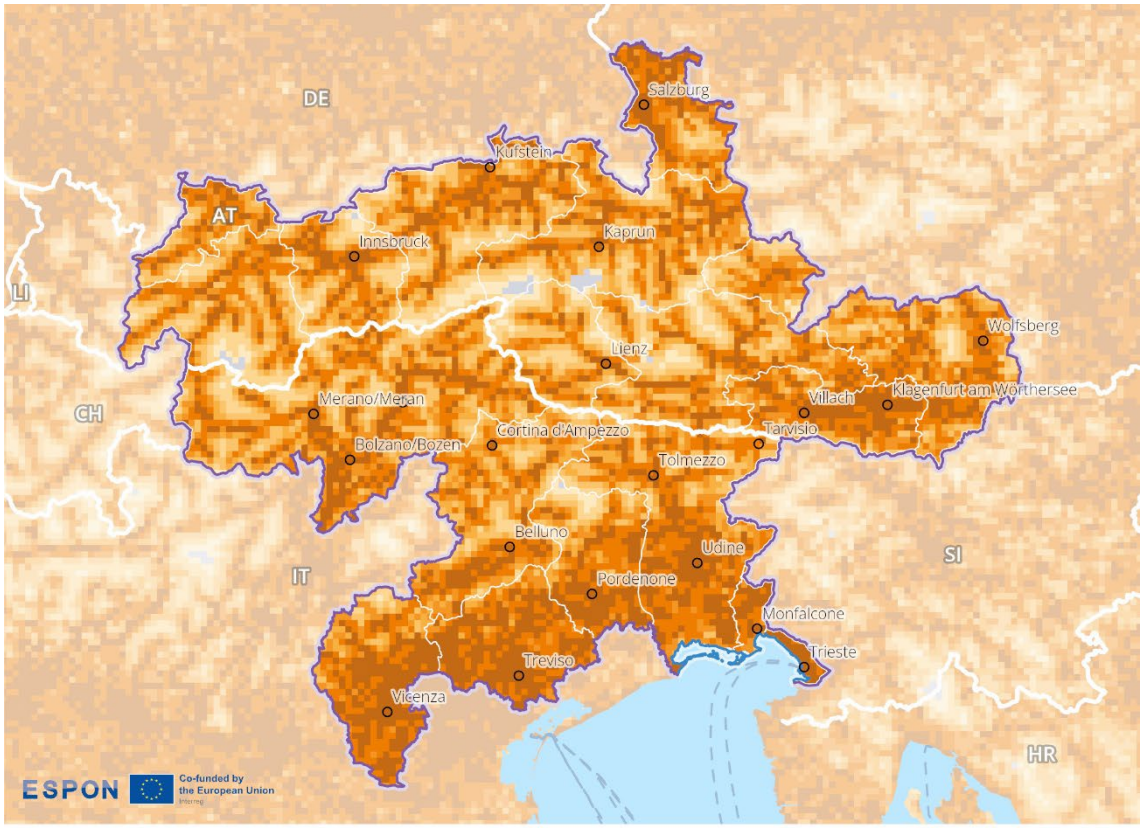
Level of detail: 2.5km grid
Source: FAU, UPOL, ÖIR & EPRC, ESPON Core-IB, 2026
Origin of data: ESPON PROFECY Update, 2022
©EuroGeographics for administrative boundaries

Interreg VI-A perimeter
perimeter coastal line
national border
NUTS 3 border
ferry

0 25 50 km

© ESPON, 2026

Figure 2.31: Travel time to grocery shops



Car travel time to the nearest shop (2021)

5min
10min
15min
20min
30min
45min
1h
2h
3h
4h
6h
12h

inside outside of the Interreg VI-A perimeter

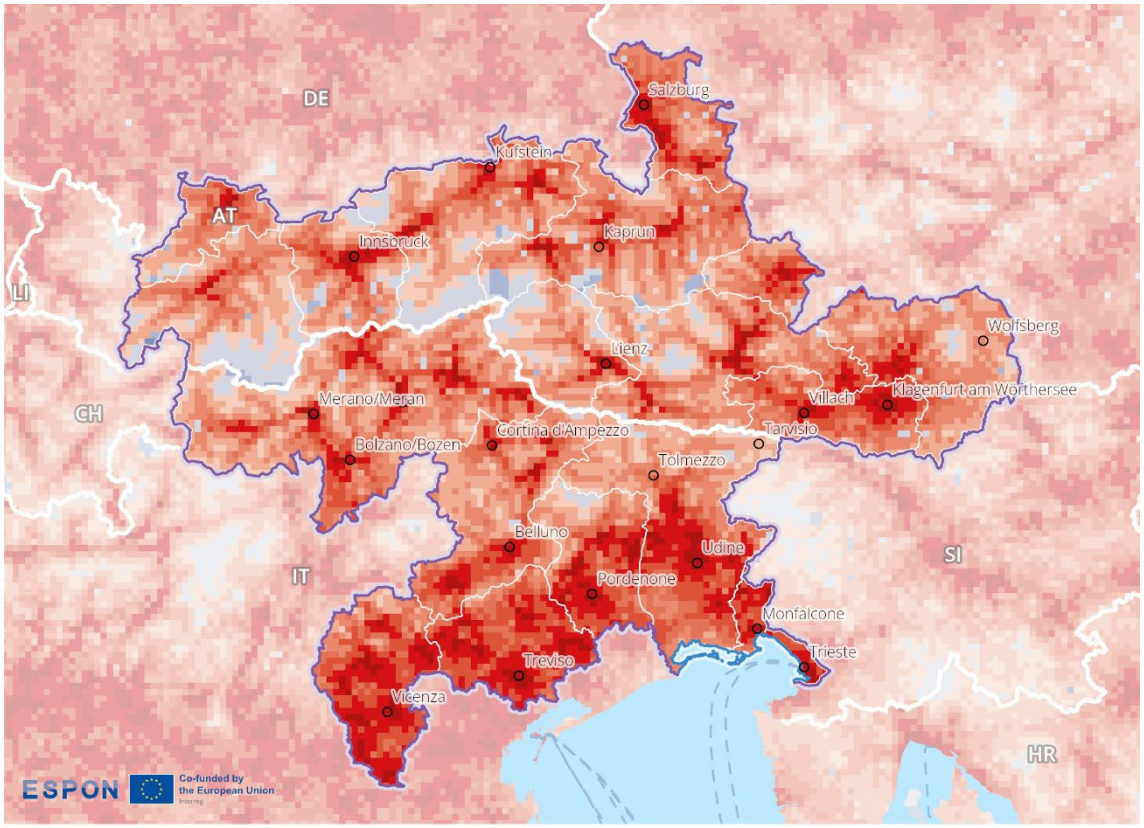
Level of detail: 2.5km grid
Source: FAU, UPOL, ÖIR & EPRC, ESPON Core-IB, 2026
Origin of data: ESPON PROFECY Update, 2022
©EuroGeographics for administrative boundaries

Interreg VI-A perimeter
perimeter coastal line
national border
NUTS 3 border
ferry

0 25 50 km

© ESPON, 2026

Figure 2.32: Travel time to hospitals



Car travel time to the nearest hospital (2021)

5min
10min
15min
20min
30min
45min
1h
2h
3h
4h
6h
12h

inside outside of the Interreg VI-A perimeter

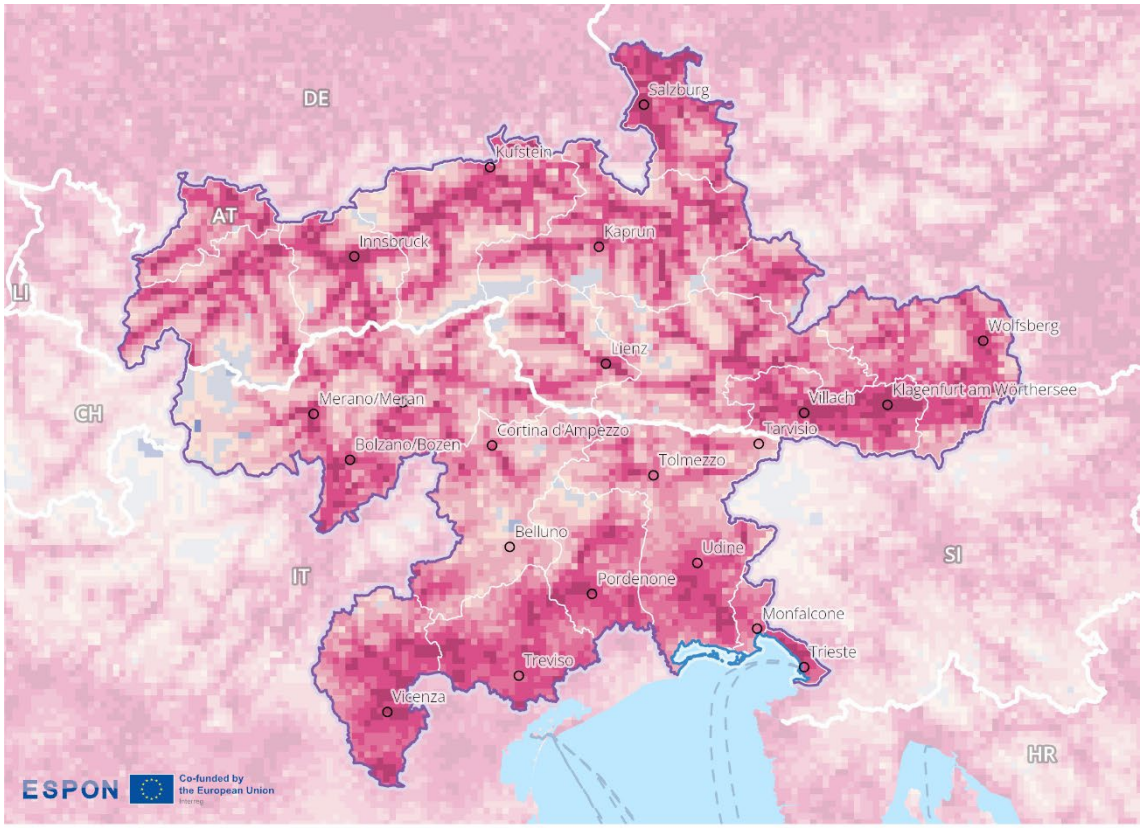
Level of detail: 2.5km grid
Source: FAU, UPOL, ÖIR & EPRC, ESPON Core-IB, 2026
Origin of data: ESPON PROFECY Update, 2022
©EuroGeographics for administrative boundaries

Interreg VI-A perimeter
perimeter coastal line
national border
NUTS 3 border
ferry

0 25 50 km

© ESPON, 2026

Figure 2.33: Travel time to doctors



Car travel time to the nearest doctor (2021)

5min
10min
15min
20min
30min
45min
1h
2h
3h
4h
6h
12h

inside outside of the Interreg VI-A perimeter

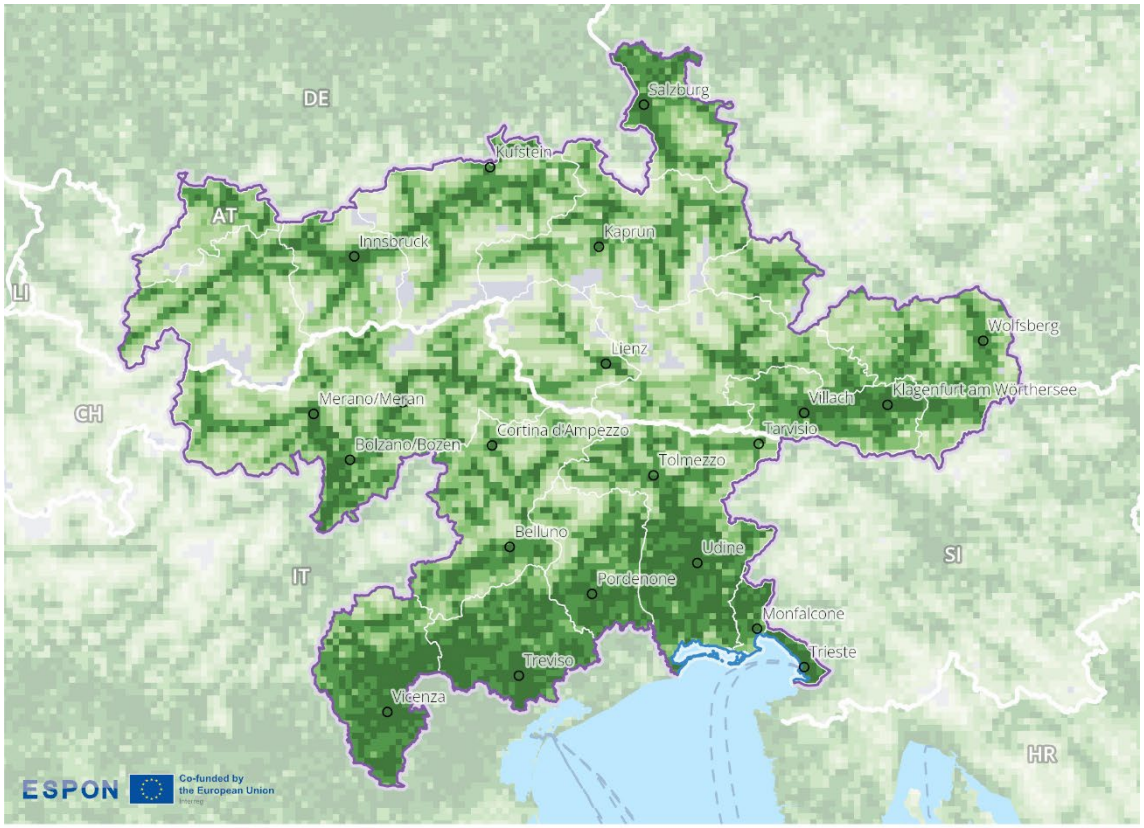
Level of detail: 2.5km grid
Source: FAU, UPOL, ÖIR & EPRC, ESPON Core-IB, 2026
Origin of data: ESPON PROFECY Update, 2022
©EuroGeographics for administrative boundaries

Interreg VI-A perimeter
perimeter coastal line
national border
NUTS 3 border
ferry

0 25 50 km

© ESPON, 2026

Figure 2.34: Travel time to pharmacies



Car travel time to the nearest pharmacy (2021)

5min
10min
15min
20min
30min
45min
1h
2h
3h
4h
6h
12h

inside outside of the Interreg VI-A perimeter

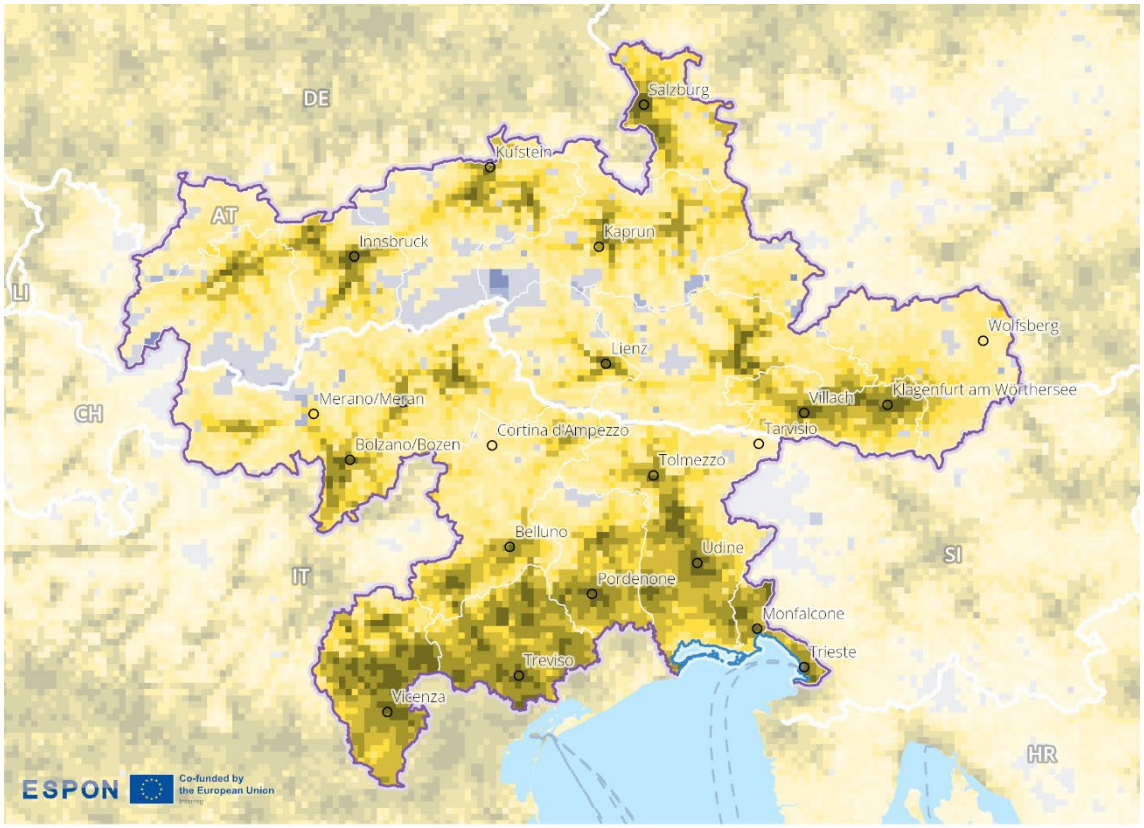
Level of detail: 2.5km grid
Source: FAU, UPOL, ÖIR & EPRC, ESPON Core-IB, 2026
Origin of data: ESPON PROFECY Update, 2022
©EuroGeographics for administrative boundaries

Interreg VI-A perimeter
perimeter coastal line
national border
NUTS 3 border
ferry

0 25 50 km

© ESPON, 2026

Figure 2.35: Travel time to cinemas



Car travel time to the nearest cinema (2021)

5min
10min
15min
20min
30min
45min
1h
2h
3h
4h
6h
12h

inside outside of the Interreg VI-A perimeter

Level of detail: 2.5km grid
Source: FAU, UPOL, ÖIR & EPRC, ESPON Core-IB, 2026
Origin of data: ESPON PROFECY Update, 2022
©EuroGeographics for administrative boundaries

Interreg VI-A perimeter
perimeter coastal line
national border
NUTS 3 border
ferry

0 25 50 km

© ESPON, 2026

2.4.4 Key messages on the socio-economic dimension

Social integration in the border region is uneven: while Austrian regions show moderate to high levels of cross-border interaction, most Italian regions report low levels, except for South Tyrol and the Trieste area. This imbalance is partly due to the lack of a shared language across much of the border, with South Tyrol's bilingual nature providing a notable exception. For regions such as Außerfern or Trieste furthermore the higher cross-border integration is much likely with the respective German or Slovenian neighbouring regions than with the programme regions.

In line with the employment and GVA figures, Tourism is a major economic driver on both sides of the border, but it shows some different characteristics. Austrian regions such as Außerfern, Tiroler Oberland and Pinzgau-Pongau register exceptionally high numbers of overnight stays per capita, often exceeding 40 nights per inhabitant. Similar figures are only reached by South Tyrol in the Italian part

of the programme. Nevertheless, the border regions of both countries exceed national and European averages in terms of tourism intensity by far.

Services of general interest are generally well accessible across the majority of the cross-border region, with hospitals, schools and pharmacies distributed along the main valleys in line with the areas of highest population density. However, the mountainous terrain means that some border communities face travel times of over an hour to reach essential services, which affects regions in both countries involved. Cultural services such as cinemas are heavily concentrated in larger towns, with considerably lower accessibility even within the main valleys, and much higher accessibility in the more urbanised south of the border region.

Overall, the Italy–Austria border area demonstrates very similar structures, with differences mainly determined by the topography rather than the national affiliation of a region. This leads to functional complementarities, particularly regarding tourism and service provision.

2.5 Border security and safety

This dimension shows the security and safety conditions in border regions. It analyses the number of days on which border control is temporarily reintroduced at internal borders, using this as an indicator of security concerns and restrictions on cross-border movement.

2.5.1 Temporary reintroduction of border controls at internal borders

Indicator description

The indicator shows the number of days of temporary reintroduction of border control at internal borders, including the official reasons behind. The reintroduction of border control at the internal borders must be applied as a last resort measure, in exceptional situations, and must respect the principle of proportionality. The scope and duration of reintroduced border control should be restricted to the bare minimum needed to respond to the threat in question.

- **Source/method of retrieval**: Processing and analysis data of European Commission information pursuant to Article 25 and 28 et seq. of the Schengen Borders Code
- **Temporal coverage**: 2006-2025 (cut-off: 08 May 2025, in order to allow data treatment before work package completion)
- **Unit**: Days per year

Please refer to the technical annex for more information.

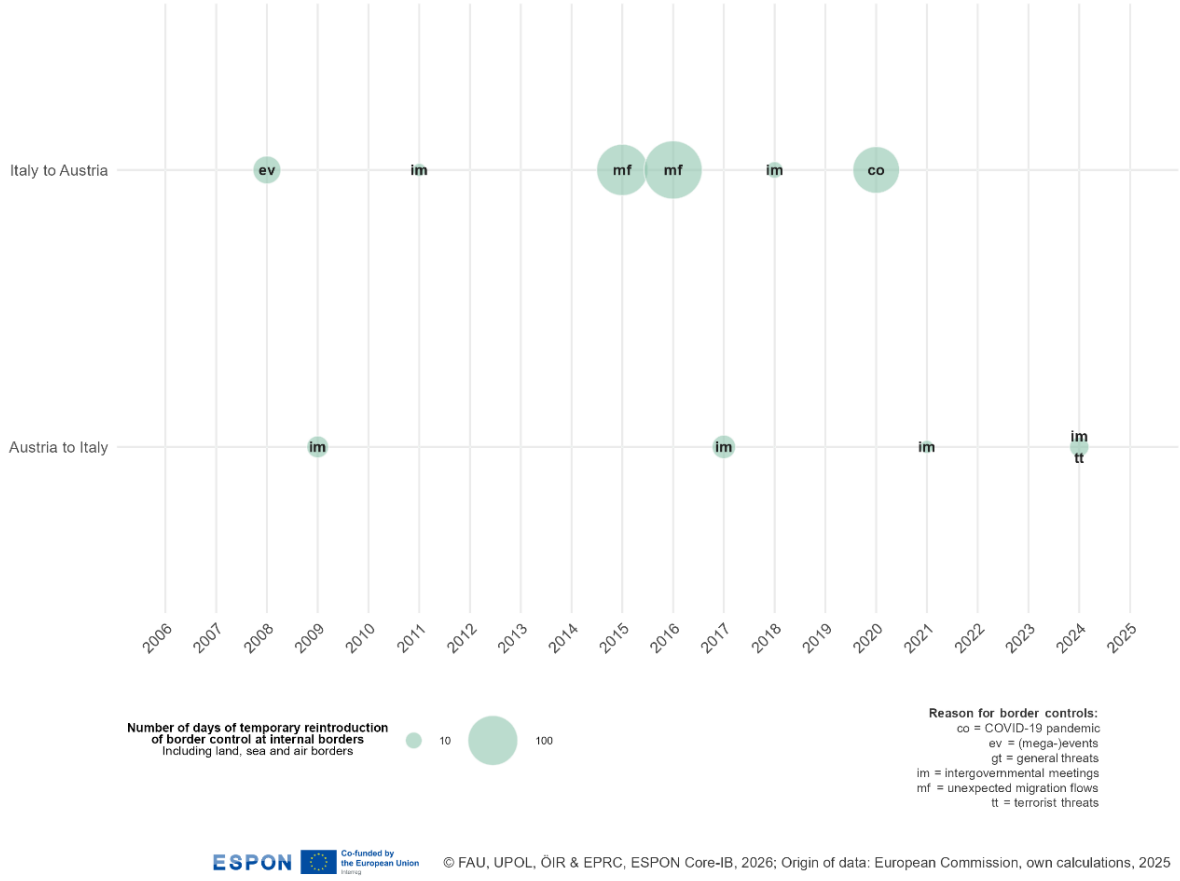
Figure 2.36 illustrates the number of days during which temporary border controls were reintroduced at internal borders within the Schengen Area. Each bubble represents a specific year with bubble sizes indicating the number of days the respective border was under control. The categories of reasons for reintroducing controls include:

- co – COVID-19 pandemic
- ev – (Mega-)events
- gt – General threats
- im – Intergovernmental meetings
- mf – Unexpected migration flows
- tt – Terrorist threats

The data spans from 2006 to 2025 (cut-off: 08 May 2025) and is based on notifications from the European Commission information pursuant to Article 25 and 28 et seq. of the Schengen Borders Code. In line with Schengen rules, the reintroduction of controls is to be used only as a last resort, for exceptional circumstances, and with strict adherence to the principle of proportionality—both in duration and scope.

Both, Italy and Austria had already been part of the Schengen Area by 2006.

Figure 2.36: Temporary reintroduction of border controls



The Italy-Austria border area is characterised by a slightly asymmetric pattern:

- Crossing the border from Italy to Austria: Temporary border controls occurred in 6 of 20 years, tied to intergovernmental meetings like World Economic Forum (2011), COVID-19 (2020) and an influx of people seeking international protection (2015-2016).
- Crossing the border from Austria to Italy: Temporary border controls occurred in 4 out of 20 years, mainly driven by intergovernmental meetings like G7/G8 summits (2009, 2017, 2021, 2024).

From a comparative perspective, Austria has implemented controls for significantly more days than Italy, indicating an unequal impact on cross-border movement in one direction. These controls tend to have a tangible effect on the smooth functioning of cross-border flows, especially commuting and logistics, as they introduce delays and unpredictability.

2.5.2 Key messages on the border security dimension

Temporary reintroduction of border controls shows some asymmetries in the border region. Over the past 2 decades, Austria has imposed border controls more often and for significantly longer periods than Italy has, resulting in an uneven impact on cross-border mobility. Austrian measures were

introduced due to migration pressures, international summits and the covid-19 pandemic and lasted for up to 100 days in individual years. In contrast, Italy has implemented temporary controls typically in connection with significant events/international meetings and typically for around 10 days.

In alpine corridors, where alternative routes are limited to non-existent, this poses a particular issue for freight and passenger transport alike. Therefore, the imposed border controls did not only create a negative effect on the immediate border region, but also stretched out far into other European countries depending on trans-alpine transport corridors.

2.6 Governance dimension

This section covers the cross-border governance of the Austria-Italy Programme Area. The Italy-Austria cross-border region has a long history of cooperation. Drawing on this the territory is now involved in a range of territorial cooperation initiatives, including the macro-regional strategy "EU Strategy for the Alpine Region" (Alpine Strategy), cooperation on the smart specialisation strategies of the partner regions of the programme, and 6 cross-border risk and crisis management agreements. Of note is also the work on Community-Led Local Development (CLLD, partially even cross-border) through 4 strategies: Terra Raetica (Bolzano/Bozen-Tyrol and Lower Engadine in Switzerland, which is not part of the programme area), Wipptal (Bolzano/Bozen-Tyrol), Dolomiti Live (Veneto – Autonomous Province of Bolzano/Bozen – South Tyrol), and Heuropen (FriuliVenezia Giulia – Carinthia) and EGTC), structures that aim to bring cross-border cooperation to a fully institutional level: Euregio Tirol - South Tyrol - Trentino (consisting of the Austrian Land of Tyrol and the 2 Italian Autonomous Provinces of South Tyrol and Trentino, with Trentino being outside the cooperation area) and Euregio Without Borders.

2.6.1 Cross-border cooperation

This sub-dimension identifies the extent of cross-border cooperation in the border region. It illustrates areas of high cooperation intensity and identifies functional links in governance structures across borders. It also identifies areas with high awareness of obstacles and the willingness and support services to overcome them, as well as areas where Interreg cooperation intensity is already strong.

2.6.1.1 Cross-border governance structures

Indicator description

The indicator shows active institutionalised cooperation that act as cross-border entities. It includes cooperation formats such as Eurocities, Euroregions, EGTC, cross-border associations, cross-border councils, etc.

- **Source/method of retrieval**: Localisation and categorising of cross-border cooperation formats (Eurocities, Euroregions, EGTC, cross-border associations, cross-border councils, conferences, working communities), based on desktop research.
- **Temporal coverage**: Status as of October 2025
- **Unit**: n/a

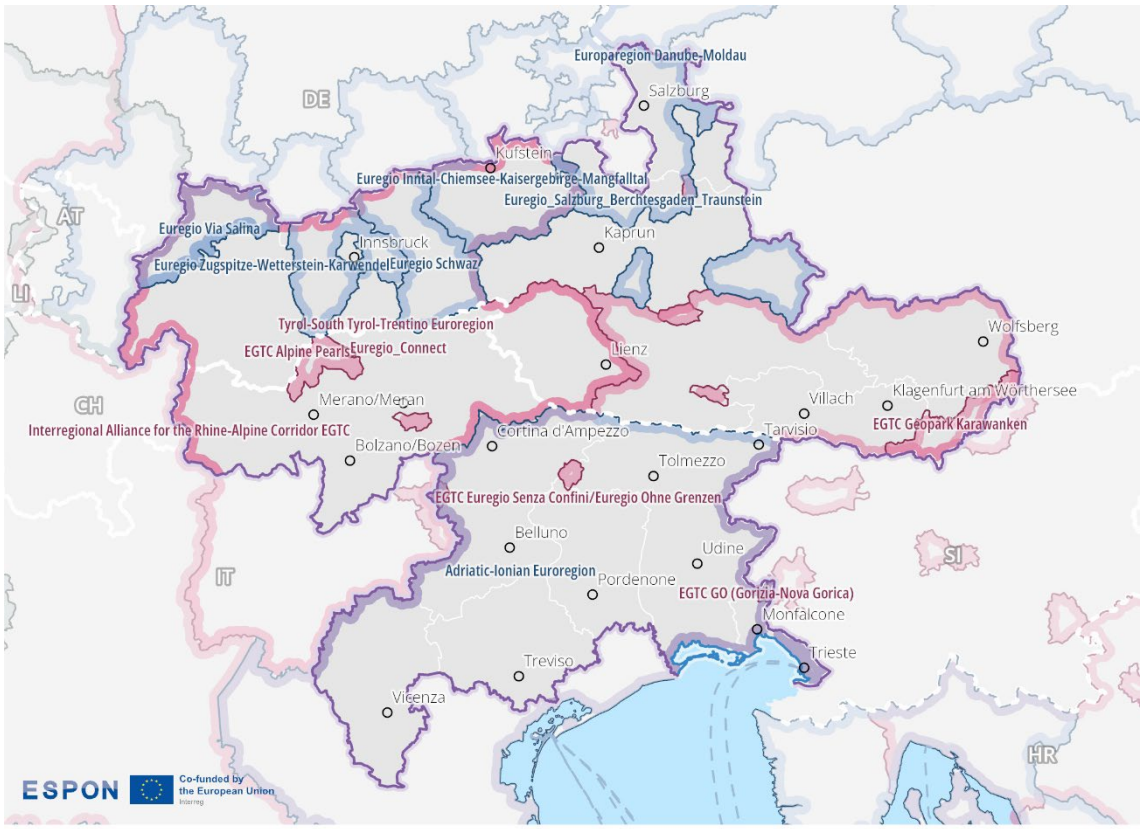
Please refer to the technical annex for more information.

Figure 2.37 shows the different types of institutionalised cooperation. These governance structures either function as cross-border entities or bring together stakeholders from the cross-border region around shared topics. The governance structures covered include Eurocities, Euroregions, European Groupings of Territorial Cooperation (EGTCs), cross-border associations and councils. Project-based cooperation is not included.

The coloured markings on the map indicate different types of institutionalisation: EGTCs are shown in red, Eurocities in yellow, Euroregions/Euregios/Europaregions/Eurodistricts in blue, and other formats in grey.

The multi-level governance structure in this programme area displays broad spatial coverage along the borders. Overall, the cross-border region exhibits a high level of institutionalised cross-border cooperation. The most prevalent forms are EGTCs and formats at the Euroregional level. However, not all EGTCs might be relevant to both sides.

Figure 2.37: Cross-border governance structures



2.6.1.2 Cross-border public services

Indicator description

The indicator shows different services specialised on cross-border challenges and development potential, including their domain of operation. As a specific form of services of general interest, cross-border public services (CPS) address joint problems or development potentials of border regions that are located on different sides of one or more national borders.

- **Source**: ESPON cross-border public services (CPS) 2.0 database
- **Temporal coverage**: 2022
- **Unit**: n/a

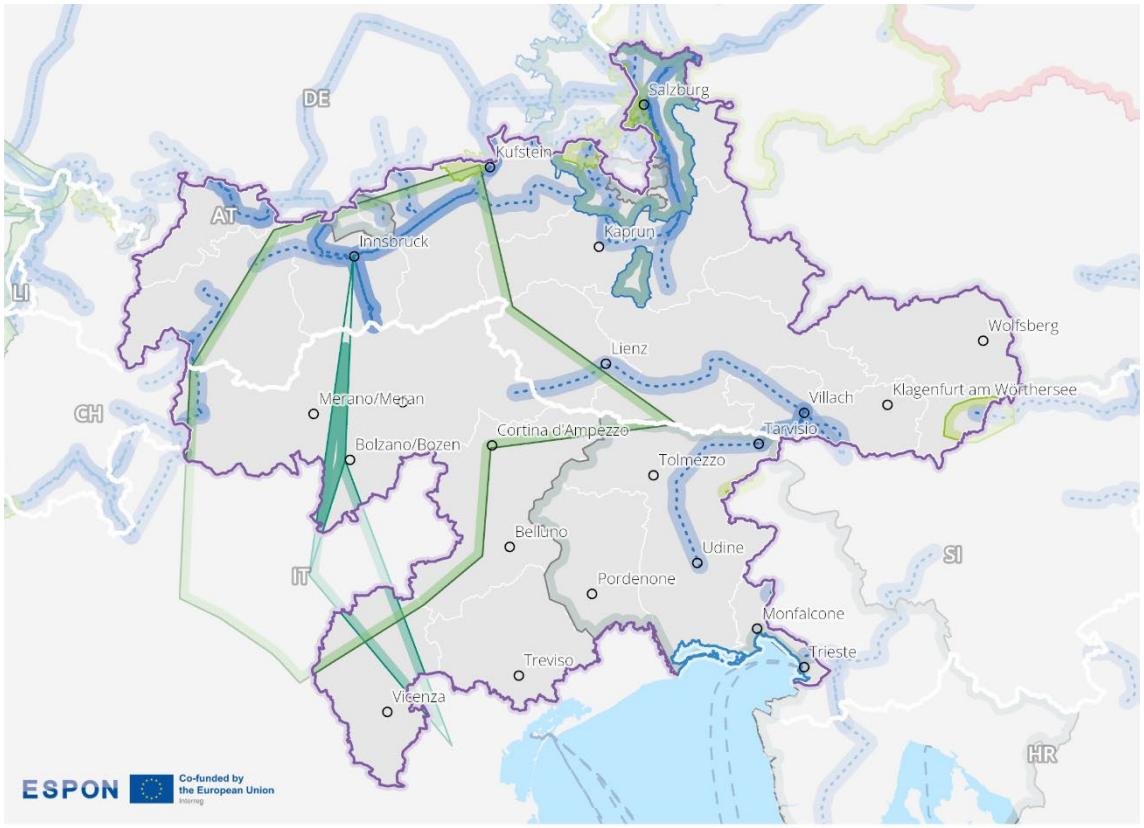
Please refer to the technical annex for more information.

Figure 2.38 depicts the geographical extent of cross-border public services in the Italy–Austria Interreg region in 2022. Different thematic areas are represented by distinct symbols and colours, indicating services such as disaster management[14], health care, transportation, education, environment, energy, job placement, and culture. The visualisation highlights where these services operate across the national boundary.

Cross-border public services in the Austria–Italy region concentrate along a west–east corridor extending from Innsbruck to Salzburg. Transportation links dominate, especially in the Austrian Tyrol and South Tyrol, where cross-border roads and railways extend into northern Italy. The largest connecting public service is tourism and information, covering the eastern Interreg area. Education & research services are visible between Bolzano/Bozen and Innsbruck stretching southwards towards Vicenza. Environmental and water-related cooperation spans smaller territories, around the areas of Salzburg, Kufstein and south of the city of Wolfsberg. The Italian border area shows less service density overall, with a few short connections in “other services” and transport.

[14] For more information on cross-border disaster and risk management between Italy, Austria and Slovenia see: European Commission: Directorate-General for Regional and Urban Policy, Technopolis Group, CMCC, Nordregio, *Strengthening the Resilience of EU Border Regions – Mapping Risks & Crisis Management Tools and Identifying Gaps*, 2024, https://data.europa.eu/doi/10.2776/832103

Figure 2.38: Cross-border public services



Geographical extent of cross-border public service themes (2022)

areal linear character of the service

- Disaster management
- Health care
- Transportation
- Tourism & information
- Education & research
- Environment & water
- Heating & energy
- Job placement
- Culture

inside outside inside outside of the Interreg VI-A perimeter

Cross-border public services covering more than one theme have been assigned only to one. Furthermore, some polygons have been excluded because they were only approximately and not accurately spatially defined.

Level of detail: geolocalised lines and areas
Source: FAU, UPOL, ÖIR & EPRC, ESPON Core-IB, 2026
Origin of data: ESPON CPS, 2022
©EuroGeographics for administrative boundaries

- Interreg VI-A perimeter
- perimeter coastal line
- national border
- NUTS 3 border
- ferry

0 25 50 km

2.6.1.3 Perceived cross-border obstacles in b-solutions

Indicator description

The indicator shows cases of legal or administrative obstacles selected in the framework of the b-solutions initiative. This indicator lists the number, location and nature of suggested solution of cases in the b-solutions initiative, including the topic and parties involved.

- **Source/method of retrieval**: Processing and analysis of the b-solutions initiative data
- **Temporal coverage**: 2018-2025 (first quarter)
- **Unit**: n/a

Please refer to the technical annex for more information.

The b-solutions initiative is a European Union project that supports the resolution of legal, operational and administrative cross-border obstacles. It offers funding for pilot actions and legal expert advice in border regions. A high level of cross-border integration often reveals strong barriers of cross-border functioning. In order to exploit the cross-border potentials, these obstacles have to be overcome or at least addressed. Both the number of reported obstacles and the general interest in solutions serve as important indicators of cross-border interaction.

As part of the ESPON CROSSGOV project, all b-solutions initiatives were analysed to deepen the understanding of the thematic focus of the perceived cross-border obstacles across different border regions and the suggested solutions, in particular from the European perspective.

In the border area of Italy–Austria, 9 b-solutions pilot actions were identified. These included initiatives on cross-border cooperation in disaster response, promoting youth mobility through the "Youth Beyond Borders" project, facilitating youth mobility across borders, mapping cross-border skills in mechatronics, and addressing cross-border commercial passenger transport. Applications for these pilots were mainly submitted by EGTCs and public bodies.

In this border area, in the field of public services, issues relate to rescue services, administrative coordination, and the implementation of effective regulatory frameworks. Governance and institutional cooperation touches on the establishment of agreements that facilitate cross-border collaboration in emergency situations and educational frameworks. Challenges in the areas of labour markets and education revolve around youth mobility, the recognition of skills, and the integration of administrative procedures between the 2 countries.

The solutions proposed in the pilot actions are predominantly legal or hybrid in nature. For example, the disaster response initiative involves legal proposals for a disaster relief agreement between Austria and Italy, as well as the establishment of an inter-state treaty between Tyrol and South Tyrol to ensure coordinated responses in emergencies. The "Youth Beyond Borders" project combines legal revisions to Directive 2005/36/EC along with administrative frameworks to create joint administrative procedures and operational Memoranda of Understanding (MoUs) between institutions. Facilitating youth mobility involves legal amendments to Italian laws, ensuring that procedures are in place to support cross-border educational initiatives. The mapping of cross-border skills in mechatronics incorporates administrative efforts to create new joint procedures alongside operational workshops designed to raise awareness and foster coordination between employers. Lastly, addressing cross-border commercial passenger transport aims for legal frameworks at the EU level and through bilateral agreements to standardise regulations affecting transport services. Through these diverse initiatives, the region seeks to enhance cooperation and establish a more integrated approach to cross-border challenges.

2.6.1.4 Institutionalised advice centres for cross-border issues

Indicator description

The indicator shows where institutionalised advice centres on cross-border issues are located, including their thematic focus and geographical perimeter.

- **Source/method of retrieval**: Localisation and thematic focus of advice centres for cross-border issues are identified via desktop research.
- **Temporal coverage**: Status as of February 2025
- **Unit**: n/a

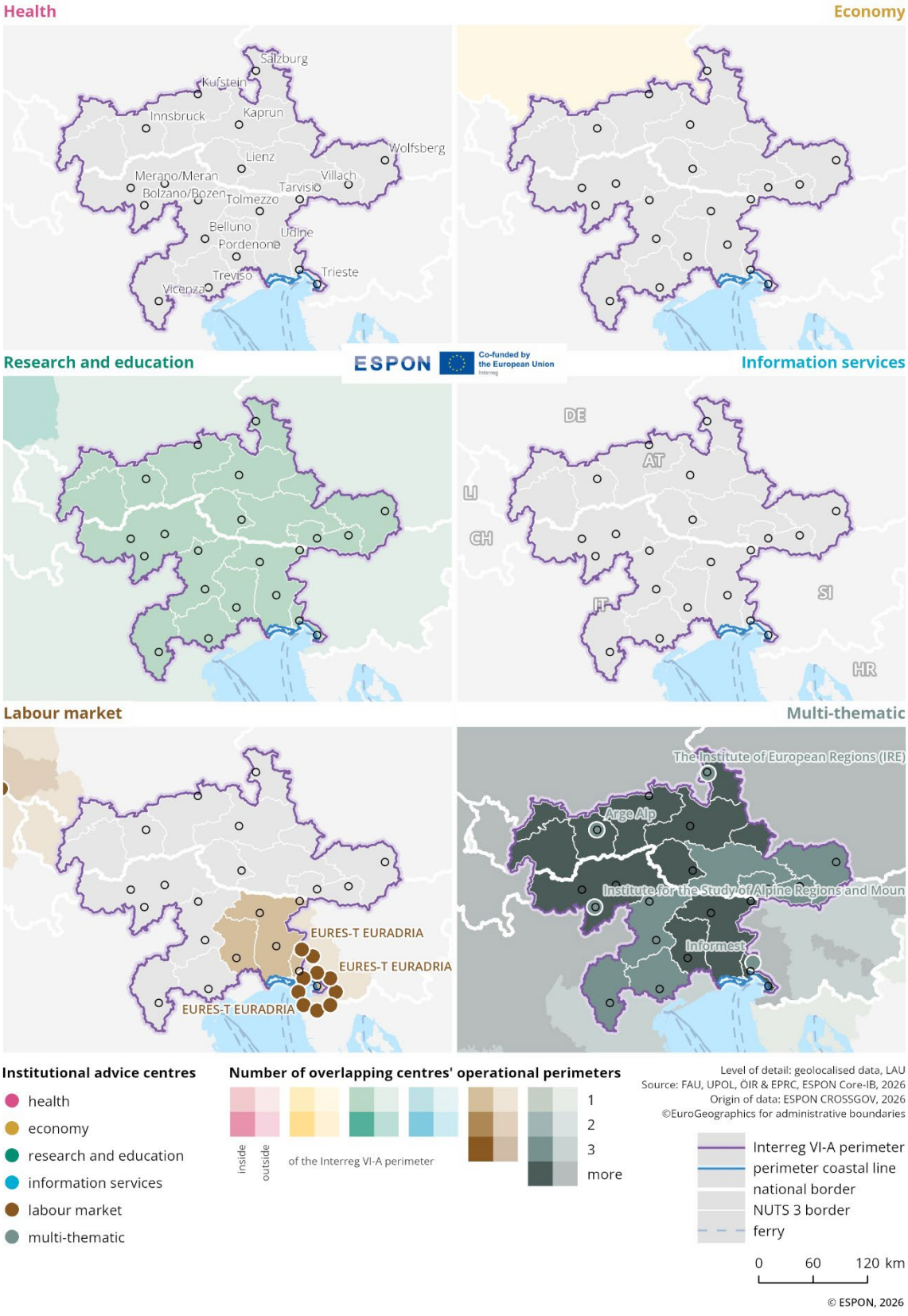
Please refer to the technical annex for more information.

Figure 2.39 shows the locations and types of institutionalised advice centres, along with their operational domains, in the cross-border Interreg region between Italy and Austria. These centres throughout Europe provide support in various fields such as health, economy, research & education, information services, the labour market, and multi-thematic issues. The operational domains of these centres are also indicated by coloured shading on the map. The more intense the colour, the stronger the influence of that specific domain in the corresponding area.

Institutionalised advice centres are concentrated only in the south-eastern part of the Interreg region. Several labour market institutionalised advice centres, all part of EURES-T EURADRIA, are located there - both within the Interreg region and beyond it, in Croatia and Slovenia. In the same area, at the border of the Interreg region, there is also the multi-thematic institutionalised advice centre Informest.

Centres with multi-thematic, as well as research and education operational domains, are represented in both countries within the Interreg area, but there are regional differences. These operational domains are more pronounced in the northern part of the Interreg region, but also in the south-eastern part. Additionally, in the southern part, particularly in the Italian part of the cross-border region, there are also some labour market related operational domains.

Figure 2.39: Institutionalised cross-border advice centres



2.6.2 Outline of Interreg activities

The following section outlines the key Interreg activities in the 2021-2027 programming period. The aspects included concern the development opportunities and challenges identified (see Table 2, the budget available and split of allocation (Figure 2.40), overlapping Interreg programmes and the key aspects drawn from the programme.

Table 2: Interreg-VI (2021-2027): Opportunities and challenges

Topic	Key development opportunities and challenges identified for Interreg 2021-27
Territory	▪ Predominantly characterised by mountains and the Alpine ecosystem
Economy	▪ Focus on new and sustainable technologies, the ICT sector and life sciences. ▪ Promote accessibility to public services, e.g., through digitalisation processes and 'Smart villages' ▪ Role of R&D in the transition towards a circular economy
Labour and population	▪ 'Brain drain' ▪ Support for employment and the qualification and requalification of personnel in the tourism sector
Environment and climate	▪ The cooperation zone has a high cultural and natural heritage. ▪ The Alps host "extreme" and by definition fragile ecosystems, such as glaciers ▪ Risks, adaptation capacities - combination of economic capacity, presence of infrastructure, technological knowledge/awareness and institutional capacities, ▪ Water supplies and management

Total Budget: EUR 91,339,757.02

Figure 2.40: Split of Interreg allocation

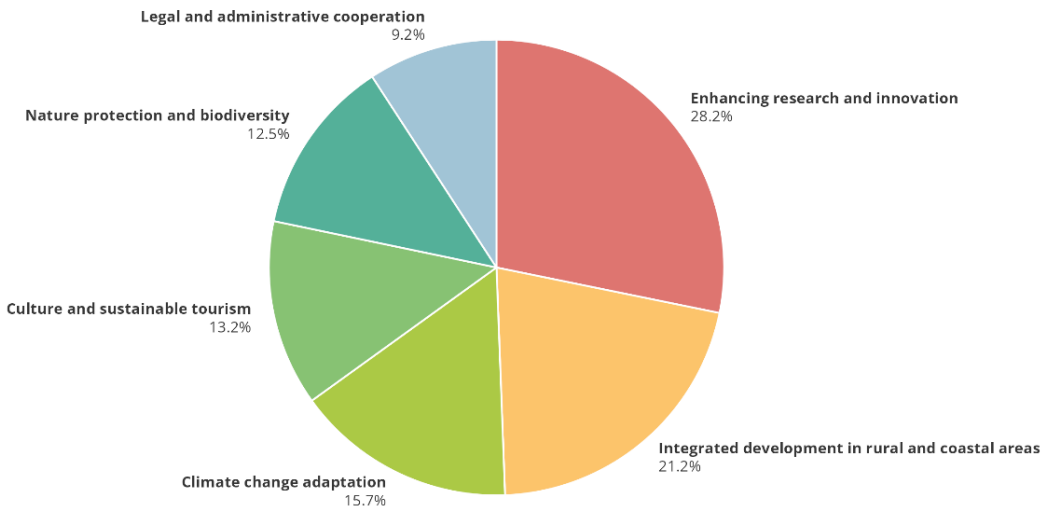


Table 3 shows the number of Interreg 2021-2027 cross-border and transnational programmes which share at least one NUTS3 region with the border area. Each programme has its own distinct rationale, value and territorial focus. However, for the purposes of, for example, planning and capitalisation activities it is potentially helpful for programmes and programme stakeholders to be aware of and connected to other Interreg programmes with which they share a direct territorial link.[15] The 4 Interreg C programmes Interreg ESPON, Interact, Interreg Europe and URBACT cover the whole EU territory and provide a range of joint services and initiatives.

Table 3: Shared geographies with other cross-border and transnational programmes

Interreg A (cross-border)	Interreg B (transnational)
6	4

Key aspects

- The programme focuses on enhancing innovation and enterprise, addressing climate change and biodiversity, promoting sustainable and cultural tourism, supporting local development through Community-Led Local Development (CLLD), and reducing cross-border barriers.
- Key areas include research and development, energy transition, environmental protection, and social inclusion.
- The programme area includes territories from the 4 Interreg VI-B programmes Alpine Space, Central Europe, EURO Mediterranean (EURO MED), IPA Adriatic-Ionian and the 6 Interreg VI-A

[15] It is noted that synergies and links with a wide range of other territorial cooperation and sectoral programmes and initiatives are also valuable and this is reflected in the wider analyses presented in this border profile, but not specifically covered in this table.

programmes Italy-Switzerland, Italy-Croatia, Italy-Slovenia, Austria-Slovenia, Slovenia-Croatia, and Austria-Germany/Bavaria.

2.6.2.1 Interreg cooperation

Indicator description

Based on the keep.eu database, this indicator illustrates the network density of Interreg V-A (2014–2020). It is derived from the geographical location of all partners within a project consortium and reflects the intensity of cooperation between them. For the analysis, project networks were visualised by drawing lines between the locations of partners within a consortium. These connections were subsequently aggregated and spatially abstracted by calculating line density using GIS software. Dark red areas indicate a high density of connections between project partners, while yellow areas represent a lower density of cooperation links.

An additional element in this section is the development of project partner numbers between Interreg IV-A (2007–2013) and Interreg V-A (2014–2020), based on data from the keep.eu database. The datasets were cleaned to remove duplicates, using the partner names as reported in keep.eu. For both programming periods, keep.eu indicates a high level of data completeness[16]. Nevertheless, this development should be interpreted as indicative, as variations in partner name reporting and general limitations regarding the representativeness of the dataset affect the robustness of the results.

- **Source/method of retrieval**: Processing and analysis of the keep.eu database
- **Temporal coverage**: 2007-2013 (Interreg IV-A), 2014-2020 (Interreg V-A)
- **Unit**: n/a

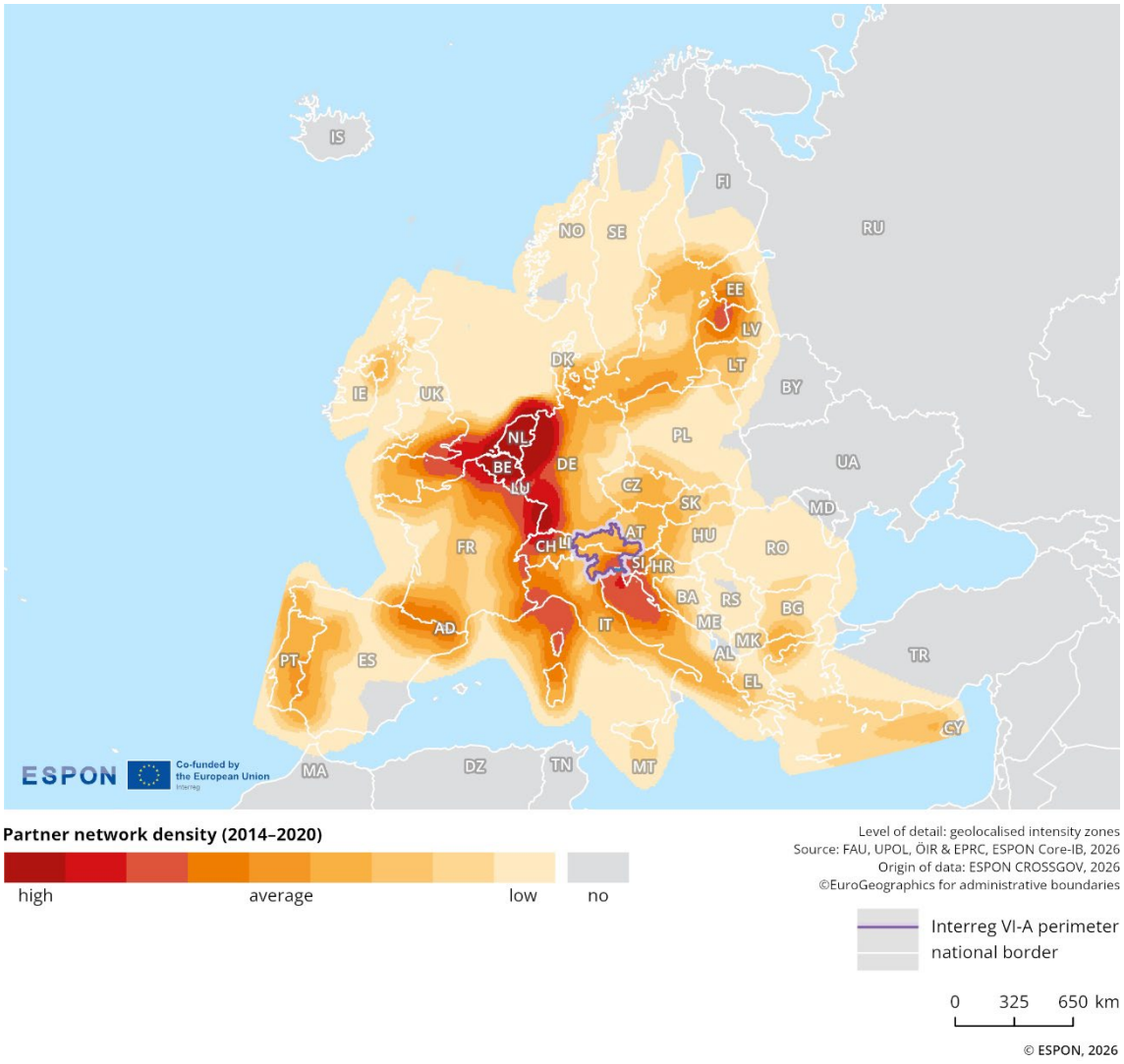
Please refer to the technical annex for more information.

Cooperation activities and networks are among the most meaningful types of information for delineating cross-border functional areas. As such, the indicator on cooperation through Interreg can help to identify networks among cross-border actors and highlight the density of cooperation in specific border segments.

Figure 2.41 shows the density of Interreg V-A (2014–2020) partner networks. The indicator includes the location of, and links between, Interreg project partners within a project consortium. From a European perspective, partner network density in the Italy-Austria border area appears to be somewhat unevenly distributed. It is particularly high in the southern part of the programme area, while regions further north show average levels of partner network density. Overall, the partner network density in this border area is slightly higher than the European average. Based on the keep.eu database and excluding duplicates, the number of project partners decreased from 342 in Interreg IV-A (2007–2013) to 254 in Interreg V-A (2014–2020), an decrease of about 26%. It is important that these changes are considered in the context of factors such as changes in programme budgets between 2007-2013 and 2014-2020, emphasis on targeting impact, and numbers of strategic projects.

[16] see Keep.eu representativeness: Interreg, Interreg-IPA and ENI cross-border

Figure 2.41: Interreg V-A partner network density



2.6.3 Key messages on the governance dimension

The Italy–Austria border region has a long history of cross-border initiatives and displays a relatively high degree of institutionalised cooperation, particularly focusing on Euregios and EGTC which cover a large area of the border regions. EGTC are also among the strongest actors in addressing cross-border obstacles through b-solutions, having submitted the majority of such projects. These pilot actions assessed critical barriers in areas such as youth mobility, recognition of qualifications, disaster response and cross-border transport regulation. The proposed solutions often require hybrid approaches that combine legal reforms on various levels, bilateral agreements and/or operational adjustments. This underlines that even in a well-institutionalised border region, legal and administrative fragmentation remains as a key barrier to stronger integration.

Despite the barriers, cross-border public services are comparatively well developed in areas such as transport, tourism and environmental management, particularly along the Innsbruck–South Tyrol and Villach-Udine corridors. Education and research cooperation also stand out, creating functional links beyond the immediate border zone. Institutionalised advice centres on the other hand are mainly concentrated in the south-eastern part of the border region, notably through the EURES-T EURADRIA network. The absence of such centres in other parts of the border region leaves potential gaps in citizen support and reduces the overall accessibility of guidance, also reflected in the identified b-solutions cases.

Interreg activities cover themes such as innovation, the circular economy, the energy transition and cultural tourism. However, cooperation density is uneven: while the southern part of the programme area show a higher concentration of partner network density (also with other Interreg programmes), northern sections are somewhat less involved. Nevertheless, in the European level comparison, the density of partnerships is average.

3 Summary and key observations

To support the strategic dialogue on cross-border cooperation beyond 2027, this territorial analysis provides harmonised and comparable information. Its data-driven evidence helps to inform the future direction of cross-border cooperation by facilitating alignment with EU priorities and the evolving regulatory framework. The Core-IB border profiles adopt a harmonised methodology and provide programme areas with access to recent European data. As this approach comes along with limitations, member states may hold additional or more detailed data which can further enrich or contextualise the findings beyond the Core-IB project (see final report and technical annex of this project). These national sources are essential for refining and validating territorial evidence in policymaking processes, including: a) regional, fine-scale data and b) insights from political processes related to prioritisation and objective setting. The study's findings are analytical and are intended to support reflection and discussion. They do not create regulatory or policy obligations for Member States, the European Commission, or programme authorities.

Table 4 provides 2 types of information. Firstly, it summarises the key analytical findings for the border region, as discussed earlier in this profile. Secondly, it suggests policy options based on the analytical findings. These options are intended to provide a practical and informative basis for the strategic dialogue among programme bodies, managing authorities and the European Commission.

Generally speaking, the aim of cohesion policy is to promote harmonious territorial development (also) across borders. The objective is to mitigate the impact of borders and achieve 360° functionality, thereby enhancing the quality of life and fostering prosperous development on both sides of the border. The upcoming Interreg period offers an opportunity to address these objectives and potentials through targeted cooperation projects.

Table 4: Evidence-based conclusions

Territorial dimension	
Key analytical findings	• Alpine valley structures dominate the territorial development possibilities in the border area. They do determine settlement patterns and accessibility across the border; • Settlement density in Italy is higher, in particular due to the flatter southern part of the border area. Furthermore, these regions feature more dynamic settlement development in comparison. On the other hand, settlement density in relation to the habitable terrain is the highest in populated valley like the Inn Valley; • Accessibility is constrained considerably by the mountainous terrain, thus travel times across the border oftentimes exceed 60 or even 90 minutes to larger settlements. Accessibility in this regard is slightly better in Austria than in Italy.

Territorial dimension	
Policy options	**Population and settlement related aspects** • A relevant policy option is to address the demographic ageing and population decline across large parts of the border region through cross-border strategies that support viable and resilient settlement structures, particularly in alpine valleys; • Structural similarities between Austrian regions and the northern parts of the Italian border region offer a basis for stronger cross-border development cooperation. **Accessibility related aspects** • Cross-border public transport connections could play a stronger role in complementing predominantly car-based accessibility along alpine corridors. The Koralmtunnel and improvements of the long-distance railway connection could be supported by additional cross-border measures in the lower level transport networks; • In a region characterised by high levels of interaction despite significant natural barriers, the stabilisation and improvement of existing mobility flows represent an important policy option. **Cross-cutting aspect** • Cross-border actions can address strong contrasts between highly accessible lowland areas and more difficult-to-access mountain and valley regions, with a view to supporting more balanced territorial development.

Economic dimension	
Key analytical findings	• While the overall region exceeds European averages in terms of GDP per capita, a clear difference between higher values in most Austrian regions and lower values in most Italian regions is visible. Nevertheless, these disparities are less pronounced than in other European border regions; • Linked to the comparably low wage differences, there is a limited commuting dynamic in the region. Only some individual regions show higher out-commuting values in the European comparison; • The valley structure is a key determinant for housing prices, with prices in valleys (in particular near major towns like Innsbruck or Bolzano/Bozen) exceeding the lowlands prices in the area by far.

Economic dimension	
Policy options	**Competitiveness and labour market related aspects** • Labour market integration can be strengthened in a context of relatively modest wage differentials and still limited cross-border commuting. In particular parts of the region with shared language offer good opportunities for stronger integration; • Cross-border cooperation offers scope to address the declining share of the working-age population, particularly in Austrian border regions where demographic decline exceeds the national average; • Regions with a strong dependence on tourism, especially alpine valleys exposed to seasonal fluctuations, could benefit from cross-border approaches that support economic diversification as a shared response to this challenge. **Housing and infrastructure** • The territorial evidence has shown that economic integration in a border region characterised by strongly concentrated housing prices and sharp contrasts between valleys and surrounding areas requires careful management; • Cross-border approaches could help mitigate housing affordability pressures linked to tourism intensity and limited settlement space in alpine regions. **Cross-cutting aspect** • Forms of cross-border economic coordination can help ensure that strengthened functional linkages do not translate into deepening imbalances between alpine regions and lowland areas.

Green dimension	
Key analytical findings	• Ecological connectivity in terms of protected areas is not strongly developed in the border region. A number of protected areas actually extend towards the border but do not continue afterwards; • In line with the alpine location, the majority of regions face higher than average landslide risks. Furthermore, flooding in the valleys is of relevance, but does not have a significant cross-border aspect to it; • In terms of energy infrastructure, a large number of hydroelectric power stations exist, but cross-border connectivity of the grid is very limited. The potential as a hotspot for renewable energy production in the cross-border area are thus not fully exploited; • Air pollution on the other hand is considerably high, exceeding national and European averages.
Policy options	**Resilience and nature protection related aspects** • Strengthened cross-border cooperation can contribute to improving ecological connectivity where gaps exist, thereby supporting a more functionally connected ecological system. This is particular relevant for sensitive alpine regions, where the analysis indicates some territorial gaps; • Better alignment between risk management and spatial planning could help prevent increasing exposure of settlements and infrastructure to multi-hazard situations. This is especially critical in parts of the border area where valley structures concentrate the settlement dynamic. **Energy related aspect** • Cross-border cooperation can play a more prominent role in addressing the low level of integration between national energy grids, despite their highly aligned production structures. Furthermore they can support linking industrialised parts of the border region with net-exporters of energy in the alpine parts. **Cross-cutting aspect** • Strengthening cross-border environmental governance can enable more integrated and coherent management of shared natural resources.

Socio-economic dimension	
Key analytical findings	• With the exception of South-Tyrol, cross-border connectivity on social media is quite limited. The common language of South-Tyrol with Austria naturally supports this aspect; • Tourism is a key driver of economic development in both countries, with extremely high tourism intensity in the European comparison. Intensity is generally higher in Austrian regions, due to the smaller settlement structure in the most attractive areas; • Service accessibility in line with the valley structure is generally quite high, as potential locations for services do align with areas of higher population density or good road connections.
Policy options	**Social integrated related aspect** • The high level of social integration observed in South Tyrol can be used as a catalyst for strengthening social ties in other parts of the border region. **Tourism and services related aspects** • Improved cross-border coordination of tourism development could help reduce peak pressures and support more complementary, year-round tourism models; • Better alignment of transport and service infrastructure with seasonal tourism peaks represents a relevant option in highly frequented alpine valleys; • Cross-border cooperation can help mitigate long travel times to essential services in remote alpine areas and support the development of cross-border service provision improving access in sparsely populated mountain regions. **Cross-cutting aspect** • More effective alignment of transport and service infrastructure with seasonal tourism peaks can support both residents and visitors in valleys that concentrate tourism demand.

Border security and safety dimension	
Key analytical findings	• Temporary border controls were implemented far more frequently by Austrian authorities than by Italian ones, and also typically lasted longer; • Due to the lack of alternate routes available, the controls are exhibiting effects way beyond the programme area, in particular linked to barriers for freight transport.
Policy options	**Cross-cutting aspects** • Improved anticipation and coordination of the asymmetric use of temporary border controls can help minimise disruptions in a cross-border area characterised by limited alternative traffic routes; • The impacts of border controls on cross-border commuting and logistics can be mitigated through coordinated and institutionalised cross-border policy dialogue. Interreg measures to improve border management can be part of the mitigation; • The mitigation of border control effects can form part of cross-border cooperation projects in various sectors. Economic networks, transport infrastructure initiatives and tourism-related actions can incorporate considerations related to the impacts of border controls.

Governance dimension	
Key analytical findings	• The border region shows strong institutional connectivity with multiple formalised cooperation formats in place; • Several administrative and legal obstacles could be addressed via b-solutions, however do require complex multi-level mechanisms to be overcome, underlining the difficulties even for well-integrated border regions; • Interreg V-A partner network density is slightly above the European average.

Governance dimension	
Policy options	**Cross-cutting aspects** • The region's dense and long-standing institutionalised cooperation structures offer significant potential for addressing remaining functional gaps across the entire border area; • Governance arrangements could be adapted to better reflect functional interdependencies shaped by alpine geography rather than administrative boundaries.

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