

## State of the European Territory

### ESPON contribution to the debate on Cohesion Policy post 2020

Forgaci, C.; Gorghiu, Rodica; Ivanov, Ioana; Maier, Andreea; Paslaru, Dragos Nicolae; Stadler, Reinhold Lehel; Zagan, Lucian; Stead, Dominic; Ghita, Alexandru; Rus, Calin

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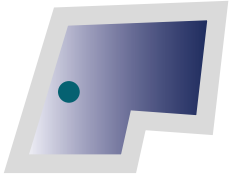
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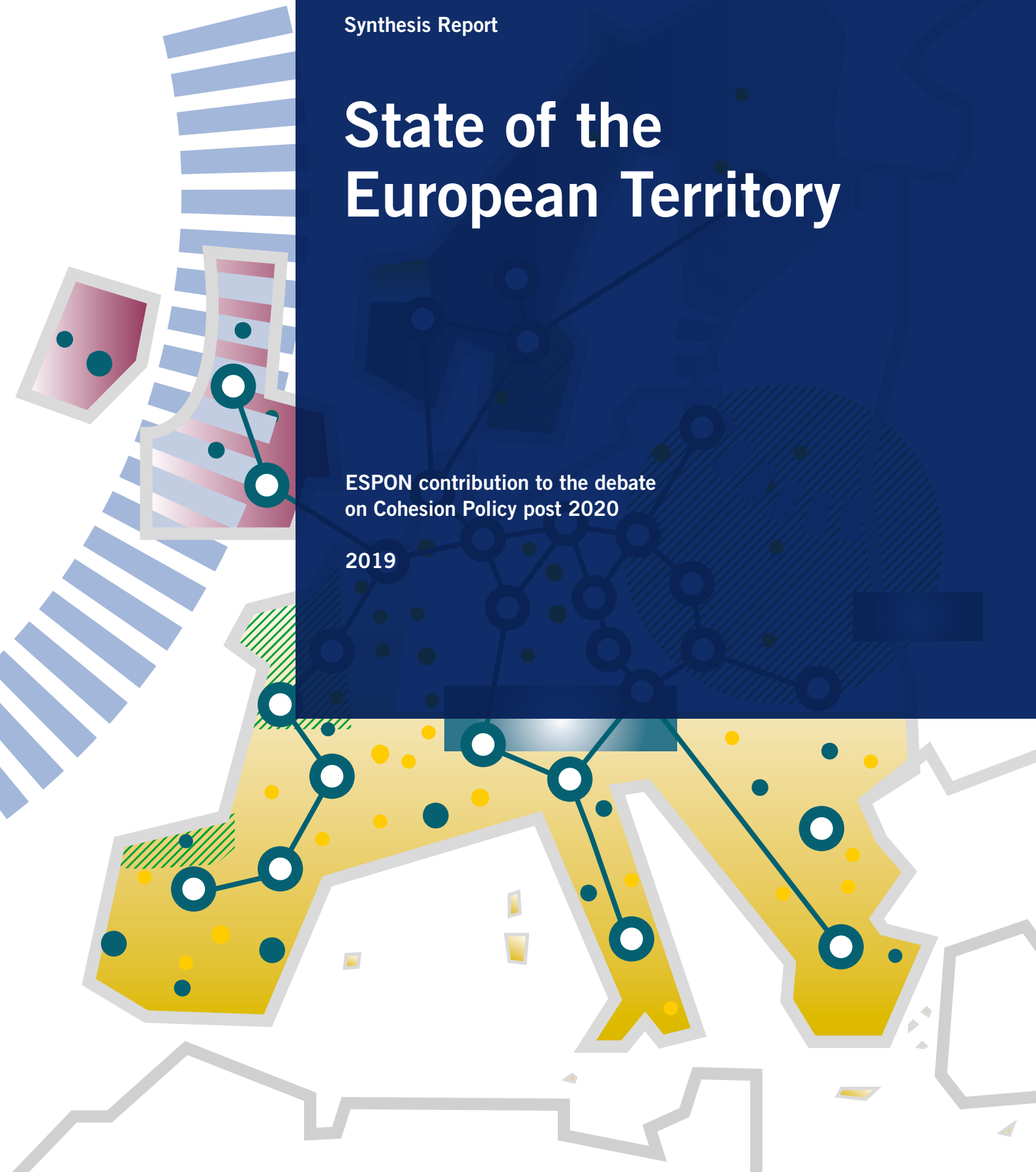
Inspire Policy Making with Territorial Evidence

Synthesis Report

# State of the European Territory

ESPON contribution to the debate on Cohesion Policy post 2020

2019



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In addition to this publication there is an online version of the report, which allows generating tailor-made reports on policy options and tools or case studies. This online version is available at: <https://soet.espon.eu/>

#### **Information on ESPON and its projects can be found at [www.espon.eu](http://www.espon.eu)**

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Co-financed by the European Regional Development Fund

Inspire Policy Making with Territorial Evidence

**Synthesis Report**

# State of the European Territory

**ESPON contribution to the debate  
on Cohesion Policy post 2020**

**2019**



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# Foreword

Dear reader,

2020 is a milestone for the EU as European policymakers and member states are working towards the agreement on the new Multiannual Financial Framework, and the New Territorial Agenda. At the same time policymakers at the national, regional and local level are drafting the programmes of the new Cohesion Policy for the post-2020 programming period.

ESPON's mission is to support them with evidence, tools and publications.

Part of this effort is the “State of the European Territory”, a publication that sheds light on the main territorial development trends in Europe and offers evidence and policy advice to those designing policies - especially for the post-2020 period.

The “State of the European Territory” is a synthesis of knowledge and evidence collected from ESPON projects in the current programming period. It comes 3,5 years after our first synthesis report, the “European Territorial Review”, and is an excellent tool to help you navigate the ESPON knowledge base and extract the content that is useful for you. To help you tailor the content and create customised reports we also provide the “State of the European Territory” report in an online version, which you can access on <https://soet.espon.eu>.

Compiling this publication required an active participation of our experts, researchers and stakeholders, and I want to thank them all for their commitment and contributions.

Although the messages of this publication can be useful for anyone involved or interested in EU development policies and particularly Cohesion Policy, we drafted it thinking particularly of those that are involved in the preparation of the next programming period. People preparing the new programmes in the Member States or European regions, but also those advocating borderless areas, such as macro regions, cross-border or metropolitan areas.

Therefore, the structure of the publication is following the five policy objectives proposed by the new Common Provision Regulation (CPR) in 2018. In its five chapters, you can find evidence, case studies, data and policy recommendations for all the topics that were addressed by different ESPON projects. You can also find links to these projects if you need more information about the specific topic. Finally, there is a last chapter that summarises some of ESPON's core recommendations on horizontal issues related to governance, planning and investment in support of a place-based approach.

I believe that the “State of the European Territory” report will prove to be a valuable tool for policymakers on European, national, regional and local level, and it will significantly contribute to shaping a more territorial approach in future policies.

Enjoy your reading!



Ilona Anna Raugze  
Director, ESPON EGTC

# Abbreviations

AMF	Asylum and Migration Fund
AMIF	Asylum, Migration and Integration Fund
CBM	Circular Business Model
CEF	Connecting Europe Facility
CF	Cohesion Fund
CLLD	Community-Led Local Development
COSME	Competitiveness of Enterprises and Small and Medium-sized Enterprises
CP	Cohesion Policy
CPR	Common Provision Regulation
CPS	Cross-border Public Services
DMC	Domestic Material Consumption
EEA	European Environment Agency
ERDF	European Regional Development Fund
ES	Ecosystem Services
EU	European Union
ERDF	European Regional Development Fund
ESF	European Social Fund
ESIF	European Structural and Investment Funds
ESPON	European Territorial Observatory Network
EU	European Union
EUSALP	EU Strategy for the Alpine Region
FDI	Foreign Direct Investment
FUA	Functional Urban Area
GDP	Gross Domestic Product
GHG	Greenhouse gas
GI	Green Infrastructure
ICT	Information and communications technology
IT	Information Technology
ITI	Integrated Territorial Investment
KE	Knowledge Economy
MaaS	Mobility as a service
MC	Monitoring Committee
MNCs	Multinational Corporations
MoS	Motorways of the Sea
MS	Member State
PO	Policy Objectives
R&D	Research and Development
RDI	Research, Development and Innovation
RIS3	Regional Innovation Strategies for Smart Specialisation
SDG	Sustainable Development Goal
SEA	Strategic Environmental Assessment
SME	Small and medium-sized enterprise
SOET	State of the European Territory
STEM	Science, technology, engineering and mathematics
TA	Territorial Agenda
TEN-T	Trans-European Transport Network
TGS	Territories with Geographic Specificities
ToC	Table of contents
UN	United Nations

# Introduction

The State of the European Territory (SOET) report has been developed in the context of the post-2020 European Union (EU) policy debate and of the renewal of core territorial and urban development strategic documents, namely the EU Territorial Agenda (TA) 2020 and the Urban Agenda for the EU. To inform and support the preparation of the post-2020 programming period, the SOET report includes observations of the main territorial development trends, challenges and potentials in Europe and offers policy advice to support the design of integrated territorial development strategies and related implementation tools at national, regional and local scales. The policy recommendations presented in the report take account of the European Commission's multiannual financial framework and the related legislative proposals for the post-2020 period.

The report builds on the available European Territorial Observatory Network (ESPON) research developed by transnational teams from all over Europe, including the EU Member States and the Partner States, namely Iceland, Liechtenstein, Norway and Switzerland<sup>1</sup>. Sources up to 2018 were catalogued in the publication "ESPON contributions to post-2020 programming of European Structural and Investment Funds" (ESPON 2018a) and this publication served as a starting point for the SOET report. Linking with the European post-2020 priorities, the SOET report is structured around the five policy objectives laid down in the 2018 proposal for a Common Provision Regulation (CPR) and the specific objectives set out in the proposal for a regulation on the European Regional Development Fund (ERDF), the Cohesion Fund (CF) and the European Social Fund Plus (ESF+).

Europe is currently facing a range of diverse development challenges related to social change (migration and ageing), economic transformation (innovation ecosystems and industrial transformation), technological change (the digital society, post-carbon transition and circular economy) and environmental change (mitigating and adapting to climate change and scarcer resources). Despite some positive trends in a range of social, economic and environmental indicators (including growth in gross domestic product (GDP), investment and employment), Europe is becoming increasingly fragmented in terms of socio-economic development, culture and politics. Moreover, geographically concentrated discontent, possibly linked to a concentration of socio-economic challenges, can spill over into political instability. In this context, the increase in disparities is more pronounced between regions, municipalities and neighbourhoods than between countries, requiring functional approaches and particularly more targeted support for EU citizens in places "left behind".

Hence, there is a growing recognition that one-size-fits-all policies cannot effectively address the various challenges faced by different territories in Europe. Moreover, the diversity of the European territory in terms of geography and administrative and governance design endorses the importance of tailored, place-based approaches, rather than territorially blind policies. Consequently, European, national and regional/local policies need to be adjusted. Place-based approaches (e.g. integrated strategies, integrated territorial investment (ITI) and community-led local development (CLLD)) and territorial cooperation (e.g. Interreg) have already been promoted and tested during the current programming period, offering a rich experience to build upon in the future.

The debate on the EU Cohesion Policy post 2020 is ongoing, with Member States and regions preparing their programmatic documents. To support programming and planning processes and to emphasise the territorial dimension of the Cohesion Policy, the SOET report identifies development challenges and opportunities and examines territorial cooperation needs and potentials. It adopts an action-oriented approach, providing recommendations, tools and case studies for place-based approaches. The report has five thematic chapters, built around the five key aims for future territorial development: (1) fostering a smarter Europe, (2) a greener, low-carbon Europe, (3) a more connected Europe, (4) a more social Europe, and (5) a Europe closer to citizens. The report's thematic chapters follow a similar structure, including the European strategic context in the field, and its subchapters target the specific objectives of the post-2020 Cohesion Policy. Each chapter presents the current situation in Europe and the corresponding policy recommendations, tools and case studies addressing policy makers at all territorial lev-

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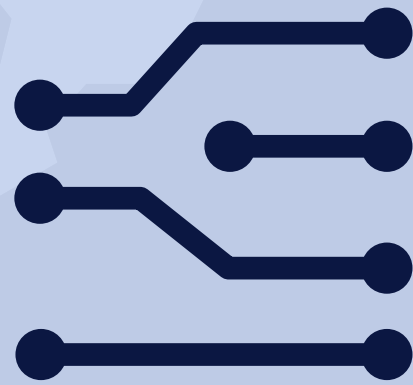
1 If they have sufficient data available, EU candidate countries are also included in several reports.

els. The report concludes with a final chapter presenting general considerations and recommendations, focusing on cross-cutting issues (e.g. the quality of governance, funding, investments and administrative capacity) that can support place-based approaches.

The SOET report provides a very compact synthesis of existing ESPON evidence and research. Hence, each subchapter refers to the original evidence, mentioning the underlying ESPON publications, which are freely available on the ESPON website at [www.espon.eu](http://www.espon.eu).

1

# Smarter Europe





# 1. Smarter Europe

Enhancing an innovative and smart economic transformation has been a serious challenge on the territorial agenda of the EU, especially in the period following the economic and financial crisis. The Europe 2020 Strategy was designed to set out a vision of the EU's future, based on smart, sustainable and inclusive growth, aiming to build resilience against uncertainties related to global competitive pressures and the challenges of an ageing population. Knowledge and innovation have been regarded as drivers of future growth, ultimately delivering on the objective of creating quality jobs and addressing societal issues. On the one hand, “smart growth” emphasises the need to promote and support better education, stronger research performance, enhanced innovation and the capacity for knowledge transfer. The latest available data show that research and development (R&D) expenditure for the EU-28 reached 2.07 % of GDP in 2017. This demonstrates continuous growth since 2013 but is still behind the 2020 target of 3 %. On the other hand, “inclusive growth” should be achieved by creating high levels of employment, investing in skills, fighting poverty, modernising labour markets, training and improving social protection. In 2017, employment in the age group 20-64 years reached 72.2 % in the EU (compared with the 75 % target). In addition, 39.9 % of the EU population aged 30-34 years attained tertiary education, which is very close to the 40 % target for 2020.

The EU intergovernmental collaboration in the frame of the EU TA 2020 reinforces the territorial dimension of social and economic measures aimed at delivering on the objectives of the Europe 2020 Strategy by acknowledging unequal development levels between regions. Therefore, the major challenge is reconciling the competitiveness-cohesion gap, while ensuring access to employment opportunities and the necessary capabilities across the territory.

The territorial diversity within the EU poses significant development challenges in terms of the economic, social and cultural integration of regions and their interdependence. While regions are different, they are also interconnected; positive or negative changes in one part of Europe can have effects in other parts of Europe. At the same time, despite regional particularities, the global challenges and trends affecting regional development are similar. Therefore, facilitating cooperation and lowering barriers that hinder cooperation at the regional level can yield better efficiency in the utilisation of human, economic and cultural resources – smoothing the path towards cohesion and common resilience.

Current and future policies indicate that the EU is committed to basing its economic growth on enhanced research and innovation capacities, as part of its ambitions, supported by adaptable skills for creative and digital workplaces, and entrepreneurship. The EU budget for the post-2020 funding period aims to continue a policy with strong synergies between the Cohesion Policy, research and innovation, and regional policy. Horizon Europe will be introduced at the start of the 2021-27 programming period and will focus on improved strategic coordination of priorities, aiming for combined funding. In addition, the transition towards a smarter Europe post 2020 is envisaged to be locally led, involving and empowering administrations at all levels.

The technological transformation enabled by the recombination of new technologies, resulting in 4.0 technologies (e.g. Internet of Things, big data and analytics, autonomous robots, cloud computing), not only drives changes in the research and innovation landscape, but also has a major impact on a variety of sectors and traditional industries. The 4.0 technologies may result in significant productivity improvements, yet their potential territorial impacts are difficult to measure at the moment. However, they are expected to drive structural changes both in economic (production, trade, delivery, etc.) and in social terms (jobs and competences), defining a new economic model: “economy 4.0”.

In this context, policies and measures addressing research and innovation, the uptake of advanced technologies, social capital and entrepreneurship are crucial for ensuring the development of a smarter Europe. This entails fostering the creation of stronger local economies based on local assets (adapted to the global context) and increased labour force mobility, ensuring effective cooperation in cross-border and transnational functional areas and integrated development at the urban and rural levels.

## 1.1.

### Enhancing research and innovation capacities and the uptake of advanced technologies, including developing skills for smart specialisation, industrial transition and entrepreneurship



Based on ESPON evidence from: KIT, EMPLOY, T4

Knowledge economy regions are defined by three main dimensions: (1) the presence of science- or technology-based sectors, (2) the presence of high-level scientific and R&D bodies and (3) mechanisms for networking and innovation diffusion through firms. Despite their being some of the primary drivers of economic growth at the European level, the concentration of knowledge economies also contributes to widening the development gap between regions.

At the European level, research and innovation is supported by Horizon 2020, which is the EU Framework Programme for Research and Innovation for 2014-20. Through Horizon 2020, the EU aims to strengthen its research and innovation policy by providing funding to further improve its position in science, advancing industrial innovation, facilitating technological breakthroughs and enhancing international cooperation in the field of research and innovation. Aside from Horizon 2020, specific calls with a geographical focus have also contributed to reaching the EU's ambitions regarding sustainable economic growth, particularly if we look at Creative Europe, Competitiveness of Enterprises and Small and Medium-sized Enterprises (COSME) and Erasmus programmes. These programmes should be further enhanced to better address the territorial specificities of transnational innovative clusters operating in the same geographical area (e.g. green and innovative infrastructure projects under the EU Strategy for the Alpine Region (EUSALP)).

Regional innovation strategies for smart specialisation (RIS3) emerged as a policy tool and ex ante conditionality of the Cohesion Policy, aiming to enhance the research and innovation strengths of territories/regions, in order to address and tap into emerging opportunities and market developments, supporting economic transformation. RIS3 provide effective innovation support by means of interaction between public, private, academic and non-governmental stakeholders with the goal of “making each EU region find a suitable role for itself within the global economy”. As regards the funding mechanism, multiple funding sources are sought to achieve the objectives of smart specialisation strategies (Polverari 2016: 43), including the ERDF, the ESF and Horizon 2020, as well as funding from regional and/or local governments, the European Investment Bank, private funding and dedicated EU instruments for innovation in specific fields. In 2011, the European Commission established the Smart Specialisation Platform, which currently includes 169 EU regions and 18 Member States, providing support as “professional advice for the design and implementation of their [region's] research and innovation strategies for smart specialisation”. As a result, over 120 smart specialisation strategies have been supported by the platform (Polverari 2016: 12-23).

Despite the progress achieved, Berkowitz (2018) emphasises a series of policy challenges yet to be addressed within the post-2020 period. These challenges include (1) balancing the competitiveness–cohesion trade-off by providing opportunities for lagging regions and fostering their participation, (2) building resilience through improved cooperation and sharing of economic benefits between regions, as well as promoting long-term competitiveness as part of an industrial modernisation vision and (3) managing research and innovation alongside economic development objectives and improving the effectiveness of research and innovation and innovation investments.

#### 1.1.1.

##### Enhancing research and innovation capacity

From a territorial perspective, enhancing research and innovation capacities is needed mostly in regions where capitalisation on R&D activities is low, but also in regions that are vulnerable to outmigration of highly qualified populations that would otherwise contribute to innovation-related activities. When properly incentivised, these regions have the potential to involve skilled workers in creative activities and entrepreneurship, which can increase these regions' attractiveness to external knowledge holders (e.g. foreign companies and skilled employees), supporting the development of incremental innovation.

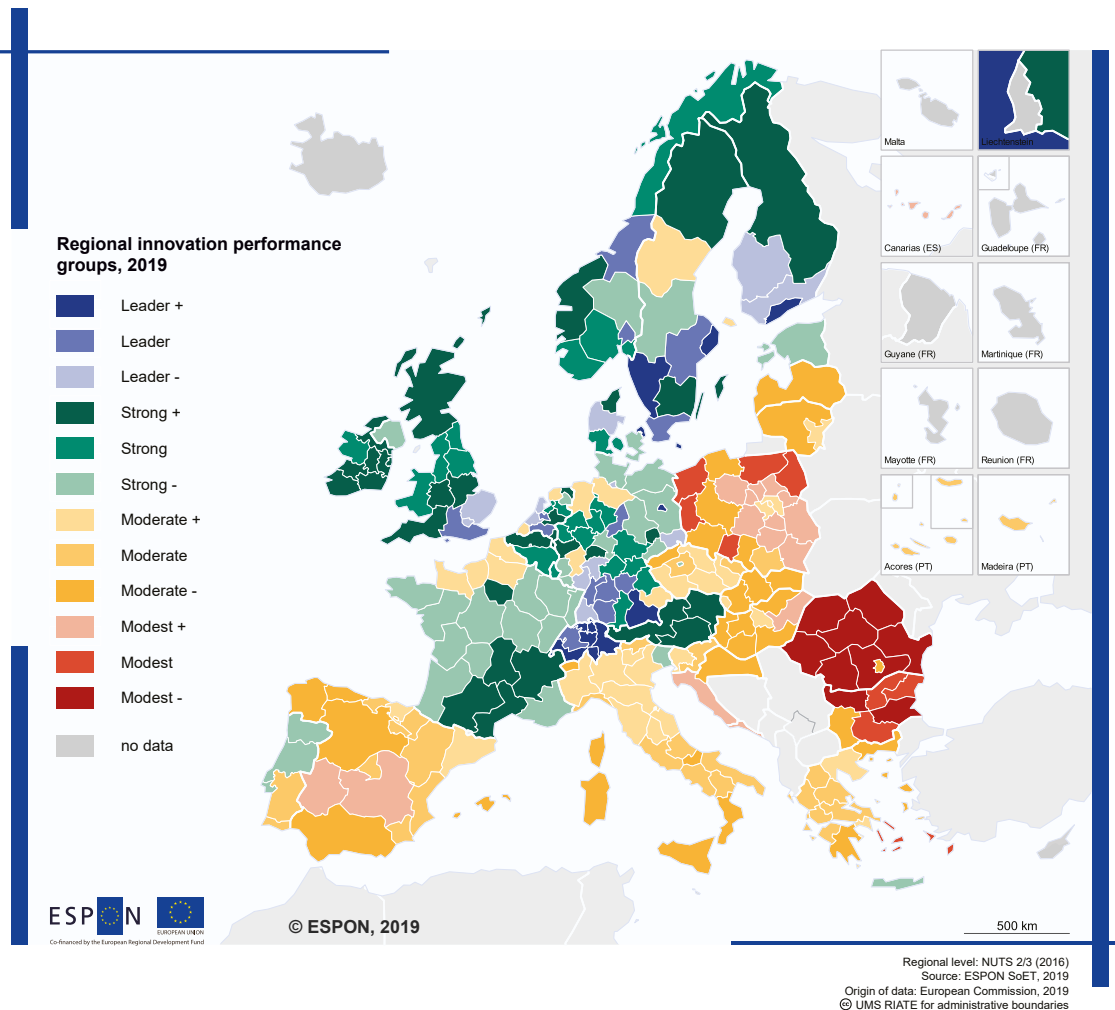
**European regions follow different territorial patterns of innovation**, defined depending on (1) the presence or absence of several context conditions that allow for the creation and/or adoption of knowledge and innovation and (2) existing knowledge and the sophistication and complexity of innovation activities (Capello and Lenzi 2018a). In other words, regions differ in terms of the intensity and mix of knowledge and innovation activities, thus having different capacities to innovate and innovation processes of various levels of complexity. The variety of innovation patterns shows that enabling factors for the implementation of new knowledge are different from those fostering innovation, distinguishing between innovation-driven economies (regions that can apply knowledge and produce innovation) and knowledge economies (regions that can apply and produce knowledge).

Therefore, from a structural perspective (i.e. the ways in which regions are learning), **five main typologies can be observed at the EU level**, depicting the territorial patterns of innovation: (1) *a science-based area*, with a high level of scientific activity, highly educated human capital, accessibility and receptivity (e.g. regions in Austria (Vienna), Belgium (Brussels), Denmark and Germany), (2) *an applied science area*, characterised by strong knowledge-producing regions, a high level of applied sciences and a high degree of knowledge coming from regions with a similar knowledge base (e.g. regions in central and northern Europe: Austria, Belgium, Denmark, Estonia, France (Paris), Ireland (Dublin), Luxembourg and Poland), (3) *a smart technological application area*, focused on high production, creativity and entrepreneurship, where basic and applied science are transformed into innovation (e.g. agglomerations in northern Italy, the Netherlands, northern Spain and Madrid, and Sweden), (4) *a smart and creative diversification area*, with a low degree of applied knowledge but with high local capabilities, relying mostly on tacit knowledge embedded in human capital, as well as its ability to absorb knowledge and adapt it to local innovation (e.g. regions in the Mediterranean area and agglomerations in Poland and Slovakia), and (5) *an imitative innovation area*, with low knowledge and innovation intensity, relying mostly on entrepreneurship and creativity to increase the acquisition of external knowledge (e.g. regions in Bulgaria, Hungary, southern Italy and Romania).

**From an evolutionary perspective, structural change depicted in KIT (2013a) is possible and attainable.** Evidence (Capello and Lenzi 2018b) shows that **61 out of 262 regions have been able to evolve towards a more complex pattern of innovation**<sup>2</sup>. The largest number of regions evolved from a *smart technological application* pattern to an *applied science area*, showing diversification of the specialised technology fields in which enterprises could innovate. The least progress was achieved by regions following an *imitative innovation* pattern, corresponding to the less developed areas in Europe. This suggests that a more careful assessment of the local and regional needs is required with respect to innovation triggers and the creation of tailored solutions to enable innovation and economic development, avoiding widening the development gap.

By considering an overall view on the performance of the regional innovation systems, as opposed to the more structural approach outlined above, the **Regional Innovation Scoreboard proposes four regional performance groups**, measured along indicators concerning framework conditions, investments, innovation activities, and effects on employment and sales. Thus, evidence indicates the existence of (1) innovation leaders (38 regions, among which are regions in Finland, southern Germany, southern Sweden and Switzerland), (2) strong innovators (73 regions mostly in western and northern Europe: France, Germany, Norway and the United Kingdom), (3) moderate innovators (97 regions in the Baltics, central Europe, Italy and Spain) and (4) modest innovators (30 regions mostly in eastern Europe) (European Commission 2019a). To allow more detailed interpretation at regional level, the four groups were divided into three performance subgroups: the top one-third regions (+), the middle one-third regions and the bottom one-third regions (-) in each group, as shown in Map 1.

## Map 1 Regional innovation performance



Source: European Commission 2019a.

The ESPON KIT study (2013a) proposes a structural approach to regional economic growth, by underpinning the link between knowledge, innovation and economic growth in a territorial, rather than sectorial, context, aided by a thorough methodology also employed in academic papers. Given the reflection of structural mechanisms that trigger innovation and growth, despite an outdated data set, the results are unlikely to have changed significantly over the years. At the same time, the Regional Innovation Scoreboard approach emphasises the performance of regions with respect to innovation, which is much more dynamic. **The two approaches are complementary rather than substitutable.**

A **Research and Innovation Strategy for Smart Specialisation (RIS3)** is currently an effective tool to engage public, private, academic and non-governmental stakeholders using a networking and cooperation approach to develop territories' innovative potential. Hence, it is a prerequisite to receive funding from the ERDF.

All Member States have defined action plans for the implementation of national and regional smart specialisation strategies, based on the consolidation of existing sectoral strengths through investment in key “enabling technologies” and the support of new innovative industries or activities in collaboration with companies, universities and research organisations. The RIS3 approach to regional innovation policy is also complementary to the two approaches outlined above, emphasising the idea that knowledge creation is the result of the regional presence of specific actors involved in both knowledge creation (universities and research centres) and knowledge exploitation (local firms that are engaged in innovative activities).

Most Member States have launched ambitious **strategies to improve their research, development and innovation (RDI) and information and communications technology (ICT) systems**, increasing public spending and providing incentives for private investment. In addition, some Member States are promoting greater efficiency in the use of EU funds for research and innovation, aiming to attract funding in those sectors that have a higher impact on the regional economy.

### Policy options and tools

**National and regional policies should aim to (1) maximise the return of expenditures to GDP in each type of region**, depending on the local conditions that enable knowledge transformation into innovation and the acquisition of external knowledge to innovate locally, and **(2) enable a value-added development pathway** in each type of region **to better exploit material and non-material local resources** through the development of human capital and the establishment of scientific and technical organisations and infrastructures previously not available (creation pathway), **to expand the local economic functions** to include complementary and interrelated activities (diversification pathway) and to increase the complexity of the local functional specialisation (upgrading pathway) (Capello and Lenzi 2018a, 2018b). For example, the imitative innovation regions should be incentivised to achieve maximum return to imitation by supporting local firms to engage in creative projects with multinational corporations in order to become more creative in solving local needs.

**Each territorial innovation pattern can be reinforced based on regional preconditions in order to receive and exchange knowledge already in place**, leading to a maximum return on investment, using tools such as:

(1) Dedicated funding, in the case of *science-based and applied science* regions, which have already achieved a sufficient critical mass of R&D endowment and possess the right assets to benefit mostly from additional R&D funding. More specifically, funding should support a thematic/regional orientation of R&D in general-purpose technologies, enhanced by territorial projects in *science-based* regions, while, in *applied science* areas, funding should target diversification starting from specific fields already developed in the area. In this case, coordination is required at the national level, complemented by European funding, with the goal to develop unique research areas.

(2) *Smart technological application* and *smart and creative diversification* regions benefit most when supported with incentives for creative application, technology projects and entrepreneurship. In practical terms, local actors should be encouraged to cooperate with partners from outside the region in the specialised sectors of the area. These can promote new uses of scientific knowledge and support the development of product and market diversification and entrepreneurial activity. Actions should be coordinated at the regional level to identify local specialisation fields and expertise. The goal of policy making should be to find and promote innovative ways to apply external knowledge, translating it into local practices and yielding results in upgraded production capacities, improved productivity and better capabilities for employees.

(3) In the case of *imitative innovation* regions, regional policy ambitions should enable local receptivity to innovation in order to maximise results based on imitation, that is, the use of external knowledge in multiple creative ways to produce local value added. Given this, national and regional governments should provide incentives for the fast diffusion of pre-existing innovation (e.g. inventors, tech start-ups, local manufacturers), reduce social or institutional barriers to innovation and strengthen the quality of institutions, education and skills.

**Each territorial innovation pattern can be reinforced based on knowledge acquisition from outside the region.** Therefore, policy tools to attract external knowledge should be based on the preconditions for interregional exchange of knowledge and innovation (territorial receptivity, creativity and attractiveness):

(1) *Science-based* and *applied science* regions should benefit from incentives for research cooperation across regions and from support for interregional labour mobility in related sectors.

(2) *Smart technological application* and *smart and creative diversification* regions should create tools that encourage cooperative research activities in different sectors and enhance access to best practices in international settings.



(3) The attraction of foreign direct investment to provide access to new knowledge in the *imitative innovation* regions requires regional incentives.

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### CASE STUDY:

## Development of the automotive industry – Bratislava (Slovakia)

The automotive industry in the region of Bratislava developed from an *imitative innovation* region into a *smart and creative diversification* region. In the beginning, innovation was produced in parent companies (large automotive producers) and transferred to local subsidiaries in the region, in which there was a certain degree of creativity in implementing innovative processes/products. The initial local production ecosystem was composed of subsidiary companies of multinational corporations producing both primary and final components, domestic sub suppliers, R&D organisations focusing on engineering processes (e.g. established as a spin-off with the local university) and supporting institutions. This included an automotive cluster, the technical university, a

state agency that managed structural funds and a private commercial knowledge-based intensive services company, providing consulting and education in the field of innovation.

Acquisition of knowledge directly from the production process was common to all firms, being the key source of knowledge for process innovation. Through staff exchanges, training and the development of a strong network of local suppliers, local suppliers and service providers became the main source of knowledge. As a result, the multinational corporations were slowly being replaced with knowledge produced through specific linkages and interactions developed locally.

Source: ESPON 2012b.

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Hence, **achieving growth based on research and innovation is dependent on the ability of regions to capitalise on their specific assets.** Therefore, evidence from the analysis of regional patterns of innovation calls for **a reorientation on a thematically/regionally focused innovation policy approach.** For example, evidence shows that increasing R&D spending yields positive impacts only in regions with a critical mass of R&D spending already in place and only when it is directed to new research fields. In this context, policies targeting the less developed regions should aim not for additional resources, but for the provision of organisational and structural assistance that would enable these regions to deliver better results in terms of knowledge outputs (e.g. increased number of patents).

In this respect, **smart specialisation strategies represent a key tool that can boost economic growth.** They can support thematic concentration and reinforce strategic programming and performance orientation, while building on each region's strengths, opportunities and emerging trends. The specific paths to this end refer to (1) transformation of traditional sectors by helping them evolve into higher value-added activities and new market niches, (2) modernisation of existing local assets by adopting and making use of new technologies, (3) technological diversification from existing specialisations into related fields, (4) development of new economic activities through breakthrough innovation support and radical technological change and (5) exploitation of new forms of innovation (e.g. open innovation and social innovation).

**The efforts and progress made so far in implementing RIS3 should be continued in line with the innovation patterns identified at the regional level.** Regions should be guided towards becoming more efficient and effective in unlocking their innovation potential through tailored guidelines for each type of innovation pattern, which would facilitate joint projects, cooperation and better synergies. Guidelines and good practice examples could be created and promoted at the European level, taking advantage of the existing platforms, and disseminated towards national and regional actors.

**In less developed, peripheral regions, policies should aim to support the upgrading of existing innovations,** since these regions have more possibilities for experimentation and radical changes, as they are less path dependent (i.e. their innovative ecosystems that would need to adapt to changes are less developed and so more easily adaptable). This option is less risky and costly than attempting to

create new knowledge and is more likely to succeed when innovative and highly performing economic actors are not very concentrated in a region.

**In imitative innovation regions, a strong entrepreneurial activity can foster the acquisition of knowledge from outside the region and its translation into local innovative activities.** Scouting and sourcing external knowledge should be supported through incentives for local firms (existing or new) to develop complementary projects with multinational corporations or to develop specialised subcontracting relationships with them.

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### CASE STUDY:

## Reconfirm initiative – Smart Specialisation Platform for Industrial Modernisation

In 2016, as an extension of the Smart Specialisation Platform initiative supporting the design and implementation of regional research and innovation systems, the European Commission launched the Regional Co-operation Networks for Industrial Modernisation (Reconfirm) programme. This initiative is intended to support regions that are interested in a specific industrial area in order to establish partnerships, develop investment ideas and find industrial partners and business intermediaries. For those regions that are more ambitious, their objective should be to implement smart specialisation strategies, as thematic areas pointing towards industrial modernisation should correspond to regions' RIS3 strategies.

Despite the novelty of the initiative, joint projects have started to yield promising results, as in the case of medical technologies, for which there is a partnership led by the Auvergne-Rhône-Alpes (France) and Lombardy (Italy) regions, with partners from regions in Belgium, Denmark, Germany, the Netherlands, Spain and Sweden. The partnership's objective is the development of a health data ecosystem supporting innovation in medical technologies. As the latest monitoring report indicates, four project ideas are currently supported: Smart Manufacturing, Healthcare 4.0, Medtech NETHUB and the establishment of a centre for biocompatibility.

Source: Smart Specialisation Platform 2019.

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### 1.1.2.

#### Addressing the challenge of polarisation triggered by the knowledge economy

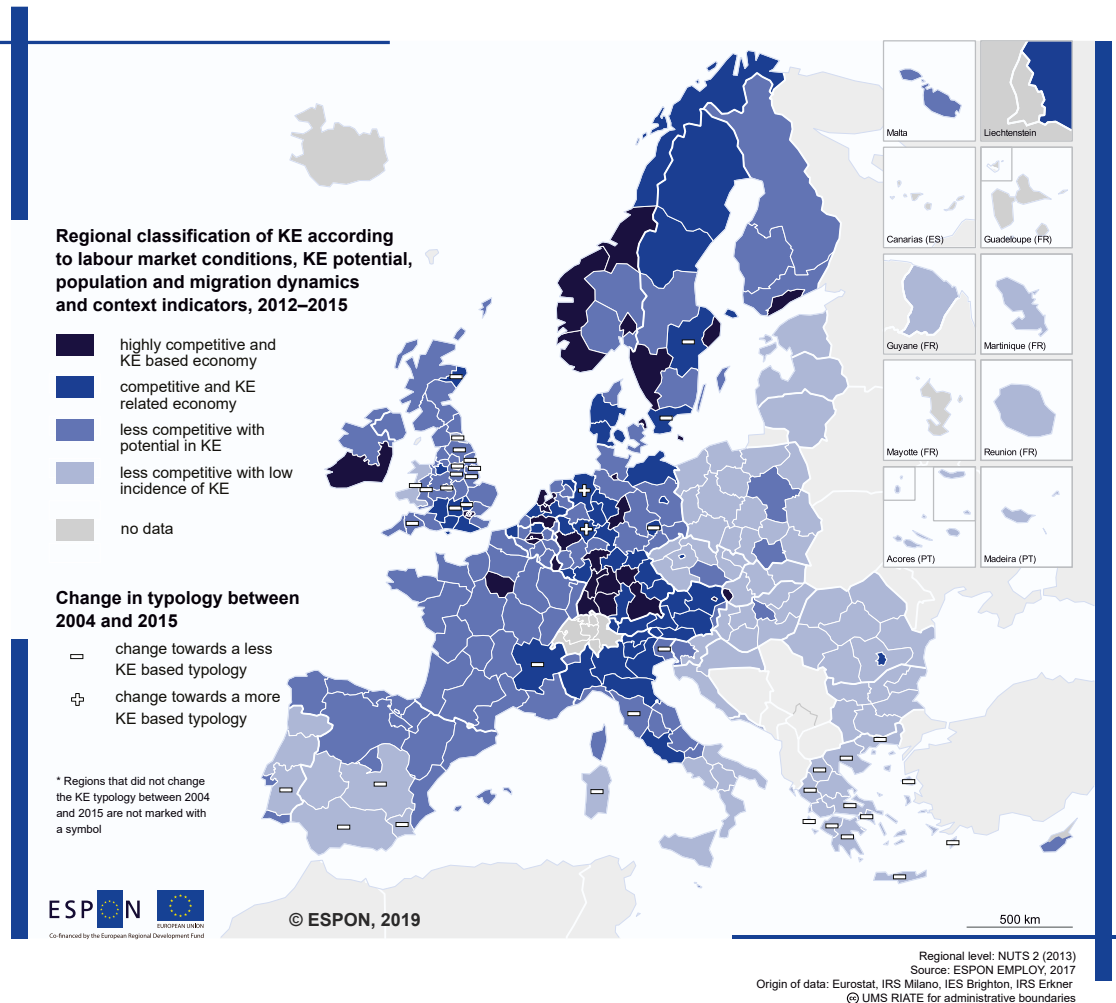
One of the major territorial challenges relates to reconciling the competitiveness-cohesion trade-off (or the efficiency-equity problem). On the one hand, there is a need to maintain and enhance the economic dynamism of the most developed regions and cities in order to achieve efficiency and competitiveness, while, on the other hand, there is a need to address the growing territorial disparities between more developed regions and cities and the regions that lag behind (Iammarino et al. 2017). Globalisation and technological advancements pose additional pressures on the regional economic landscape, requiring a long-term vision to modernise economic drivers and create alignment and cooperation between actors at the local level (businesses, administrations and the labour force). Reliance on technology and the economy 4.0 transformation is increasingly important for Europe's economy. Despite socio-economic and technological progress, development gaps between regions have been increasing and their evolution depends on each region's ability to innovate and create growth.

Technological transformation is expected to generate economic and social effects apparent across the territory. These effects include increased productivity, the emergence of new market opportunities, the creation of new digital services and new employment dynamics (such as elite and gig jobs), but they are also expected to cause a displacement of jobs and a downsizing of employment in traditional industries.

There are only a few regions that have already adopted policies targeting the 4.0 technologies. The existing policies mostly target the diffusion of technologies, especially in the ICT field.

**Knowledge economy regions are highly concentrated in a few metropolitan regions around Europe**, predominantly in western and northern European regions (Map 2). The most developed knowledge regions record the highest R&D expenditure as a percentage of GDP, as well as the highest percentages of individuals employed in technology sectors, the highest incidence of the population having a tertiary education (in the age group 30-34 years) and the highest capacity to turn innovation into regional growth.

**Map 2**  
**Regional Knowledge Economy (KE)**



Source: ESPON 2017a.



Innovation tends to facilitate growth in already developed regions and large urban centres, widening the territorial development gap. Evidence shows the existence of three types of regions based on their ability to produce new knowledge from existing technologically advanced sectors and/or functions or as a result of the interdependence with other economies. Given this, **we can distinguish a clear core-periphery polarisation as a result of the existing mechanisms of knowledge production.** (1) Technologically advanced regions, including regions hosting advanced manufacturing or services sectors (aircraft, pharmaceuticals, ICT, precision and optical instruments, etc.) that contribute to the transformation of the economy, are highly concentrated in western Europe (Belgium, France, Germany, northern Italy, Switzerland and the United Kingdom) and southern parts of northern Europe (Finland and Sweden). (2) Scientific regions, defined as regions having higher than average research activity and higher than average high-quality human capital, are mostly located in the EU-15 countries, with more research activity in western and central Europe and human capital in the Baltic region and northern Europe (Sweden and Norway); outside these core regions, the periphery shows no specialisation in knowledge activities. (3) Knowledge-networking regions, defined as regions that rely on external sources of knowledge and on facilitating interactive learning and interaction in innovation, are mainly found in the Scandinavian countries, central Europe and some specific regions in southern Europe (Greece, northern Italy, Portugal and part of Spain).

**Human capital has a crucial role in knowledge production, which is specific to the European regional innovation system.** Evidence shows that both a developed knowledge economy and competitive labour markets and socio-economic conditions are found in the largest metropolitan areas (e.g. Paris, Berlin and Brussels) and in regions in northern and continental Europe. These regions face an increasing population owing to immigration and a higher old-age dependency ratio. Similar conditions are observed in the case of less competitive regions but with knowledge economy potential (e.g. regions in Mediterranean countries). On the other hand, less competitive regions (e.g. in eastern Europe) with a low incidence of knowledge economy are facing a decline in their populations and difficult labour market conditions. The knowledge economy is not the only trend that could unlock the socio-economic potential of regions across the EU. Technological transformation has already driven territorial trends regarding the production and application of new technologies, inducing radical changes in the way territories are able to produce growth.

Given this, **traditionally high-technology and knowledge-intensive regions in western Europe are also leaders in 4.0 technologies**, pushing the technology frontier based on their accumulated knowledge capital. More interestingly, between 2010 and 2015, 4.0 patent activity intensified in eastern European countries (e.g. Poland).

In addition, **4.0 technologies have the potential to create innovation in all regions, regardless of their knowledge base and tradition in innovative activities. So-called “new islands of creative destruction and innovation” (ESPON 2019a) have emerged in regions located in both western and eastern European countries**, such as less innovative parts of France, the Netherlands, Portugal, Spain and the United Kingdom, and in regions in Czech Republic, Romania and Slovenia. Therefore, technological transformation creates opportunities for all types of territories owing to the high degree of applicability and sectoral specialisation relevant to economic activities already present, regardless of the performance of the region. However, there are still a considerable number of regions not showing any progress in the development of 4.0 technologies, indicating difficulties in transforming opportunities created by technological progress into value-added activities. They are mainly found in the most peripheral regions of both western and eastern Europe.

**The regional specialisation patterns by technology use** reveal that technology regions (i.e. sectors that actively produce technological solutions) **are mainly capital city regions; carrier regions** (i.e. where technology is widely used for digital solutions, automation and commercial purposes) **are intermediate and urban regions in western countries and more developed regions in eastern Europe; and induced regions** (i.e. regions that still rely heavily on traditional sectors that are expected to use new technologies but are not yet relying on them) **are found in peripheral regions in southern and eastern Europe.**

**Regarding the territorial distribution of 4.0 transforming regions** (i.e. regions specialised in a specific sector that have a high degree of adoption of 4.0 technologies in that sector), recent evidence shows that **only 11 regions display a 4.0 technological transformation in all industrial sectors**. They are all located in urbanised regions in Austria, France, Germany, Italy and Sweden. In the case of **4.0 service transformation**, the number of regions increases to 24 cases, largely overlapping with the industrial transformation regions, indicating that industrial transition might be an enabling factor for service sector transformation. In addition, **4.0 service transformation can be observed in regions where industrial transformation is not yet present, such as in the Baltics, Hungary, Ireland, Portugal or Slovenia**.

### Policy options and tools

**Supporting knowledge economy development represents an increasingly important precondition to foster the long-term competitiveness and resilience of regions**. Therefore, future policies should focus on strengthening those factors that support the knowledge economy.

**Cohesion Policy should provide support measures targeted specifically at lagging regions, paying special attention to social and inclusive policies**. More specifically, local knowledge and assets should be promoted as triggers for development, and funding and other incentives (such as capacity building) should be aimed at encouraging different actors to invest in specific local activities.

Growing differences in the performance of local economies demand **greater attention to the territorial dimension in the EU's growth strategies**. EU national and regional policies should acknowledge the growing territorial inequality in terms of job and economic development opportunities and develop diversified growth approaches according to specific territorial features. In lagging and peripheral rural regions, there is a need for improved infrastructures and services of general interest, trans-regional and transnational cooperation, as well as public-private cooperation to ensure inclusive growth and improved quality of life.

**Successful strategies to support the development of a knowledge economy in advanced and lagging regions have certain features in common**: a careful assessment of territorial resources as a basis for setting up specific knowledge economy strategies, the availability of funding to support development strategies, and the capacity of local institutions and actors to define and implement effective place-based growth strategies based on the specific existing assets and their valorisation and on multilevel institutional cooperation. For lagging regions in particular, promoting and exploiting local knowledge and assets (e.g. cultural and natural heritage, including craftsmanship) have the potential to become areas for economic diversification, laying the foundation for knowledge economy development.

Evidence shows that there are **five potential strategies** to support the development of a knowledge economy:

1. the provision of monetary or non-monetary incentives, to support the promotion of clusters and cooperation between universities and the business sector;
2. an “oasis strategy” focusing on the development of the most successful, vibrant and growing sector of the region;
3. “building a magnet”, namely attracting highly skilled workers by exploiting some “unique” resources of the territory building centres/fields of excellence;
4. building knowledge economy opportunities through urban development by providing a physical environment that facilitates cooperation between science and industry in regenerated and/or newly developed areas; and
5. branding, which is most suitable for well-established knowledge economies.

While disparities are observed between regions, there is a similar urban-rural divide within regions. **Policies should focus on strengthening urban-rural cooperation within functional areas and cross-border areas to increase spillovers between urban areas and the surrounding territories**. Stimulation of joint sectoral or cross-sectoral projects, as well as support and assistance in implementing them, should be aimed at maximising the resources of both urban and rural communities.

**CASE STUDY:****“Building a magnet” strategy – L’Aquila (Abruzzo, Italy)**

Abruzzo, a region with 1.3 million inhabitants in the Italian Mezzogiorno region, is a medium-to-low competitive region in Europe, showing some potential in the knowledge economy.

The region has a rich history of both emigration – with a large population from the inner mountainous areas of the region heading towards Germany, northern Italy or South America in search of better living and economic conditions abroad – and internal migration towards the coastal areas, which became more developed and attractive.

In the 1970s, investments in infrastructure and in the industrial base supported by the Italian State improved the economic conditions in the region, slowing and reversing the pattern of migration and transforming the region into a destination for internal migration, especially from other southern Italian regions, but also from areas of eastern Europe (Albania and Romania). Later on, Abruzzo was subject to various programmes and policies designed to strengthen the knowledge-based economy. Those programmes aimed to strengthen the internal resources of the area, firstly the industrial base and, in the past programming period (2007-13), the innovation capacity, the competitiveness of enterprises, the networks among them and the research base. The pres-

ence of three universities has been an important asset for the knowledge economy of the region, with an increase in enrolment by foreign students.

However, the financial crisis hit the region heavily and affected its knowledge economy potential. Both regional programmes and those funded by the ERDF and ESF aimed to encourage those who had never entered the labour market to start work, to support the recruitment of those with PhDs within enterprises and to provide bonuses for those undertaking interregional and international training and working experience. In 2009, an earthquake challenged the already struggling regional economy. Aside from the reconstruction required, part of the rebuilding strategy was to build the Gran Sasso Science Institute, with the purpose of attracting highly skilled human capital from abroad, building on the research and scientific potential of the region. Although not fully measured, the outcomes of this policy appear to be positive. The region is experiencing an increase in the number of highly skilled young foreign researchers, positive spillovers for the local economy caused by the presence of students and teaching staff, social revitalisation and the growth of start-ups with highlevel technological content.

Source: ESPON 2017b.

**The adoption of increasing 4.0 technologies requires new policies aiming for cooperation across sectors (i.e. target-based, problem-specific policies) and an anticipation of the skills and competences required to valorise the potential of these technologies to create jobs.** The opportunities unlocked by technological transformation open new markets and provide opportunities for newcomers to enter the market. The regional patterns of technology production show that “islands of innovation” can emerge in less advanced regions; therefore, their development should be encouraged and supported, in order to encourage innovation and foster economic growth.

Owing to the complex drivers of technological transformation, policies should be coordinated at all levels, such that the preconditions for production and for the adoption of new technologies are met. **National and regional bodies should ensure a proper digital infrastructure, as well as regulatory and institutional frameworks** for the integration of new technologies within the current economic setting, and for the subsequent business models that might arise as a result of the technological transformation.

**1.1.3.****Labour force in the knowledge economy**

The European labour market is facing a dynamic transformation in terms of the skills needed, its composition, adaptation to complexity, mobility and demographic patterns. Shaping education and qualification policies to meet the rapidly changing labour market environment requires a deep understanding of the future skills needed, as well as of the different patterns currently at play.

**Population ageing, international and internal migration, and the concentration of the knowledge economy in large urban centres strongly influence mobility patterns across the EU, further creating territorial imbalances.** Intra-EU migration is a general phenomenon, affecting the entire labour market dynamic, with strong influences on the knowledge economy. Differences in the level of incomes and living standards among regions are expected to remain the main trigger of migration, deepening the gap between sending and receiving regions.

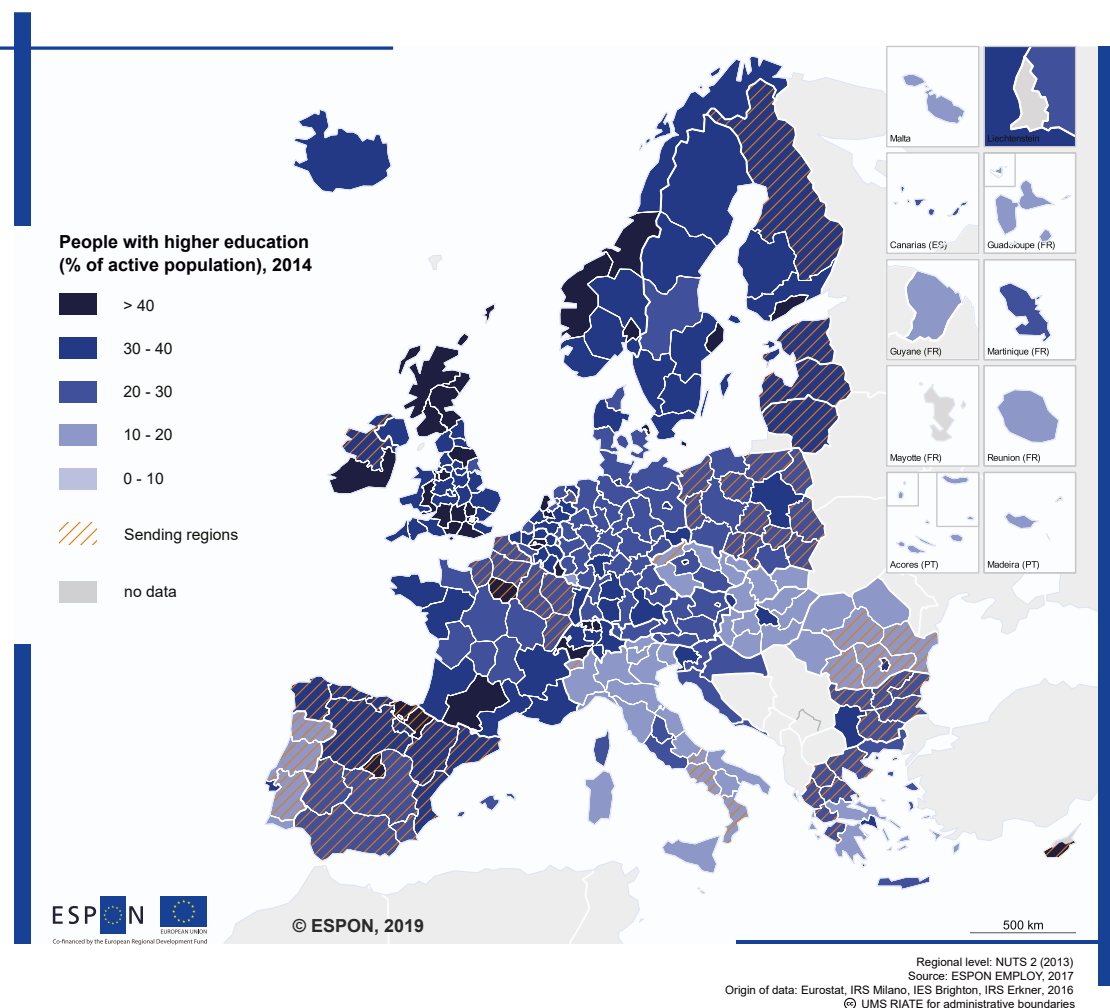
By 2025, nearly half of the expected new and replacement vacancies within the EU will be for highly qualified workers who will continue to move across Europe. The fourth industrial revolution, characterised by the increasing uptake of advanced technologies and by higher levels of digitisation and automation of production processes, is expected to have a strong and long-lasting impact on employment dynamics and the skills demanded, shifting the demand towards higher level occupations. Potential disparities between regions will strongly depend on the adoption of advanced technologies, with negative implications for less developed regions with an abundant but low-skilled labour force.

From a territorial perspective, regions that are losing their **labour force are confronted with an ageing and declining population, while metropolitan areas and large urban centres (net receivers of migrants) face the issue of social integration and congestion**, ultimately leading to an **increasingly fragmented landscape in terms of workforce availability**. This is because **young, highly skilled and specialised workers show higher mobility rates** than other groups in the population and are also more likely to move from rural regions to urban regions with a higher level of GDP and knowledge economy incidence, in particular to capital cities that provide higher living standards. In receiving regions, young and highly skilled migrants bring substantial net contributions to growth through knowledge flows and local knowledge creation. However, this is also associated with increased housing shortage, strains on the welfare system and public services, and a possible downwards impact on wages. The outmigration of young people has a number of negative effects on the regions that these young people leave, such as brain drain, depopulation and impoverishment. With no human and financial resources to be invested in good-quality education, transport, ICT and health services, these areas are not attractive to young skilled people/families and to knowledge economy firms. They also do not attract skilled migrants from outside the EU, but are often only first arrival or transit regions.

Therefore, the relation between the knowledge economy and the mobility of the highly skilled workforce tends to increase territorial polarisation both between (east-west/south-north divides) and within regions (urban-rural divide).

**High proportions of the labour force with high educational attainment levels can predominantly be found in northern and western European regions** (Map 3). Between 2004 and 2014, the proportion of the total population with a tertiary education increased in all European regions, with higher rates in northern and western European regions and lower rates in the south. Employment growth rates in research-related and white-collar occupations and increases in R&D expenditures and numbers of personnel working in R&D sectors display similar distribution patterns.

### Map 3 Out-migration from the regions with high shares of highly educated people



Source: ESPON 2017a.

Economic development policies at the European, national and regional levels show an **increased focus on supporting knowledge economy sectors and addressing the new patterns of high-skilled worker mobility**. These policies are largely supported by the European Structural and Investment Funds (ESI Funds).

A number of countries are supporting the **circulation of knowledge**, for instance by supporting students studying abroad, supporting researchers and experts participating in interregional and international research programmes, and regulating intellectual property rights.

Some measures are also specifically planned to **attract highly skilled workers** from both EU and non-EU Member States. Few countries are implementing actions to facilitate the labour market and social inclusion of highly skilled migrants.

All Member States are investing in the upgrading of **education levels and knowledge economy-related skills** with measures to improve the quality of higher education and training, and to increase access to tertiary education and lifelong learning, in some cases with specific measures to support science, technology, engineering and mathematics, and ICT skills. **National and regional strategies to motivate the return of skilled workers living abroad or to support diaspora-centred strategies are instead less widespread.**

Recent evidence points towards the risk of job automation, suggesting that labour markets will be affected by the technological transformation of industrial sectors. Regions with a predominance of jobs in automatable industries are more at risk of negative impacts. At the European level, there are north-south and

west-east divides regarding the risk of job automation, with regional particularities. For example, capital and highly urbanised regions are less at risk. In most of the high-risk regions, the adoption of 4.0 technologies is negligible but adoption rates can be high in regions in which the risk of automation is low.

### Policy options and tools

**Policy directions to support growth and counteract polarisation should include addressing social and economic inequalities** with tailored approaches. Proper cooperation mechanisms between regions need to be ensured, addressing labour force attraction and specialisation, joint R&D or innovation initiatives. Planning and supporting cooperation **networks and complementarity** between territories receiving and sending human capital can counteract unbalanced territorial development.

**Joint action plans can act as tools for supporting social dialogue and cooperation between social partners across neighbouring regions in labour mobility issues.**

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#### CASE STUDY:

### Joint labour policy – Baltic Sea Labour Network

One such example of a joint action plan is the Baltic Sea Labour Forum, established in 2011, which today has 27 members representing social partners and states. The main purpose of this macro-regional partnership in the Baltic Sea region was to make labour mobility smoother and to lower emigration. The dialogue is mainly concerned with enhancing a continuous and systematic exchange of information between trade unions, employers' associations and governments. Specific examples of actions

include fostering the education of young people in the field of labour market economies, on topics such as labour rights or taxation systems, as well as the establishment of information centres for foreign workers in border regions. The former allowed young people to make more informed decisions about their labour future, while the latter was soon adopted in other border regions.

Source: Baltic Sea Labour Forum 2019.

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**To support innovation in knowledge regions, a critical mass of people involved in research activities or advanced industries is necessary.** European, national and regional policies should further support capacities for RDI (infrastructure and training of human capital involved in R&D) but, most importantly, should optimise the return of applied research, generating spillovers and increasing the diversification and complexity of R&D activities over time. Stimulating the mobility of high-skilled workers is crucial for ensuring knowledge production, especially towards less innovative regions; however, to benefit from external knowledge, interventions should be made within regions to develop a solid internal knowledge base.

**Structured political frameworks such as macro-regional and sea basin strategies can create coordinated transnational, interregional and cross-border synergies on research and innovation.** This can mobilise existing networks or generate new specialised ones, promoting smart specialisation partnerships based on the expertise of each region/country. This can produce a multiplier effect, mobilise economies of scale and create sustainable spillover activities.

**Enhancing the perception of opportunity is the mechanism on which diaspora strategies are based.** For example, in Italy, a national programme of tax relief was intended to provide incentives for the workforce to choose to work in Italy rather than abroad. In Romania, financial incentives were provided to emigrants returning to Romania with the purpose of opening non-agricultural businesses in urban areas.



## 1.2.

### Enhancing the growth and competitiveness of small and medium-sized enterprises



**Based on ESPON evidence from: Small and Medium-Sized Enterprises in European Regions and Cities, Possible European Territorial Futures.**

Small and medium-sized enterprises (SMEs) account for 56.8 % in value added generated by the non-financial sector; they also represent 99.8 % of all non-financial business sector companies active in the EU-28 and provide employment to 66.4 % of employees (European Commission 2018a).

Although enterprises in different maturity phases differ in terms of their needs (e.g. financing) and drivers (e.g. internationalisation), there are three common success factors that support their development: education, the quality of governance and accessibility. Governance is increasingly important for economic growth and competitiveness, as it has the capacity to support companies on many levels. Nevertheless, governance is location specific; therefore, the focus should be on tailor-made solutions to understand and tap into the specific development potentials of regions or countries.

So far, EU policies have acknowledged the significant role that SMEs play economically and socially and designed multiple support programmes and initiatives. The Small Business Act for Europe promotes the “Think Small First” principle, aiming to integrate SMEs’ interests at a very early stage of policy making in order to improve the approach to entrepreneurship in Europe, simplify the regulatory and policy environment for SMEs, and remove barriers to their development. The European Commission’s Entrepreneurship 2020 Action Plan supports entrepreneurial education and provides tools for aspiring entrepreneurs, as well as key support networks and information for SMEs, enabling companies to access market information and internationalise their activities within or outside the EU boundaries. It improves access to financing through various funding programmes, such as COSME, which facilitates access to loans and equity finance; the Horizon 2020 Framework Programme for Research and Innovation; and the SME Instrument, which offers funding and support for innovation projects that help SMEs grow and expand their activities into other countries.

The latest performance review (European Commission 2018a) revealed that SMEs are on the rise, following the distress suffered during the economic crisis. For example, between 2014 and 2016, the number of fast-growing firms increased by 24 %, driven by enterprises in western Europe (in France, Germany, Spain and the United Kingdom), Italy and Poland, which altogether account for 69 % of high-growth firms in the EU. In the same period, SME exports of goods increased by 20 % compared with 2012, mainly in the European single market, which represents 70 % of the value of SME exports.

#### 1.2.1.

##### Framework conditions to enhance SMEs’ growth and competitiveness

SMEs and micro-enterprises are widely distributed throughout the European territory. However, the structure and relative importance of SMEs vary between the different European economies. The most important challenge in this respect (i.e. to identify the territorial distribution of small, medium-sized and micro-enterprises in Europe) is the fact that, at the EU level, there is large heterogeneity in the definitions and demarcations of SMEs. This is because economic and social policies are under national jurisdiction (e.g. social security law and pension schemes), which leads to a diversity of data sets describing SMEs, with sometimes conflicting definitions.

SMEs are distributed through the European territory as follows: in capital city agglomerations and in touristic coastal regions in western and southern Europe, there are higher proportions of one-person enterprises than other classes of SMEs; micro-enterprises tend to be located in the southern and northern parts of Europe, with lower proportions in capital city regions and in rural areas; SMEs are mostly found in Sweden and Switzerland, as well as in Germany, Poland, Portugal and the United Kingdom, and in the less densely populated areas in Norway and Sweden. Large enterprises are mostly concentrated in highly accessible regions, especially in capital city regions and urban agglomerations. There are also

regions with low activity of both SMEs and micro-enterprises, such as regions in eastern and southern Europe. On the other hand, the number of large enterprises per 1 000 inhabitants in 2014 was largest in northern and central European regions and in urban areas in general, showing a geographical pattern triggered by better accessibility, larger populations and higher workforce density.

**Regions provide different enabling conditions, challenges, opportunities and threats with respect to SMEs' growth**, as follows (Map 4):

(1) In the highest performing regions and metropolitan centres, SMEs' growth is supported by sectoral specialisation and, at the same time, diversity of the regional economy, the existence of clusters, the agglomeration of companies, and good infrastructure and accessibility. External competition from other large cities creates a threat related to international versus national attractiveness. The changes in consumer behaviour (e.g. shifting towards low-carbon production), in EU support for innovative SMEs and in foreign direct investment attracted into the knowledge and creative industries create opportunities for growth.

(2) In high-performing, intermediate metropolitan areas, the role of governance is highlighted in coordinating strategies and action plans, as well as in supporting new sectors and innovative activity. One major opportunity in these regions lies in the role of the public sector in creating demand for innovative products (e.g. digitisation of public administrations or improving the quality of public services).

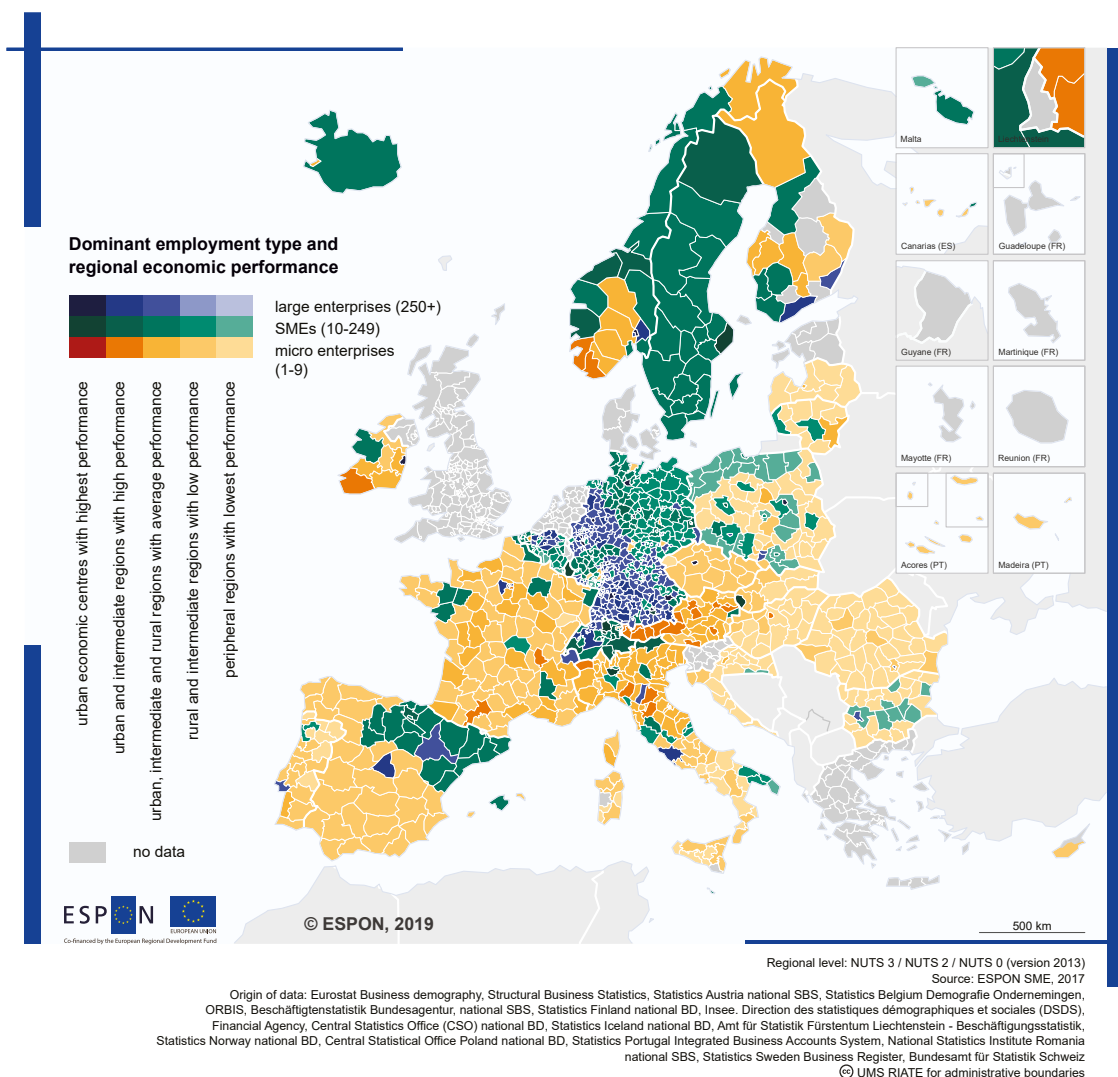
(3) In transition/intermediate regions, the challenges mainly include the migration of a highly qualified workforce, the limited level of coordination between national and regional institutions, a low level of entrepreneurship and SMEs' lack of internationalisation.

(4) Rural and intermediate regions face challenges of lower accessibility, high dependence on specific sectors, and a relatively underdeveloped entrepreneurship and innovation support system at both national and regional levels.

(5) Finally, the least developed peripheral regions depend on neighbouring cities for general services, while an underdeveloped infrastructure hinders accessibility. Coupled with a rather unfavourable legislative and administrative environment, these regions tend to receive no EU funding to support SMEs' development. However, their natural endowment and cultural heritage may serve as opportunities for entrepreneurship activities.



## Map 4 Dominant employment type and regional economic performance



Source: ESPON 2017c.

**Different sectors require different framework conditions to be able to grow.** For example, ICT relies mostly on higher education, while knowledge and creative industries tend to thrive when there is a higher level of economic development in the region. The low-carbon economy sector requires higher start-up investments and relies on the public sector as a client. Therefore, national standards and regulations can highly stimulate the growth of SMEs in this sector.

**Local and regional governance is increasingly important for economic growth and competitiveness,** as it has the capacity to support companies on many levels (e.g. through funding, promoting a culture of entrepreneurship and fostering partnerships), ensuring the participation of SMEs in policy design and implementation. The involvement of SME representatives, such as business associations, in policy development and implementation can enhance ownership and bridge the gap between more distant governance levels and beneficiaries.

## Policy options and tools

**The role of SMEs in the design and implementation of smart specialisation strategies should be continuously reinforced. Ensuring a framework for the development and support of entrepreneurship and SMEs' growth** is crucial for regions' key sectors and for further increasing their competitive advantage. Interventions can include the reduction of administrative burdens along with providing incentives, general services and infrastructure (telecommunications, public transport and internet) or establishing clear rules and processes to enhance cooperation between research institutions and companies.

While national policies should ensure framework conditions that stimulate the demand of products and services and the supply of production factors, **regional policies should have a clearer role in developing effective networks and partnerships among businesses and universities, development agencies and other support organisations from the business and innovation ecosystem, in line with the industries' needs and smart specialisation strategies.**

Therefore, **the role of quality governance systems is crucial at the regional level and should be further strengthened. This role should be understood as providing two benefits:** (1) ensuring transparency in decision making and stability, as well as clear regulations, and (2) fostering entrepreneurship and SME creation, as well as strengthening entrepreneurship-related training and skills, developing a culture of entrepreneurship and risk taking, and developing trustful partnerships among stakeholders. Both initiatives can be achieved through a private-public collaboratively developed start-up and SME growth strategy or priority within a regional development strategy necessary for ensuring a functional business ecosystem in which SMEs could thrive.

**Better cooperation between public and private actors needs to be further reinforced.** Good communication and trust based on the creation and promotion of a common vision should be promoted and enhanced by regional and local authorities. Establishing advisory boards with local stakeholders to provide support to local business can be beneficial, based on a clear definition of competences and tasks performed by each actor.

**Strengths, weaknesses, opportunities and threats (SWOT) analyses and systemic stakeholder mapping** could be used for regions to understand the relation between drivers and factors relevant to SMEs' growth and competitiveness, and the existing resources. Based on these analyses, regions should be able to identify their future development opportunities and investment possibilities.

The post-2020 Cohesion Policy should add more flexibility to the way SMEs are supported, with a special focus on tailored interventions to improve the availability of selected specialised funding types. **Funding schemes should complement each other in a coordinated effort to address both the framework conditions enhancing the performance of SMEs** (support structures, investments and business education) **and the specific SME issues** (targeting the different levels of development, i.e. start-ups, scale-ups and innovative SMEs). Start-ups and scale-ups require different types of support; therefore, policies should address them separately. At both national and regional levels, funding gaps should be identified and complemented with alternative financing mechanisms (e.g. equity crowdfunding).

In addition, **evidence shows a need to address the low information level of SMEs with respect to the funding tools available at different levels.** This should be tackled at regional and local levels. For example, the visibility of development opportunities for start-ups and micro-enterprises can be enhanced at the local level through one-stop shops, which are especially relevant and underdeveloped in remote and less economically developed regions. At the same time, these one-stop shops can be beneficial for diminishing the administrative burdens frequently encountered by SMEs, fostering an entrepreneurial culture and openness.

**CASE STUDY:****Graz region (Austria)**

The Graz region (in the Styria federal province) in Austria evolved into a highly innovative region thanks to excellent cooperation between industry and research institutions with the purpose of fostering economic growth through knowledge creation and innovation. Enterprises are the backbone of the region: they are highly interconnected, belonging to various clusters and support networks across industries, and all are steered by the Styrian Business Promotion Agency.

Moreover, SMEs' collaboration and internationalisation are fostered through various interdisciplinary networks, incubators, accelerators and platforms, along with multiple contact points. Development of knowledge, creativity and entrepreneurship have become the three main thematic strategic areas, reunited under the umbrella of the region's economic strategy.

Source: ESPON 2017c.

**1.2.2.****SMEs' role in providing employment**

Regions in France, parts of Germany, Ireland, Poland, and Sweden showed a higher proportion of persons employed in SMEs in 2014 than the EU average. The largest growth between 2008 and 2014 was found in the Baltic regions, Iceland and parts of Finland.

Rural and peripheral regions have higher proportions of employment in micro-enterprises than urban and capital city regions. They also have higher proportions of employment in SMEs than intermediate and urban regions. This is the case in regions in Germany, Poland, parts of Spain and Sweden. Capital city regions and regions in southern and western Germany tend to host mostly large enterprises, focusing on the knowledge economy and ICT. SMEs account for an above-average proportion of employment in northern and central European regions specialised in ICT and the knowledge economy, as well as in central Bulgaria, parts of Italy, northern Poland and eastern Spain.

**Micro-enterprises have the potential to provide employment opportunities in all types of regions.**

Regions with thriving micro-enterprises are found all over Europe, but there are regional differences in relation to the sectoral focus: the knowledge economy and ICT show a relative concentration in central and eastern Europe (Czech Republic, Croatia, parts of Hungary, Romania and Slovakia). Services and tourism account for micro-enterprises' activity in Austria, Estonia, France, Finland and Spain.

**There is a more irregular distribution of SMEs across Europe**, with higher proportions of employment in rural and peripheral areas than in intermediate and urban regions. Between 2008 and 2014, a high proportion of employment in the knowledge and creative industries has led to a rise in SME employment throughout Europe, apart from in Italy and the west of Romania. Knowledge-intensive businesses, such as in the ICT sector, are mainly found in urban and metropolitan regions, mostly in northern and western Europe and in neighbouring university regions. However, growth in the proportion of employment in this sector led to only average growth of employment in the SME sector in most regions (e.g. in regions in western Germany).

 **Policy options and tools**

**The micro-enterprise sector can be expanded through enhanced business education and more supportive and participatory local and regional governance.** In addition, specific strategies designed to help and encourage micro-enterprises to scale up should be accounted for in the post-2020 Cohesion Policy.

**Business and entrepreneurship education should be supported** at the regional level by encouraging and supporting exchanges between regions and through the dissemination of good practices, as such education is a key determinant for enhancing the growth and competitiveness of SMEs.

**Designing an agenda for adult learning should involve SME stakeholders at the EU, national and regional levels** to better account for the differences in demand and supply of skills needed by SMEs. In addition, the effectiveness of training programmes targeting the workforce employed by SMEs should be further strengthened. For example, universities need to be further incentivised to engage in the start-up ecosystem, in order to provide better training and to prepare a skilled labour force in line with new industries and the new abilities required (European Committee of the Regions 2019, OECD 2019).

Industrial diversity is considered to be a success factor for SME development. Therefore, **education should be further adapted to better serve emerging activities, as well as to develop capabilities that can be flexibly applied in many different industries**, including those needed to upgrade traditional sectors. RIS3 are an effective tool for supporting the creation of a diversified base of competences in the emerging sectors.

**Effective business education, competences and skill-set development are especially necessary for micro-enterprises in remote and rural regions with limited access to higher education.** Rural-urban partnerships aimed at ensuring better connectivity and spillovers from the urban areas towards the rural areas can be an effective vehicle for implementation.

The upskilling of SMEs requires the consolidation of vocational education and training systems, coupled with the provision of benefits for workplace training (OECD 2019).

### 1.3.

## Reaping the benefits of digitisation for citizens, companies and governments



**Based on ESPON evidence from:** The territorial and urban dimensions of the digital transition of public services, European Territorial Review, EMPLOY, ESPON ATLAS

Digital transformation is fundamental for the future of socio-economic growth in Europe. The digitalisation process that has emerged in Europe has created the new basics in terms of connectivity and interaction. This has enabled the public sector, companies and citizens to test digital transformation in a “real” setting. However, an upstream investment gap, in addition to disparities in terms of research and innovation development, is evident from the mismatch between the growing demand and the limited supply of the latest technology (European Commission 2018b).

The digital transition of the EU is the main target of the Europe 2020 Digital Agenda with the eGovernment Action Plan, further supported by the Tallinn Declaration on eGovernment and a dedicated action plan within the Urban Agenda. At the EU level, the aim is to have open and efficient governments, interoperable digital public services for all citizens and businesses, and a base of infrastructure to support digital connectivity. The Digital Single Market remains a priority in the post-2020 multiannual financial framework and will continue to be supported by the Connecting Europe Facility in terms of digital infrastructure and by the Digital Europe Programme, aiming to help European societies and businesses to capitalise on the ongoing digital transformation. Under the Digital Europe Programme, the development of priority themes such as computing and data, artificial intelligence and cybersecurity should be further supported with the support of Horizon Europe.

### 1.3.1.

#### The territorial scale of the digital economy and society

Cities are often the main growth engines of territories, taking on digitisation as a means to be more effective and increase their competitiveness. Taking advantage of the presence of the most developed cities, some regions managed to converge their efforts by increasing their competitiveness through the clustering of economic activities and the resources these entail. There are several preconditions helping regions to capitalise on the benefits of digital growth, including (1) fostering knowledge-based economies,

especially technologically advanced ones, (2) good ICT connectivity in all types of regions and (3) a digital-ready society, including digital public services and a highly skilled workforce.

**The development of the digital economy and society is uneven in EU Member States.** The northern part of Europe hosts the most advanced digital economies in the EU. In contrast, central eastern European states and southern Europe have very low levels of integration of digital technology and human capital, although their rates of connectivity and use of the internet are similar to those of more advanced regions. The same territorial pattern applies to the development of digital public services (European Commission 2018c).

**Rural and peripheral regions are vulnerable in the shift towards a digital economy,** as they often lack ICT connectivity and the corresponding infrastructure. At the same time, the higher proportion of elderly people and people in poverty living in these regions brings challenges regarding the necessary skills' development and infrastructure to support digitalisation. Digitally developed regions benefit from the concentration of innovation and a highly skilled workforce in attractive urban cores (ICT hubs). However, the best performing digitalised regions managed to **decentralise their production processes and services**, supporting the development of second-tier cities or rural areas, where there is opportunity for diversification of the economic activities.

The benefits of digitalisation include economic growth, the creation of new types of jobs, improved public services and access to services, and opportunities to combat peripherality through digital connectivity. So far, **the digitally more developed regions of northern and central Europe overlap with the knowledge and innovation regions.** Their economies are highly competitive and have the capacity to turn innovation into regional growth. In contrast, the strong development of some urban areas as ICT hubs (which concentrate human and monetary resources) created core-periphery patterns of development within regions and deepen the urban-rural divide.

The digital transformation of industry focuses on nine key technologies: social media, mobile services, cloud technologies, the internet of things<sup>3</sup>, cybersecurity solutions, robotics and automated machinery, big data and data analytics, 3D printing, and artificial intelligence. In terms of digital technology integration in the economic environment, Scandinavian and western European economies lead the way. Although a series of digital technologies have been appropriated by EU firms, the integrated use of new technologies is still at an early stage. At the same time, eastern and southern Member States still lag behind in terms of overall digital development (European Commission 2018d).

The benefits of the digital transformation of industries include revenue growth, increased profits, cost savings, better customer experiences and more innovative products. Industry digitalisation policies show a strong tendency to focus on infrastructure and technology rather than on the development of skills. Although national initiatives on digitising industry have digital skills components, they are not considered a priority over infrastructure/technology topics (European Commission 2018d).

The risks of fast digitalisation include changes in labour patterns that some people could find difficult to adapt to. **As companies and public services become more digitalised, there will be a shift in the job market towards high-skilled jobs and complementary low-skilled jobs, while middle-skilled jobs will decrease the most.**

### Policy options and tools

**At the EU level, the decentralisation of industries from urban hubs to metropolitan and rural regions should be supported with the help of digital technology to counteract peripherality.** Public administrations can focus on strengthening the regional economic systems' competitiveness to continue to ensure growth and employment, in a context of a more open international competition, where innovation is a crucial factor.

Policy makers at local, regional and national levels, together with other relevant stakeholders, can guide and support the process of counteracting peripherality through cooperation in functional areas, partnerships or clusters. **With the help of digital technologies, the economic flows within territories can be redesigned to foster more balanced development, counteracting the core-periphery development patterns.**

**European states and regions can integrate their digital development efforts by creating digital strategies.** These would need to take into consideration horizontal enabling policy measures such as increasing the digital skills of the workforce, building digital innovation hubs, using data analytics for decision making, transferring good practices and experimenting with ICT solutions.

At the European level, the Digitising European Industry strategy aims to ensure that any industry can fully benefit from digital innovations, while reinforcing its overall competitiveness. There are already 19 national digital transformation policies and programmes for increasing productivity and competitiveness and improving the digital skills of their workforce in the EU Member States. The common aspects found throughout these initiatives are equal interests in the development of new technologies and in the deployment and use of existing technologies, and the key role that different stakeholders from industry and research played, making this a collaborative experience (European Commission 2018d).

**As the greatest digital opportunity for Europe lies in the transformation of existing industry and enterprises and in successful start-ups, more countries should consider shaping national strategies and initiatives for this purpose, as well as joining networks** to share experiences, explore new approaches and set a common EU agenda for investments (e.g. the European Platform of National Initiatives on Digitising Industries) (European Commission 2018d). However, **states that already have digital economic initiatives in place should focus more on effective monitoring tools and key performance indicators<sup>4</sup> in order to guide further developments and set a base for transferability.**

#### CASE STUDY:

### e-Estonia and the first data embassy

Estonia started building its digital economy and society in 1997, with visionary investments in information technology (IT) solutions. Since then, the country has steadily developed several digital solutions as part of a consistent policy approach: e-Estonia.

Today, its government is the most technologically advanced in the world, with 99 % of services performed electronically. Therefore, essential databases such as land or population registries exist only in digital form. While digitisation has immense benefits, it has also increased the degree of national vulnerability to cybersecurity threats. To protect its data, Estonia launched the innovative idea of data embassies by storing a copy of all national data in Luxembourg, which, since 2017, has held Estonia's servers in its government data centre in the same way it hosts Estonia's physical embassy in the capital city.

Estonia has directed its efforts towards ensuring digital continuity and security. Apart from designing new information systems to successfully counteract distances, Estonia was one of the first countries to innovate in terms of the "free movement of data principle" of the Digital Single Market, as well as to expand on the Vienna Convention on Diplomatic Relations in terms of hosting data and information systems. Any legal challenges encountered were approached in a bilateral agreement that granted immunity to the data embassy. Today, Estonia strives to become a country without borders by constantly challenging the limits of national identity in the digital environment.

Sources: <https://e-estonia.com/>, OECD 2018.



### 1.3.2.

#### Digital public services

**The transformation of public services through digitalisation is increasingly embraced by citizens and governments at national, regional and local levels.** The percentage of citizens using the online environment for public services is growing rapidly, and, at the moment, exceeds half of the population of all ages. At the same time, citizens' level of satisfaction with digital public services has increased. In 2017, approximately half of European citizens using the internet were also using it for e-government purposes.

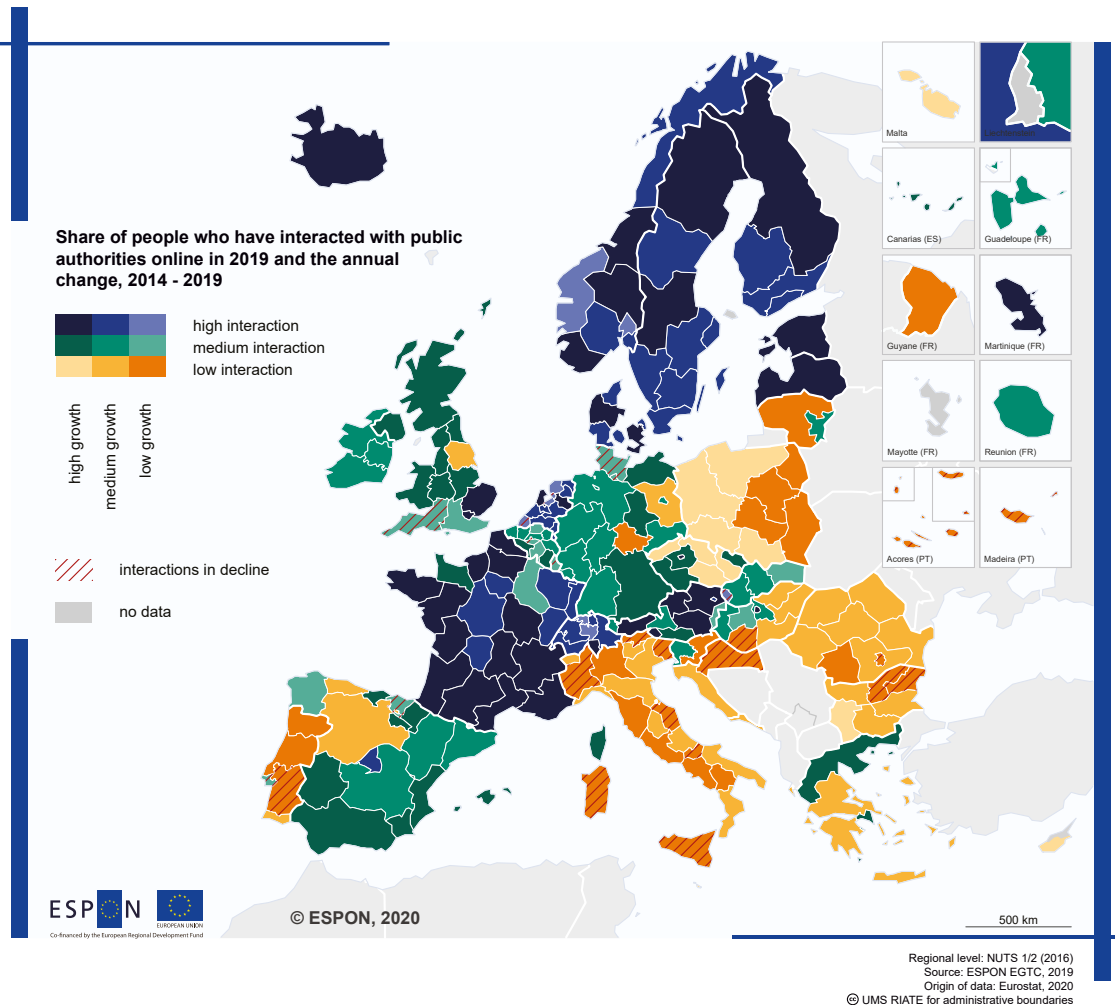
Digitalisation enables the provision of modern public services (e.g. e-government, e-health, e-energy and e-transport), while **digital public services bring benefits for citizens and governments.** These include reduced bureaucracy, the simplification of administrative procedures and the improvement of citizen-administration and citizen-service provider interactions. Moreover, digital public services can help the provision of overall public services in remote areas, cross-border areas and territories with geographical specificities, and can foster the development of new innovative services in these territories. Likewise, digitalisation can help counter difficulties related to access to public services in inner peripheries. For public administration, digitalisation means fewer operating costs, better policy outcomes based on data and a better alignment with the economies of scale through the free flow of goods and services.

Most of the public services in Europe are being created and implemented at the local level. **Larger, more developed cities provide more digital services than small and medium-sized cities, towns and rural communities.** Across Europe, Nordic cities generally have high e-government interactions (Map 5), with e-government products being developed at a higher pace. Southern and eastern European cities have low activity in terms of both producing and using digital public services. Moreover, cities with over 500 000 inhabitants take more responsibility for providing digital services, showing more diversity, while cities with under 250 000 inhabitants provide fewer e-government services.

Regional and national digital public services vary according to competencies and national legislation. In some cases, the local and central governments manage to coordinate the provision of public services, thus creating a successful digital multilevel governance system. This results in improved coordination between administrative levels and fair involvement of the private sector, which has an interest or can participate in co-creating and delivering new types of services. Although all European countries have registered growth in terms of providing digital public services, the level of progress is unequal. For example, Malta has developed 100 % of its public services in the digital environment, with Austria, Denmark, Estonia and Portugal having developed over 95 %. Croatia, Greece, Hungary, Romania and Slovakia are ranked lowest in terms of digital public services and need to catch up.

While many aspects of our society are becoming digital, awareness and initiatives for increased cybersecurity are also on the rise. Currently, this issue is mostly discussed in countries such as Luxembourg, Spain and the United Kingdom, whether in terms of digital technology uptake or improving security in the digital economy paradigm. However, domestic digital underground markets are also rising, with criminal products or infrastructure being mostly developed in France, Germany, the Netherlands and the United Kingdom. (EUROPOL 2016, European Commission 2018d).

## Map 5 Regional typology of eGovernment interactions



Source: ESPON 2018d.

### Policy options and tools

**To reduce digital gaps between countries, it is important for EU initiatives to focus on the interoperability of public services.** Whereas regional and local governments are developing individualised digital solutions, tailored for the reality of each territory, standardised principles across European countries would not only help to avoid duplication and increase communication between regions, but also provide less developed states with the opportunity to benefit from adopting digital solutions that have already been tested.



**CASE STUDY:****The Business Registers Interconnection System**

The Italian and Norwegian business registers have been integrated into the Business Registers Interconnection System (BRIS), becoming part of an information system that intertwines the same registries from all Member States through the European Central Platform. The projects' implementation in Italy and Norway took 2 years (2016-18) and the costs varied from EUR 200 000 to EUR 500 000, of which approximately 75 % was EU contribution.

Through the e-Justice Portal, information can be disseminated between EU businesses and Italian and Norwegian registers in a secure and rapid

manner, which helps minimise the administrative burden on public institutions and reduces the risks related to business processes for EU companies. Moreover, citizens and businesses in the EU have free access to information on companies (including information on foreign branches and cross-border mergers) through a back-office notification system established between business registers in the EU and the European Economic Area.

Source: European Commission and Innovation and Networks Executive Agency 2018.

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In an effort to provide better public services, **public institutions, civil society and companies should cooperate and exchange knowledge**, as this **helps to boost the local digital ecosystem and foster the co-creation and delivery of new types of services**. Moreover, using open-source software in public administrations could help avoid the duplication of resources and efforts. By opening data collected by public institutions, civil society and the private sector would have the possibility to innovate and to deliver social and commercial value.

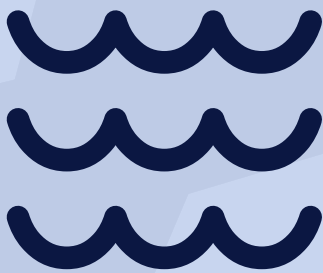
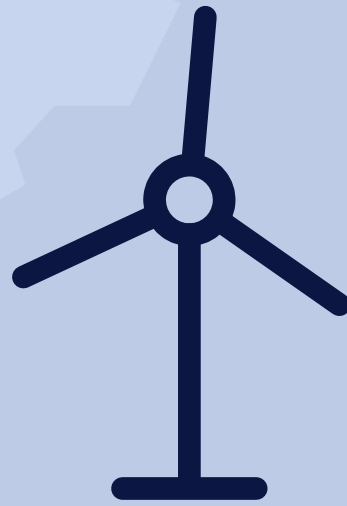
Governments engage in smart city and smart village initiatives, which infuse technologically advanced solutions into all aspects of towns and cities, making traditional networks and services more efficient. **Although smart initiatives have an intensive renewal power and open new perspectives in shrinking areas, it is important to pay close attention to the integrated approach of such interventions and to avoid isolated interventions** (e.g. separate digitalisation of one/different services). The digitalisation of transport, economy, education, etc., needs to contribute to increased productivity, economic growth or carbon emission reduction in a city/village, while ensuring that all citizens are able to use the new services.

**It is crucial for all levels of government to constantly improve the capabilities of the workforce and to equip it with digital skills**. Actions such as broadening participation in higher education and training, reducing skill-job mismatches, supporting vocational education and training and lifelong learning schemes for digital competences can be paired with dedicated measures for the most vulnerable groups, such as middle-aged to old persons, those not in education, employment or training (NEETs) and disadvantaged communities.

As regards cybersecurity, two main EU approaches are at the disposal of Member States, which can help in the development and implementation of security frameworks and in actively engaging in confidence-building measures. The first relates to secure-by-design, aimed at reducing the vulnerability of products, software and systems and creating a common security system across network frameworks and certification schemes. The second focuses on responses to malicious cyber activities (EU Agency for Cybersecurity 2019).

2

## Greener, low-carbon Europe



## 2. Greener, low-carbon Europe

The transition towards a low-carbon economy has become one of the main challenges of European regions and cities in the last decades. With “sustainable growth” as one of its three priorities, the Europe 2020 Strategy promotes a more resource-efficient, greener and more competitive economy. This is attainable by decoupling economic growth from the use of resources, decarbonising the economy, increasing the use of renewable resources, modernising the transport sector and promoting energy efficiency. Moreover, the EU TA 2020 stresses the importance of considering the territorial dimension in the implementation of the Europe 2020 Strategy. According to the TA 2020, geographical conditions and specificities represent the main factors influencing regional potentials for the production of renewable energy and for adaptation to climate change. Harnessing the regional potential for renewable energy is mostly dependent on national policies, as are energy-efficiency measures in regions with scarce resources. The transition to a greener, low-carbon Europe requires measures and actions on multiple levels, including tackling local challenges in addition to the challenges targeted by European, regional and national policies.

Through its current and next-generation policies, the EU is committed to being a front runner in the implementation of the 2030 Agenda for Sustainable Development of the United Nations (UN) and the Sustainable Development Goals (SDGs). The Juncker Commission has contributed to mainstreaming sustainable development both in cross-cutting and sectoral policies and in initiatives targeting the circular economy, clean energy, blue growth and a climate-neutral economy. Those contributions include the European strategic long-term vision for a prosperous, modern, competitive and climate-neutral economy, the Circular Economy Action Plan, the EU Action Plan for nature, people and the economy, the Urban Agenda for the EU, and the Bioeconomy Strategy for a sustainable bioeconomy for Europe aiming to strengthen the connection between economy, society and the environment.

In this context, policies and measures addressing the territorial challenges of energy transition, climate change mitigation and adaptation, the circular economy and green infrastructure (GI) are essential for a greener and low-carbon economy. Territorial vulnerability to climate change depends on (1) exposure to natural disasters or natural hazard-related risks, (2) land use and/or the potential of GI networks and (3) the level of socio-economic development required for investment in mitigation and adaptation measures. Not least, a circular economy emphasises specific development opportunities for different types of territories at different scales, as well as new business models aiming to recycle and reuse more waste. All of the aforementioned drivers of a greener and low-carbon economy should be approached from a systemic perspective, in both urbanised and rural territories, in order to reveal complex interactions and interdependencies between energy systems, mobility systems and food systems in the context of climate change.

### 2.1. Enhancing biodiversity and green infrastructure



Based on ESPON evidence from: GRETA, Alps2050, BRIDGES

According to the EU 2020 Biodiversity Strategy, ecosystems and their services can be maintained and enhanced by establishing GI and restoring degraded ecosystems. GI<sup>5</sup> is defined as a strategically planned network of natural and semi-natural areas that are aimed at providing ecosystem services (ES), such as water purification, air quality, space for recreation, and climate mitigation and adaptation. When connectivity, multifunctionality and spatial planning on multiple scales are ensured, GI can improve human health

5 Also referred to as green and blue infrastructure when water is present.

and well-being, support a green economy, create job opportunities and enhance biodiversity. Thus, GI integrates SDG 14 (life below water) and SDG 15 (life on land), SDG 3 (good health and well-being) and SDG 6 (clean water and sanitation), as well as SDG 11 (sustainable cities and communities) and SDG 13 (climate action). GI is essential for the socio-ecological systems approach to territories and for the achievement of territorial potentials for ES delivery. Therefore, policies addressing the planning, implementation, management and maintenance of GI need to be coordinated between territories and across territorial levels to ensure connectivity of regional GI and cross-border continuities.

### 2.1.1.

#### **Biodiversity, ecosystem services and landscape connectivity**

**The enhancement of GI improves biodiversity and the provision of ES.** Even though there is little evidence on the specific mechanisms behind the link between GI and biodiversity, providing habitats for species and ensuring connectivity among habitats are GI measures that are generally considered by scientists and policy makers to have a positive impact on biodiversity.

**The capacity of GI to provide wildlife habitats in both urban and rural areas is well acknowledged.** At the urban and peri-urban levels, the development of green networks reduces isolation among habitat patches and favours species movement, improving the ecological value of connected urban green spaces. At the regional level, habitat connectivity plays a vital role in population viability by facilitating the dispersion, recolonisation and migration of species.

**The multifunctional character of GI elements provides a range of benefits through a variety of ES, which often appear in bundles and are mutually reinforcing under certain circumstances.** Although most of the studies addressing the benefits of GI are focused on a given topic (e.g. climate change, biodiversity conservation and health benefits) or on one type of GI asset (e.g. roadside vegetation, urban parks and green corridors), the implementation of GI often brings several different benefits, such as micro-climate regulation and recreation in the case of an urban green corridor.

**Ecological connectivity, one of the prerequisites of ecosystem functioning, is hindered by increasing landscape fragmentation owing to transport infrastructure, construction activities and settlement dynamics across Europe.** According to the European Environment Agency (EEA 2011), the Benelux countries are the most fragmented, whereas eastern European and Mediterranean countries, Ireland and Scotland show lower levels of fragmentation pressure as a result of urban and transport infrastructure expansion.

**Demand for ES is mostly concentrated in urbanised areas, yet supply is linked to wider geographical conditions.** Therefore, the geographical distribution of GI should be analysed and monitored on both regional and urban scales.

**Green spaces are most fragmented on urban and peri-urban scales.** The uneven distribution (both quantitative and qualitative), and sometimes isolation, of urban green spaces (e.g. urban parks or forests, private gardens and vegetated traffic islands), functioning as habitat patches or corridors, has a negative effect on ecological connectivity in urban areas, thus reducing the GI potential of these areas.

**Overall, the general public values GI more when water elements or forests are present.** There is also a preference for GI providing ES such as flood control, recreation services and biodiversity support.

#### Policy options and tools

Biodiversity and ecosystem health are key prerequisites for the provision of ES by GI. Therefore, **policies addressing GI should be considered in relation to biodiversity-related policy frameworks** at the regional level (i.e. in relation to Natura 2000 nature protection areas). To support such policies with empirical evidence and to develop effective and adaptive management measures, **the dynamic relationship between GI, biodiversity and ES should be monitored and examined over long time periods.**

**More empirical research is needed on how species assemblages influence ecosystem functioning, stability and ES delivery,** which would inform how GI can be managed to enhance ecosystem health, particularly in urban areas.

As the demand and supply of ES often have different spatial extents, **policies targeting GI provision should be designed considering the spatial extent of both ES supply and ES demand.** Mapping

tools comparing the spatial extents and interactions of ES supply and ES demand can help policy makers identify areas of mismatch where GI development could improve ES delivery.

**CASE STUDY:**

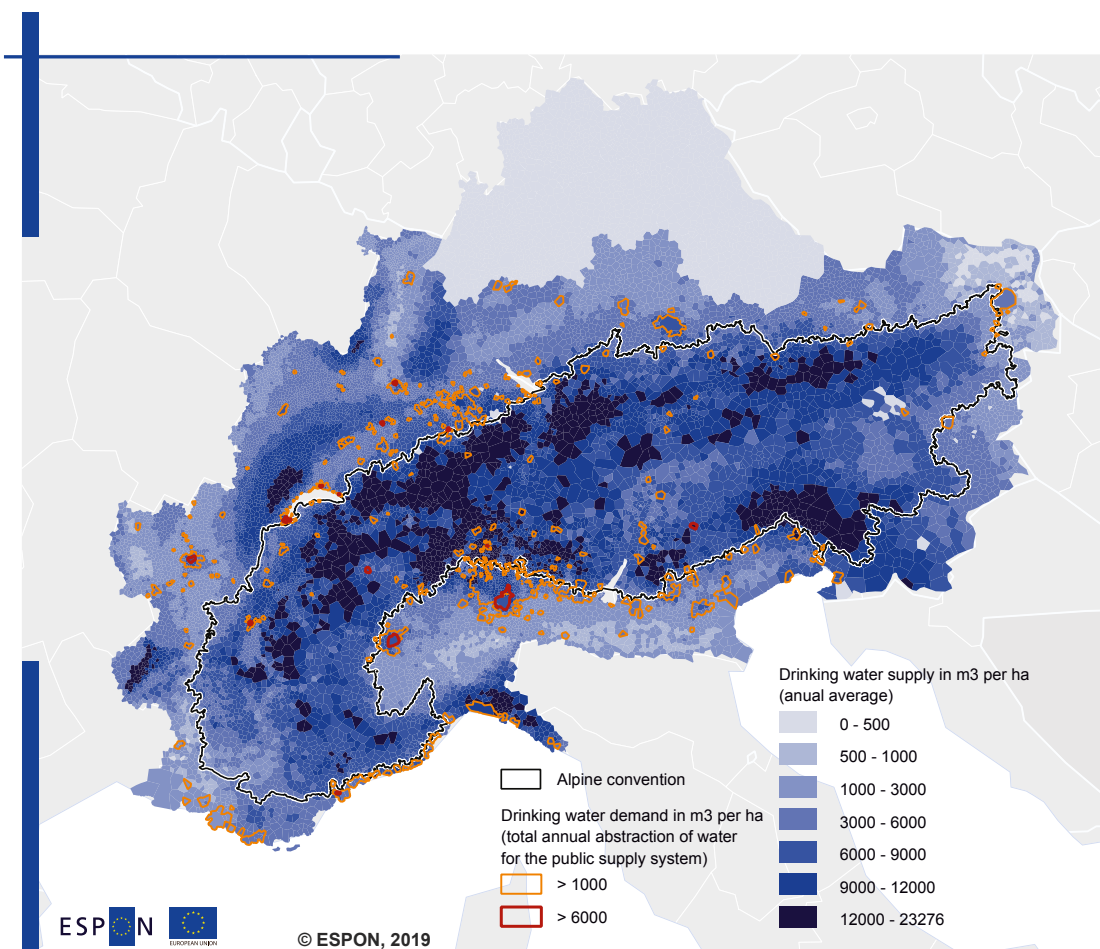
### Alpine mountain range – EU Alpine Region

As shown in Map 6, the demand and supply of ES often have different spatial extents. In the Alpine region, the demand for drinking water is concentrated in urbanised and metropolitan areas, whereas supply is ensured by the surrounding mountain areas. Such spatial differences between supply and demand require increased awareness of the impact of demand on the sustainable provision of ES and improved warning systems in cases of reduced water supply. The “Alp-Water-Scarce” project is

a good example of a transnational cooperation in which the challenge of water scarcity and droughts, which is shared by the Alpine region and the surrounding lowlands and urban areas, led to increased awareness, more responsible use of water, an improved response to droughts and the development of a set of early warning systems.

Sources: ESPON 2018g, Hohenwallner, D., Saulnier, G.-M., Castaings, W., and Zolezzi, G. 2011.

**Map 6**  
**Drinking water supply and demand in Alpine mountain range**



Regional level: LAU2 (2011 updated)  
 Source: Eurac Research & FAU, Alps 2050, 2018  
 Origin of data: AlpES, 2018

© EuroGeographics for the cities; University of Geneva for administrative boundaries; Outer perimeter: EUSALP & ASP Alpine Convention

To reduce landscape fragmentation at a regional scale, **compact and dense development should be promoted locally in conjunction with targets of improved ecological connectivity at the regional level**. GI networks in non-urban areas need to be planned strategically so that local conservation, protection and ecosystem restoration measures target areas that have a poor contribution to landscape connectivity at the regional level.

Spatial planning is considered an enabling discipline for territorial development, which suggests that the deployment of other public policies affecting the spatial organisation and governance of land, including biodiversity, climate change and water management, could be useful. Therefore, **stakeholders at the local, regional and national levels should consider GI in spatial planning processes by accounting for the connectivity, multifunctionality and provision of ES at multiple territorial levels**. To support such an approach, **GI should be incorporated into territorial development strategies, plans and programmes through suitable policy tools** such as strategic environmental assessment.

To harness the potential of GI and in response to the increased (perceived) value of GI in the presence of water, **policies targeting GI should consider coupling GI networks with water networks, water bodies and ground water and corresponding policy frameworks related to water management** at the level of river basin districts.

### 2.1.2.

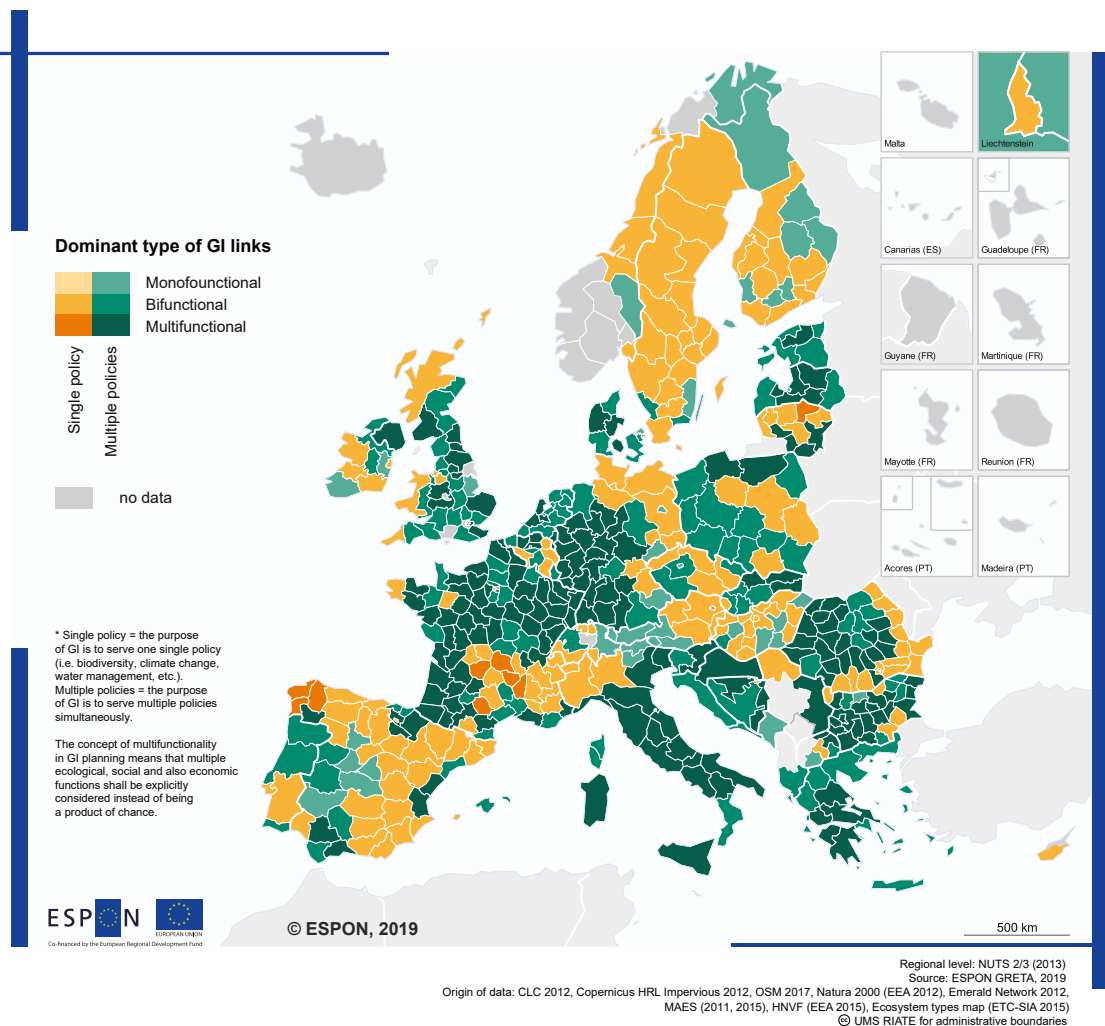
#### Green infrastructure at the regional level

**There is low potential GI network coverage at the regional level in north-western Europe, Ireland and south-eastern United Kingdom**. This is mainly influenced by population density, infrastructure development, climatic and topographic conditions, and agricultural land distribution. A high coverage of potential GI is observed in Nordic countries, in the Balkan countries along the Adriatic Sea and in the eastern Alpine region.

**The potential network coverage of GI at the regional level is relevant to multiple policy frameworks (e.g. biodiversity, water management and climate change)**. A pattern of multifunctional GI addressing multiple policies is predominant across western and central Germany, as well as in north-eastern and western regions of France, even though potential GI coverage is rather low in most of those regions. Another pattern can be seen in more scattered regions, namely either bifunctional or monofunctional GI, such as in the eastern Alpine region, northern Finland and central Spain; however, the potential GI in those regions serves multiple policies (Map 7).



## Map 7 Potential of Green Infrastructure (GI) networks to serve single or multiple policies



Source: ESPON 2018g

### Policy options and tools

Regional and local GI-related policies should consider all three inherent elements of GI: connectivity, multifunctionality and strategic spatial planning and management. **Regions with low potential GI network coverage in north-western Europe need to improve the connectivity of existing GI. Regions with high potential GI network coverage should be supported through policies promoting sustainable land use and increased biodiversity.** The multifunctionality and potential network coverage of GI at the regional level should ideally serve the purposes of multiple policy frameworks (for example, but not exclusively, biodiversity, water management and climate change). To that end, **trade-offs between policy objectives are inevitable and should be negotiated when selecting GI over other land uses.**

A better coordination of GI planning with socio-economic processes underlying urbanisation requires an **extended spatial evidence base (i.e. physical and ecosystem-based mapping) that covers a wide range of policy objectives on regional, landscape, metropolitan and urban levels.** Currently, the spatial coverage and the multifunctionality of GI are mainly addressed by policy objectives related to biodiversity conservation, water management, and climate change mitigation and adaptation. However, GI as a cross-sectoral concept also needs to be embedded in other policy domains, including finance, energy, health and social services.



**The development of GI can be facilitated by collaboration between local and regional stakeholders, awareness and capacity building, and knowledge exchange between professionals operating at different implementation stages and scales.** Cooperation in GI development and management is important because GI elements cross borders and should therefore be dealt with from a functional, rather than an administrative, perspective.

### 2.1.3.

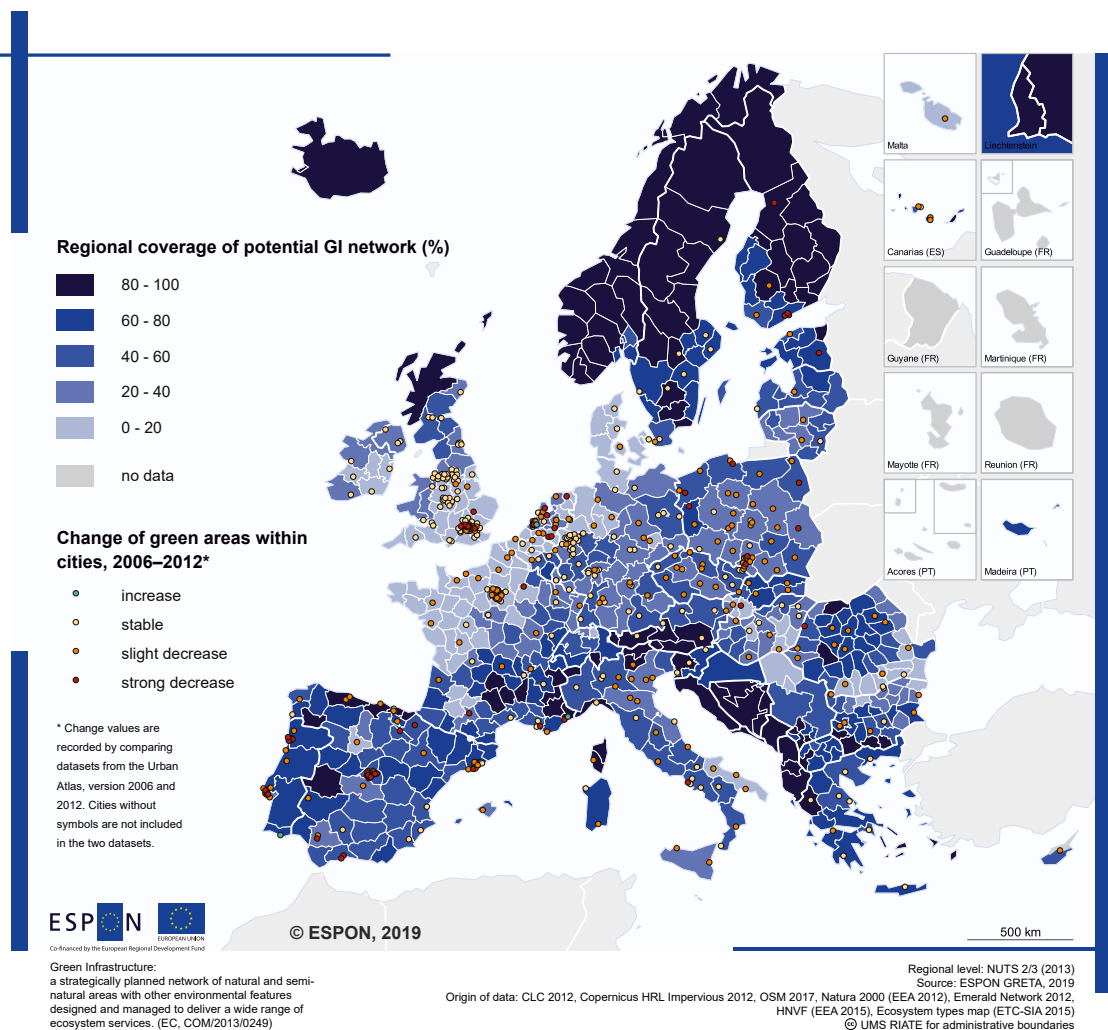
#### **Green infrastructure at the urban scale**

**The implementation of nature-based solutions by GI** is particularly relevant in towns and cities, where almost 70 % of Europe's population live. Likewise, both the EU Urban Agenda and the global New Urban Agenda highlight the potential of GI in cities.

**At the urban scale, the coverage of green areas is generally decreasing (Map 8).** The European territory is dominated by cities in which green areas have remained stable (central and north-western Europe and Alpine countries) or have decreased (eastern and southern Europe). The reasons for this development are mainly urbanisation and economic development after accession to the EU or for touristic purposes in southern Europe. This development can also be observed in Finland and the Netherlands. Only a few cities show an increase in green space coverage.

From a social perspective, the degree of accessibility to urban GI helps to monitor the effective and equitable distribution of benefits for citizens. **Cities with higher GI accessibility are scattered throughout Europe, but tend to be dominant in Austria, the Baltic countries, Czech Republic, Finland, Germany, Portugal and Sweden. Conversely, cities in Denmark, Ireland and the United Kingdom are at the lower range of urban GI accessibility.** Differences in accessible urban GI depend on several factors such as the quantity of GI, its distribution (concentrated, patchy, dispersed, etc.) and its proximity to transport infrastructure. Therefore, having available GI (or a percentage of GI in the peri-urban area) does not necessarily ensure it is accessible.

## Map 8 Coverage of potential Green Infrastructure (GI) and changes of urban green areas



Source: ESPON 2018f.

### Policy options and tools

As green space coverage at the urban scale is generally decreasing, **policies targeting urban GI should focus on improving the connectivity of urban spaces and on replacing land uses dominated by non-vegetated open spaces** (e.g. former industrial platforms, parking lots and brownfields) **with green (and blue) spaces with improved ecological qualities.**

Conservation strategies, restoration measures and spatial planning require an improved knowledge base to achieve the potential of GI at the regional and local levels. Such strategies and measures should be supported by **mapping tools that can identify potential GI elements and classify the performances of existing GI elements based on their capacity to deliver ES and to enhance biodiversity.** The GI elements considered in such a tool include green corridors and isolated habitat patches, as well as networks formed by those elements on regional and urban scales.

**Mapping and analytical tools confronting regional connectivity measures** (e.g. continuity within and between green corridors or minimum distances between fragmented habitats allowing for species migration) **with urban connectivity measures can be used to identify conflicts and synergies between GI and transport infrastructure.** Such tools can help identify key landscape elements in the GI network and can reduce landscape fragmentation on a regional scale (e.g. through defragmentation measures, highway planning and improved trans-border connectivity), in rural landscapes (e.g. by mitigating the impact

of agricultural intensification and road infrastructure on species movement) and in peri-urban and urban areas (e.g. by planning a network of interconnected and multifunctional urban green spaces).

**Mapping tools that visualise the spatial extent of ES provided by GI (the supply of ES) for a given area (the demand for ES) and overlap these with other development targets** could help local policy makers and planners to improve the spatial distribution of GI and the provision of ES.

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### CASE STUDY:

## Basque Bayonne-San Sebastián Eurocity – San Sebastian (Spain)

Basque Eurocity is a cross-border region between Spain and France. In 2012, Basque Eurocity developed a network of ecological corridors comprising green (natural areas and permanent crop cover) and blue (waterways, canals and wetlands) components through the Green and Blue Network (REDVERT) project by the Basque Eurocity Cross-border Agency, followed by a local climate adaptation plan (2016) and mapping of nature-based solutions (2017) to cope with climate change challenges in the city of San Sebastian. REDVERT is a good example of

a trans-boundary study focusing on ecological connectivity and biodiversity that can inform territorial planning and conservation strategies. The effort put into evaluating ES and delineating GI in the region created a strong basis for decision making and planning of the potential GI network, serving the objectives of multiple policies. Based on the findings of the project, a set of recommendations could be made for the preservation and restoration of ecological functionality in the cross-border region.

Source: ESPON 2018f.

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## 2.2.

### Promoting climate change adaptation, risk prevention and disaster resilience

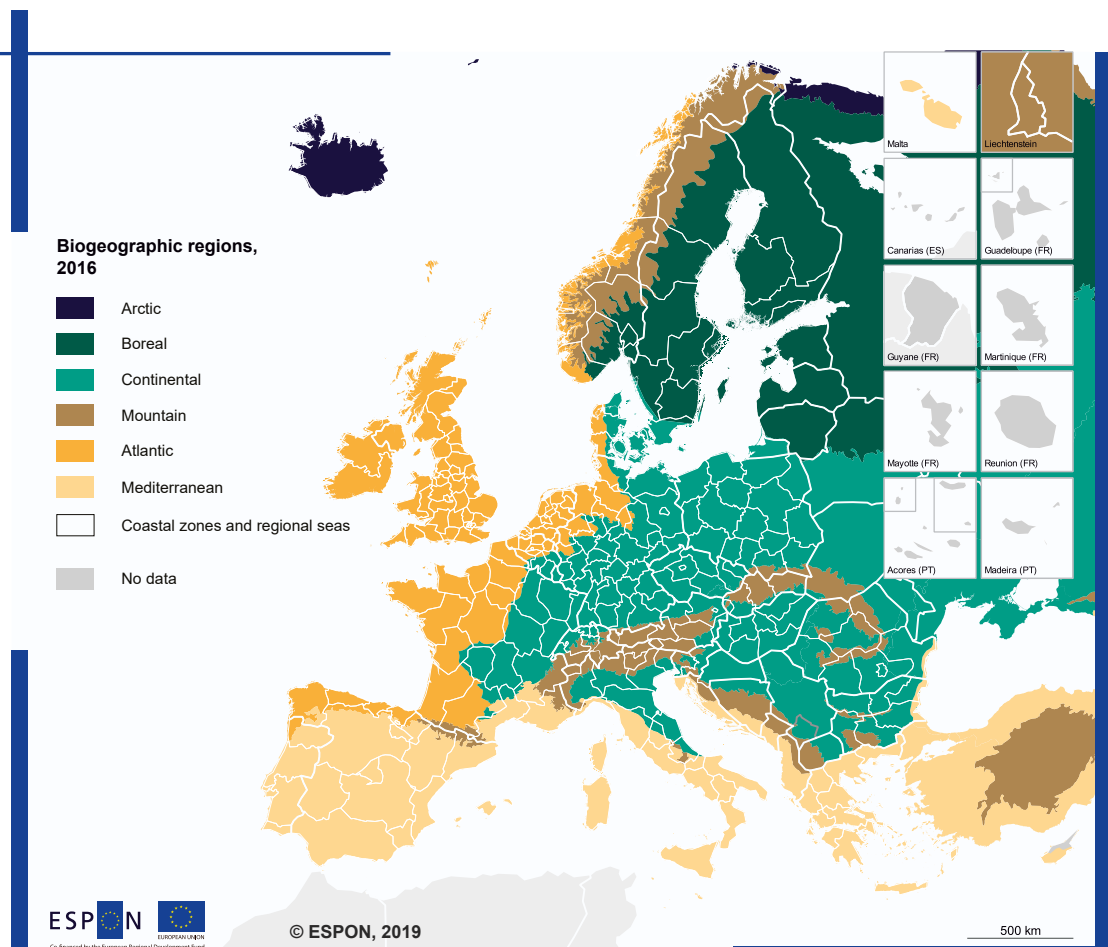


Based on ESPON evidence from: Territorial Dynamics in Europe, ESPON Climate, Alps2050

Besides climate change mitigation measures, which mainly focus on greenhouse gas (GHG) reduction, the need for adaptation has been increasingly recognised globally (e.g. the UN's SDG 13 on climate action). Accordingly, the EU Strategy on Adaptation to Climate Change aims to make Europe more climate resilient by improving the preparedness and capacity of all governance levels to respond to the impacts of climate change locally (e.g. through the Covenant of Mayors for Climate and Energy), by promoting climate-proofing actions at the EU level in key sectors, including in Cohesion Policy, and through the European climate adaptation platform Climate-ADAPT.

Climate change has different impacts on different European biogeographical regions, as shown in the latest report of the EEA (2017) (Map 9). Observed impacts include environmental changes such as droughts, heat waves, flash floods and coastal floods, a variety of ecosystem changes (e.g. northward species migration) and changes in the food system (e.g. changes in crop yields) and energy system (e.g. increases in energy demand for cooling). These different territorial impacts depend on the geographical position and territorial characteristics of European regions, region-specific opportunities to embed adaptation and mitigation, and different capacities to respond to changing climate conditions.

## Map 9 Climate change impacts in the main biogeographical regions of Europe



Source: ESPON SOET, 2019  
Origin of data: European Environment Agency, 2016  
© UMS RIATE for administrative boundaries

### Arctic region

- Temperature rise much larger than global average
- Decrease in Arctic sea ice coverage
- Decrease in Greenland ice sheet
- Decrease in permafrost areas
- Increasing risk of biodiversity loss
- Some new opportunities for the exploitation of natural resources and for sea transportation
- Risks to the livelihoods of indigenous peoples

### Mountain regions

- Temperature rise larger than European average
- Decrease in glacier extent and volume
- Upward shift of plant and animal species
- High risk of species extinctions
- Increasing risk of forest pests
- Increasing risk from rock falls and landslides
- Changes in hydropower potential
- Decrease in ski tourism

### Mediterranean region

- Large increase in heat extremes
- Decrease in precipitation and river flow
- Increasing risk of droughts
- Increasing risk of biodiversity loss
- Increasing risk of forest fires
- Increased competition between different water users
- Increasing water demand for agriculture
- Decrease in crop yields
- Increasing risks for livestock production
- Increase in mortality from heat waves
- Expansion of habitats for southern disease vectors
- Decreasing potential for energy production
- Increase in energy demand for cooling
- Decrease in summer tourism and potential increase in other seasons
- Increase in multiple climatic hazards
- Most economic sectors negatively affected
- High vulnerability to spillover effects of climate change from outside Europe

### Boreal region

- Increase in heavy precipitation events
- Decrease in snow, lake and river ice cover
- Increase in precipitation and river flows
- Increasing potential for forest growth and increasing risk of forest pests
- Increasing damage risk from winter storms
- Increase in crop yields
- Decrease in energy demand for heating
- Increase in hydropower potential
- Increase in summer tourism

### Coastal zone and regional seas

- Sea level rise
- Increase in sea surface temperatures
- Increase in ocean acidity
- Northward migration of marine species
- Risks and some opportunities for fisheries
- Changes in phytoplankton communities
- Increasing number of marine dead zone
- Increasing risk of water-borne diseases

### Continental region

- Increase in heat extremes
- Decrease in summer precipitation
- Increasing risk of river floods
- Increasing risk of forest fires
- Decrease in economic value of forests
- Increase in energy demand for cooling

### Atlantic regions

- Increase in heavy precipitation events
- Increase in river flow
- Increasing risk of river and coastal flooding
- Increasing damage risk from winter storms
- Decrease in energy demand for heating
- Increase in multiple climatic hazards

Source: ESPON 2018f.

### 2.2.1.

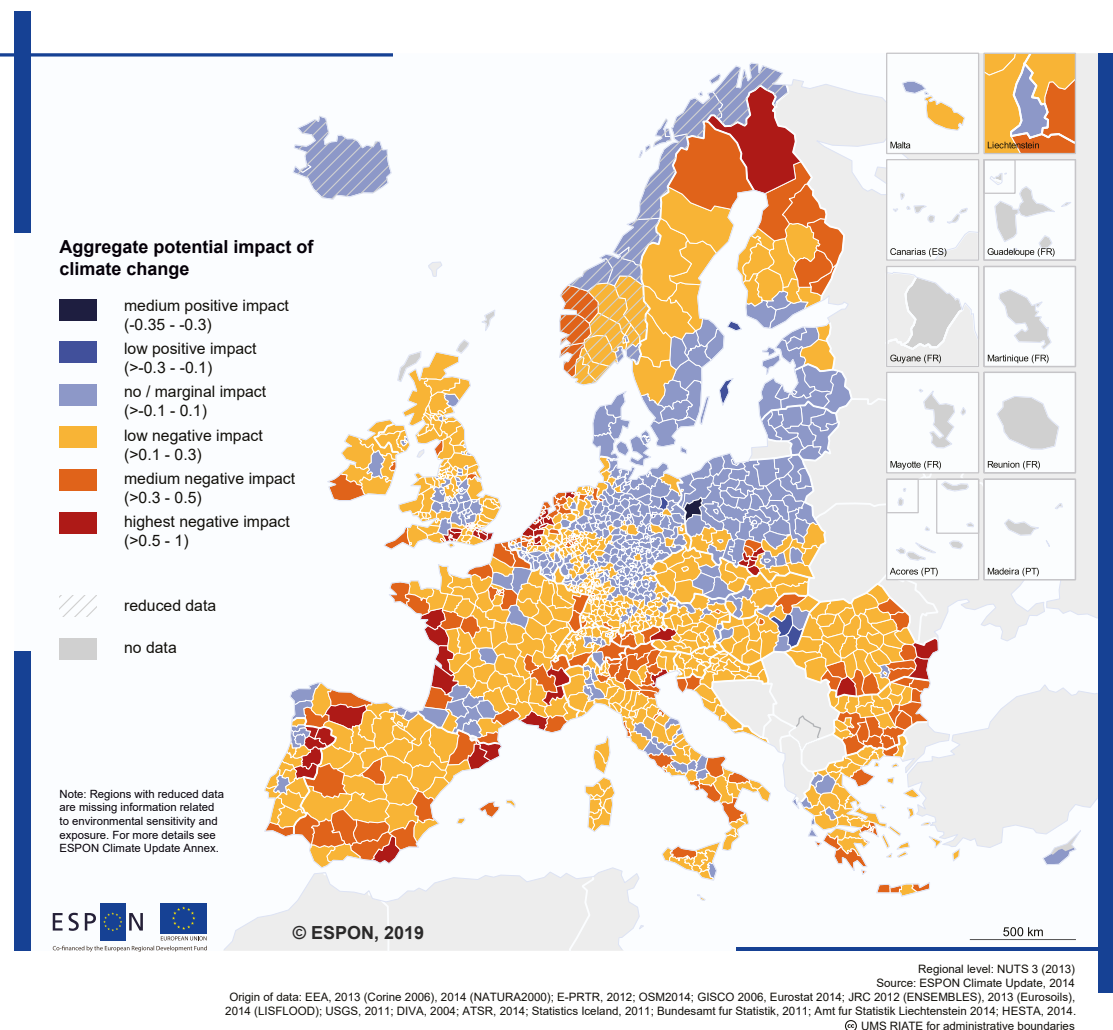
#### The impact of climate change and adaptation measures across Europe

The regions that are the most exposed to the overall impact of climate change are in the south of Europe. Regions with geographical specificities, such as the mountainous areas in Norway or the Dutch coastline, also have a high exposure, partly because of economic dependency on tourism and sea-level rise, respectively. **North-western and southern European coastal regions are most sensitive to extreme events.** Exacerbated by sea-level rise and projected river floods, north-western European coastal regions bordering the Atlantic Ocean and smaller hot spots such as the Po Valley and Venice (Italy) are most sensitive to extreme weather events.

**Climate change will have the highest environmental impact in the north and south of Europe (Map 10).** Important factors for the potential environmental impact of climate change are high slopes (especially in mountainous regions), specific soil conditions that facilitate soil erosion (e.g. in river deltas or along coasts) and large protected areas (e.g. in northern Scandinavia). **The spatial distribution of flood risk across Europe had not changed significantly between 2002 and 2012.** The river basins of the Rhine and the Danube, as well as the Po and the river systems of England, have the highest risk of flooding in Europe. **Areas with drought risks are concentrated along the Mediterranean.** An increase in risk has also been observed over the past 20 years in the Carpathian region, including Hungary and Romania, and in Ireland. Overall, the regions in southern and south-eastern Europe are the most exposed to natural hazards.

**The capacity to respond to changing climatic conditions through mitigation, adaptation and resilience strategies differs widely across Europe.** The difference is visible in the contrast between the great adaptive capacity of northern Europe and the high vulnerability of regions in southern and south-eastern Europe, as well as in northern Scandinavia and Finland. The latter are expected to experience the highest changes in mean temperatures and hence severe environmental challenges as a result of climate change.

## Map 10 Aggregated potential impact of climate change



Source: EEA 2017

### Policy options and tools

Vulnerable territories in south and south-eastern Europe that may need guidance in drafting **climate change adaptation, mitigation and resilience strategies should be supported through the transfer of good practices** from front-runner regions (northern and north-western Europe) and cities. In addition, front-runner regions could learn from local unplanned adaptations and bottom-up initiatives in less developed regions. **The transfer of good practices should be supported by a shared database of successful adaptation, mitigation and resilience strategies and by comparative studies** aimed at identifying differences (e.g. geographical specificities) and similarities (e.g. transferable measures) between territories.

**Integrated and holistic assessments and policy responses at the local level are key for effective responses to natural hazards.** Integrated risk management combines mitigation, adaptation, response and recovery measures, as well as the involvement of all potential stakeholders. For instance, local measures that focus on reducing vulnerability and enhancing resilience to floods can include enlarged floodplains, elevated critical infrastructure and emergency housing. The implementation of such measures can be informed by the involvement of stakeholders and communities affected by flooding. Moreover, stakeholder involvement can help identify co-benefits of disaster risk management measures, which can address other SDGs such as human well-being and biodiversity conservation.

**Mapping tools that integrate vulnerabilities, disaster risk and the adaptive capacity of specific territories** could inform local decisions targeting climate change adaptation, risk prevention and resilience. **Mapping tools that provide comparisons between territories with different performances, along with success stories** (both from front-runner regions and from local adaptations observed in regions with lower performances) could facilitate the transfer of knowledge and the implementation of practices on regional, national and local levels.

**Border regions subject to climate change impacts require cooperation measures and policies.**

An example of successful transnational cooperation can be found on the southern side of the Alpine mountain range, where the urgency of rising mean temperatures has led to the development of the Action Plan on Climate Change in the Alps with guidelines on local adaptation and the Alpine climate targets.

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#### CASE STUDY:

### Alpine mountain range

The southern side of the Alpine mountain range is most severely affected by climate change, in particular the French-Italian, Swiss-Italian and Austrian-Italian border regions. The concentration of rising mean temperatures in these areas has led to the development of a set of transnational measures and policies dealing with climate change impacts, aiming to support and harmonise local adaptation policies and measures coherently with the recommendations of the EU. The Action Plan on Climate Change in the Alps was developed during the French presidency of the Alpine Convention (2009-10), followed by the development of guidelines on local adaptation developed during the Italian presidency (2013-14) and the Alpine climate targets developed during the Austrian presidency (2017-19). Further related measures have been discussed and will be adopted in the framework of the EUSALP. Furthermore, through the Declaration of Innsbruck, the Alpine Climate Board (comprising all

Alpine states and Alpine Convention observers) has recently put forward the Alpine Climate Target System 2050 with four general principles: transition based on cultural and natural heritage (e.g. adopting innovative technologies in a way that reflects the needs of the Alpine population), becoming a model region for integrated action (e.g. adopting smart adaptation options to over-proportional impacts of climate change in the region), showcasing transnational action (e.g. showcasing common actions for climate change mitigation and adaptation) and emphasis on Alpine co-benefits (e.g. systematically exploring co-benefits of each climate-related action with sectoral policies and cross-cutting topics) (Alpine Convention 2019). These transnational measures demonstrate coordinated and sustained action towards achieving climate targets that are specific to the Alpine region.

Source: ESPON 2018g.



## 2.3.

### Promoting energy-efficiency measures and renewable energy



Based on ESPON evidence from: ReRisk, LOCATE, Possible European Territorial Futures

The ambition for European regions and cities to transition towards a low-carbon economy has resulted in several changes in energy consumption and supply and in related policies. These changes have been driven by EU-level targets, such as the climate/energy targets of the Europe 2020 Strategy (i.e. a reduction of GHG emissions by 20 % compared with 1990 levels, increasing the proportion of renewable energy in final energy consumption to 20 % and achieving a 20 % increase in energy efficiency) and of the Energy Union Strategy; the Paris Climate Agreement to cut 40 % of GHG emissions; and SDG 7 (affordable and clean energy) of the UN's 2030 Agenda targeting national policy ambitions for affordable, reliable and modern energy in the context of recent electrification and improved industrial efficiency. Furthermore, the European Commission's Energy Union Strategy aims to create a fully integrated internal energy market (e.g. by means of national energy and climate plans) that provides secure, sustainable, competitive and affordable energy to households and businesses through measures targeting energy efficiency and renewable energy.

Energy-efficiency measures are needed in climate hotspots such as the Mediterranean regions and large mountainous areas, but also in regions that are the most vulnerable in terms of social cohesion. These are mainly located in the eastern Europe and have a high energy demand for both heating and cooling. These mostly peripheral regions have the potential to develop renewable energy systems, but lack the administrative capacity or the financial resources to do so.

Europe's renewable energy potential is mainly influenced by geographical conditions, with high potentials for wind power in the north, solar power in the south and hydropower in Scandinavia, south-east Europe and the Alps. However, this potential is not fully harnessed at the actual location of renewable energy sources. Transmission lines are insufficiently developed between the regions where renewable energy sources are located and the regions that are prone to energy poverty owing to rising energy costs.

Reaching the EU's low-carbon objectives requires infrastructure investments targeting geographically specific renewable energy potentials, increased energy efficiency in regions where resources are scarce, and regional cooperation and an increased focus on bottom-up governance in both the production and the consumption of energy.

#### 2.3.1.

##### The state of energy consumption and energy-efficiency measures

**Road transport and the building sector are currently the two sectors with the highest per capita end use of energy in Europe.** In eastern Europe and some parts of southern Europe, energy consumption per capita in these two sectors is lower than in western and northern regions. Overall, energy consumption in the building sector declined in most regions between 2002 and 2012, while energy consumption for road transport increased in all regions.

**Rail transport has shown a decrease in energy consumption as a result of growing efficiency of passenger and freight trains.** However, the modal share of rail is considerably lower than that of road transport in most European countries. This is reflected in the low energy consumption of rail transport per capita (one-tenth the energy consumption of road transport).

**Since 2010, improvements in energy efficiency have decreased** owing to the loss of political will to counter climate change, combined with reduced investment in eco-upgrading of industries. However, **energy-efficiency measures remain important, especially for regions that are vulnerable in terms of social cohesion.** Rural regions in south-eastern Europe and most of eastern Europe are the most vulnerable to energy poverty when energy prices rise. Many of these regions have the potential to develop renewable energy, but lack the administrative capacity, the vision or the financial resources to implement these measures.

## Policy options and tools

**At the EU and national levels, policies addressing energy-efficiency measures should specifically target regions that are vulnerable to energy poverty.** Policy measures should target the administrative capacity of such regions to implement renewable energy measures, the availability of financial resources, the level of reliance on imported energy, fossil fuel dependency and the degree of specialisation in energy-intensive activities.

**At the EU level, a new agenda for energy transition** should combine existing geographical specificities and the specific energy potential of regions with actions related to mobility, building and land use, and innovation. At the regional level, green/clean/soft mobility should be further developed by taking into account the modal share of rail, as well as the differences between urban areas (where public transport is well developed) and rural areas (where cars often remain the only option). Actions should also consider energy-efficient buildings and optimal land consumption through different building patterns (e.g. through land use, land-use change and forestry policy), and a polycentric spatial distribution of activities. Moreover, actions should stimulate business and knowledge innovation in renewable energy technologies.

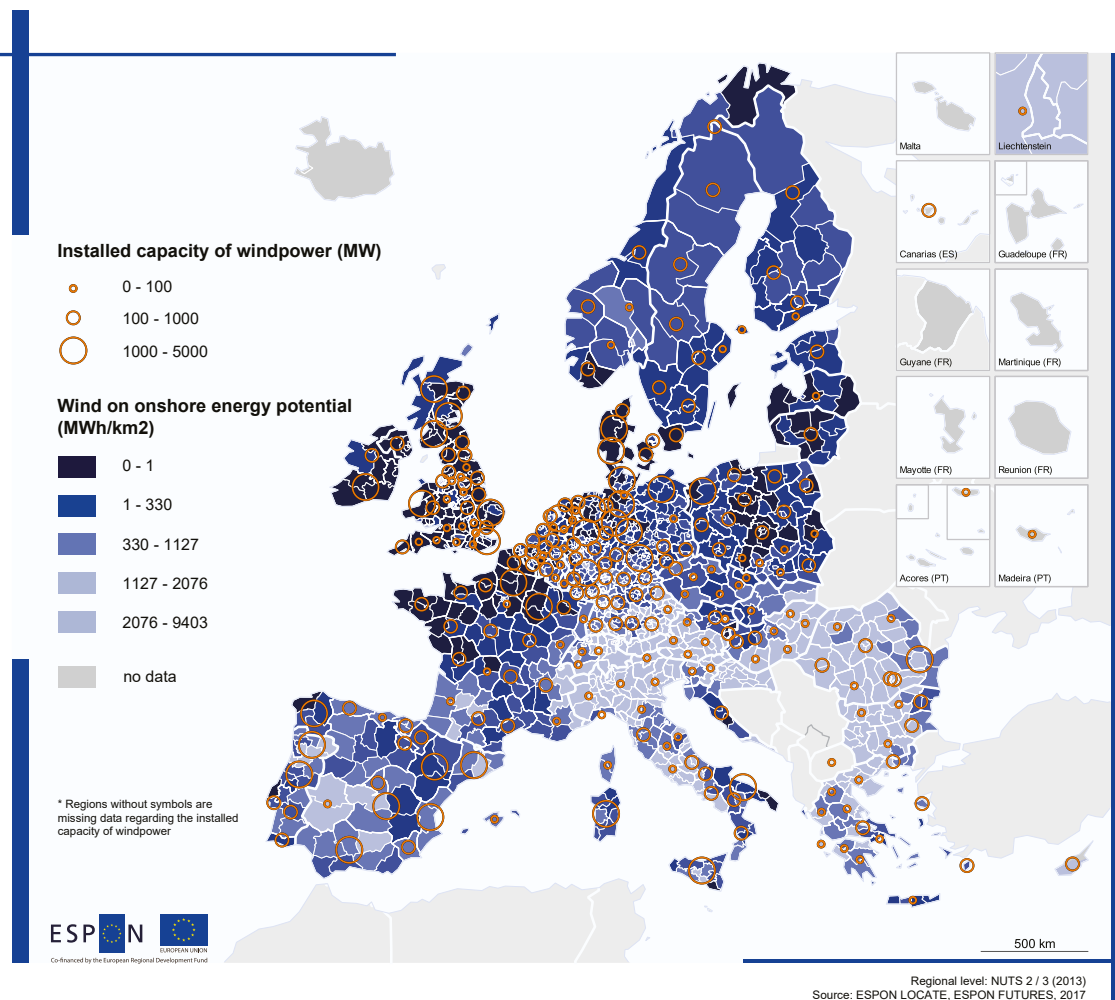
**The adaptation of the industry (demand and supply) to meet decarbonisation targets and to transition to a low-carbon economy should be addressed from multiple perspectives,** with an increased focus on bottom-up initiatives in both the production and the consumption of energy. At the moment, the energy sector is highly dependent on large producers and consumers and it is largely influenced by national governments. **At the national level, liberalisation of the energy sector should continue in order to support the use of multiple energy sources and to facilitate the involvement of citizens in local cooperative approaches.** Bottom-up support (e.g. through strategic niche management) encourages citizens to take ownership of renewable energy consumption and production, contributing to the uptake of renewable energy use. With multiple energy providers and increased self-sufficiency, dependency on large producers and consumers will decrease. This is especially important in remote rural areas, where the traditional use of renewables is still present (e.g. the use of wood biomass for heating) and energy supply might become too expensive.

### 2.3.2.

#### Territorial patterns of renewable energy potential

**Fossil fuels are still dominant in energy demand, and global GHG agreements have not been met,** despite the increasing deployment of renewable energy and increased energy efficiency across Europe. The proportion of energy from renewable sources varies from 50 %, with the highest values concentrated in northern Europe, to low values in southern and eastern Europe and in Ireland and the United Kingdom, and less than 10 % in the highly urbanised Benelux region in north-western Europe. **The variance in regional patterns of renewable energy potential is mainly influenced by climatic and geographical differences across Europe.** This variance is visible, for instance, in the concentration of wind energy potential in north-western Europe and the Baltic region (Map 11), and in the high potential for solar power in southern Europe. However, investments are not necessarily made where the potentials are highest for the targeted renewable energy source. For instance, photovoltaic power generation was developed in less-privileged solar regions in central Europe.

## Map 11 Installed capacity and the potential of wind power

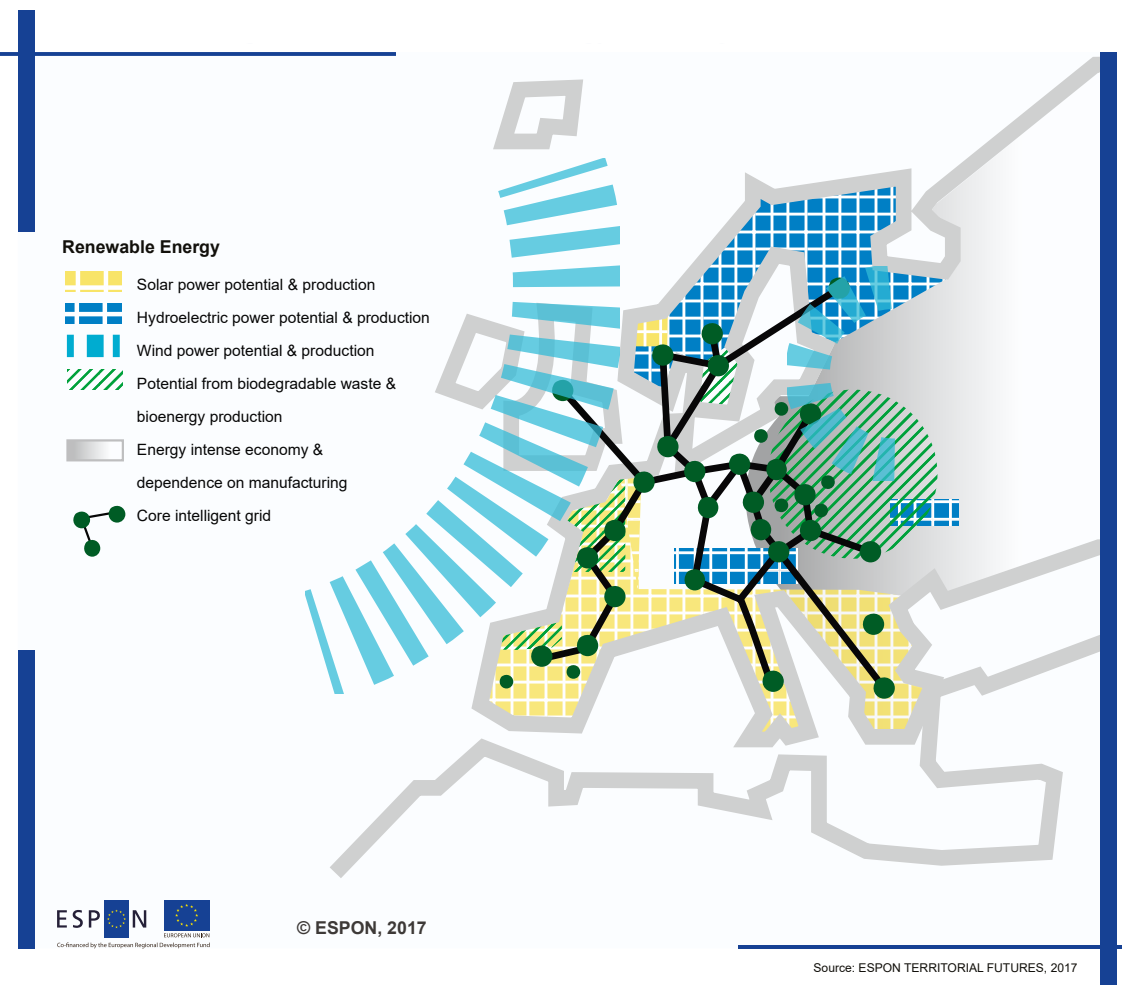


Source: ESPON 2014b

**Biomass is the predominant renewable energy carrier for heating in Europe**, applied in either decentralised (building-scale) or centralised (district-scale) heating systems. This is especially the case for Austria, the Baltic countries, Bulgaria, Romania and Sweden, where biomass has been traditionally used for heating and domestic hot water production. However, considering the significant environmental damage and ecological concerns related to the potentially extensive use of certain types of biomass, the diversification of renewable energy sources is important.

## Map 12

### Territorial impacts of the transition to 100% renewable energy



Source: ESPON 2018c.

## Policy options and tools

**The future of renewable energy harnessing should be based on geographical potential.** The results of a territorial forecast of Europe's energy supply and consumption being 100 % renewable in 2030 (Map 12) illustrate the need to use all territorial potentials. Such a quick transition would imply a focus on harnessing wind power in north-western Europe, solar power in southern Europe, and hydropower in the Alps, Scandinavia and some parts of south-eastern Europe. Geothermal power would continue to play a relatively minor role, with significant potential for district heating and energy installations in some parts of France, Germany, Hungary and Italy. To support this transition, energy systems may need to become more decentralised and democratic, with direct involvement of citizens through ownership of energy installations.

**Reaching the low-carbon potentials of Europe requires regional and interregional cooperation** in order to reveal potential complementarities due to regional specificities (e.g. between wind power potential in north-western Europe and solar power potential in southern Europe). Cooperation can support the development of regional and interregional stakeholder networks, as well as the transfer of knowledge and practices of sustainable energy supply and consumption across regions. Moreover, regional and interregional cooperation can support the alignment of actions related to energy transition across governance levels.

Urban areas generate most of the energy demand and are where most carbon emissions are produced. Therefore, **the production, storage, distribution, management and consumption of energy systems at the urban scale should be smart and integrated (i.e. dealing with both heat and power, by minimising demand and wasted energy, by cascading and mixing energy use and by maximising the use and reuse of secondary and renewable energy sources) and should involve a multitude of stakeholders.**

Harnessing the full sustainable energy potential of European territories should be supported by **tools that map and monitor the impact of both measures and potentials of energy efficiency and renewable energy.** Taking into consideration geographical specificities and local conditions, such tools could inform policies and measures at all territorial levels.

**Tools for planning, such as transferable guidelines integrating targets from multiple territorial levels,** could facilitate the implementation of energy transition measures at the local level. An example of such a planning tool is the Low Carbon Hub developed by the Greater Manchester Combined Authority in the United Kingdom, in which collaboration between the local and metropolitan levels has led to the development of integrated carbon-reduction measures.

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### CASE STUDY:

## Low Carbon Hub – Greater Manchester (United Kingdom)

With a population of 2.7 million, the post-industrial polycentric region of Greater Manchester is characterised by a high proportion of energy poverty in comparison with many other regions in the United Kingdom. While transitioning to a service-oriented economy, the region has shown a considerable decrease in energy consumption. Initiated through a voluntary cooperation of 10 local authorities in 2008, the Greater Manchester Combined Authority managed to establish the Low Carbon Hub, with the aim of reducing emissions by 48 % by 2020 from a 1990 baseline through public- and private-sector initiatives, groups and projects. The Greater Manchester Climate Change Strategy (2012-20) of the Low

Carbon Hub, implemented through the Climate Change and Low Emissions Implementation Plan (2016-20), integrates several carbon-reduction measures developed in collaboration with universities and businesses. In both documents, there is a strong emphasis on the importance of cultural and educational change promoted by the Carbon Literacy programme involving peer-led training organised by Manchester Metropolitan University. Moreover, the Green Growth programme supports low-carbon businesses, helping them to grow, increase their sales and increase their number of employees.

Source: ESPON 2018h.

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## 2.4.

### Promoting the transition to a circular economy



Based on ESPON evidence from: CIRCTER

The concept of the circular economy introduces a new model for economic growth, transforming industrial production and consumption habits and offering new opportunities for both businesses and society. In this alternative economic model, products and materials are maintained at their highest economic value, for the longest possible period of time, reducing the need for the extraction of natural resources, minimising the production of waste and actively contributing to the regeneration of environmental services. Since a circular economy requires transformational approaches to the supply and demand of materials, consumers and producers of primary and secondary materials that follow different territorial patterns of localisation are particularly relevant to the analysis. Transnational and interregional cooperation can be relevant for peer-to-peer learning and for the exchange of knowledge and know-how on circular economy matters (e.g. the circular economy on EU islands).

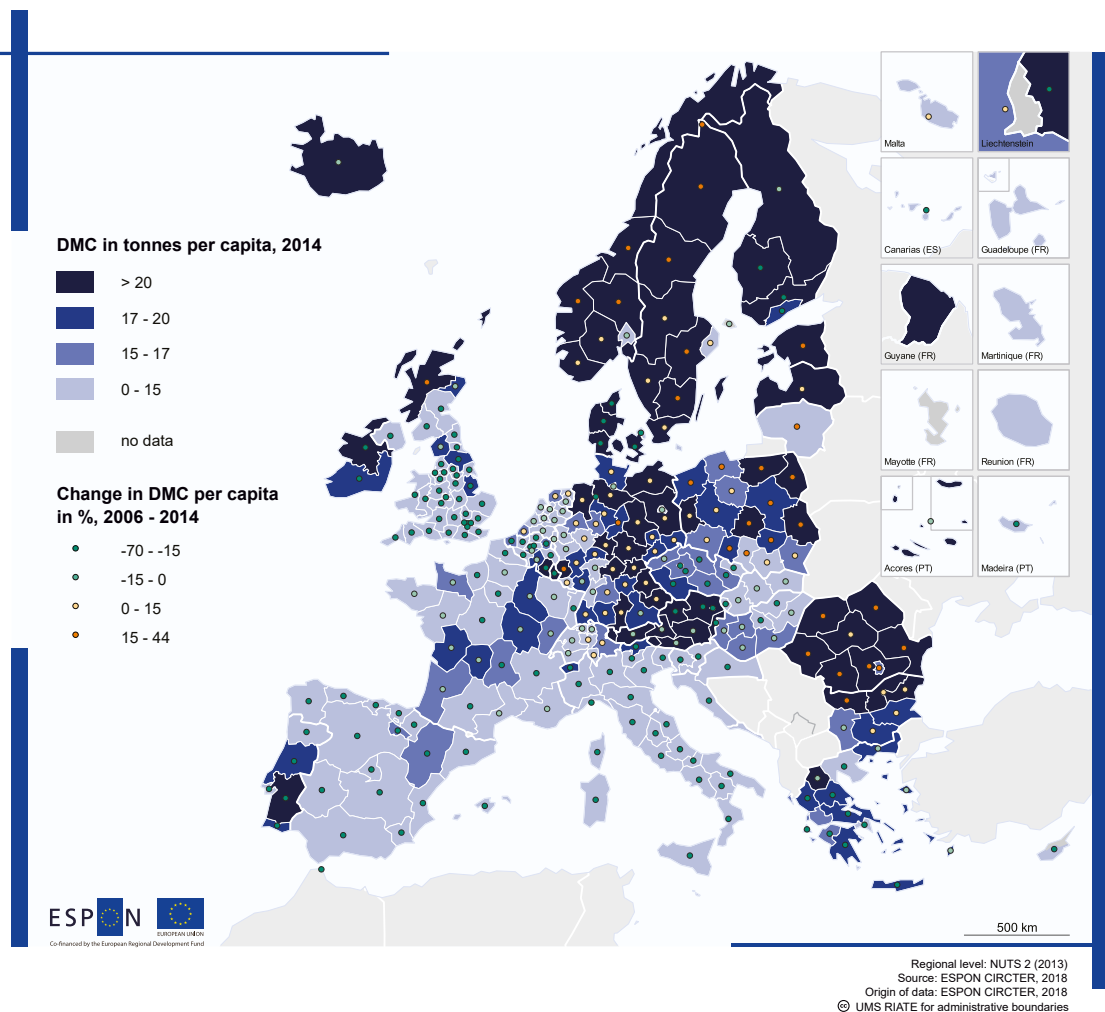
#### 2.4.1.

##### Domestic material consumption and waste production

The total amount of material directly used in an economy (i.e. domestic material consumption (DMC) per capita) is influenced by two main factors. Firstly, high DMC per capita values are often due to the local availability and use of natural resources. Secondly, the level of DMC per capita is indirectly but strongly influenced by population density; in less densely populated regions, the value of DMC per capita tends to be higher than in more densely populated regions. This effect is particularly evident in northern Europe, where it is coupled with economies with strong reliance on material-intensive sectors (e.g. wood processing and mining). **Changes in DMC show a strong correlation with economic cycles.** The regions that had the strongest declines between 2006 and 2014 (southern Europe; Map 13) are also those that were hit hardest by the global economic crisis in 2008 and therefore showed declining DMC per capita values in the period 2006-14 and declining or stagnating GDP per capita levels.

**Personal income is one of the main drivers of the total amount of waste generated** (excluding major mineral waste). Regions with higher GDP per capita tend to produce more waste. This could explain why urban regions have, in general, greater per capita values of waste generation. In these areas, however, the waste collection infrastructure may simply be better developed, allowing more waste to be collected and treated (including waste coming from rural regions), thus explaining the higher values of food waste and household waste per capita.

### Map 13 Domestic Material Consumption (DMC)



Source: ESPON 2018c.

#### Policy options and tools

To achieve the optimal use of raw materials, **existing economic regulatory frameworks at regional and local levels should be adapted to the principles of a circular economy.** To that end, regional and local policies should consider (1) the closure of cycles that may induce the regeneration of resources in the economy, (2) the optimised use of local natural resources already mobilised and population density as the main factors influencing DMC and (3) the effectiveness of the system of regional and local material flows, preventing negative externalities such as the use of non-regenerable toxic materials or pollution.

**Breaking the linkages between economic growth and resource use is an important target at the EU level** for well-distributed implementation of the circular economy across Europe. Similarly, policies and measures should aim to adopt responsible waste management policies targeting waste prevention (e.g. reducing the impact of personal income, which is currently one of the main drivers of waste production) and should be based on a consistent material hierarchy (i.e. reuse, repair, refurbish, repurpose, remanufacture and, finally, recycle and compost).



## 2.4.2.

### Circular economy implementation

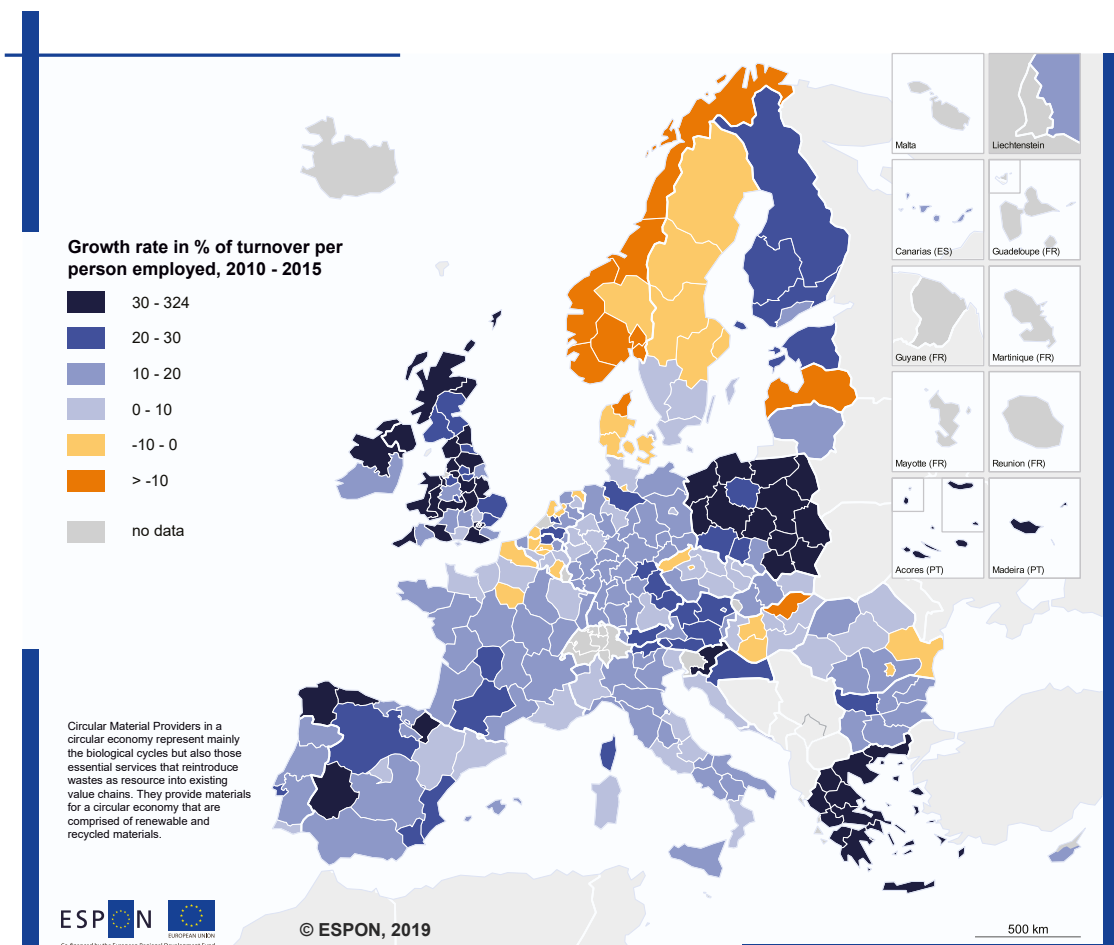
The implementation and diffusion of circular business models (CBMs) is favoured by agglomerations (both industrial and urban) in proximity to knowledge hubs. Therefore, there are over 9 000 regional pioneers across all Member States, covering all company sizes, that have adopted CBMs and these are concentrated in highly populated regions.

Owing to the contribution of sustainable agriculture and forestry, **circular economy material providers play a particularly predominant role in rural regions.** Organic farming, sustainable forestry and the provision of wood materials remain the largest employment sector in the circular economy material providers sector. Waste collection and recycling services also play an important role in rural areas, particularly in those that benefit from their proximity to industrial processes and urban centres. In most regions, employment in the circular economy is growing and the **productivity of circular economy material providers is increasing**, as shown by the evolution of turnover per person employed (Map 14).

The competitiveness of regional economies is linked to the possibility of implementing circular economy strategies ranging from industrial symbiosis schemes to product remanufacturing. These are more likely to emerge in territories where a diverse industrial ecosystem is already in place or where the products are originally manufactured. Industrial regions in decline may also find opportunities in the emerging markets of secondary raw materials thanks to the availability of industrial plots, old factories and other facilities that could host circular processes, including both material storage and transformation/recovery.

Map 14

### Turnover growth of material providers



Source: ESPON 2018i.

## Policy options and tools

**The implementation and diffusion of CBMs requires cooperation and sharing of knowledge between regional and local governments, material providers, industries and scientific centres, in order to achieve sound mapping of available resources** (of both their quantity and their quality). This process can be supported at the level of metropolitan areas or regions. Moreover, according to the Urban Agenda Partnership on Circular Economy, cities are places of experimentation and innovation (e.g. through pilot projects meant to test innovations in the circular economy) that can enable and drive potential measures towards improved consumption patterns and adoption of CBMs, with an impact on larger scales. Therefore, **multilevel governance with a strong involvement at the urban level is crucial for the transition to a circular economy.**

**RIS3** provide an excellent opportunity for integrating the circular economy in the regional policy landscape. These strategies not only formalise and give priority to the topic, but also guarantee regional, national and European financial flows towards circular economy projects. In addition, they ensure a higher stakeholder buy-in to necessary innovative actions and projects.

A circular bioeconomy is the main development opportunity for rural regions. From a territorial cohesion perspective, this transformation could yield better results if implemented in a decentralised way (e.g. through small-scale biorefining, in which biomass is processed sustainably into power, heat and biofuels, along with other bio-based products). This requires **increased and focused local investment in skills, knowledge, innovation and new business models related to the circular, green and fossil-free economies in rural areas that bring real benefit to rural communities.**

**The region is a relevant level to organise sustainable industrial ecosystems.** There are many regions that have bundled policy intervention possibilities into regional formalised circular economy strategies (e.g. Flanders and Wallonia (Belgium), Lazio (Italy), Basque Country (Spain), Portugal, etc.). These strategies require innovative methods for cooperation between all the stakeholders involved in the process at the regional level. In some macro-regions, these synergies function at transnational and interregional levels. The Central Germany BioEconomy Cluster (see the following case study) is an example of regional cooperation between a large network of stakeholders involved in the bioeconomy, as well as interregional cooperation with similar regional initiatives around Europe to facilitate the transfer of knowledge and practices.

**To create new market opportunities, circular economy strategies in regional economies, ranging from industrial symbiosis schemes to product remanufacturing, should be supported by research in the circular economy field.**

The transition to a circular economy requires **tools for integrated mapping and monitoring of material and waste flows** across Europe and its regions, as well as at the level of rural and urban territories.

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### CASE STUDY:

## Central Germany BioEconomy Cluster – Halle (Germany)

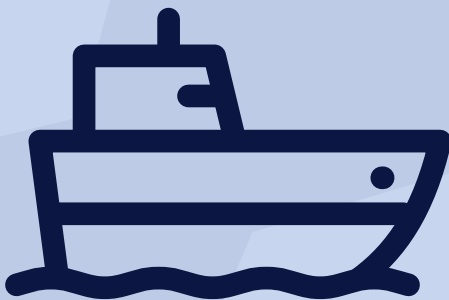
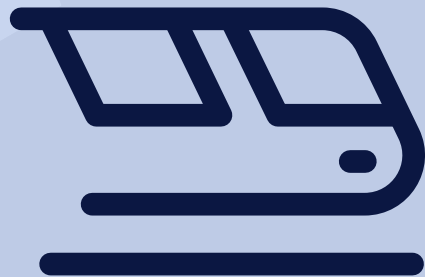
Established in 2012, the BioEconomy Cluster has developed knowledge and know-how in multiple areas (e.g. the chemicals industry and the wood sector) and it is able to identify complete value chains. To date, 500-600 jobs have been created, with the prospect of 5 000 jobs being created in the entire region if a complete bioeconomy is developed. The cluster has joined forces with similar leading clusters in France, the Netherlands and the United Kingdom to establish Europe's Bioeconomy Intercluster (3Bi) to

strengthen the competitive edge of bioproducts in European and overseas markets. The BioEconomy Cluster illustrates the relevance of local and international cooperation and collaborations. It stresses the importance of networking for trust building and for enabling local value creation systems (e.g. industrial symbiosis in industrial areas or biomass district heating).

Source: ESPON 2018i.

3

## More connected Europe



### 3.

## More connected Europe

Transport and communication infrastructures remain the backbone of the European territory and are key enablers for most SDGs. Although there is no SDG dedicated exclusively to this field, there is a strong link between these infrastructures and goals targeting climate change, cities and human settlements, industry and infrastructure, health, energy and food security. European and global policies target digital or physical connectivity from two perspectives:

1. Focusing on the European, national and regional levels and building on the priorities established by the TA 2020. At this scale, transport and communication infrastructures support polycentricity, balanced growth, cross-border and transnational cooperation, and functional areas or territories. Ensuring the four freedoms of the European Single Market (the free movement of goods, capital, services and persons) remains a priority at European, national and regional scales. The main challenges in this sense relate to providing universal access to services of general interest and jobs, while minimising GHG emissions, enhancing road safety and increasing the infrastructure's resilience. In this context, digital connectivity, intermodality and multimodality are considered key enablers.
2. Focusing on cities and functional urban areas as the main originators of today's environmental, economic and social challenges, as well as the places where most of the solutions to the aforementioned issues are developed. The 2014-20 Cohesion Policy places integrated urban development at its core, while ensuring strong support for the promotion of sustainable urban mobility. The focus on cities as actors of change is emphasised at the global level by the New Urban Agenda. The European Union's Urban Agenda is implemented through 14 multi-stakeholder partnerships. One is dedicated to urban mobility and another to digital transition. At the city level, transport-related priorities include decarbonisation, public transport, active mobility, intermodal transport, harnessing the potential of ICT and testing innovative transport solutions (automated vehicles, drones, etc.). These are also promoted within the post-2020 Cohesion Policy, which targets functional urban areas that should support the transition to a clean, safe and connected (automated) mobility system.

Climate change and the transition towards a low-carbon economy represent the main challenges for the European territory, at all scales. The Paris Climate Agreement reinforced the ambition for a low-carbon and climate-resilient economy and society. To achieve the targets of the Paris Agreement, the Juncker Commission adopted the Mobility and Climate Change package, aiming to transform the EU into a world leader in innovation, digitalisation and decarbonisation. The decarbonisation of transport is a main driver for the transition to a low-carbon Europe. This is envisaged as happening in a cross-sectorial manner, by linking decarbonisation to industry (the production of clean vehicles), R&D (further research into innovative and clean transport), legal frameworks (promoting clean means of transport or enabling new ways of transport, such as drones or automated vehicles) and ICT (smart mobility).

### 3.1.

## Developing a sustainable, climate-resilient, intelligent, secure and intermodal Trans-European Transport Network



**Based on ESPON evidence from: Accessibility by the Sea Indicators, Scenarios for Accessibility by the Sea, Road, Rail, Air and Multimodal, BRIDGES, TRACC, ESaTDOR**

Good accessibility is a precondition for economic development, as regions with good access to suppliers and markets generally have a better economic standing than remote or isolated regions. Moreover, accessibility is a key factor that is shaping Europe's polycentric structure. The economic performance of the European territory and its polycentric structure are thus directly dependent on the accessibility provided by the Trans-European Transport Network (TEN-T).

On the other hand, the transport sector remains one of the main contributors to GHG emissions. In this context, the decarbonisation of transport is more important than ever, as highlighted by the SDGs, the Paris Agreement and other policy documents and political statements, including the Graz Declaration and the Amsterdam Declaration.

At the European level, a key territorial development objective is the creation of a functional Single European Transport Area, ensuring balanced territorial accessibility through modern, multimodal and safe transport infrastructure networks. This should be achieved by further developing the core corridors and nodes of the TEN-T, with a particular focus on cross-border connectivity and on removing bottlenecks.

The performance of the TEN-T also depends on the Motorways of the Sea (MoS) programme. MoS aims to achieve barrier-free maritime transport across Europe. It is based on a set of key sea links between EU Member States connecting ports of the core and comprehensive TEN-T, which, combined with other modes of transport, are to provide regular, high-quality services offering an effective alternative to the road transport of goods. The MoS programme relies on three pillars: (1) the environment, (2) the integration of maritime transport in the logistics chain and (3) safety and the human element.

Europe's post-2020 TEN-T, supported by MoS, should continue to reduce distances between regions by providing modern, safe and secure transport infrastructure and by improving the accessibility of remote territories. Furthermore, multimodal transport and the use of alternative fuels should ensure a more efficient and sustainable use of the future TEN-T.

#### 3.1.1.

### Accessibility patterns across Europe

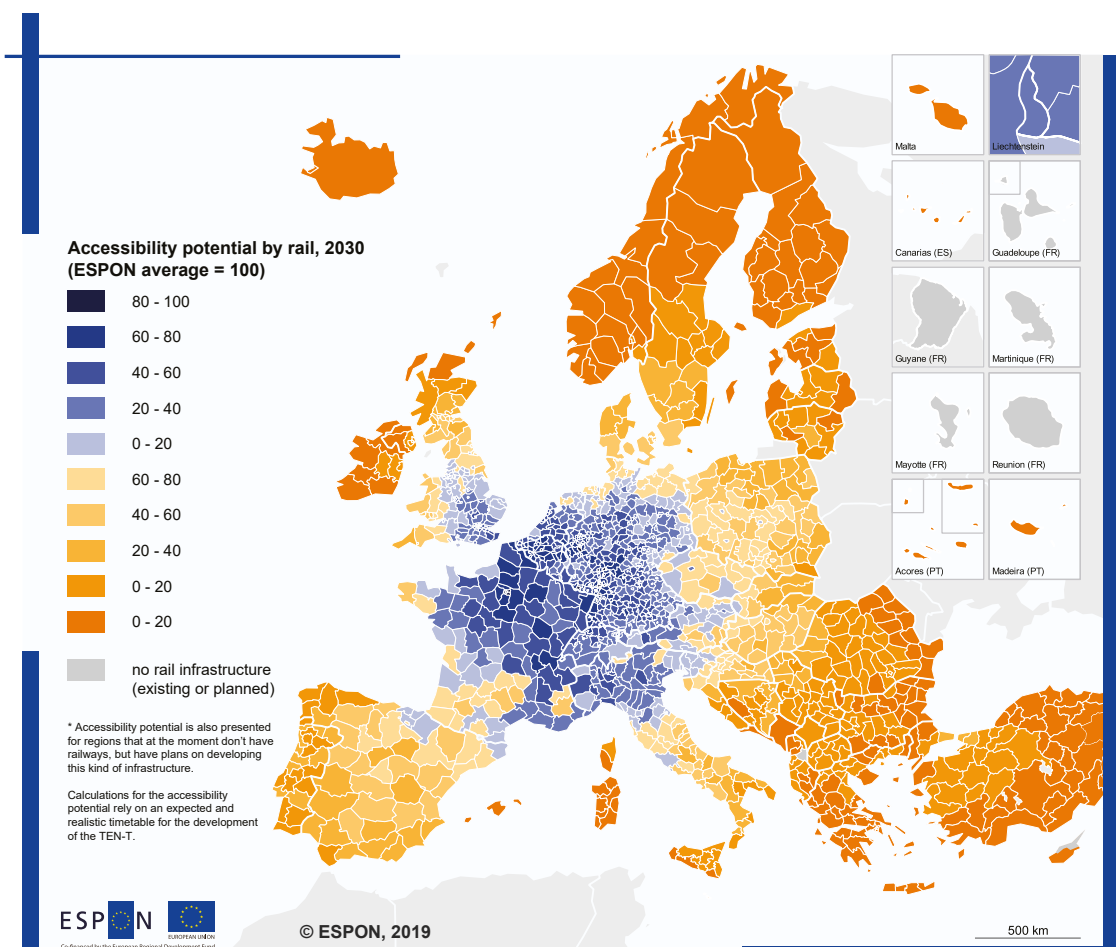
In most European regions, changes in accessibility potential have been recorded with regard to multiple modes of transportation. Between 2001 and 2014, European countries had different approaches to improving accessibility. The most significant changes in relative accessibility potential<sup>6</sup> by road were registered in regions outside the European core, mostly in the south-western and northern regions. Potential accessibility by rail has increased to a large extent in most of Portugal and Spain and in the north of Greece, southern Italy and Sweden, but also in cross-border regions (e.g. between Austria, Czech Republic, Hungary and Slovakia). In spite of the improvement of the potential accessibility in central-eastern Europe due to major infrastructure projects linking the east and west, eastern European countries (e.g. Bulgaria and Romania) are still disconnected from the core of Europe by road and rail. On the other hand, eastern Europe managed to greatly increase its potential accessibility by air, mostly in second-tier cities.

Overall, there are significant disparities in accessibility at the regional and local levels. From most locations in Europe, at least one regional centre can be reached in less than 60 minutes' travel time. However, only in western Europe can more than five different cities be reached in this 1-hour time frame. Infrastructure endowment is still much lower in eastern Europe, so, despite having relatively similar levels of service provision, accessibility to services remains lower than in western Europe. Moreover, in many cases, owing to the lack of intermodality, new transport links perform below expectations. Capital city regions, some of the second-tier cities and major touristic areas tend to score better in terms of intermodal accessibility, while territories at the periphery of Europe rank much lower than the EU average, despite investments in multiple types of transport infrastructure.

Considering the future TEN-T outline, accessibility patterns in Europe will not change significantly. Although the accessibility potential by road in south-eastern Europe is expected to greatly increase by 2030, the highest values will still be registered in the core of Europe (Map 15). In terms of potential accessibility by rail, the largest increase is expected in south-western Europe and central-eastern Europe (to a lower extent in Bulgaria and Romania), but values will not surpass the core of Europe.

With regard to air accessibility, the situation remains uncertain, with three possible scenarios: (1) regional airports manage to increase the number of passengers and flights and act as gateways to larger territories, (2) economic reasons and competition cause regional airports to lose passengers and flights in favour of major airports, resulting in lower potential accessibility for second-tier cities, or (3) there is a general decrease in flights for environmental reasons, causing the accessibility gap between the core and periphery of Europe to widen, while only a few capital city regions and major cities remain competitive (e.g. Madrid-Barcelona, Bucharest, Warsaw or Rome-Milan).

**Map 15**  
**Accessibility potential by rail**



Regional level: NUTS 3 (2013)  
Source: ESPON ACC SCEN, 2017  
Origin of data: S&W Accessibility Model, 2016; RRG GIS Database, 2014  
© UMS RIATE for administrative boundaries

Source: ESPON 2018i



## Policy options and tools

**At the EU level, impact-driven prioritisation of investments is needed to balance accessibility throughout the European territory.** The impact of changes in accessibility depends on the existing level of accessibility. Therefore, directing investments in regions with lower accessibility values should remain a priority of the EU Cohesion Policy.

**The potential of intermodality should be given proper weight, both in defining EU programmes and in local and regional policy.** Intermodality is a key enabler for new transport routes, higher accessibility and the efficient use of existing infrastructure. Regions can perform better in terms of accessibility when transfer between various modes of transport is improved, particularly in terms of adequate infrastructure (e.g. intermodal logistics and improved port-inland connections), links within the TEN-T or cross-border cooperation (joint projects and investments). On the other hand, strong links to the surrounding territory, boosted by intermodality, will remain an important driver in improving the efficiency of the European airport network.

**Long-distance transport should aim for low-energy consumption.** Transport infrastructure improvements, even if focused on rail, have very little impact on decreasing energy consumption and GHG emissions, unless they are more competitive in terms of costs of use than road and air transport. **Pricing policies making road and air transport more expensive could be an option to increase the attractiveness of low-emission transport** (e.g. train). Internalising external costs of long-distance transport could be considered as a policy direction at EU and national levels. However, it is important to consider that remote regions with a lower diversity of transport options might be negatively affected.

**Monitoring and evaluation tools are needed to better understand the territorial impact of improvements made to the TEN-T.** A harmonised approach to measuring the accessibility and congestion of the EU road and rail network on a yearly or biannual basis, linked to regional and local socio-economic performance, would help local, regional and national stakeholders to better target investments. Moreover, integrating the environmental impact (e.g. GHG emissions) into this territorial impact assessment tool would support the monitoring of the European transport system's decarbonisation process. The updated version of ESPON's territorial impact assessment tool might be very useful to showcase changes made by EU regulation in the field of transport or the potential impact of new transport projects.

### 3.1.2.

#### Hinterland accessibility

Over 90 % of world trade is currently carried by sea. EU ports handled more than 4 billion tonnes of goods and 414 million passengers in 2017. More than 50 % of the EU's trade with the rest of the world is carried by sea. The potential accessibility for freight transport by sea is less dependent on geographical position, but relies on the size and capacity of ports, the quality of port-inland connections and access to large markets.

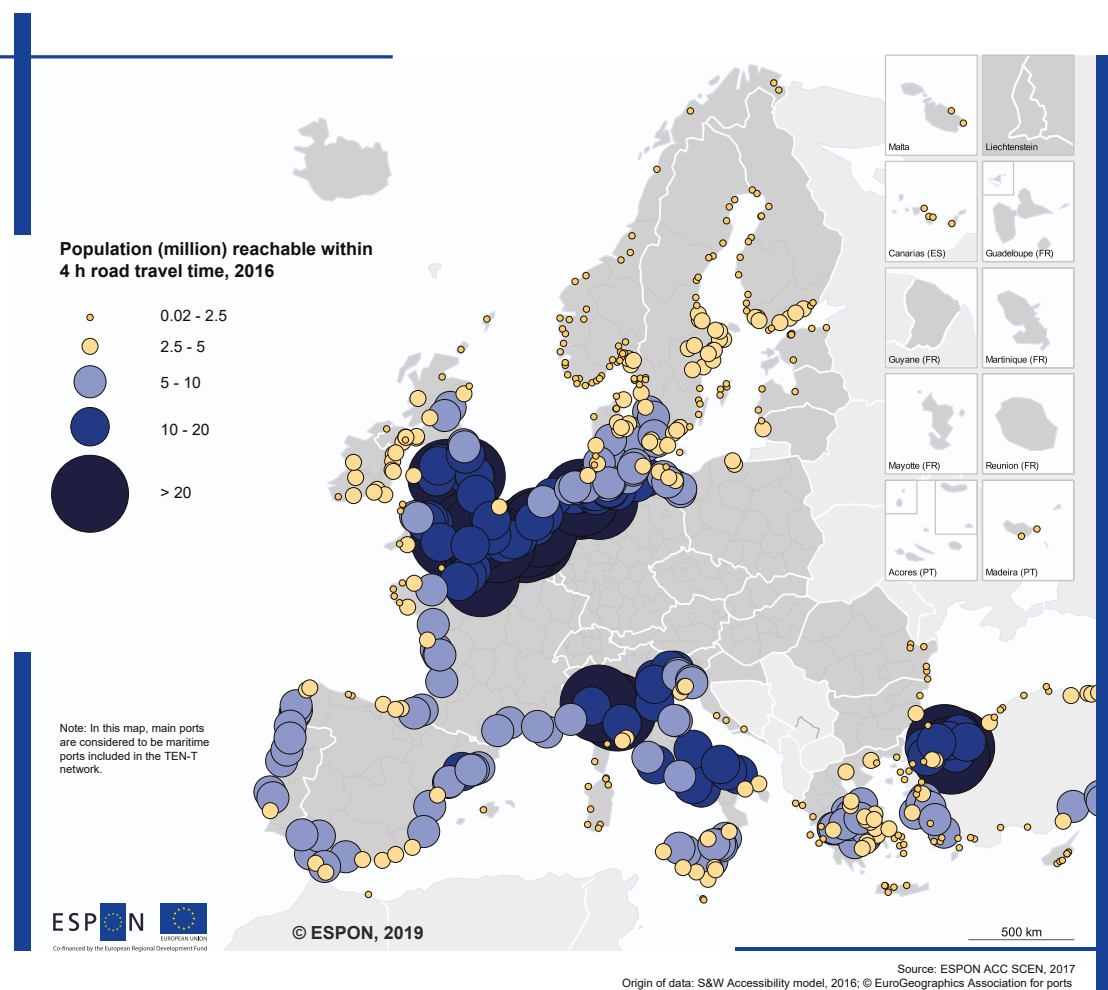
Most traffic entering Europe from the sea is concentrated in a few major ports, mostly of the North Sea. About a quarter of the shipping traffic from Asia enters Europe through the Mediterranean Sea after passing the Suez Canal. However, a small amount of this traffic enters Europe through the Mediterranean ports, with the rest going through Gibraltar up to northern European ports (i.e. choosing 5 to 7 additional days of travel and consequently increasing CO<sub>2</sub> emissions).

The three largest container ports (Rotterdam, Antwerp and Hamburg) handle more than 30 % of Europe's maritime freight (Eurostat 2017). A dense network of motorways and railways with connections to the most populated parts of Europe is the main asset of North Sea ports. Moreover, they are supported by Europe's most developed inland waterways (Rhine-Main-Danube). For example, inland shipping is used to transport around 50 % of cargo to and from Rotterdam's port. However, the inland waterways' capacity might be compromised in the long term as a consequence of climate change. For example, in the summer of 2018, prolonged drought halved the inland shipping capacity on the Rhine for almost a month.

Some of the Mediterranean ports (e.g. in Croatia, Greece, central and northern Italy, Slovenia and Turkey) have access to densely populated regions, but low hinterland connectivity values owing to a less dense highway and motorway network, which limits their access to markets (Map 16).



## Map 16 Hinterland accessibility of main ports



Source: ESPON 2017f.

### Policy options and tools

**It is of utmost importance to further research and strengthen alternative trade routes at the EU and regional levels.** The increase of trade with Asia and the shift from the Atlantic to the Pacific as the centre of the global economy both demand alternative trade routes. This would entail better connections between Europe and neighbouring countries, particularly those in the Eastern Partnership, mostly by extending the TEN-T.

Maritime transport in the EU should become more environmentally sustainable, safe and secure. **The EU should play an important role in promoting high global environmental and safety standards for maritime transport, modern vessels and cleaner fuels for waterborne transport.** Vessel traffic monitoring systems (SafeSeaNet<sup>7</sup> and RIS<sup>8</sup>) should be enhanced to support maritime and river transport safety and security. This is particularly important in areas with a large number of migrant travel routes, such as the Mediterranean Sea.

The MoS programme managed to improve port-hinterland connections and thus partially achieved a reduction of freight transport by road and the enhancement of sea transport and intermodality. However, most projects funded under the MoS programme targeted the more developed ports and adjacent areas with a more significant maritime traffic density and production such as the North Sea or the Baltic Sea. Fewer interventions were directed towards strengthening Mediterranean ports (Beall 2017: 38-41). In this context, **it is essential that the EU further support the improvement of port-hinterland connections** by rail, road and inland waterways, particularly targeting the ports in the Mediterranean Sea. This approach would support a more geographically balanced European port system. In addition, countries around the Mediterranean Sea should aim to make better use of the Connecting Europe Facility funding instrument by linking TEN-T and MoS projects, and thus supporting their ports through new or more efficient trade routes.

Specific planning tools that address sea and inland waterways as transport corridors should be promoted. Considering the importance of the cargo transport value chain for Europe's economy and the need to ensure a sustainable use of Europe's seas and waterways, **concepts such as maritime spatial planning and land-sea interactions should be further integrated into spatial planning at national and regional levels.**

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#### CASE STUDY:

### The Baltic Link

Funded by the MoS programme, the Baltic Link project aims to increase the port-hinterland connectivity of the Baltic ports Gdynia and Karlskrona, linking them to the Mediterranean Sea and reducing the amount of freight carried through the North Sea. By removing important bottlenecks, the Baltic Link project aimed to create a coherent intermodal transport chain and developed Alvesta, Karlskrona and Gdynia as macro-regional transport nodes. Port-hinterland connections are improved by increasing the capacity and service for rail-bound cargo (e.g. Emmaboda-Karlskrona railway). By using

Cohesion Funds, road links are to be upgraded (Highway 27 in Sweden and the link from Gdynia ferry to road No 6).

At the end of the project in 2030, it will be possible to transport goods at 160 km/hour via railway between the Baltic Sea and the Mediterranean Sea, crossing central-eastern Europe.

Sources: [www.ec.europa.eu/inea/](http://www.ec.europa.eu/inea/) MoS fiches for Baltic Link Gdynia-Karlskrona; [www.baltic-link.se/](http://www.baltic-link.se/); [www.tentacle.eu/](http://www.tentacle.eu/) TENTacle – Extension of the Baltic-Adriatic Corridor from Gdynia to Gothenburg via MoS Gdynia-Karlskrona.

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### 3.2.

## Developing sustainable, low-carbon and intermodal national, regional and local mobility



Based on ESPON evidence from: BRIDGES, PROPHECY, CPS, URRUC, Territorial Review

Good connections to the TEN-T are essential for all countries and regions in Europe. Regional and local economies are dependent on the quality and capacity of connections between secondary transport networks and TEN-T core networks. Territories with geographical specificities and sparsely populated places, highlighted in the TA 2020, have been facing challenges in terms of access to services of general interest. The difficulty in reaching services of general interest is a main reason for the occurrence of inner peripheries, both in the core of Europe and in peripheral areas.

Transport poverty is addressed by the SDGs and the Urban Agenda, in terms of ensuring convenient access to clean public transport. Likewise, European Commission priorities related to innovation and the shared economy are closely linked to transport services and infrastructure. Fostering innovation in this field should help identify viable solutions to reduce transport poverty in rural non-metropolitan areas or territories with geographical specificities, thus ensuring universal access to services of general interest.

#### 3.2.1.

### Accessibility in territories with geographical specificities

Territories with geographical specificities are facing challenges in terms of accessibility. In many cases, the main TEN-T axes do not serve territories with geographical specificities; therefore, the quality of secondary transport links, mostly under the responsibility of regional and local authorities, is essential. Very often, territories with geographical specificities are connected to other regions through one major gateway (ferry, rail, road or airport). When challenged by natural disasters (heavy rainfall, snow, drought, etc.), service interruption at the main gateway may leave these territories disconnected from the rest of the world.

Mountain regions with good accessibility can be found mostly within the Alpine mountain range (Map 17). More peripheral mountain ranges such as those in Bulgaria, Romania and, to some extent, the Nordic states and Spain still face significant accessibility challenges. In many cases (e.g. Romania), mountain ranges also represent a barrier in terms of connectivity, fostering peripheralisation.

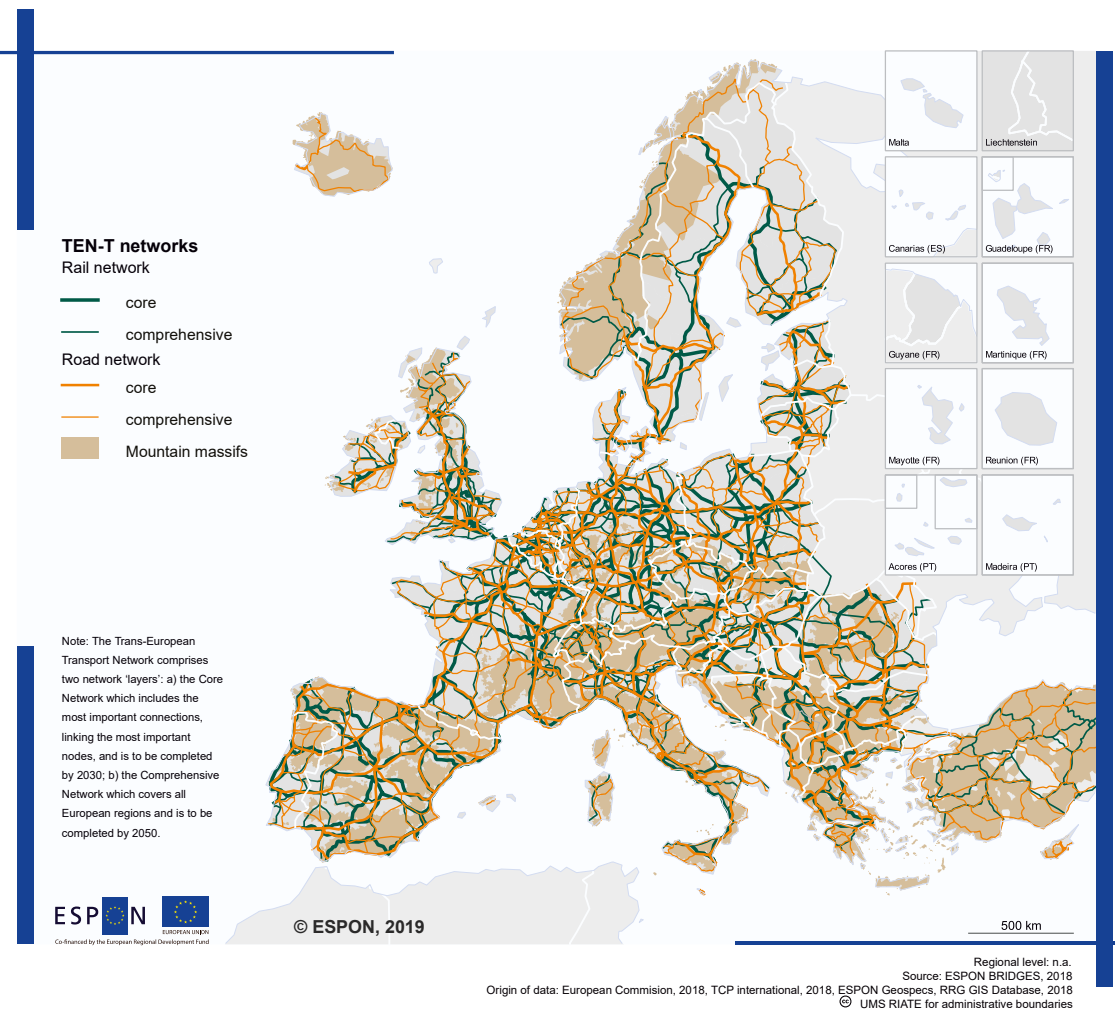
Island regions are characterised by much higher values of air accessibility than road or rail. Therefore, air and maritime transport are particularly important for island regions, providing stable connection to other EU regions. A high number of island regions depend on imports of essential goods. Shipping is the main means of transport for these imports, but also for exporting locally produced goods. As Europe's islands are important tourist destinations, local or regional airports are the main access gates for tourists travelling to Cyprus or Greek, Italian or Spanish islands.

Sparsely populated areas in mountain or island regions are particularly vulnerable to accessibility issues. Providing cost-efficient transport infrastructure and services for these territories remains an important development challenge to be addressed at national and European level.

By 2030, if the planned transport infrastructure is developed, the accessibility potential of mountain and coastal regions by road or rail will barely reach 80 % of the European average. Sparsely populated places and islands will remain below 20 % and will remain dependent on the functioning of regional airports.

## Map 17

### Coverage of Trans-European Transport Networks (TEN-T) in mountain areas



Source: ESPON 2017e.

## Policy options and tools

**The TEN-T should address the resilience of transportation systems by supporting the development of secondary networks in territories with geographical specificities**, thus providing remote regions with access to multiple transport links. Resilience is an essential feature of transport planning in island or remote regions, as it helps avoid interruption between links and main gateways, counteracting climate change impacts.

Considering that, in many cases, territories with geographical specificities are served by secondary transport networks, **more importance should be given to funding the development of regional transport links** at the European and national levels. Funding should also aim to ensure the access to services of general interest in sparsely populated areas.

Geographically sensitive planning tools, such as those developed within the framework of maritime spatial planning, support place-based approaches by ensuring a better understanding of local challenges. The Sustainable Island Mobility Plan is an adaptation of the traditional Sustainable Urban Mobility Plan, focusing on the specific challenges faced by islands. The first two Sustainable Island Mobility Plans are being implemented in the Sifnos and Naxos island cluster (Greece) and are trying to test car-sharing schemes, mobility as a service, electromobility and demand-responsive transport (including sea transport).

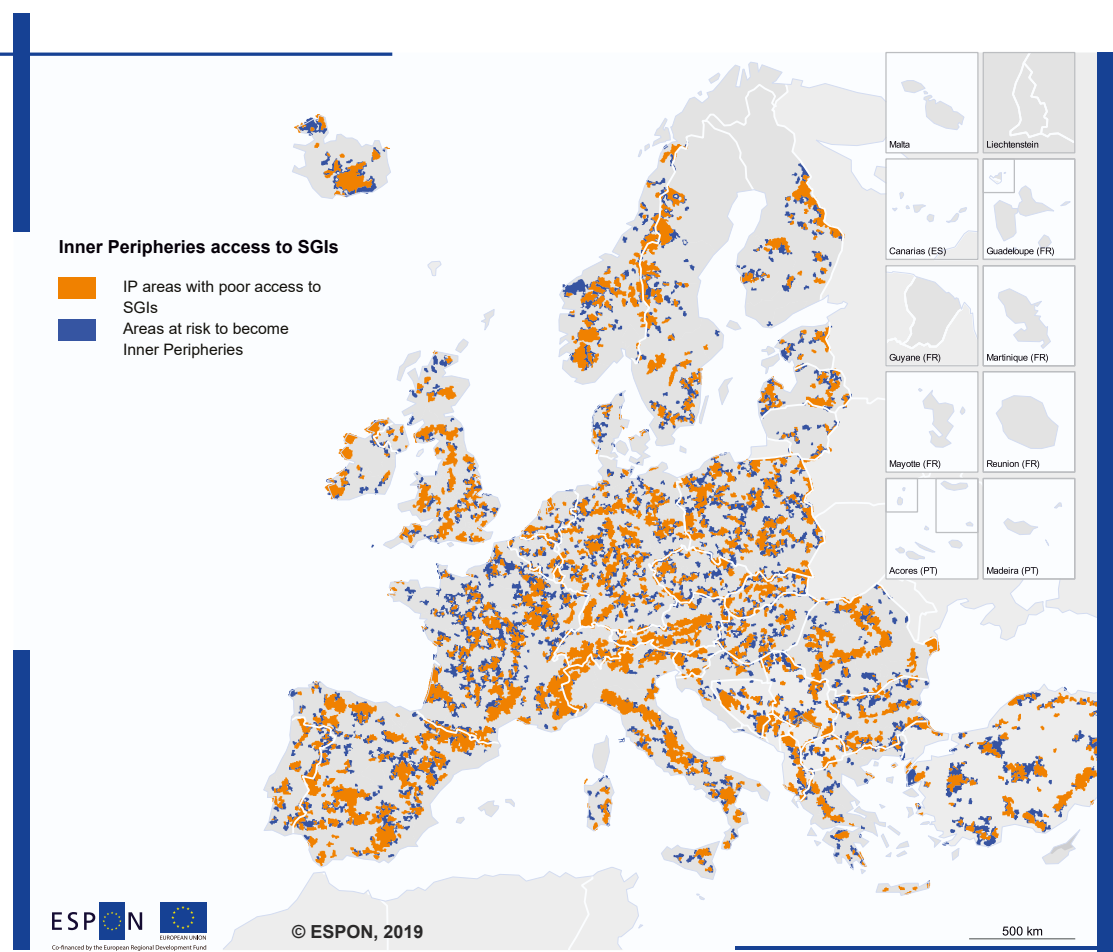
### 3.2.2.

#### Peripheralisation and connectivity

Almost half of the EU territory is covered by inner peripheries. Inner peripheral areas show different typologies, or a combination of these: (1) enclaves of low economic potential, (2) areas with poor access to services of general interest (Map 18), (3) areas experiencing a lack of relational proximity. Inner peripheries with low accessibility values are located not only in remote areas (e.g. the far north or the Alpine area), but in most European countries, including the core of Europe. Around half of the inner peripheries in this category are found in mountainous regions. Moreover, 80 % of the inner peripheries with low economic potential or poor accessibility are located in non-urban regions. The lack of transport infrastructure remains one of the main drivers of peripheralisation, especially in terms of facilitating access to urban centres and services of general interest.

#### Map 18

#### Inner peripheries according to poor access to Services of General Interest (SGI)



Source: ESPON 2019b.

## Policy options and tools

In-depth studies at the regional level are important to better understand the main drivers and challenges related to peripheralisation. Considering the extent of the issue, **guidelines developed at the EU level could help national, regional and local stakeholders to better operationalise the concept of inner peripheries** and to develop and implement more effective place-based measures and tools (e.g. ITI). Furthermore, at national and regional levels, policies addressing peripheralisation should be designed in an integrated manner. For example, improving digital connectivity and further developing digital public services might be an option to ensure better access to some of the services of general interest (e.g. banking, health and education) in cases when the costs to improve physical connectivity are too high.

A greater policy focus on inner peripheries would imply emphasising three key principles for policy reform:

1. Defining the ways for greater territorialisation of both the Cohesion Policy and the Rural Development policy at the sub-regional level. This could be ensured by linking the two funds or by designing particular funding priorities targeting the key drivers of peripheralisation.
2. Conceiving a place-based approach as the main conceptual basis for developing territorial policies. Owing to a lack of social and human capital, assessing local needs and prioritising and developing a comprehensive strategy are a challenge for inner peripheries. Incentives at the national and regional levels in terms of capacity building for local actors, even external expertise, could help to better tackle drivers of peripheralisation through more effective strategies.
3. Streamlining implementation processes and supporting the local level through improving access to funding and the implementation of integrated instruments. Evidence shows that tools such as ITI or CLLD had a positive impact in inner peripheries and should be continued in the next programming period, including, to the extent possible, interventions designed to improve accessibility.

### 3.2.3.

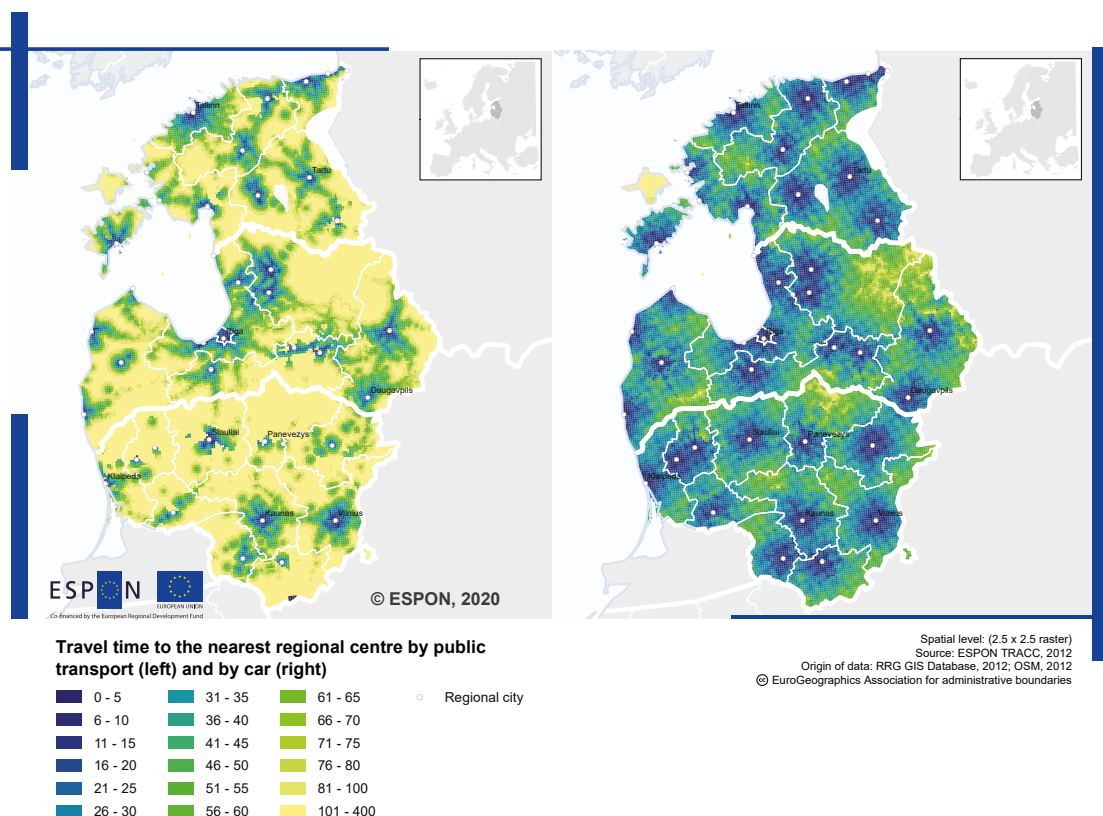
#### Regional public transport in cross-border and rural areas

Within the European territory, accessibility by car and by public transport differ to a great degree, in terms of both the level of accessibility and spatial patterns, as illustrated by the example below (Map 19). Accessibility by car is generally higher at regional and local levels than accessibility by public transport. On the other hand, public transport provides high accessibility within metropolitan areas, in city centres and along well-established routes with a high level of service. Minimal public transport services are available at reasonable cost in most regions of Europe, including remote rural or sparsely populated areas. However, more attractive public transport services and the possibility to choose between different alternatives are available mostly in highly populated urban areas. Non-metropolitan areas tend to remain car dependent, as the available financial resources to fund public transport services in rural areas and smaller cities are lower, while the provision costs are higher, owing to low demand. Keeping public transport services viable in non-metropolitan areas remains an important challenge for local authorities.



## Map 19

### Travel time to the nearest regional centre in Baltic states



Source: ESPON 2019b.

Cross-border public transport services are still underdeveloped in Europe. The field of transport accounts for more than 23 % of all identified cross-border public services (CPS). In the context of CPS, public transport could play an important role, providing clean and sustainable cross-border connectivity. Moreover, the high level of polycentricity of central Europe shows a high potential for cross-border public transport services. These services are most frequent at Germany's borders with Austria, Czech Republic, Denmark and Poland, but also between Austria, Hungary and Slovakia. To a lower extent, cross-border public transport services can be found between France and Spain or in the Baltic states, but they are missing in south-eastern Europe.

#### Policy options and tools

At the national level, intermodality should be promoted as a key enabler for more efficient use of existing or newly developed transport systems. **Harmonising national, regional and local transport services, especially by creating integrated fare systems, could greatly enhance mobility in non-metropolitan and cross-border regions.** Market actors in the transport sector do not always offer services that are sufficiently affordable and frequent and that have appropriate geographical coverage. At regional and local levels, intermodality should be supported as a solution to combine multiple transport services, thus making trips easier and more cost efficient.



Public transport is a key driver of social inclusion, as it ensures cheap access to workplaces and services of general interest. It also plays an important role in the functioning of the local economy (production, tourism, etc.), thus making rural territories more functional. Therefore, at the national level, the integration of public transport into CLLD should be supported. In addition, **transport planning at the level of functional urban areas or regions should be further promoted to combat sprawl and ensure more sustainable mobility patterns.**

In rural regions, **more attention should be paid to further encouraging the development and adaptation of innovative tools** such as village minibuses, social transport, shuttle vans, demand-responsive transit and others. At the national and regional levels, this should also be supported by better integration of public transport in programmes or policies related to the sharing economy (carpooling, car clubs, etc.) or to digitalisation (the dematerialisation of services).

**Sharing economy platforms related to transport** and to mobility as a service **are important tools that help provide more efficient, sustainable transportation** patterns. Such tools, developed at regional, metropolitan or local levels, could also help to reduce car dependency, while providing essential data regarding customer behaviour.

More attention should be given to **territorial mobility management at local and regional levels**, in order to support more efficient use of resources and communication between all stakeholders involved in urban mobility services and to ensure that local needs and challenges are taken into account. For example, in cross-border regions, territorial mobility management can be supported by cross-border spatial planning and conventions, ensuring the functionality of the territory.

The comprehensive transport plan proposed as a tool for the post-2020 Cohesion Policy should be adopted at national and regional levels, as it aims to ensure coherent development of regional and national transport infrastructure and services.

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#### CASE STUDY:

### Cross-border local and regional public transport between Frankfurt (Oder) (Germany) and Słubice (Poland)

Frankfurt and Słubice form one of several twin city pairs along the German-Polish border. With Poland joining the Schengen area, cooperation between the two neighbouring cities intensified. By using funding provided by the EU Interreg programmes, the two cities have developed several initiatives and projects aiming to develop a more functional urban area. One of the first projects consisted of a bus line linking Słubice to Frankfurt (Oder), which was crucial for supporting

commuting (especially for students). As the bus line was initiated by the local public transport authority of Frankfurt (Oder), ticket integration with the regional public transport system of Berlin-Brandenburg was quite easy to achieve. The timetable of the 783 bus line is synced with the regional train, so that anyone can travel from Słubice to Berlin and back with the same ticket without having to wait hours for the train to arrive.

Source: ESPON 2019c.

### 3.3. Enhancing digital connectivity



Based on ESPON evidence from: Territorial Review, BRIDGES

Accessibility and connectivity are not limited to the transportation of persons and goods any more. Supporting data flows through information and communication technologies and infrastructure is a fundamental feature of competitive cities and regions. Information and communication technologies are also considered to be key enablers for most of the 17 SDGs and are the basis of the fourth industrial revolution. Integration of transport and telecommunication networks at all scales is a precondition for a future in which the difference between material and virtual is blurred and distances are subverted. Nevertheless, digital connectivity and digitalisation have the power to reduce the remoteness of sparsely populated areas and thus to counter peripheralisation. The connected Digital Single Market is the key target for the EU on the path towards becoming the world leader in innovation, digitalisation and decarbonisation, as presented in European Commission President Juncker's 2017 State of the Union speech. Adequate digital infrastructure is a key factor in this process. The policy aim is to ensure 1 gigabit of data per second for schools, main public services, public transport hubs and digital intensive enterprises, while all European households should have access to upgradeable internet services with a speed of at least 100 Mbps. The ERDF and European Agricultural Fund for Rural Development, complemented by funds granted by the Connecting Europe Facility (telecommunications) or the European Investment Bank, remain the main supporters of digital inclusion, connectivity and interoperability and thus facilitate the achievement of the EU 2025 broadband targets. Additional support in this regard is provided by the InvestEU and Digital Europe programmes.

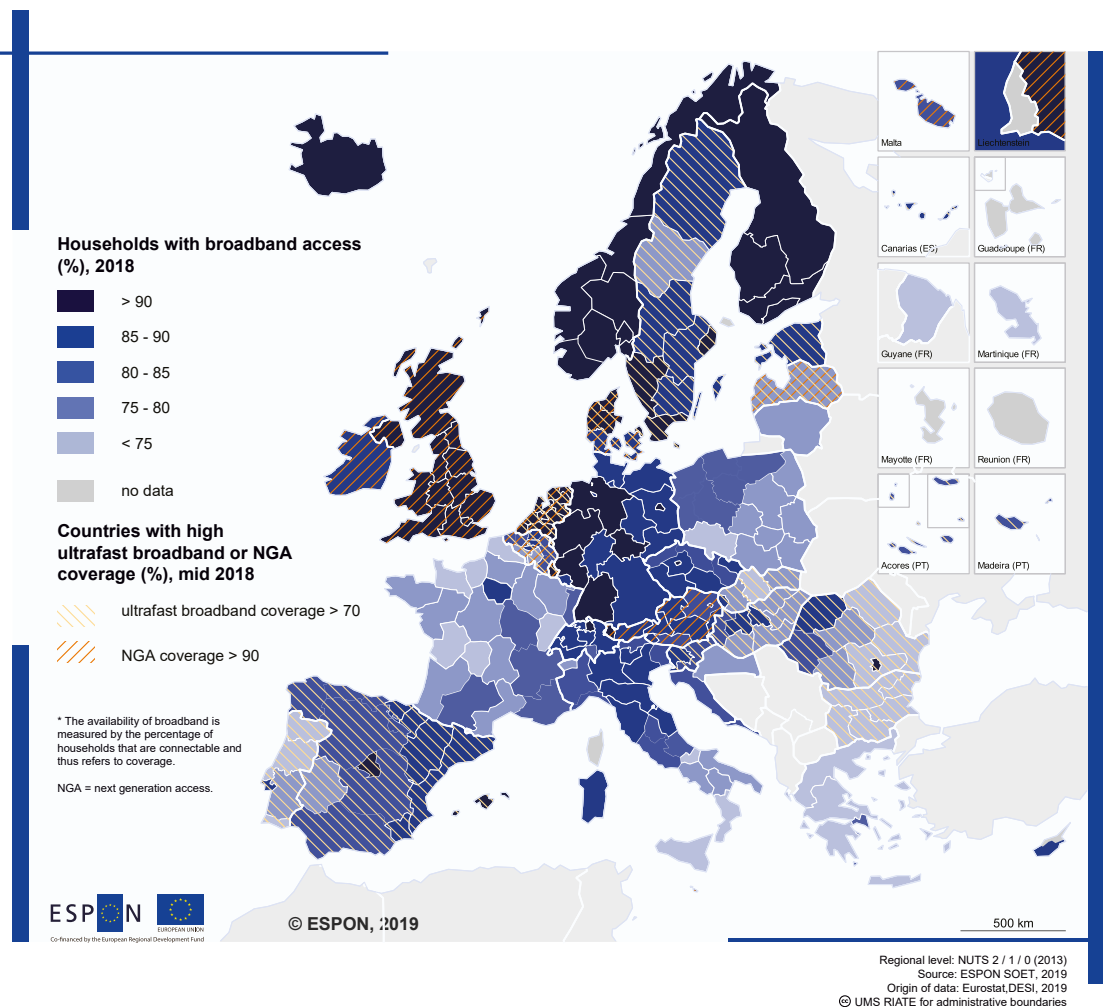
**The core-periphery pattern visible in terms of physical accessibility is also valid for digital connectivity.** The core of Europe, south-western France, the Nordic states and the United Kingdom register the highest values in terms of computer usage, households with basic broadband access (Map 20) and online purchase of goods and services. Most regions have more than 75 % of households with at least 30 Mbps broadband access, therefore missing the EU 2020 target of 100 % coverage. Regions in the core of Europe are close to ensuring 100 % 30 Mbps broadband access, while those in southern Europe can cover between 75 % and 85 % of households, or even less. Even though eastern European countries lag behind in terms of broadband access, with values below 75 %, they show high internet performance, having good next-generation access broadband coverage and, in some cases, high scores with regard to access to ultrafast broadband (European Commission 2018c).

There are still large gaps in terms of digital connectivity between urban and rural regions. Low population densities and geographical conditions are the main reasons why Europe's rural areas still face significant challenges to provide viable digital infrastructure. Although high-speed internet is available in some remote regions, high costs make this service less accessible. Large urban centres with good physical and digital connectivity concentrate most ICT hubs and attract highly skilled people, leaving rural and peripheral regions behind. Therefore, the differences in terms of digital connectivity accentuate the urban-rural divide.

However, digital connectivity is not always directly related to population density. Sparsely populated areas in Nordic states are key performers in terms of access to broadband or online purchases of goods and services. Good digital connectivity, together with access to a large variety of digital services, reduces the need for physical infrastructure and helps these territories counteract remoteness. Moreover, by supporting the decentralisation of production processes and the dematerialisation of services (e.g. in the Baltic states), digital connectivity has the possibility to greatly enhance the attractiveness of rural areas.

## Map 20

### Broadband access and high-speed internet coverage



Source: European Commission 2018c, Eurostat 2018.

## Policy options and tools

At the national level, further investments are needed to reach the targets set by the Digital Agenda. Investments should particularly target rural areas lacking broadband access, helping them to overcome physical remoteness. Considering the high cost of digital infrastructure in territories with geographical specificities and rural areas, digital connectivity could be supported through local measures aimed at **increasing demand through the promotion of ICT usage or targeted subsidies, improving the service sustainability in the medium to long term**. The reduction of broadband access costs can also be achieved through territorial cooperation and partnerships. Ensuring a critical mass of users and joint funding through a partnership approach enables access to alternative digital connectivity solutions. For example, broadband access via satellite could serve remote areas where traditional broadband connections are not feasible owing to geographical considerations and high costs.

Additive manufacturing and digitalisation allow the decentralisation of production, economic activities and services from major hubs. **It is essential that policies at national and regional levels support these decentralisation processes**, thus helping rural territories to attract people and business. Moreover, the dematerialisation of services decreases the need to travel to urban centres, thus reducing the dependence on physical infrastructure in remote or sparsely populated areas.

To harness the potential of digital connectivity for communities and businesses, there is a need for training on and awareness of the effective use of the network and fostering added-value activities and services. Therefore, organisational innovations, labour market transition and capacity building to capitalise on the opportunities offered by ICT should be promoted at national and regional/local levels, especially in rural or remote areas.

**Multilevel governance and partnerships to mobilise regional and local resources and to access funding** (e.g. the ERDF, the CF and the future InvestEU programme) **are essential tools for increasing digital connectivity**, especially in territories where broadband and high-speed internet provision remains a challenge. A strong partnership between national, regional and local levels, as well as with the relevant service providers and the business environment, is a key success factor for digital connectivity initiatives.

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#### CASE STUDY:

### Scottish Highlands and Islands – multilevel governance and partnerships enable the development of digital infrastructure

The Scottish Highlands and Islands are considered remarkable for their natural and cultural heritage. However, the territory is characterised by remoteness and is one of Europe's many inner peripheries. Increasing the competitiveness of this region is the priority of Highlands and Islands Enterprise (HIE), a public body established under the Enterprise and New Towns Act (1990). HIE manages to have a strong relationship with central government, while also being close to the local level and addressing economic and community development.

To counter the remoteness of the region, HIE is investing in digital connectivity. Although the "Digital Scotland Superfast Broadband" programme covered 95 % of Scotland's territory with fibre broadband, internet speed in remote

territories remains quite low. To meet this challenge, HIE started the "Digital Highlands and Islands" project, establishing a partnership between the Scottish Government, Broadband Delivery UK, Citizens Online and Business Gateway. Through this initiative, partially supported by the ERDF, HIE plans to invest GBP 146 million to provide high-speed internet services in Scotland's most remote territories. By linking the "Digital Highlands and Islands" project with the Scottish Wide Area Network programme, which aims to provide future-proof gigabit-speed services to public institutions, HIE has managed to significantly improve digital connectivity and subvert distances for the Scottish Highlands and Islands.

Sources: SPICe 2016, [www.hie.co.uk](http://www.hie.co.uk)

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4

## More social Europe



## 4. More social Europe

The Europe 2020 Strategy highlights the importance of delivering inclusive growth, strongly emphasising job creation and poverty reduction in Europe. The European Pillar of Social Rights, jointly proclaimed by the European Parliament, the Council and the European Commission in 2017, provides a compass for renewed convergence towards better working and living conditions across the continent. It underlines the importance and the responsibility of public authorities to provide access to services, an inclusive labour market and effective measures to combat poverty. In practical terms, the EU Cohesion Policy sets out investments in social inclusion, job creation, the regeneration of deprived urban and rural areas, the modernisation of public services and housing.

These investments represent an important contribution to the achievement of several goals of the UN's 2030 Agenda for Sustainable Development. Continuing to deliver on the European Pillar of Social Rights remains a priority for the EU, as stated also in the Sibiu Declaration of the EU leaders' meeting in May 2019 (The European Council, 2019). This declaration also highlights the importance of the principle of fairness in the labour market and in welfare.

Europe faces increasing and territorially different demographic challenges. Ageing and depopulation will affect many regions, including rural and peripheral areas, with severe impacts on social and territorial cohesion, public service provision, labour markets and housing. On the other hand, other regions experience population increases and correspondingly face different pressures. Significant intra-European migration and immigration, mainly from less developed non-EU countries, bring specific challenges and opportunities.

Socio-economic exclusion has a strong territorial character. There are important social disparities between and within European regions and between urban and rural regions, both in terms of access to services of general interest and in terms of unemployment (with the highest rates in southern Europe). Access to the labour market and quality public services, particularly education, training, social protection and health-care, are essential for vulnerable groups including young people, people with disabilities and elderly people. Access is especially important for communities living in less developed areas, including rural areas, territories with geographical specificities, sparsely populated areas and inner peripheries.

Migrants, and particularly asylum seekers and refugees, form one of the vulnerable groups requiring adapted policies for integration in host societies. They face specific challenges, such as exclusion, segregation and marginalisation, sometimes exacerbated by unprecedented public concern regarding migration in the EU. Key factors for successful integration include support in finding jobs, housing, accessing social services, education and healthcare.

### 4.1. Enhancing the effectiveness and inclusion of labour markets



**Based on ESPON evidence from: EMPLOY, YUTRENDS**

The EU's ambitious agenda for jobs, growth and investment, along with other measures adopted at the European level and by Member States, have contributed to robust economic recovery over the last 6 years. Average employment rates in the EU have been constantly rising since 2013. The percentage of the working age population employed increased from 68 % in 2013 to over 73 % in 2019, close to the EU 2020 target of 75 %. Unemployment is now almost half of the highest rate reached owing to the economic crisis of 2008-2009 and the number of people employed in the EU is the highest of this century. Youth unemployment also decreased by a third compared with 2014 (European Commission 2019).

However, despite these consistent positive trends, over 16 million persons, of whom 3.3 million are under 25 years, were unemployed in December 2018 in the EU. There are important differences between regions with regard to access to the labour market. Young people are particularly affected by higher unemployment and by wider fluctuations in unemployment rates, as young workers often act as a “buffer” to absorb macro-economic shocks. Some of the main causes of higher youth unemployment in certain regions include business cycles, the demographic structure, the level of minimum wages, the flexibility of the labour market, the presence and influence of trade unions, and the quality of education and governance. Labour markets need to be more inclusive and more flexible to account for the new realities and opportunities offered by the knowledge economy.

In this context, although the overall unemployment rate in the EU is at record low levels, further reducing unemployment in regions where it remains disproportionately high and reducing youth unemployment across the continent remain important priorities at the EU level. The aim is to continue to work towards achieving the targets set in the Europe 2020 Strategy for growth and jobs, including lifting at least 20 million people out of poverty and social exclusion by 2020. Although the number of people in poverty or at risk of social exclusion has been decreasing since 2012, this target is likely to be missed, with only 4.2 million people lifted from poverty between 2008 and 2017. Therefore, efforts in this respect should be accelerated over the following years.

Promoting sustainable and quality employment and supporting labour mobility is also the eighth priority for the 2014-20 programming period, as a main priority for the ESF but also supported by the ERDF. It is predicted to remain a key priority for the period 2021-27, with a focus on inclusive access to employment (for the ESF+) and on enhancing the effectiveness of labour markets and access to quality employment through developing social innovation and infrastructure (for the ERDF).

The 2014-20 multiannual financial framework introduced a new financial instrument, the Youth Employment Initiative, for those EU regions with a youth unemployment rate of 25 % or above, with EUR 6 billion allocated. This instrument is integrated into the ESF programming framework. The Youth Employment Initiative supports the implementation of the Youth Guarantee, which is a joint commitment by the EU and Member States to ensure that all young people receive a good quality offer of employment, continued education, an apprenticeship or a traineeship within 4 months of becoming unemployed or leaving formal education.

#### 4.1.1.

##### Support for regions particularly affected by unemployment

**There is still a large gap between regions in terms of employment and unemployment rates, with significantly higher unemployment rates in countries of southern Europe.** For example, the employment rate in 2018 was around 60 % in Greece, while it reached almost 80 % in Germany. In several countries, particularly from eastern and southern Europe, both the employment and unemployment rates remain at lower levels owing to significant intra-EU mobility, which actually reduces the development potential of the regions. However, the biggest improvements have been noticed in recent years in the countries with highest unemployment, as a result of their recovery from the economic crisis.

Cross-border labour market integration can be an effective way of enhancing access to employment while preventing long-distance mobility and depopulation of certain regions. The almost 2 million cross-border commuters show that cross-border mobility has the potential to support growth and cohesion, while promoting access to quality employment. **Supporting cross-border commuting has three main benefits:** (1) less unemployment – it reduces unemployment in the regions where employees/workers come from; (2) more prosperity – it increases the prosperity in the regions where people go to work, whereas otherwise enterprises there would lack a work force; and (3) more cohesion – it enables people to stay in their region, which is good for them and good for the region, which receives tax income and has the critical mass of population that ensures good use of services of general interest, etc.

Increased institutional capacity and bottom-up approaches involving different stakeholders, levels of governance and civil society organisations and employers help create more inclusive labour markets, adapted to local needs.



## Policy options and tools

**Increasing institutional capacity in lagging regions to promote employment and deliver effective social policies is key to bridging the gap between these regions and the more competitive ones.**

The availability of funding to support development strategies and the capacity of local institutions and actors to define and implement effective place-based strategies are important factors. However, without a proper level of institutional capacity in regions that need the most improvement, there are risks of missing the opportunities to provide change and to build on existing regional assets and on multilevel institutional cooperation.

**Labour markets need to adapt and to consider alternative types of employment, including self-employment, and income-generating activities related to the gig economy<sup>9</sup>, online working or the sharing economy.** These types of income-generating activities are on the rise and the national or regional public authorities in charge of employment policies, in cooperation with local authorities and other relevant stakeholders, need to adopt measures to consider the potential of alternative types of employment in the context of the ongoing and foreseen economic changes, while also considering the risks associated with their expansion. Therefore, to prevent these risks, the gig economy should be regulated at the EU and national levels and approached strategically at the regional level. Regional authorities have to analyse the costs and benefits of platform economy jobs and to assess their sustainability in specific regional labour markets, in order to decide how to support or regulate this sector. More research and more debates are needed on this topic at national and European levels.

### 4.1.2.

#### **More flexible and balanced action to further counteract youth unemployment**

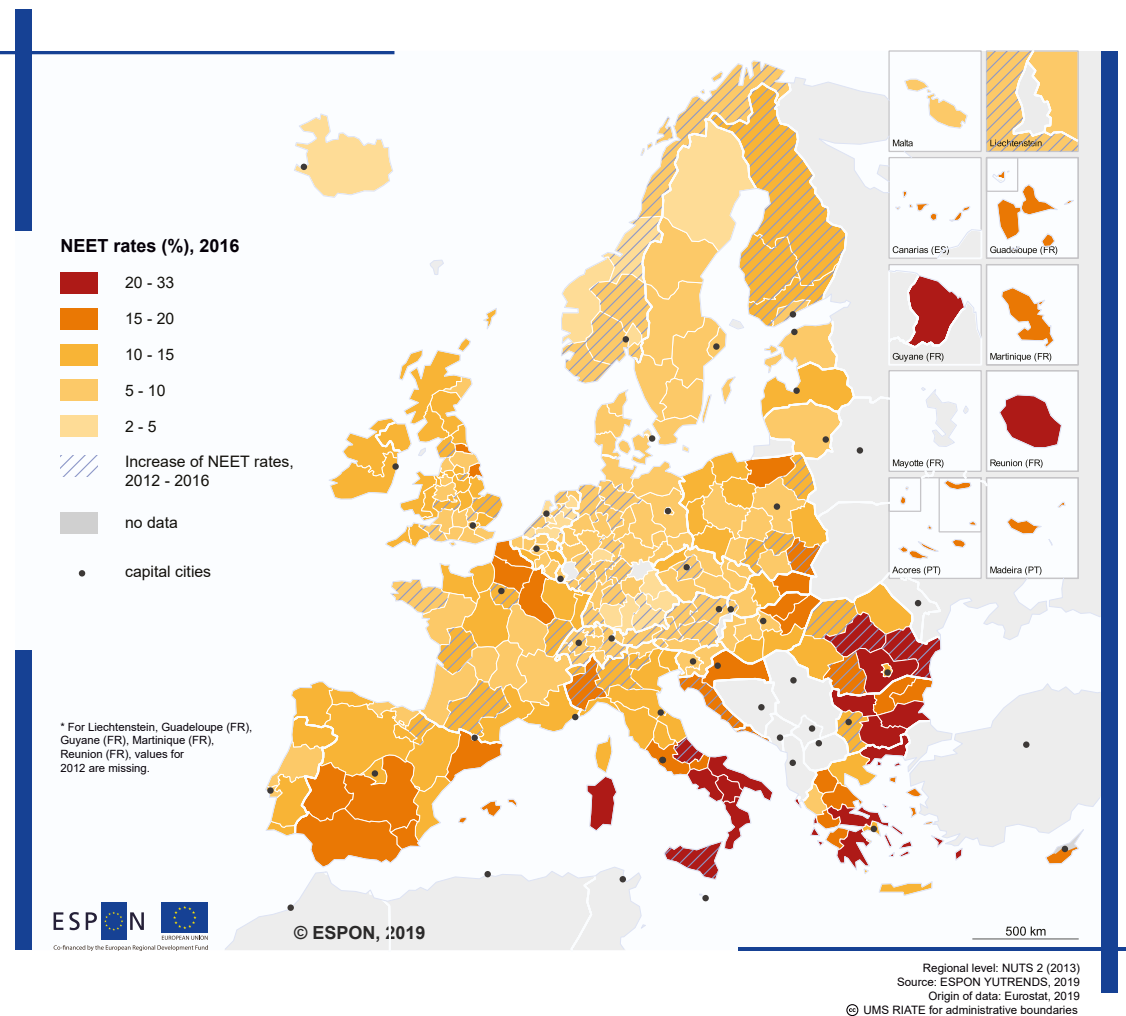
**Youth unemployment varies widely between around 6 % in countries of central Europe and over 30 % in southern European countries.** Youth unemployment and long-term unemployment continue to decline steadily. However, the youth unemployment rate is still more than double the total unemployment rate at the EU level.

**Young people who are NEETs are a category facing specific challenges in many European regions.**

A significant problem with NEETs is that they are not a homogeneous group and are often difficult to identify and engage with. Overall, NEET rates increased between 2012 and 2016 at the European level (Map 21). Regions in the south and east of Europe registered the highest NEET rates in 2016, with the highest values in Bulgaria, southern Italy and Romania.

## Map 21

### People not in Education, Employment or Training (NEET)



Source: ESPON 2019d

Funding through the Youth Employment Initiative has enabled support measures to be implemented, especially in those countries with particularly high levels of unemployment. The Youth Guarantee has provided a catalyst for action on youth unemployment and inactivity, although it is mostly focused on those registered as unemployed and so most NEETs are missed. Measures providing support for apprenticeships, traineeships, job placements and access to further education leading to a qualification are supported in this framework. However, in most cases, the national policy on the Youth Guarantee and the Youth Employment Initiative has left only limited room for local innovation in policy. Even so, there are examples of initiatives reflecting local contexts, such as collaborative and support structures, that can build on the Youth Guarantee and other nationally driven policies.

#### Policy options and tools

**A more flexible approach is needed in the implementation of measures and instruments aiming to reduce youth unemployment, in order to allow for local innovation and adaptation.** Local stakeholders need to be able to define specific priorities and ways to use the European and national instruments. National policies and the design of future EU programmes should encourage and support local stakeholders to complement the adapted use of the EU support measures with measures decided at the local level, considering local needs and assets.

**Further research is needed at the European level on youth unemployment in conjunction with recent analyses on the future of work, with special attention paid to the territorial dimension.**

Recent debates organised by the International Labour Organization, the European Commission and the European Parliament on the future of work, as well as on the connection between the knowledge economy and inclusive employment, should be considered as a starting point for gathering further evidence to guide future decisions at all policy levels.

**Professional training should be designed based on actual needs.** A successful approach to cutting youth unemployment consists of three stages, which can be implemented at the regional level by various types of relevant stakeholders. Firstly, the local/regional employment structure is analysed and the broad skillsets that are most frequently used by employers are identified. Secondly, this process of identifying skills is further refined by entering into a partnership with the relevant industries. This partnership allows a much greater refinement of the skills that are considered by employers to be most useful to their day-to-day operations. Finally, curricula are designed, preferably in partnership with the relevant industry, to provide training in the relevant skills.

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**CASE STUDY:**

## A structured approach to youth unemployment – Donegal (Ireland)

County Donegal was heavily affected by the rising youth unemployment rate in post-crisis Ireland. However, by applying a structured process of upskilling young people, the recovery trend was more rapid and more sustainable than in other parts of the country. When economic recovery started, there was an increased need for qualified workers in construction, engineering, software, tourism and health. Thus, targeted training programmes were designed to respond to these needs, based on close cooperation between the relevant stakeholders. There are a number of features of this approach that are particularly noteworthy: a very strong and proactive engagement of the industry with the

training institution, the wide range of certified training modules available and, in most cases, the eligibility of jobseekers with relatively poor education attainment. While there are a few notable exceptions, the general philosophy is not to offer highly specialised skills courses but rather to provide as wide a range of courses as possible, starting from the basic skills required by employers from entry-level workers. Some of the courses could be described as “hybrid” courses in the sense that they combine modules taken from different national courses to maximise the employability of the trainees.

Source: ESPON 2019d.

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### 4.1.3.

#### A more effective place-based approach to address unemployment

Some regions outperformed both the national average and other regions in their country in withstanding the crisis and in recovering from high unemployment levels. **The ability of regions to withstand economic shocks and address high unemployment is determined by a combination of factors, including the structure of the economy, labour market flexibility, the level of skills and place-based characteristics** (ESPON 2019d: 23).

The structure of the economy plays a crucial role. This means that the initial strengths and weaknesses of regions, their industrial legacy, the size of the market and access to a larger external market will have a substantial impact on regional resilience. Having a more diverse economic structure in the region and higher levels of innovation performance are also found to be extremely important in this respect.

Among the place-based characteristics, the most important one is the quality of governance. There is a clear difference between urban or more accessible regions and regions that are more remote, with the latter tending to be less resilient.

## Policy options and tools

**The Cohesion Policy should take better advantage of the potential of a place-based focus by promoting integrated, multi-fund and multi-sited strategies.** The potential of the “place-based approach”, adopted for the current 2014-20 programming period, is largely unexploited owing to the lack of strong political commitment by the European leadership and political constraints.

**Careful assessment of territorial resources in terms of employment offer and demand should be the basis for setting up specific strategies and exploiting existing local assets and resources (and sometimes weaknesses).** The assessment of territorial resources that can support employment should be done with the support of qualified research centres and universities, as well as by involving a variety of local stakeholders.

**Opportunities for the exchange of ideas on locally adapted measures to tackle youth unemployment should be made available.** An online platform through which local, regional and national stakeholders share information about the way in which they have adapted and complemented the EU instruments aimed at reducing youth unemployment could facilitate peer learning, the scaling up of successful initiatives and avoiding investing in unreliable solutions.

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### CASE STUDY:

## Mixing EU and local instruments to fight youth unemployment – Navarre (Spain)

While Spain is among the countries most affected by the economic crisis and with the highest youth unemployment rates, Navarre managed to score significantly better on youth unemployment than the national average and, since 2014 unemployment has been steadily improving. This is, to a large extent, because existing EU instruments, such as the Youth Guarantee, were effectively used and promoted, complemented by several locally designed instruments and specific local strategic frameworks developed in close cooperation with employers, youth representatives and other relevant stakeholders. The youth employment policy enables cooperation between regional employment, education and social inclusion systems, with coordinated policies based on data provided by the Navarran Sports and Youth Institute. In this context, the education system is committed to providing high-quality training, based on a continuous analysis of the vocational training needs of workers and of the local labour market, while preventing young

people from dropping out too soon from the education system.

One of the main strengths of the approach is the focus on providing high-quality guidance to young jobseekers contacting the employment offices. The employment consultant becomes the reference for service users throughout the whole process. In cooperation with private no-for-profit entities, employment agencies and companies, jobseekers are referred to the most suitable entity to respond to their specific needs. Guidance is differentiated by age group, education attainment and previous labour experience. A statistical tool facilitates the choice of the combination of measures most appropriate to the needs of different profiles of young people. A significant amount of human and financial resources has been made available by the regional authorities, complementing the resources provided through EU funds.

Source: ESPON 2019d.

## 4.2.

## Improving access to inclusive and quality public services



Based on ESPON evidence from: BRIDGES, CPS, HOUSING, PROFECY

Access to services of general interest, including education, healthcare and social protection, is one of the priorities of the ESF 2014-20 and it will remain so for the ESF+ during the 2021-27 funding period. Access is unevenly available in different European areas and its level depends to a large extent on the geographical specificities of the territory, peripherality (including inner peripheries), population density and general level of socio-economic development. In the absence of targeted interventions, a tendency towards deepening gaps between regions with geographical specificities and fast-developing regions is observed.

Most regions with geographical specificities are characterised by emigration, brain-drain or population age imbalances, which increase isolation and make access to services even more difficult. The potential of developing cross-border services is also largely under used. Often, isolation and scarce public services are associated with low quality and low effectiveness of local governance.

**Access to services of general interest, including education, healthcare and social protection, appears to be especially difficult for vulnerable groups**, including young people from socially disadvantaged families, people with disabilities, elderly people and members of disadvantaged minorities, especially Roma.

Access to quality public services can also be difficult for **people living in specific types of territories**, such as rural areas or areas with geographical specificities, including mountains, islands, sparsely populated areas and coastal areas. Inner peripheries can also be seen as regions characterised by poor access to services of general interest. The access to and the efficiency of services can be improved for certain inner peripheries by incorporating novel, possibly IT-based, solutions. Social innovation processes, such as those focused on the provision of digitally supported services based on the cooperation of various local stakeholders and on spatial reconfiguration/regeneration, should aim to make sure that services can be accessed in places that were formerly inaccessible or that were in danger of becoming unavailable.

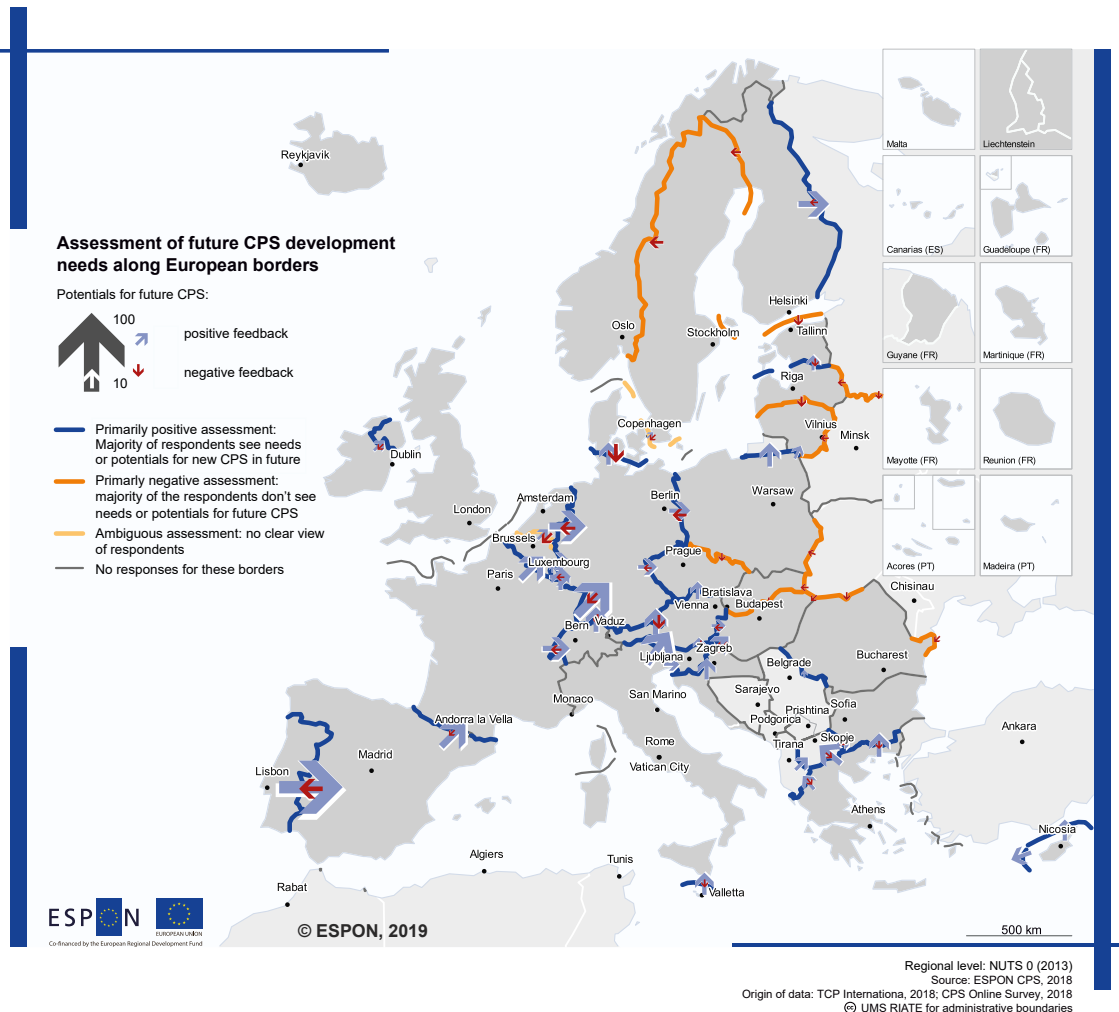
**A decrease of housing affordability (i.e. a widening gap between property prices and households' income) generates social inequalities and spatial segregation patterns.** Increased property prices exclude buyers and make access to housing highly dependent on personal assets and access to credit.

**In the absence of a targeted intervention, a tendency towards increased isolation of disadvantaged groups and regions is observed.** Disadvantaged regions (i.e. regions with geographical specificity) tend to be confronted with emigration, brain-drain and population age imbalances, which increase isolation and make access to services even more difficult.

**The potential of CPS is largely under-used** for improving access to quality public services. The ESPON CPS project assessed future CPS development needs and showed that many border regions may risk missing opportunities for integrated regional development (Map 22). About 40 % of the respondents to the survey conducted indicated that they had no plans to develop future CPS for any policy fields. This applies to both border areas with a high density of CPS in place and border areas with only a few or no CPS so far. The majority of respondents in eastern Europe do not see the need or potential for future CPS, while the majority of respondents in western countries acknowledge the need and potential for CPS in this context.

## Map 22

### Assessment of future Cross-Border Service (CPS) development needs



Source: ESPON 2019c.

**Overall, the survey shows a shift in the thematic foci of CPS development compared with the CPS currently in place in Europe.** For example, new transport and civil protection and disaster management CPS were mentioned less frequently than the current CPS in place. However, border areas with existing transport CPS seem to intend to further integrate cross-border transport by offering more links that can possibly close gaps or by developing integrated public transport systems (e.g. for common ticketing). CPS may emerge most likely in the fields of spatial planning, labour market development, tourism and culture. These include CPS for the joint management of cultural heritage or museums and tourism offices and promotion. Other CPS that may be established in the near future can be expected in the policy areas of education and training, healthcare and environment protection.

#### Policy options and tools

**EU policies and the management of EU funds at national and regional levels should encourage diversified growth approaches according to specific territorial features.** For example, in lagging regions, growth strategies do not need to wait for large-scale investments in infrastructure to be completed, as other local growth drivers can be used. Policy interventions need not only to capitalise on the territorial assets of places, but also to **consolidate the local social cohesion by promoting positive interactions and relationships between various groups.** Support for civil society organisations to contribute to this process is essential for effective and sustainable outcomes.



**Cohesion Policy governance and implementation mechanisms designed at the national level should better support capacity building among local stakeholders and institutional multilevel and interregional networking and cooperation.** This aspect should also be considered under the spectrum of transnational cooperation and the macro-regional strategies, for example through measures that have been undertaken in the framework of the EU Strategy for the Baltic Sea Region.

**Improvements can be achieved in access to services of general interest through social innovation.** These new social practices that aim to meet social needs in a better way than the existing solutions also contribute to improvements in terms of social relations. They are generally related to the activation of civil society to take over activities and tasks formerly provided by public or economic stakeholders. Support can be provided in this respect by local and regional authorities, as well as through EU funding programmes. This implies providing appropriate funding, but also creating a framework to ensure the quality of the services and capacity building among those involved.

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#### CASE STUDY:

### The gAALaxy project – Bolzano (Italy)

The gAALaxy project developed a system for providing specific and adapted services to elderly people living alone. It is a good example of social innovation in which the use of technology is combined with the active involvement of families and civil society, in cooperation with public institutions. Houses in which elderly people live alone are equipped with smart home features, and the behaviour of the elderly person, who is wearing a special smart watch, is monitored inside and outside the house. Technology enables regular contact between the elderly person and family members and/or specialised staff of the organisations involved, but also rapid and effective response in emergency cases.

The support system established with the gAALaxy project has been tested in the region of Bolzano for 20 users since 2016, and the provincial authorities intend to expand its use. Supervision and coordination are the responsibilities of the municipality, while the province contributes funding and support for further scaling up. The system functions based on the cooperation between a publicly funded research centre, a private enterprise and civil society organisations (including the Red Cross), but also a local first aid non-profit organisation that manages a non-stop call centre.

Source: ESPON 2019b.

## 4.3.

### Increasing the socio-economic integration of migrants



Based on ESPON evidence from: MIGRATUP, MIGRARE

The issues related to the reception, territorial distribution and integration of migrants, including asylum seekers, refugees and third-country nationals living in the EU, continue to be highly relevant on the public agenda in the EU.

Although the policy responsibilities lie with the Member States, the EU has supported them in their integration policies for several years. In 2014, the Justice and Home Affairs Council reaffirmed the EU Common Basic Principles for Immigrant Integration, adopted in 2004, which set out a common approach to the integration of third-country nationals across the EU. The Common Basic Principles specify that Member States must (1) aim to ensure access for migrants to institutions, as well as to public and private goods and services, on a basis equal to national citizens and in a non-discriminatory way, and (2) avoid



a decrease in the quality standards of public services such as education, social services and others, especially at the levels of regional and local administrations. The European Modules on Migrant Integration, created by a group of experts from various Member States under the coordination of the European Commission and published in 2014, provide a very relevant background for national integration policies. Moreover, in 2016, the European Commission adopted an action plan on the integration of third-country nationals.

Although the Racial Equality Directive ensures the existence of a legal framework that prohibits discrimination on the basis of racial or ethnic origin in different fields, including access to public services, evidence highlights that migrants are among the groups with higher poverty rates, for both adults and children. They also have significantly worse housing conditions, lower educational attainment and higher risk of early school leaving. Effective and sustainable integration can be achieved only with integrated interventions by local and regional stakeholders. A way out from a vicious circle of exclusion, segregation and marginalisation can thus be found by simultaneously addressing barriers and limitations in access to education and training, housing, healthcare and employment, besides the provision of appropriate social protection.

Therefore, migrants represent a key target group for the ESF and the Asylum, Migration and Integration Fund, both supported and complemented by the ERDF. Support for the socio-economic integration of migrants is predicted to continue with the ESF+, the ERDF and the new Asylum and Migration Fund during the following programming period.

#### 4.3.1.

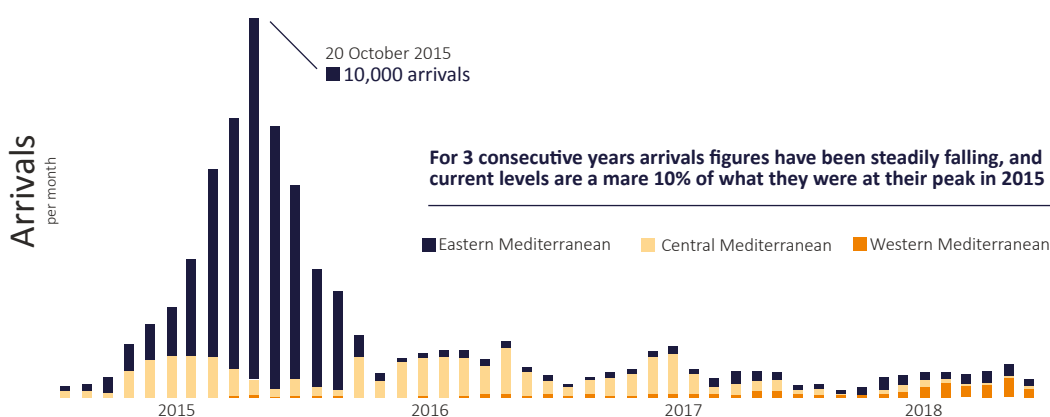
#### Integration of migrants through employment

**Migration to Europe is decreasing overall, with some regional variation.** After peaking in 2015, as a result of the opening of the Western Balkan Route and of increased flows via the Eastern Mediterranean Route, the number of irregular arrivals to the EU has dropped significantly since 2016 and is expected to stabilise at a level closer to the one recorded in 2013 (Figure 1).

**Figure 1**

#### Irregular border crossings on the three main routes of irregular migration to the EU (2015-18)

The situation today: irregular border crossing on the 3 main routes



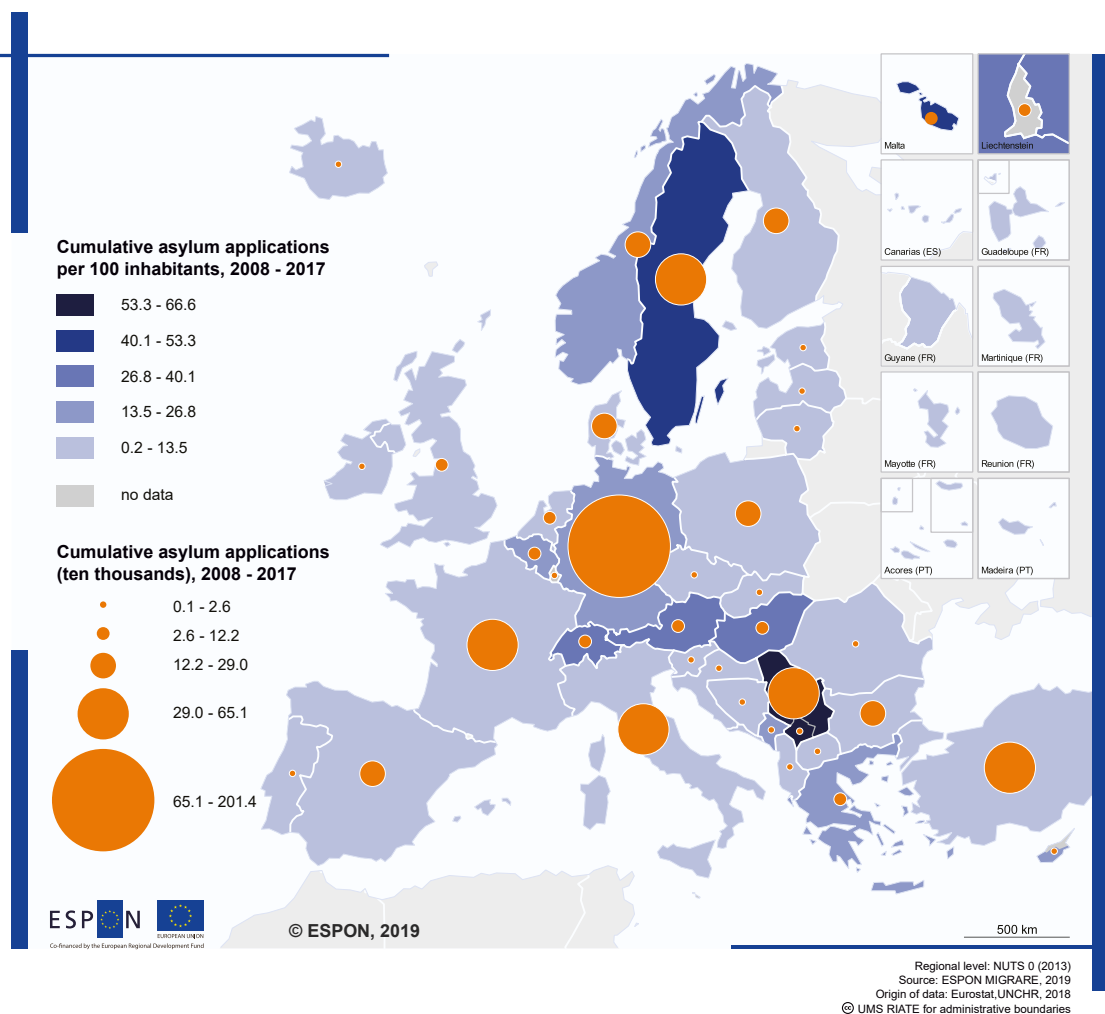
Source: European Commission.

The volume and paths of inflows are influenced by factors related to the regions of origin, but also by policies and political statements within European transit and destination countries, as well as by agreements with key transit countries, particularly Libya and Turkey. At the same time, between 2015 and 2018, the number of regular migrants entering Europe decreased. **Migration has become one of the most important concerns among EU citizens** and is widely reflected in public discourse and at the political level.

In this context, it is important to shift the focus from emergency reception and migration flows management to integration through employment and support for vulnerable migrants.

**The demographic profile of asylum seekers varies significantly in relation to the country of origin and is also associated with specific migration routes.** In the case of certain countries of origin, such as Syria, there is a balance in terms of age and gender, suggesting that entire families are seeking asylum in European territories, while in other cases younger men are largely predominant.

**Map 23**  
**Asylum applications**



Source: ESPON 2019e.

**So far, EU policies have focused predominantly on managing migration flows.** EU and national authorities have adapted to the new challenges regarding the reception, distribution and integration of migrants to ensure a more balanced territorial distribution of the newcomers. This was done through various measures, such as agreements with Libya and Turkey, resettlements from third countries, and relocation from the main entry countries such as Italy and Greece, to other EU countries, as well as funding provided especially through the Asylum, Migration and Integration Fund and the ESF.

**The positive economic impact of the presence of refugees is largely determined by the success of their integration into the labour market.** Specific data on the characteristics of asylum seekers and refugees within individual countries – besides age, gender and country of origins – are largely lacking. However, it would be essential to have more extensive and structured information regarding the skills, education, employability and possible special needs that migrants have.

## Policy options and tools

**More attention should be given by local, regional and national institutions to skills assessment and qualification recognition, including the development of new tools for skills assessment.** Many refugees have education, professional training and work experience from the origin country but are unable to provide proof, for obvious reasons. In addition, all migrants, not just refugees, may have abilities accumulated through practice, in an informal way. Although they can be valuable for their professional life in the host country, they are not certified, and the migrants might not even be aware that they are useful. Therefore, assessing and recognising the skills of migrants represents a benefit for both migrants and the economy of the host communities.

**Newly developed tools are available for the assessment of migrants' skills to facilitate their access to employment.** The EU Skills Profile Tool for Third Country Nationals has been created by the European Commission as an online tool that can be used for self-assessment but also for assessment by professionals. The Council of Europe developed the European Qualifications Passport for Refugees in cooperation with educational authorities and qualification recognition centres from several European countries. It has been piloted in refugee camps in Greece as a tool for recording valuable information about the educational background, the work experience and the skills that migrants have, in order to facilitate their access to jobs in any European country. Several universities in Europe accept the European Qualifications Passport for Refugees for admission to their courses. Local and regional policy makers can recommend or require that the structures that provide support for the access of refugees to the labour market use these tools.

The State of Baden-Württemberg also developed a local tool for assessing the skills of refugees called 2P (Potential & Perspective). It targets young migrants in particular and enables the assessment of basic cognitive skills, including the ability to concentrate, the ability to memorise, deductive reasoning and spatial-visual powers, as well as the assessment of proficiency in German, mathematics and English; it also helps in the design of the “educational biography”. An occupational profile is then created, including references to skills such as manual/craft/technical skills, educational/pedagogic work, leadership/entrepreneurship, inquiring/researching, linguistic/creative skills and commercial/administrative skills. Combined with questions on job interests, a personal “career profile” is prepared.

Snapshot statistics reflecting the current situation are not enough for deciding which policies and measures are most effective in promoting integration through employment. Therefore, longitudinal research is needed to assess in depth the financial, economic, social, cultural and political impacts of refugees on the territories and the actual impact of integration policies and measures. **Cohesion programmes authorities, managing authorities and policymakers in the field of migration should move further in the direction of policies that relate job opportunities with opportunities for integration and territorial growth.** Regions with more job opportunities or even with a deficit in the work force should be priority locations for programmes and facilities aimed at integrating migrants and should be considered in the design of policies for the territorial distribution of migrants. Measures aiming to promote access to employment should be associated with initial social support measures.

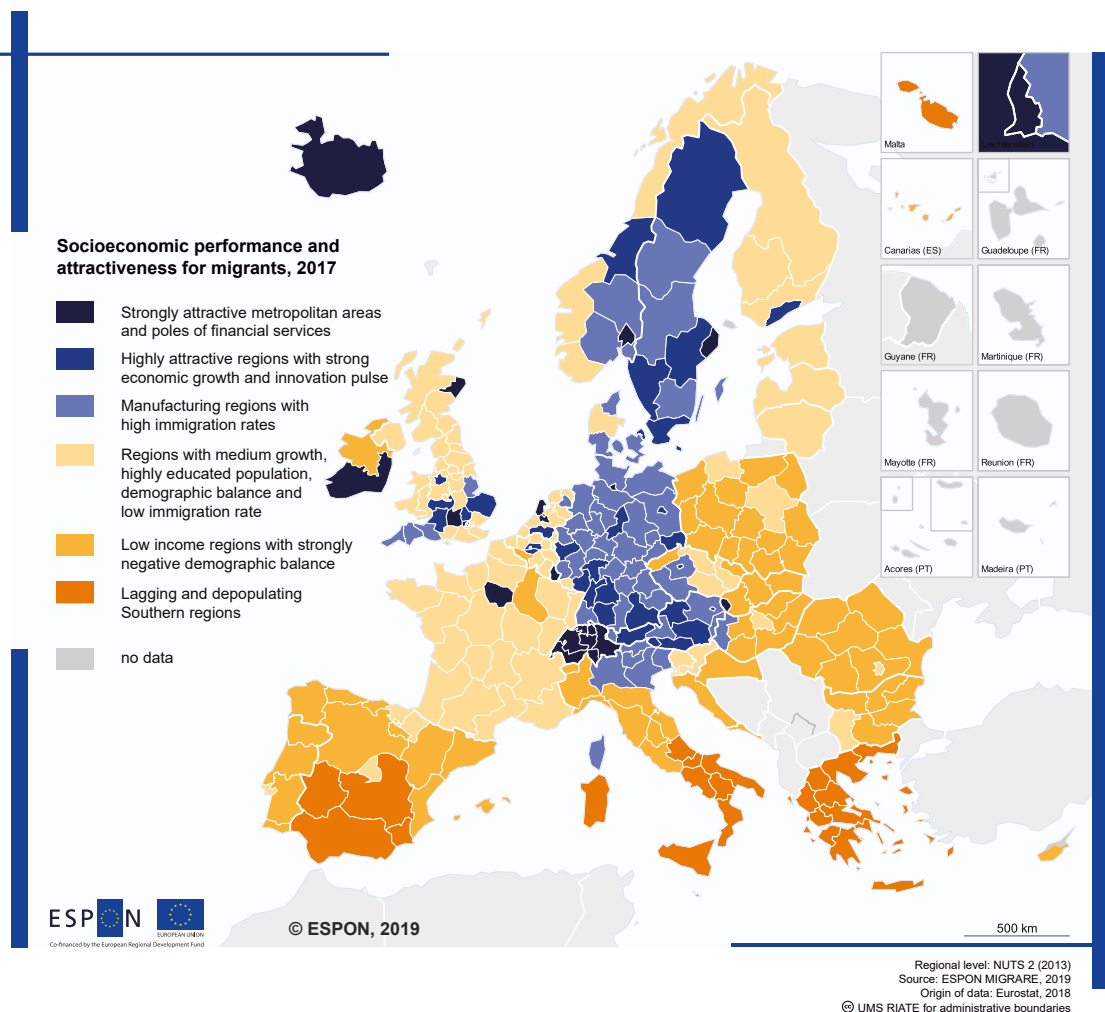
**Special attention should be paid to protecting the physical and mental health of both migrants and refugees.** Mental health needs are often not duly addressed, despite the likelihood of serious trauma before and during migration, which could also be worsened by the extremely long process for their application to be assessed. Therefore, access to specialised and free healthcare services should be provided at an early stage, considering, the vulnerability of migrants with special needs and of those who experienced trauma during the migration.

### 4.3.2.

#### Territorial capacity for the integration of migrants

**The capacity for integration of asylum seekers and refugees is more limited in some territories, such as less developed regions.** Receiving communities have different levels of attractiveness and different absorption capacities, particularly in terms of economic and job market performances. The regions' attractiveness in the context of migration shows a clear centre-periphery polarisation at the European level (Map 24).

## Map 24 Attractiveness of the regions in the context of migration



Source: ESPON 2019e.

### Policy options and tools

**Local policies should promote a comprehensive multidimensional approach to integration, including a joint focus on employment, housing, language, education, social rights, etc., as early as possible.** Supporting and promoting asylum seekers' active engagement is important, beginning from when they are in the reception centres and continuing as soon as they arrive in the new host community.

**Differentiation is needed between policies targeting the socio-economic integration of migrants in urban and rural contexts.** Although aimed, in both cases, at the same goal of territorial cohesion, different approaches are needed because challenges are different in rural and urban areas. Evidence from both migration dynamics and case studies highlights that, in rural areas, the different forms of migration can be essential for the survival of local economies (e.g. agriculture), for the countering of socio-demographic trends (e.g. ageing) and for preserving as well as valorising these territories (e.g. hydrogeological risks). For example, the case of the Italian village of Riace highlights that, by taking advantage of existing national programmes, local authorities can play a vital role in attracting newcomers and facilitating their effective integration in the host society, as an essential contribution to local revitalisation. Therefore, local policies aimed at attracting and integrating migrants should support and promote local revitalisation, especially in rural areas and inner peripheries.

**Both cities and small villages need to have policies that build resilience to economic and demographic shocks and promote integration.** Cities play a crucial role in making migration an asset for local development. They attract migrants because of the services provided, the greater availability of jobs, and opportunities to be with fellow refugees sharing the same cultural background. However, rural areas may offer an easier process towards integration, with affordable housing, together with a lifestyle closer to the previous experience of many migrants. Rural areas also facilitate mutual understanding with the local population and foster a sense of belonging to a community. **To strengthen social cohesion, training should be provided for both locals and migrants** in order to facilitate labour market integration and prepare employees of local services and local civil society to support integration. Targeted training should be carried out following two main directions: empowering migrants to improve their CV by including the variety of experiences they have, and training in specific sectors for locals and migrants as a way to strengthen social cohesion and respond to specific territorial needs and opportunities. Both national governments and local authorities, in close collaboration with various partners, can play a vital role in attracting newcomers and facilitating their effective integration in the host society. The establishment of an EU fund is recommended, to which municipalities, willing to welcome asylum seekers and refugees, can have direct access.

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#### CASE STUDY:

### Migration in Germany

The town of Schwäbisch Gmünd welcomes, on its own initiative, a considerable number of refugees (and people with subsidiary protection status) and has devised (and refined) a distinct approach to integrating refugees into the local fabric in a comprehensive way. This approach is known as the Gmünder Weg (Gmünd Way-of-Doing-Things) and it encompasses several main elements, namely housing in private accommodation spread across the whole municipality, language classes for asylum seekers and people with protection

status, skills courses and job training, local job placements, and inclusion in local associations such as the local music society. It equally seeks to engage the long-term local residents in making efforts to support these integration activities (e.g. as volunteers, donors, employers or landlords) and to engage asylum seekers and people with subsidiary protection status in various levels of the integration process.

Source: ESPON 2019e.

5

## Europe closer to citizens



## 5. Europe closer to citizens

As shown in the previous chapters, good territorial governance and cooperation are preconditions to counter current social, economic, connectivity and environmental challenges in the European territory. The expected increase in regional disparities and peripheralisation, the urban-rural divide and the polarisation around the main urban centres require integrated territorial development policies and a growing role of the local level. Moreover, the diversity of the European territory in terms of geography, administrative and governance settings and political differences across regions emphasises the importance of tailored, place-based approaches. On the other hand, there is a growing discontent among European citizens with EU institutions and an overall increase in nationalism. In addition, as the Eurobarometer shows, there is a low level of awareness regarding EU regional policy activities and their benefits across the EU territory (European Commission 2017).

From a territorial perspective, there are two key challenges that require policy responses: **(1) fragmentation**, which is place based and encompasses political, social, economic, geographical and cultural dimensions, and **(2) interdependencies**, which are network based and refer to increasing flows at all scales, spillovers and externalities of development, linked to technologies and networks that subvert distances and create new geographies. Nevertheless, **the mismatch between the impacts of economic and societal developments and decision making within administrative borders** negatively affects efficiency and legitimacy in political institutions and demands more territorial cooperation at all scales and within all sectors.

Current EU policies have provided the framework for improving territorial governance by introducing place-based multilevel governance mechanisms and tools. Place-based policy design processes have been already tested in many fields (public services provision, integrated urban and/or rural development, mobility and connectivity, etc.) and in many Member States. The use of instruments such as CLLD and ITI has shown significant positive effects on local development, if the collaboration between local, regional and national stakeholders was ensured. However, the results and impacts of these initiatives are still to be determined.

Promoting cooperation through territorial governance arrangements can significantly improve the efficiency of governments relatively quickly, without requiring structural reforms. In the current policy setting, territorial governance is essential for the targeted and result-oriented implementation of the EU Cohesion Policy, the Europe 2020 Strategy, the TA 2020 and the Urban Agenda. However, as “new territorialities”<sup>10</sup> emerge (from cross-border functional urban areas to public-private partnerships, joint ventures and multi-stakeholder agreements), **a shift from territorial governance to functional governance (or a mix) is needed, focusing on flows, networks and polycentricity rather than on hierarchical, administrative structures.**

Current and future European policies show the EU’s commitment to place-based and functional approaches. The TA 2020 favours place-based policies, prioritising the promotion of polycentric and balanced development, integrated development in urban and rural areas, and territorial integration in cross-border functional areas, and supporting strong local economies and connectivity. Moreover, the debate on the revision of the TA focuses on functional approaches and the improvement of the quality of government and governance. Complementarily, the Urban Agenda for the EU focuses on better regulation, better funding and better knowledge through its partnerships on priority themes with European and urban relevance. In addition, the European Urban Initiative post 2020 aims to strengthen integrated and participatory approaches to sustainable urban development and to provide a stronger link to relevant EU policies, particularly cohesion policy investments, including capacity building and experimentation in the area of sustainable urban development.

<sup>10</sup> New territorialities relate to new territorial structures that ignore existing administrative borders and function in a networked manner, more open to change and oriented towards pre-set objectives. These can be implemented through soft institutionalisation or can remain informal (ESPON 2019f).



Evidence shows that **collaborative governance models could support policy design and implementation at different territorial scales** and could be replicated in different types of functional areas, addressing the specific challenges faced by inner peripheries and territories with geographical specificities, as well as the complex needs of metropolitan or cross-border development.

## 5.1. Complementarities and the territorial dimension of future policies



Based on ESPON evidence from: ETRF

Europe needs diverse and multifaceted bottom-up visions for its places and functional regions, to ensure no places and citizens are left behind. To address the challenges ahead or to pursue bottom-up visions, **stronger cooperation between places across territorial boundaries is needed, as well as across sector policies and between groups of society. This requires high-quality governance, capacity building and empowerment of the various actors involved.**

The ESPON European Territorial Reference Framework study (ESPON 2019f) proposes a framework for cooperation (Table 1) to be considered by the TA post 2020, highlighting different lines of cooperation and addressing various interdependencies and mismatches between functionalities and administrative borders. This approach to cooperation is not limited to European Territorial Cooperation programmes but takes a much broader approach, aiming to stimulate cooperation at any geographical level from the very local (neighbourhood) level to the European level and beyond.

**Table 1**  
**Framework for territorial cooperation**

Grand scale: setting of overall objectives and strategies e.g. at interregional or European level	Medium scale: coordination of policies and strategies for larger functional areas or global integration zones	Action level: cooperation on concrete implementation actions e.g. in local functional areas
<b>Cooperation between places</b>		
<ul style="list-style-type: none"> <li>• Cooperation with third countries</li> <li>• SDGs</li> <li>• Horizon 2020 projects with China and Latin America</li> <li>• Open to other countries, in particular North Africa</li> <li>• Migration</li> <li>• Climate change</li> <li>• Vanguard Initiative regions and smart specialisation thematic platforms (sustainable manufacturing, 3D printing, industrial modernisation, energy and agro-food)</li> <li>• Hub approach and smart specialisation</li> <li>• Bioeconomy, role of technology</li> <li>• Really integrated railway</li> </ul>	<ul style="list-style-type: none"> <li>• Maritime spatial planning</li> <li>• Accessibility</li> <li>• Transport</li> <li>• Energy</li> <li>• Integration with non-EU countries (in macro-regions)</li> <li>• ES</li> <li>• Protected areas management</li> <li>• Catchment areas</li> <li>• Education</li> </ul>	<ul style="list-style-type: none"> <li>• Social services</li> <li>• Labour market integration and jobs</li> <li>• Pedestrian border crossings between EU and non-EU countries</li> <li>• Mobility including green mobility</li> <li>• Public transport</li> <li>• Commuting (easing legal settings across borders, joint bus lines, etc.)</li> <li>• Blue and green infrastructure</li> <li>• Waste management</li> <li>• Renewable energy</li> <li>• Transition town movement</li> <li>• Coastal development</li> <li>• Tourism</li> <li>• Capacity building</li> <li>• Spatial plans for cross-border areas</li> <li>• Digitalisation in planning</li> <li>• Statistics on local flows over international borders</li> </ul>

Grand scale: setting of overall objectives and strategies e.g. at interregional or European level	Medium scale: coordination of policies and strategies for larger functional areas or global integration zones	Action level: cooperation on concrete implementation actions e.g. in local functional areas
<b>Cooperation between sectors</b>		
<ul style="list-style-type: none"> <li>• Agriculture</li> <li>• Research and innovation</li> <li>• Climate change</li> <li>• SMEs</li> <li>• Pensions, welfare system</li> <li>• Unemployment</li> <li>• Labour market integration</li> </ul>	<ul style="list-style-type: none"> <li>• Connectivity</li> <li>• Social affairs</li> <li>• Housing</li> <li>• Employment</li> <li>• Mobility</li> <li>• Nature protection</li> <li>• Hospitals</li> <li>• Education, training</li> </ul>	<ul style="list-style-type: none"> <li>• Circular economy</li> <li>• Healthcare</li> <li>• Mobility</li> <li>• Housing</li> <li>• Regional waste management</li> <li>• Capacity building</li> </ul>
<b>Cooperation between groups of society</b>		
<ul style="list-style-type: none"> <li>• Societal cooperation with North Africa and the Middle East</li> <li>• Migration</li> <li>• Refugee integration</li> <li>• Security</li> <li>• Sustainable pension system</li> <li>• Welfare system</li> <li>• Unemployment</li> <li>• EU public television free for all</li> </ul>	<ul style="list-style-type: none"> <li>• Education</li> <li>• Climate change adaptation</li> <li>• Labour market integration</li> </ul>	<ul style="list-style-type: none"> <li>• GI</li> <li>• Cultural exchanges</li> <li>• Digitalisation</li> <li>• Sharing economy (including car sharing, banks of time, temporary and flexible housing, co-housing/co-living)</li> <li>• Shrinking communities (including declining border regions)</li> <li>• Extreme weather events</li> <li>• Silver society ageing, public service for people over 70 years</li> <li>• Entrepreneurship in smart specialisation (quadruple helix)</li> <li>• Public spaces</li> <li>• Energy transition</li> <li>• Non-motorised mobility</li> <li>• Pre-schools</li> <li>• Clean logistics</li> <li>• Integration of newcomers, migrants and social inclusion of different groups of society</li> <li>• Capacity building</li> </ul>

Source: ESPON 2019f.

**The three types of cooperation proposed – (1) cooperation between places, addressing flows, (2) cooperation between policy sectors and (3) cooperation between societal groups – provide pointers for policy making in various fields and highlight the territorial dimension of policies at European, national, regional and local levels:**

- **Cooperation between places or territorial entities** can help address interdependencies between territories. This is directly linked to addressing flows between places (i.e. a network approach, whereby developments in one place depend on the flows between places and the development in other places). Innovative cooperation forms can reduce the mismatch between administrative boundaries and the geography of the phenomenon addressed. Better addressing challenges at the local and regional levels can also support the process of tackling territorial fragmentation.
- **Cooperation between policy sectors** involves players from different policy sectors cooperating and taking a more integrated perspective, which can help better address interdependencies, fragmentation and the mismatch of functionalities. Improving sector coordination and overcoming the silo structures of policy making (e.g. in public administrations and business organisations) might help find more effective and more integrated policy responses to key socio-economic and territorial challenges. This type of cooperation may also include features of impact assessments, referring to mutual interlinkages and the impact on other sector policies.

- **Cooperation between societal groups** could provide new directions for supporting European integration and addressing the challenge of societal fragmentation resulting from increasing regional disparities and (real and perceived) inequalities. The cooperation may involve any groups of society. It can furthermore support citizens to interact and exchange with people outside their usual communities and peer groups.

Moreover, ESPON evidence includes a variety of place-based approaches and tools capitalising on Europe's territorial diversity and supporting the achievement of the policy objectives addressed in this report. Integrated strategies need to consider the interrelations between the different sectors and challenges shaping territorial development. For example, research, innovation and knowledge pave the way to a smarter Europe, but they tend to develop in areas of critical mass in terms of population, which are usually urban. On the other hand, digital connectivity opens up territories with geographical specificities to new types of cooperation, which can lead to capitalisation on local potentials and can contribute to slow down or even stop depopulation.

## 5.2.

### Place-based approaches and cooperation supporting integrated urban and metropolitan development



**Based on ESPON evidence from:** ACTAREA, SPIMA, Working Paper:  
The territorial dimension of future policies, ETRF

With over 40 % of the ERDF resources invested in urban areas, the 2014-20 programming period has put the urban dimension at the centre of the Cohesion Policy, empowering more than 900 cities and urban areas<sup>11</sup> to implement integrated strategies for sustainable urban development. The proposed integrated approach, looking at the social, demographic, economic, environmental and climatic challenges that cities are facing, fostered the improvement of urban authorities' strategic planning, administrative and decision-making capacities. The introduction of integrated place-based strategies has, in most cases, led to the development of new strategies or to major adaptation of existing strategies. This created innovative practices, but also capacity challenges, especially in countries with limited experience in implementing place-based approaches (particularly in less-developed regions) (Van der Zwet et al. 2017). Nevertheless, the completion of the planning exercise in the current programming period has the potential for driving significant change in regional development under both EU-funded and domestic interventions and to better integrate European structural and investment funding in local/regional planning approaches. But this will be possible only if the lessons learnt and good practices identified are promoted and considered at all territorial levels during the next programming period. This will be important for programming, drafting national guidelines, regional/local planning, monitoring and evaluation of strategies and projects.

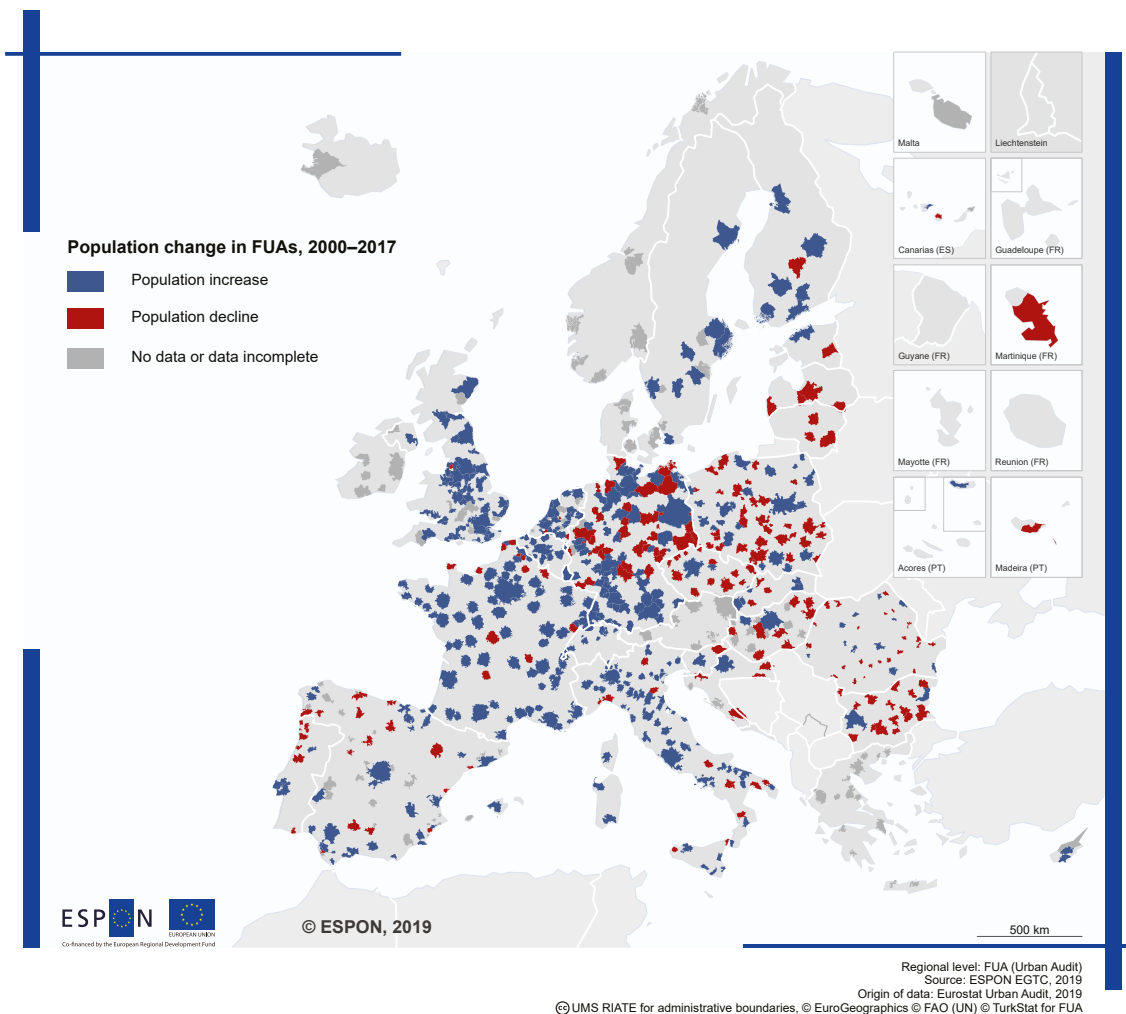
The CPR, the Urban Agenda and the TA (including the debate on the revised TA) support the integrated strategic approach to urban challenges, not only at the local level, but also at the functional area scale. The latter is appropriate given the complexity of the challenges that European cities currently face, ranging from specific demographic changes to the consequences of economic stagnation in terms of job creation and social progress, the impact of climate change, the fourth industrial revolution, suburbanisation and post-suburbia. Addressing these challenges is critical for achieving the smart, sustainable, inclusive society envisaged in the Europe 2020 Strategy.

In terms of tools, the CPR already suggests three categories of territorial development mechanisms that are to be supported post 2020, namely ITI, CLLD and other types of territorial tools focused on sustainable urban development. The territorial focus of these three tools includes urban neighbourhoods, cities, towns and suburbs, and functional urban areas (Map 25).

11 <https://urban.jrc.ec.europa.eu/strat-board/#/where>

While macro-trends keep pulling ever more investment and jobs into larger cities, creating “winners” and “losers”, the historic urban structure of Europe is based on a network of relatively small and medium-sized cities and towns, in contrast with the global megapolises. This diversity is recognised as a major potential advantage for achieving balanced regional development. However, population ageing and the migration of the young and well educated could lead to long-term decline and shrinkage in the regions they emigrate from, a phenomenon already visible in central and eastern Europe. In this context, there is a need for a wide territorial perspective to reinforce urban networks of second-tier cities and smaller towns, in order to harness their significant potential to support territorial, economic and social cohesion beyond their immediate spatial extents, through greater urban-rural and regional cooperation.

**Map 25**  
**Population change in Functional Urban Areas (FUA)**



FUA, functional urban area.  
 Source: ESPON 2019h.

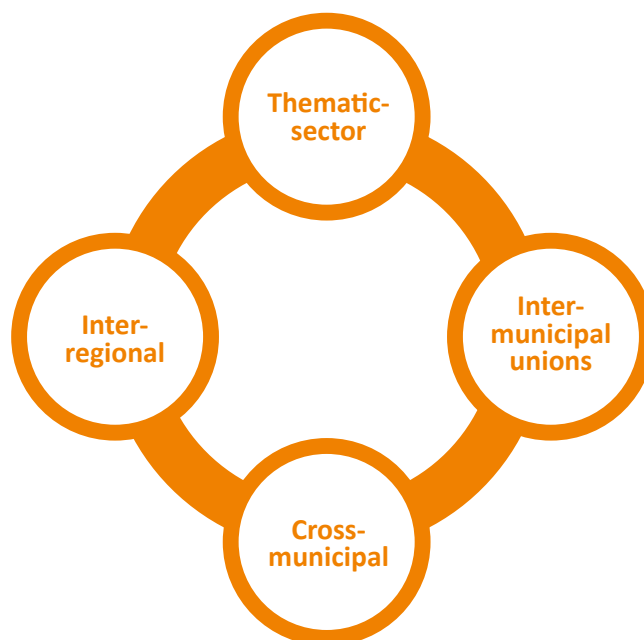
**Defining metropolitan areas using a functional approach provides a way to capture the complex dynamics, challenges and potential specific of these territories.** Flow analysis between core and surrounding territories is important in establishing metropolitan areas, as it helps capture their socio-economic characteristics and dynamics. Most metropolitan areas experience pressure for urban growth outside their core urban area, suburbanisation and densification processes, and challenges related to sustainable land use that should be considered in place-based strategies.

**Metropolitan planning is a key instrument in reinforcing urban centres through local stakeholders' mobilisation. The formal status of the metropolitan area is not a strongly determining factor for the effectiveness of metropolitan planning and governance.** The analysis conducted within the

ESPON SPIMA project (ESPON 2018k) showed that stakeholder areas registered relative progress with regard to the assessment of current urban trends and identification of key challenges. The action areas that were less well addressed in the implementation of metropolitan planning approaches include ensuring key success factors, incentives and triggers, the establishment of a suitable governance model and the involvement of relevant actors.

**The acknowledgment of the metropolitan areas and the potential for territorial cooperation by their members is an essential trigger for initiating metropolitan collaboration (Figure 2).** Urban-rural relationships can become a key asset in the development of territories, and local actors play an important role in establishing the integrated strategic vision of these territories. This is especially true if we consider the changing dynamics of urbanisation and counter-urbanisation, with cities generating attraction and at the same time experiencing migration towards the surrounding outskirts. In addition, conflicts of interest between urbanised areas and rural development, which can be linked to population densities, may arise and require proper mitigation. These phenomena increase the need for spatially integrated approaches and common goals through negotiation and cooperation.

**Figure 2**  
Types of collaborations identified within metropolitan areas



Source: ESPON 2018k.

As cooperation topics represent the common denominator of interest of all cooperating partners in a territory, a **balanced representation of local/regional stakeholders is important to ensure that cooperation properly addresses the needs of the territorial cooperation areas.** However, strategic metropolitan development is a novel concept in terms of implementation, and its scope and usage are therefore still limited. Although it has been embedded in current urban strategies and visions, in some Member States implementation is still in its early stages.

**There are no clear patterns regarding cooperation topics,** which could indicate that territorial cooperation areas should take a place-based approach and focus collaboration on specific regional needs. However, topics that come up frequently include spatial planning, transport and infrastructure, economic competitiveness and business development, tourism, cultural cooperation, the environment and energy.

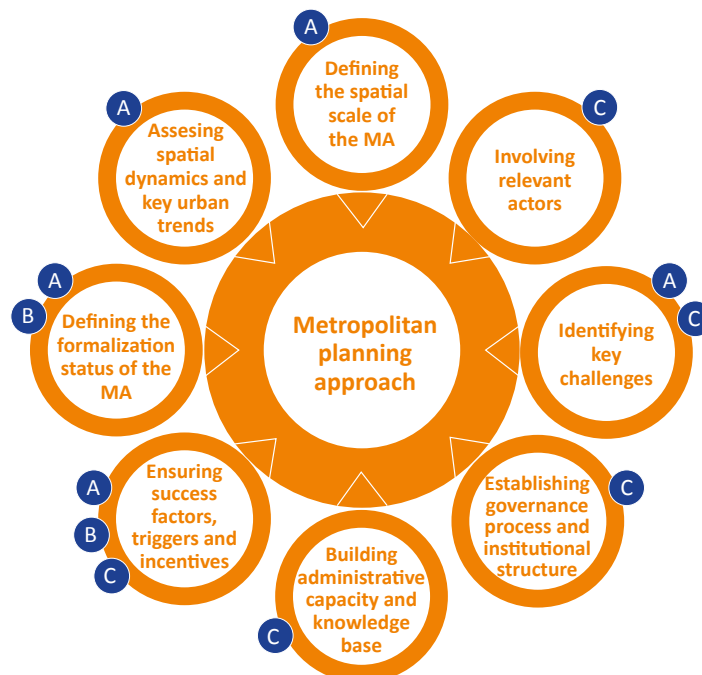
## Policy options and tools

Applying a coherent metropolitan planning approach requires a shared governance process, enabling more dynamic interactions between the spatial scales, policy issues, land-use functions and a wide range of actors. The key success factors in this regard include:

- combining top-down policy incentives with bottom-up collaboration and implementation;
- collaboration between the relevant planning authorities at national, regional and local levels;
- involvement of a wider range of stakeholders (e.g. businesses and branch organisations);
- ensuring the transparency and openness of collaboration processes and building awareness;
- working towards a “minimum gain for all” when negotiation and compromise are needed;
- starting with bottom-up initiatives (e.g. transportation) that can be convincing for most actors;
- political commitment and support from higher levels of government (e.g. national);
- mobilising political leadership to engage with different actors in collaboration;
- setting the rules of the game (i.e. combining flexible shared governance in spatial planning with the establishment of more restrictive/legal mechanisms for managing growth);
- creating common funds and agencies for supporting the metropolitan scale of planning, which can enable expertise and financial incentives to be applied (e.g. EU and/or national sources).

The implementation of the metropolitan planning approach embeds eight “action areas” (Figure 3) that set different foci in strategic, statutory and collaborative planning processes. Implementing these action areas may help gaining better understanding of the current situation in the metropolitan areas, establish a suitable governance process and support decision making about future plans and strategies.

**Figure 3**  
Eight action areas for the implementation of a metropolitan planning approach



A strategic planning processes; B, statutory planning processes; C, collaborative planning processes.

MA, metropolitan area.

Source: ESPON 2018k.

**To prepare the next generation of metropolitan strategies/plans, national and local policy makers should assess which intervention areas are most likely to have a cross-jurisdictional impact, substantiating metropolitan approaches.** Several common strategic priorities for interjurisdictional cooperation can be identified from practice (e.g. environmental sustainability, transportation and mobility, economic development, infrastructure, services and the housing market). A systematic approach to metropolitan priority fields would increase the efficiency of policy interventions and their return on investment, and could support better integration of local, national and EU funding and urban-rural cooperation. To this end, **correlation between urban and rural funds and the availability of national and European funding for metropolitan interventions outside the core cities are necessary.**

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#### CASE STUDY:

### The Metropolitan City of Turin (Italy) – metropolitan governance

The Metropolitan City of Turin is one of the most important in Italy and was defined by law in 2015, encompassing a total of 316 municipalities. The area is covered by a 3-year metropolitan strategic plan that aims to introduce an integrated approach to the socio-economic and environmental development of the territory. Given the territorial complexity of the region, integrated planning to ensure sustainable development (managing objectives related to social, economic, environmental and infrastructure development, as well as network services and communication) has been an important challenge. The Metropolitan City of Turin governance structure is remarkable in this sense, as it was able to coordinate the development of the general urban plan, covering the 316 municipalities. The structure includes four key territorial levels responsible for coordinating different operations: the regional level (which considers the interests of the whole region), the

metropolitan and provincial level, the sub-regional and/or sub-provincial level (specific sub-regional or sub-provincial areas having special development interests) and the municipal level.

The metropolitan governance of Turin showcases a multilevel structure with clear coordination processes and interaction mechanisms between the relevant planning authorities responsible for the implementation of different projects, as well as a strong administrative and planning capacity. Other important features fostering territorial cooperation and metropolitan governance include the existence of a legal framework, the capacity to alter spatial structures in homogeneous areas and the increased capacity of local stakeholders to get involved in European initiatives and to exchange best practices with other regional and local stakeholders.

Source: ESPON 2018k.

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**As empirical evidence shows, collaboration between local, regional and national stakeholders needs to be ensured for the use of instruments, such as CLLD and ITI, to have a significant positive effect on local development.** Urban CLLDs are underrepresented at the European level, despite their potential for building social capital and for bottom-up local development. Evidence suggests that the reasons for the low levels of uptake include their perceived complexity and, in some cases, overlapping or competition with already existing approaches. At the European level, there is a need for a reassessment of how CLLD can be more effectively integrated into the strategies and how the use of CLLD should be incentivised (Van der Zwet et al. 2017) (e.g. lower administrative burden, lower co-financing rates and greater linkages to existing approaches).



**CASE STUDY:****CLLD for tackling deprived neighbourhoods – Lisbon (Portugal)**

There are few models of urban CLLD across Europe, of which Lisbon and The Hague are recognised as good practices. Lisbon is using CLLD as a tool to tackle deprived neighbourhoods. The first step was to identify areas with socio-economic and environmental issues. During this process, 67 neighbourhoods were identified as target areas for the CLLD. The aim has been to decrease and mitigate social, economic, environmental and urban exclusion and enhance social territorial cohesion in the identified neighbourhoods. Four specific tools have been developed for the implementation of the strategy. The first tool was already used in the analysis and is concerned with the mapping of priority intervention areas. The second tool is a programme that ensures yearly funding for local initiatives, up to EUR 50 000 for each project, proposed by a partnership of a minimum of three

entities (organisations or civic groups). The third tool is meant to foster the development of governance structures in the intervention areas by bringing together the main stakeholders and empowering the local community. The fourth tool is mainly used to further develop the local development strategy and promote it as a global approach for deprived neighbourhoods. In the case of Lisbon, CLLD proved itself an effective territorial co-management tool, ensuring high civic involvement. For example, in 2017, from EUR 9 million, 230 local projects were funded, involving a total of 400 organisations.

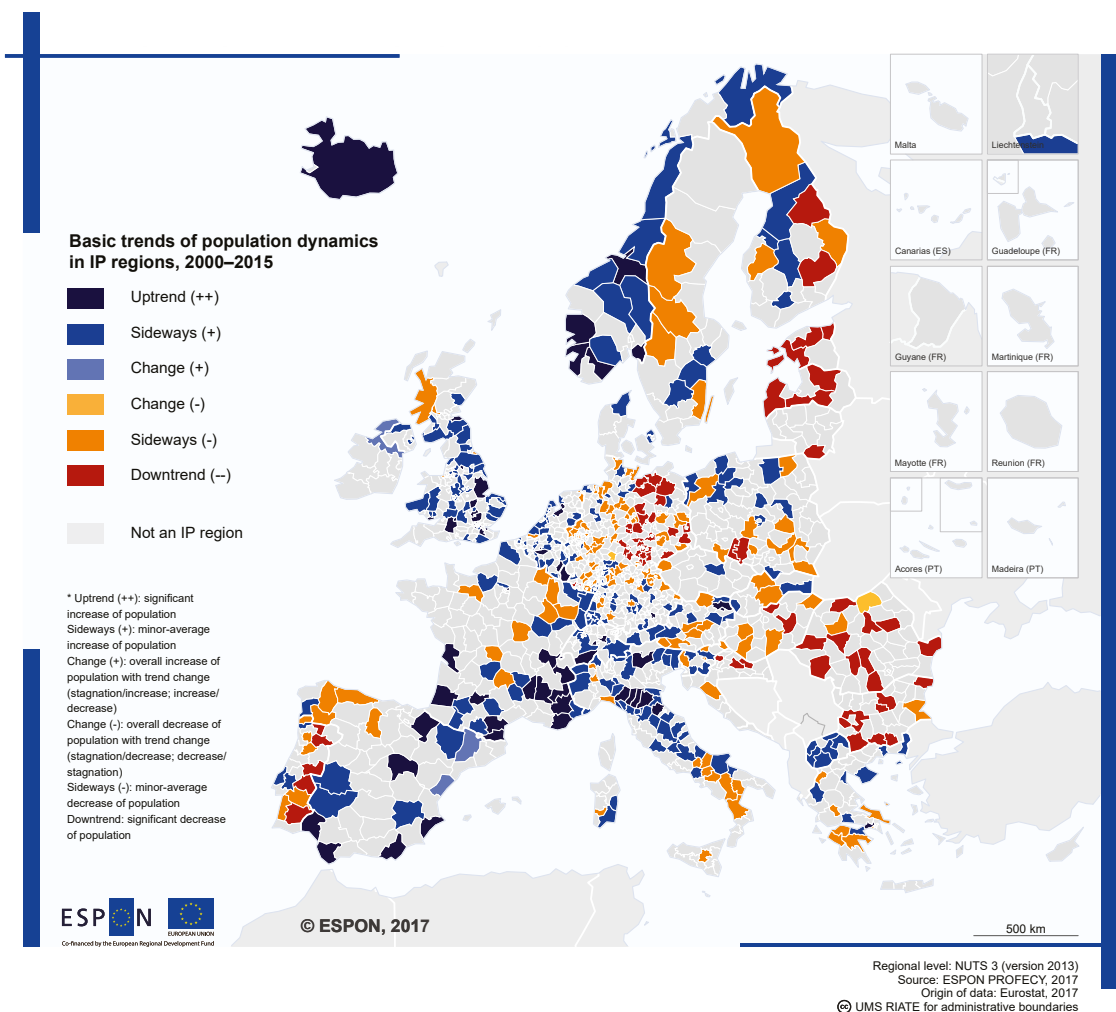
Sources: <https://urbact.eu/clld-network-lisbon>, <https://urbact.eu/lisbon-community-economic-development-approach>, <https://rededlbclisboa.pt/plataforma-de-governacao-colaborativa/>

**5.3.****Place-based approaches and cooperation for specific territories**

**Based on ESPON evidence from:** PROFECY, Policy Brief: Inner peripheries in Europe, Policy Brief, Shrinking Rural Regions in Europe, Policy Brief, The Territorial Dimension of Future Policies, BRIDGES

Territorial specificity is a key component in developing spatial development visions and policies, as it defines limits and advantages in terms of objectives and possible actions. Evidence shows that, in many cases, inner peripheries (45 % of the entire European territory) and territories with geographical specificities face common challenges, including poor connectivity, low economic development and potential, low access to services of general interest, and demographic decline. The two categories of territories often overlap, with geography contributing to the peripheral character of some territories. In addition, inner peripheral regions usually tend to overlap with intermediate, rural and mountain areas, especially in the case of delineations based on accessibility (Map 26).

## Map 26 Population dynamics in Inner Peripheries (IP)



IP, inner periphery.  
 Source: ESPON 2017g.

The acknowledgment of geographical specificities implies the need for place-based approaches, and common local visions encourage the creation of soft cooperation spaces, as territories with geographical specificities often transcend administrative boundaries. However, specificity is only briefly addressed by current policies and financial instruments, which leads to the development and innovation potential of these areas being limited and encourages peripheralisation.

### Policy options and tools

Strategies to ameliorate or reverse the process of peripheralisation require a focused intervention logic and appropriate integrated implementation structures developed within the local, regional and national governance systems, exploiting existing policy frameworks and available “levers” to achieve an impact. **Planning should start with identifying the issues associated with the inner peripheralisation and understanding its triggers and drivers.** A specific focus should be put on those processes that are driven by inadequate connectedness, and on finding drivers that can reverse the spiralling-down processes of inner peripheries. Moreover, endogenous resources and advantages should be identified and valorised.

Diversification of local economies in lagging regions is a key approach to mobilise endogenous resources and comparative territorial advantages (e.g. natural capital, local heritage, renewable energy and tourism). This can be achieved through increasing resilience and adaptive capacity to socio-economic changes by **selectively downsizing infrastructure and resizing the local economy** (i.e. resizing local economic activities in relation to shrinking effects), improving environmental sustainability and ensuring access to basic services and infrastructure to improve the quality of life.

**In the case of territories with geographical specificities, understanding the dynamics of mobility and flows is key for strategic development.** In the labour market of territories with geographical specificities, population and other economic flows differ significantly from urban areas, making the understanding of each context an important step in drafting local development strategies. Local actors need to properly analyse these flows to identify local potentials and issues.

Although socio-economic conditions in territories with geographical specificities in Europe are very diverse, several common directions for place-based strategies could be identified and should be considered when planning or developing guidelines for these areas, at national, regional or local level. Strategies and policies for the development of territories with geographical specificities should aim to **promote the diversification of economic activities, introduce measures to counteract population decline and address the impacts of seasonal variations on the population and the environment.**

Other directions to be considered include promoting connectivity through a set of actions that are directly linked to existing and future economic activities, increasing access to high-quality broadband, considering specific opportunities and vulnerabilities resulting from the physical environment, and supporting environmental protection measures aimed at generating opportunities for development.

**Four kinds of policy instruments can be identified for local strategies to receive policy support in the context of inner peripheries, which are replicable for other kinds of functional areas:** (1) ITI, (2) CLLD, (3) other forms of integrated approaches funded by EU programmes (e.g. a territorial pact or an integrated value chain scheme) and (4) national/regional approaches. Evidence shows that these different forms of place-based approaches are usually perceived as more suitable than the territorially blind mainstream programmes for local development and social needs.

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## CASE STUDY:

### The Danube Delta (Romania) integrated territorial investment

The Danube Delta biosphere reserve in Romania is classified as a wetland, coastal area and sparsely populated area. The territory is subject to the local implementation of an ITI with the participation of both national and local stakeholders. The ITI is implemented through an intercommunity development association, which is an administrative framework that allows the formal association of different stakeholders in order to achieve a set objective. The association was founded for the purpose of organisation, regulation, financing, monitoring and coordination of the Integrated Strategy for Sustainable Development of the Danube Delta (2030). The strategy is based on five pillars: environmental and natural resources

protection, economic development/improvement, improving connectivity, public services provision, and promoting efficiency, accessibility and sustainability.

The Danube Delta is the only ITI in Romania and benefits from multi-fund funding from all 2014-20 operational programmes. While it is still too early to evaluate the efficiency of the ITI in reaching its objectives, the mobilisation of the stakeholders is a relevant good practice that needs to be monitored and evaluated at the end of the 2014-20 programming period.

Source: ESPON 2019b.

6

## Moving forward



## 6. Moving forward: concluding pointers for place-based policy development



**Based on ESPON evidence from:** ACTAREA, ACTAREA Policy Brief, SPIMA, Working Paper: Governance, planning and financial tools in support of polycentric development, Policy Brief: Governance, planning and financial tools in support of polycentric development, ETRF, COMPASS, Policy brief: The territorial dimension of future policies

**In a time of scarce resources, a place-based approach to territorial development has the potential to achieve more with less effort.** Identifying functional areas, understanding their development potentials and bottlenecks, tailoring governance mechanisms and planning frameworks to fit their functional geographies are important preconditions for increasing the efficiency of policy interventions and return on investment.

**A better spatially adapted governance level can be facilitated by cooperation.** The variety of arrangements of territorial cooperation areas all over Europe proves that both hard means and soft governance tools can support polycentric development. In addition, once the culture of cooperation has become embedded in the way territories and stakeholders work, it does not matter which tool is used. **Soft territorial cooperation<sup>12</sup> can become a main building block in the pursuit of territorial cohesion.** It maximises stakeholder inclusiveness and promotes functional integration beyond administrative boundaries at levels at which regional and national authorities may find it difficult to operate. Public actors can initiate a “spiral of growth in cooperation”<sup>13</sup>.

**Regardless of the type of cooperation (institutional, soft, etc.), political commitment and leadership are important for creating a favourable arena for collaboration and building trust among stakeholders.** Governance for collective action requires capacity for consensus building and long-term commitment. New cooperation and coordination schemes might challenge existing governance frameworks, political hierarchies, ideological positions and inertia. Therefore, ensuring openness, participation, accountability, effectiveness, coherence and stability is important, especially as the political partners may change through the process.

**To design place-based policy approaches, more knowledge of the interrelationships within and between functional areas and their morphological and functional dimensions is needed.** The complexity and diversity of situations that coexist in Europe require a deeper understanding of the current trends and of the impact that policies – and in particular EU policies – have on the ground. Functional approaches need new methodologies for analysis, monitoring and evaluation, particularly for **increasing data availability** (including harmonisation of local data collection). Big data and smart solutions are potential tools that have to be deployed in a democratic, transparent, accountable and participative way.

**National and regional authorities would need to consider the development of frameworks that facilitate and enable flexible governance practices and areas of soft cooperation that overcome jurisdictions and counteract fragmentation.** This is especially important in cross-border, transnational and interregional cooperation areas where governance structures in different states must adapt to one another to provide services to their citizens.

12 Soft territorial cooperation areas are initiatives that define the sectoral scope and geographical boundaries in an “open” or “fuzzy” way, based on a notion of “community of intent” (ESPON 2017h: 2).

13 A spiral of growth in cooperation means that in the cooperation process successive mutually reinforcing feedback loops force it to continuously develop, adapt to changing conditions and create new cooperation momenta (ESPON 2017h: 59).

**A place-based approach to planning provides means to acknowledge and strengthen territories' endogenous development potentials through an integrated perspective** based on four main dimensions, which should become priorities for national and local/regional stakeholders: (1) territorial integration beyond administrative borders, (2) thematic integration (horizontal coordination), (3) public-private partnerships and wide stakeholder engagement and (4) financial integration. The **key elements of a strong place-based approach** include:

- policies and interventions for functional areas – identifying and addressing functional areas (functional urban areas, cross-border areas, transnational areas, etc.);
- policy frameworks that incentivise cooperation – incentives to support networking, cooperation and linkages among cities and regions;
- developing new governance solutions – engaging public authorities and private stakeholders in joint efforts to address shared development challenges;
- supporting tools – joint initiatives and combining resources from different funding streams;
- strengthening capacities – engaging national, regional and local actors in cooperative activities.

These should be supported by the European and national levels, through incentives, capacity building and conditionalities. The Cohesion Policy offers the option of using integrated territorial instruments and it is up to the national authorities to take up and enforce place-based approaches.

**Experimentation in terms of building governance networks and structures is an important aspect of efficient cooperation structures.** Testing cooperation structures in the field is a key step in building governance structures and benchmarking can be facilitated by limiting the focus on formalisation of governance in the early stages of the game. However, this approach has to be combined with a **deeper integration between sectoral policies and across administrative borders. In turn, this could create the premise for facilitating the development of functional approaches and polycentric development.** Building on existing traditions of collaboration (e.g. in the fields of transport, waste management and environmental protection) could help in terms of stakeholders' engagement and collaboration practices.

**Capacity building is a key precondition for efficient territorial policies.** Promoting territorial development and implementing place-based governance and planning approaches and tools are preconditioned on the capacities of national, regional and local stakeholders. Therefore, building their capacities in governance, planning and investment is of the utmost importance. Lagging regions, in particular, have little experience in capitalising on local assets and potentials through innovative and knowledge-based enablers, and often regional and local strategies show weaknesses in their design and implementation. The limited capacity of lagging regions also refers to attracting funding (even when funding is available), ensuring specialised human resources and selecting a project pipeline for accessing funding, which can prove challenging. **Capacity-building activities require efficient interplay among EU-level institutions, EU-funded programmes and umbrella organisations on one side (e.g. strategic planning and collaboration/networking capacities) and national, regional and local stakeholders on the other** (Figure 4).

**Figure 4**  
Capacity-building scheme



Source: ESPON 2018n.

**Policies supporting place-based approaches have to take into consideration the integration of funding sources** to avoid duplication and maximise impact. In this effort, developing policies should be looking at (1) better integration of funding programmes and sources at the EU and national levels (e.g. the integration of ESIF for integrated territorial development with other national sources of funding), (2) better integration of sectoral funds (e.g. the cross-sectoral integration of agricultural policy funds with environmental protection funds) and (3) the allocation of regular/permanent funds by EU, national, regional and local governments for long-term territorial cooperation and networking activities.

**The design of specific financial instruments and the update of existing ones can support the implementation of strategies for functional areas** through a multi-fund, cross-sectoral and partnership approach to support joint investment initiatives. As the CPR provisions imply, the simplification of existing tools and increased flexibility can encourage their wider use and achieve better results with limited resources. In addition, the design and dissemination of information and advisory platforms to support authorities in accessing funding (e.g. URBIS) is important for raising awareness on the diversity of funding opportunities for local and regional development.





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