ESPON

EUROPEAN UNION

Co-financed by the European Regional Development Fund

Inspire Policy Making with Territorial Evidence

European Territorial Review

Territorial Cooperation for the future of Europe

ESPON contribution to the debate on Cohesion Policy post-2020



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There is also an online version of this report, which allows to generate tailor-made short reports on specific thematic aspects or types of territories. The online version is available at:

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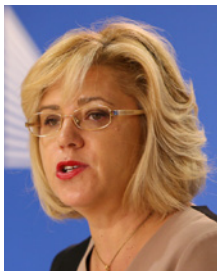
Forewords

In the midst of intense exchanges on future policies, the ESPON's EU Territorial Review comes out in time to enrich the on-going debate, especially when it comes to the territorial dimension of any policy be it EU policy, national, regional or local policy. In that sense the evidence presented here, supporting work across administrative borders and shifting the geographical scope of integrated planning to the functional areas, would certainly make an impact on future policymaking.

This is the first report in the framework of the ESPON 2020 programme. To that extent the Review that I have the honour to present you will provide a valuable contribution by compiling and integrating the scientific territorial evidence from a number of applied researches undertaken by ESPON on the most compelling current challenges. Let me especially complement the ESPON attempt to group these findings in a user-friendly manner while also producing an innovative on-line version of the Review which would allow different readers to immediately focus on a topic of their specific interest.

The Review targets a wide array of policy makers at local, regional and national level and provides them with valuable evidence to be borne in mind when reconsidering their respective policies and taking decisions for the future. The underlined importance of different types of functional areas might also resonate well with our ongoing considerations for the territorial aspects of the post 2020 Cohesion Policy.



Corina Crețu,
EU Commissioner for Regional Policy

The ‘European Territorial Review’ produced by ESPON couldn’t be more timely as the European Union embarks on an in-depth debate on the future of its cohesion policy and other EU policies that have an impact in its territories. More than ever, local, regional and European level policy-making relies heavily on academic insight and applied research. The evidence collected here can give direction on decisions, which more often than not are taken by Europe’s mayors and regional presidents or ministers. Let’s not forget that two in three euros of Europe’s public investment are spent at local level. Ageing, migration, innovation/digitalisation and climate change all have a clear local dimension. At a time where resources are scarce and public funds limited, it is critical to take a multi-dimensional analysis that connects Europe and supports decision-makers to make the right choices.

I would like to thank the ESPON team and the European Commission for this report and hope that as many local leaders as possible make best use of it. I have no doubt it will contribute to supporting the development of a more socially cohesive and territorially balanced Europe making our Union a better place to live for every citizen.



Karl-Heinz Lambertz,
President of the European Committee of the Regions

It is my pleasure to present this ESPON publication “European Territorial Review: Territorial Cooperation for the future of Europe” which presents a synthesis of findings building on research activities undertaken within ESPON 2020 Cooperation Programme up to summer 2017 by research teams from all over Europe.

Promoting territorial cooperation and giving more attention to functional areas in the preparation of the post-2020 Cohesion Policy is one of the key policy messages of this publication to policy makers at all levels.

In the light of the debate on the post-2020 Cohesion Policy, ESPON herein provides fresh territorial evidence supporting arguments on the need to strengthen the territorial dimension of future the Cohesion Policy by promoting interactions and cooperation among places at all functional levels.

It presents the main territorial patterns and challenges that will shape territorial development in the next decade and addresses a wide range of sector policies and policy makers from local to European level to assist in redesigning the post 2020 Cohesion Policy. It focuses on seven important contemporary issues that have emerged as the most significant in terms of their territorial impact:

- finding answers to ageing and migration,
- stimulating employment in the knowledge economy,
- promoting economic growth through SMEs and FDI,
- boosting renewable energy sources,
- developing circular economy,
- developing physical and digital connectivity,
- improving the quality of life through services of general interests.

In preparation of the “European Territorial Review: Territorial Cooperation for the future of Europe”, ESPON has invited stakeholders and policy makers to participatory workshops in order to ensure that the publication is policy relevant and meets the needs of the policy community. The participants have contributed with their ideas on topics and key messages to be addressed. We would like to thank representatives of the EU Presidencies, the ESPON Monitoring Committee Members, the European Commission Directorates-General, the European Parliament, the Committee of the Regions, Interact, Urbact, Interreg Europe, Eurocities, CEMR, regions and cities for their valuable contribution to this publication.

The “European Territorial Review: Territorial Cooperation for the future of Europe” is the first in a series of ESPON main publications which all aim at communicating major results on numerous ongoing research themes relevant for integrated place-based policy considerations.

We hope that this publication and its online version that can generate tailor-made short reports, will inspire decision makers working on Cohesion Policy, support evidence-based policy making in EU member states, partner states, regions and cities, and further enhance territorial cooperation in Europe.



Ilona Raugze
Director, ESPON EGTC

Abbreviations

EFTA	European Free Trade Association
EGTC	European Grouping of Territorial Cooperation
ESIF	European Structural and Investment Funds
ESPON	European Territorial Observatory Network
EU	European Union
FDI	Foreign direct investment
GDP	Gross domestic product
GVA	Gross value added
ICT	Information and communication technology
IPA	Instrument for Pre-accession Assistance
NUTS	Nomenclature of Territorial Units for Statistics
PV	Photo voltaic
R&D	Research and development
SGI	Services of general interest
SME	Small and medium-sized enterprise

Introduction

Europe's territory is renowned for its diversity, physical, climatic, cultural and political. Whilst never underestimating the challenges this presents, the European project of community-building and intensive political and policy cooperation across the continent has always considered this diversity to be one of its inherent advantages: *strength in diversity*. Territory can unite or territory can divide, depending on the mind-set of its inhabitants. In the wake of war – the ultimate manifestation of division – the mind-set has for the past 66 years focused squarely on developing the unity of the European territory.

As the European project has progressed, so its territory has been increasingly considered as a coherent entity, where the physical and human interconnections between its places and spaces have gradually developed and strengthened. ESPON has made a major contribution to the shifting mind-set.

This European Territorial Review is being published at a time when recent developments have exposed inherent sensitivities in the human dimension of this diversity. Some parts of Europe have witnessed a re-emergence of forces that emphasise territorial division rather than connection. Using information and evidence from recent ESPON applied research, this publication provides not only insight into the diversity of Europe's places and spaces as well as the links that connect them, but focuses above all on the need for intensified cooperation between the different territorial entities within Europe.

In an increasingly interconnected world, most things we do in one place impact development in other places and what is done elsewhere impacts where we are living and working. This requires us to constantly consider our actions and plans in a wider territorial context. In some cases, our actions become only meaningful in a wider context. In other cases, we might need to cooperate elsewhere to achieve our objective and sometimes even agree on common objectives. This reality is of particular importance in the light of the debate on Cohesion Policy post-2020. It is therefore the ambition of the Review to provide fresh territorial evidence supporting arguments on the need for a stronger and more integrated focus on territorial specificities, interactions and cooperation in the next period of Cohesion Policy. This is why there is at the beginning, following this introduction, a special section highlighting the policy pointers to be found throughout the document. Chapter 9 reviews the evidence and puts the case for the strengthening of territorial cooperation, especially in the framework of post-2020 Cohesion Policy.

The following chapters go on to deal with seven important contemporary issues: ageing and migration, employment in the knowledge economy, promoting economic growth through SMEs and FDI, boosting renewable energy sources, developing the circular economy, physical and virtual connectivity and improving the quality of life through services of general interest (SGIs), including healthcare, education, public transport and waste disposal.

The Territorial Review is based on a considerable amount of ESPON applied research projects carried out up to summer 2017 by transnational research teams from all over Europe and covering the whole of the EU territory plus Iceland, Liechtenstein, Norway and Switzerland. From this research, these seven issues have emerged as the most significant in terms of their policy relevance, the areas for which ESPON has new territorial evidence available, and the possibilities to address them through cooperation.

Each issue is dealt with under the same structure. Firstly, the territorial diversity is briefly described, followed by a short analysis of the links, flows and interconnections between these different places and spaces. A third section focuses on the need for cooperation between territorial entities at different levels, from local to European, to develop effective policies dealing with those issues. The cooperation section closes with pointers for policies highlighting potentially relevant issues, not least for post-2020 ESIF programming. Each pointer is detailed by four elements which build upon each other, together providing the full picture where the pointer would have most impact. Firstly, the most relevant functional scale for territorial cooperation (from local to European levels) is presented. Secondly, the most relevant parts of Europe are presented. These are the places in Europe that seem to have higher potential for increasing benefits and territorial development through cooperation. These function mainly as examples based on the findings, highlighting current trends, and should not be taken as the only and one-way resolutions. Thirdly, the territorial type for which cooperation is most relevant is presented. A territorial type reflects a region's main socio-economic, demographic, environmental or geographic characteristic. Examples of territorial types are urban or rural areas, as well as regions with geographic specificities such as

mountains, islands or sparsely populated regions. Lastly, the most relevant type of players that should take the pointer for territorial cooperation forward are identified.

The report concludes with a final chapter reviewing and pulling together its key findings and messages on territorial diversity in Europe, on the links and interdependencies between different places across Europe and on the various aspects of territorial cooperation. The latter section highlights that cooperation between territories is essential to maximise development potential and makes the case for strengthening the territorial dimension in EU cohesion policy. Mainstreaming territorial cooperation in the European Structural Investment Funds (ESIF) should be seriously considered in the preparation of Cohesion Policy post-2020. To lend support to such key findings and policy messages, the chapter also contains practical guidelines for good cooperation and good governance at all levels.

Finally, it should be noted that the text, especially in the sections on diversity and links, is necessarily very compact and might not always do justice to the amount of territorial evidence on which it is based. That is why, for each issue, reference is made to 'further ESPON reading' for readers interested in the underlying evidence, freely available on the ESPON website at www.espon.eu.

EXPLANATION

Functional Areas

Every effort has been made to offer a easy readable, clear text and significant in terms of policy relevance. One term, however, has several dimensions and is extremely important to the main messages on cooperation between territories and needs to be explained: *Functional Areas*.

Functional areas of different sizes and character shape territorial development in Europe. These range from urban or rural areas, via rural-urban partnerships, functional cross-border regions, transnational and macro-regions to global integration zones. They tend in the majority of cases to break with existing administrative delineations of municipalities, regions and countries. Furthermore, delineations of functional areas can differ according to the function and, being highly dynamic, can shift over time. For example, labour market catchment areas and the functional geography of providing advanced SGIs or industrial symbiosis processes vary considerably. So one single place can be part of several different functional areas.

The importance of functional areas, and their lack of territorial synchronisation with administrative boundaries, make governmental cooperation an imperative for territorial development. Links between places and the need to develop territories with regard to their functional interdependencies imply that a single administrative territory (be it a municipality, region or country) cannot disregard other places in its policy development. Depending on the nature of the policy issue, this implies cooperation within functional urban or rural regions, across national borders, or in wider transnational or macro-regional contexts.

The types of functional areas mentioned in this report are:

- **Functional urban regions.** Cooperation between authorities in a city and its functionally interlinked surrounding urban areas, e.g. the commuter catchment area.
- **Functional rural regions.** Cooperation between authorities in neighbouring rural areas which are functionally interlinked, e.g. through commuter or service provision patterns.
- **Functional urban-rural partnerships.** Cooperation between authorities in neighbouring urban and rural areas which are functionally interlinked.
- **Cross-border regions.** Cooperation between adjacent territories across national borders. Examples are INTERREG cross-border regions, IPA (Instrument for Pre-accession Assistance) regions, Euroregions, bilateral cooperation.
- **Transnational / macro-regions.** Cooperation at a larger European scale covering regions in multiple European countries. Cooperation through networks rather than between neighbouring regions, or along European (transport) corridors. Examples are INTERREG transnational cooperation programmes, sea basin strategies and programmes, the Rhine corridor and Convention, as well as the four macro-regional strategies endorsed by the European Council: the EU Strategy for the Baltic Sea Region, the Danube Region, the Adriatic and Ionian Region and the Alpine Region.
- **Europe.** Cooperation at European level entails cooperation between European member states and ESPON partner states (Iceland, Liechtenstein, Norway and Switzerland), cities and regions and often involves cooperation between non-contiguous regions. Examples are the four INTERREG interregional programmes (ESPON, URBACT, INTERREG Europe and INTERACT), twinning cities and regions, urban partnership (Pact of Amsterdam) and the Covenant of Mayors.

1

Highlights for policy makers



1. Highlights for policy makers

This Territorial Review is essentially an evidence-based analysis of the European territory. Most issues concerning territorial development, and certainly those dealt with in this Review, need cooperation between territorial entities to ensure an effective policy response.

Pointers for policy at different governmental levels and for redesigning Cohesion Policy post-2020 have been identified based on territorial evidence produced by ESPON. This Review uses the analyses of territorial diversity as well as flows, links and interconnections between places to illustrate lines of policy at different administrative levels and for different functional areas. The sections of the Review highlight the level of administration or non-administrative territorial entity (such as functional areas) which could develop these policies, and for which type of territory the policies could be particularly relevant. These specific authorities are merely indicating that the analyses point to certain lines of policy involving territorial cooperation. Policy pointers towards the EU level are a different matter. As a programme financed by the European Structural and Investment Funds (ESIF), ESPON does actually have the obligation to recommend elements of policy renewal from its findings and indeed does so by concluding that territorial cooperation – in principle for all topics addressed – should be integrated into the mainstream of Cohesion Policy post-2020. The policy pointers are for every territorial entity to consider as they wish. It is, however, being published at a time when the process of preparing the new phase of ESIF after 2020 is getting underway. Ideally, new ideas on policy measures for the next ESIF period should be evidence-based; that increases their effectiveness. ESPON is therefore convinced that its research on the often quite complex issues of territorial development can and should assist that process. That is why the Territorial Review translates its analytical findings into pointers for policy to assist in redesigning Cohesion Policy post-2020. The core message here, substantiated in Chapter 9, is that territorial cooperation should be integrated into the mainstream of Cohesion Policy post-2020.

1.1. Key messages from Territorial Review topics

The following paragraphs discuss the main messages per topic addressed in the report and discuss the main conclusions on territorial cooperation on these topics against recent trends in European integration and cooperation. This publication deals with seven important contemporary issues with the most significant territorial impact:

- finding answers to the important demographic issues of ageing and migration;
- stimulating employment in the knowledge economy;
- promoting economic growth through SMEs and FDI;
- boosting renewable energy sources;
- developing the circular economy;
- developing physical and digital connectivity;
- improving the quality of life through SGIs.

Ageing, and more specifically the rapid increase in the old-age dependency ratio, is an issue facing Europe as a whole but very unequally across the continent. The analyses point to a number of ways in which territorial entities could cooperate to improve the quality of life for the elderly.

Many policies are already widely applied by neighbouring local authorities across Europe. These include creating age-friendly and fully accessible public and recreational spaces for the elderly, or developing mentor programmes between seniors and young entrepreneurs who can benefit from their experience and knowledge. Keeping newly retired people economically active, also called ‘pretired’, is another policy enjoying increasing popularity.

However, many less densely populated areas and smaller settlements are experiencing problems with a considerable and increasing age imbalance. For these, effective policies such as one-stop-shop administration or joint e-healthcare advice for the elderly, are more dependent on territorial cooperation. In these areas, the problem can also be tackled by making such settlements more attractive for young people by creating better educational or cultural facilities.

Developing sound policy that deals effectively but humanely with international **migration** is arguably the most divisive issue in Europe at the present time. This issue demands a high degree of policy cooperation between nation states, but at the same time the willingness to cooperate is not forthcoming. The Territorial Review presents some interesting facts, but in terms of policy there is very little on this issue that has not been said before. However, the Review draws conclusions from its own evidence. These include the need to develop joint systems to regulate controls and flows of external EU migrants, to establish twinning projects between regions where most external, non-EU migrants settle and other regions. Evidence points to the need to establish joint labour mobility platforms to better integrate EU immigrants in the labour market, or to support cultural activities, sports activities and classes to encourage greater integration of non-EU migrants into European society.

Much ESPON research evidence points to the importance of the **knowledge economy** to create employment and a higher overall level of economic well-being in many regions and towns. Against the background of the need to maintain Europe's competitiveness, the overriding problem that needs to be addressed is the increasing territorial imbalance within Europe of the knowledge economy between less wealthy and less densely populated regions, and relatively few larger and specialist cities.

To reduce disparities while maintaining the global competitiveness of such well-endowed cities, policies could be developed that attract skilled employees from inside and outside the EU by promoting the image of top knowledge economy regions and improving their visibility at a global level. At the same time, the so-called value chains of European knowledge economies can be enhanced by furthering their cooperation with other territories offering complementarities. In less endowed regions potential can be increased by supporting training and education programmes. Labour mobility strategies can be developed to generate win-win situations between receiving and sending regions. These are examples of cooperation measures that could counterbalance an increasing concentration of the knowledge economy.

Small and Medium-sized Enterprises (SMEs) and Foreign Direct Investments (FDIs) are important generators of economic growth.

SMEs are everywhere in Europe; their growth has to be encouraged and supported, especially by good governance. Local authorities can work together to cut the costs of this support and improve SME access to information, for example on potential suppliers, clients, knowledge institutes, or taxation in networks and clusters elsewhere. Also the internationalisation of SMEs can be supported in all regions.

FDI, however, tends to be concentrated in larger urban areas, especially large-scale, long-term FDI. The key is then to ensure there are productivity spill-overs from these areas. In lower-tier settlements, territorial cooperation can help create a critical mass of skilled labour together with the other locational requirements that attract FDI.

There is overwhelmingly broad political support for increasing the proportion of **renewable energy** sources in Europe's total energy supply. Although this objective can only be achieved by the collective results of policy measures in many fields, the land management dimension is essential. Suitable locations have to be found for wind turbines and large scale solar farms, for energy grids and so on. Sun, wind, production potential, consumption and network connections are unequally distributed across Europe.

The need for cooperation to overcome these territorial mismatches at all levels is evident. Integrated regional strategies to boost renewable energy in functional regions and urban-rural partnership areas can link production with distribution to consumers. These can also be used to channel private and public investment into renewables.

Similarly, at the macro-regional level, transnational energy markets and renewable energy clusters can be developed, and interconnection plans implemented. Lastly the global dimension of renewables demands cooperation between Europe, its neighbours and more distant countries.

Developing the **circular, resource-efficient economy** requires a mega-shift in production and transport as well as in consumer behaviour and is therefore a (very) long-term policy orientation. This is now only at a preliminary stage in Europe. Recognition of the urgency of its implementation varies but could increase considerably. Certain territorial cooperation measures emerge from the analyses which would enable development of the circular economy to be taken to the next stage of policy-forming and implementation.

Moving towards a circular economy requires critical mass to allow industrial symbiosis in production processes and for approaches to the sharing economy to be taken up at local and regional levels. To achieve this, the proximity of industries in a functional urban region, from raw materials through manufacturing to waste management, needs to be exploited.

Joint regional sharing economy platforms, such as car sharing or tool sharing could also be developed. Moving towards a circular economy also implies substantial changes in production and transport systems. This contains potential for the development of polycentric and more decentralised structures, for example through additive manufacturing (3D printing) as well as repair and reuse industries (e.g. in smart specialisation strategies). This could provide new opportunities for lagging areas. Joint strategies could be developed between territorial entities on how to adjust (freight) transport systems to the circular economy through transport pooling.

Moving towards a circular economy requires new solutions and innovations to transform production processes and change consumer behaviour, for example in waste prevention, recycling and the sharing economy. This implies the need for information exchange to speed up the process. So circular economy knowledge transfer networks could be set up for innovative ideas in both production processes and consumer behaviour.

Territorial cooperation on **connectivity** has, by its very nature, been going on for centuries. What is (relatively) new is the development of efficient and faster cross-border, multi-modal forms of **physical connectivity** that are more eco-friendly, as well as the completely new field of ICT connectivity.

With physical connectivity, there is still room for know-how and experience to be exchanged and shared, for example on the coordination of eco-friendly solutions for ports and of investments in the further development of multimodal transport for eco-friendly connectivity across administrative borders. Common ticket services for commuters and passengers across borders – not only national ones – are still under-developed.

ICT connectivity offers potential for peripheral areas to counterbalance the greater problems of physical connectivity. Through ICT provision, often building on cooperation with players in other territories, services such as e-commerce or e-governance, hackathons or similar e-solutions can offer new opportunities. These could be initiated to help solve local territorial development challenges. In addition, the territorial analyses highlight the advantages of developing joint ICT platforms for different transnational e-services, such as for transport and tourist information. Cooperation would also help in tackling cyber security issues.

The last policy objective is to improve the access to, and the level of provision of, **services of general interest (SGI),** such as healthcare, schools, waste collection / disposal etc., particularly in more sparsely populated, peripheral areas.

Here a distinction is made between daily local services and more specialised ones which need a wider area and more people. Local authorities in (inner) peripheral areas could form collective functional areas to share daily services, introduce demand-driven public transport and mobile services, pool resources and ensure that municipal borders do not form a barrier to such cooperation (e.g. due to differences in local taxes, procedures or by-laws). This could be achieved by joint agreements or, in cross-border regions, by forming EGTCs.

Providing larger scale, more specialised services such as digital solutions for e-health and other e services may provide an improvement, especially in less accessible areas. Such policies could be of particular significance for tackling the age-dependency issue in these areas.

ESPON findings provide solid evidence on these seven contemporary themes of high policy relevance and territorial impact. In light of the preparation of Cohesion Policy post-2020, this Territorial Review puts the spotlight on cooperation as a necessary way to develop more effective policies, counterbalance current disintegration trends and keep the *unity* and *strength in diversity* mind-set alive.

1.2. Territorial cooperation counterbalancing European disintegration trends

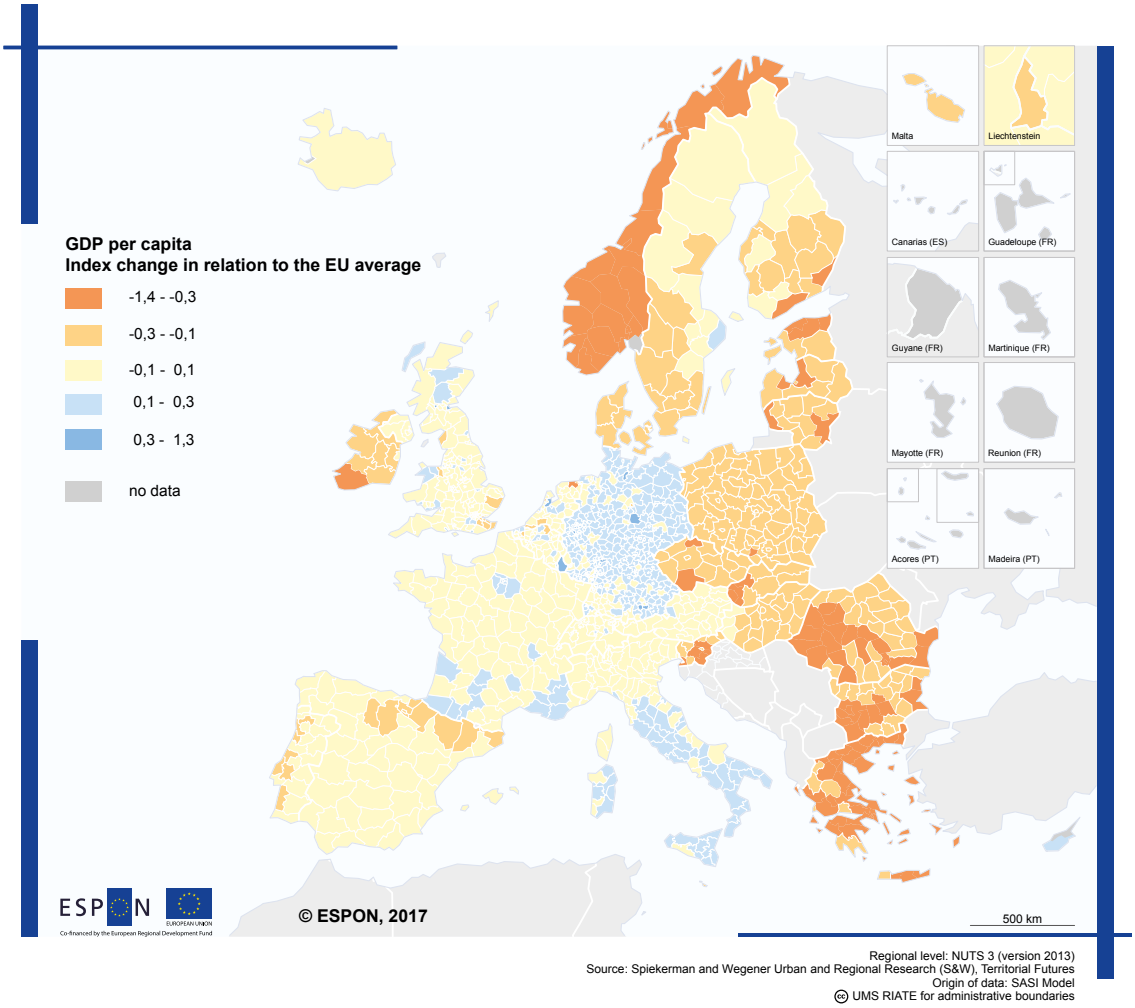
Territorial cooperation has the opportunity to counterbalance European disintegration trends. Comparing the main policy opportunities for territorial cooperation, in particular at functional levels, against recent trends in European cooperation shows considerable differences and calls for strengthened policy focus on territorial cooperation.

The number of EU Member States has grown considerably to today's 28. The European Single Market and trans-European transport networks have been constantly developed and political, social and cultural barriers reduced. This integration process, be it at a less intensive level, is also true for relationships between the EU and non-EU countries in Europe as well as with neighbouring countries in Africa and the Middle East. However, there are signs that the European integration processes could come to a halt or even be reversed. Brexit is the most prominent example. The recent and ongoing controversial discussions about financial support mechanisms for losers under globalisation and the economic crises, about joint handling of the refugee issue, joint police efforts, i.e. about solidarity in general in Europe, show that further European integration may not necessarily remain the main trend in coming years.

Disintegration trends can be translated into increasing border effects and border obstacles. This can take different directions and increase border effects within Europe. This may imply increasing border waiting times at EU and EEA internal and external borders and different degrees of enhanced political and cultural borders between countries in Europe. To illustrate the effect of such disintegration trends, ESPON has run a model. To model the direction of change of reduced European integration, two variants of an exploratory scenario were implemented, without and with increasing border effects.

The effects of disintegration in Europe are reductions in economic growth in all regions. So GDP per capita would be lower everywhere compared with continued integration. In addition, the impacts of disintegration on territorial cohesion are negative. An impression of the territorial distribution of tentative changes in terms of GDP per capita relative to the European average is shown on the map. Many of the lagging regions face stronger reductions, i.e. falling behind compared to the European average. These are mostly regions in eastern and south-eastern Europe, though several regions in northern Europe would lose compared to the European average. Most of the stronger regions will also lose out in absolute terms but gain in relative terms compared to the European average. This would be true particularly for most regions in Germany and middle and southern parts of Italy. Other countries such as Portugal, Spain, France, Switzerland and Austria would not change their position, i.e. the cohesion effect would be neutral.

Map 1.1
Territorial cohesion effects of European disintegration 2030



Regional level: NUTS 3 (version 2013)
Source: Spiekerman and Wegener Urban and Regional Research (S&W), Territorial Futures
Origin of data: SASI Model
© UMS RIATE for administrative boundaries

So in the light of the above, two general conclusions can be drawn.

Firstly, it is not unthinkable that Europe can turn once again towards a more fragmented territory. The desire for greater fragmentation and division is essentially political; it is not environmental, it is not economic and, although the feelings of insecurity and a desire to return to 'how things were' amongst sections of the (mainly older) population have to be recognized, it is not social.

Secondly, due to this very fact, the impact of a return to a greater degree of territorial fragmentation will be negative: economically, environmentally and socially. 'Territorial cohesion' is not just an empty word, or 'European jargon'; it is a reflection of Europe's high level of territorial interdependence and is therefore an essential pre-condition for the furtherance of the well-being and quality of life of its people. By providing the evidence underlying territorial interdependence, the Review illustrates clearly the other three interdependencies.

In short, mainstreaming territorial cooperation in the ESIF should be thoroughly considered in the preparation of Cohesion Policy post-2020. This Territorial Review shows that there is a need to strengthen the territorial dimension of the future Cohesion Policy by:

- integrating elements of territorial cooperation into their post-2020 Cohesion Policy programmes, thereby amplifying territorial cooperation beyond the experience of INTERREG;
- encouraging eligible regions and cities to include a certain level of territorial cooperation in their investment frameworks, thereby provoking broader thinking about the wider territorial implications of their investment proposals, using the above policy pointers as ideas if, when and where applicable;
- further encouraging member states, regions and cities to plan and implement their investment initiatives at functional geographical levels, i.e. looking beyond administrative borders.

2

Finding answers to ageing and migration



2.
Finding answers to ageing and migration

Europe is an ageing continent and will continue to be so in the foreseeable future. In addition, there is a continuing concentration of population, especially of younger people, both within and between countries in Europe. The impact of internal migration in many countries is considerable, both on the areas losing and on those gaining population. However, it is international immigration, and particularly from outside the EU, which has shown itself recently to be a socially and politically sensitive, even divisive issue.

Further ESPON reading: Possible European territorial futures, Demographic and migratory flows affecting European regions and cities (DEMIFER); Selective migration and unbalanced sex ratio in rural regions (SEMIGRA); European development opportunities for rural areas (EDORA); Territorial Observation 11 European neighbourhoods; Territorial Observation 1 Trends in population development; ESPON Policy Brief on Shaping new policies in specific types of territories in Europe: Islands, mountains, sparsely populated and coastal regions; ESPON Policy Brief on territorial and urban aspects of migration and refugee inflow; ESPON Policy Brief on Urban Partnership themes in a wider territorial context.

2.1.
Territorial diversity of ageing in Europe

Nowadays, Europeans are living healthier and longer lives. This, together with decreased fertility rates, brings a number of social and economic challenges. Europe is ageing considerably more in some areas than in others. This demographic and territorial challenge needs to be the subject of debate and specific policy. Access to healthcare for all and the effects of old age dependency on the labour market are some of the key challenges.

Urban regions have the highest natural population growth. This is especially evident in large metropolitan areas in northwest Europe and in the Baltic Sea Region. Non-urban parts of Eastern European countries and Germany continue to decline resulting in the phenomenon of shrinking regions. Birth rates in these regions are too low to maintain the number of people living there.

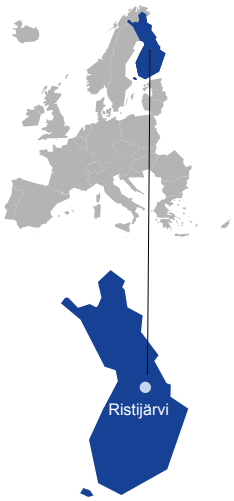
EU at risk of a silver tsunami. The median age increased from 40 in 2008 to 42 in 2014. This means that half the population was older than 42 in 2014. The median age increased in all Member States of the EU and this is expected to increase even further in the future. On average, a European born in 2014 could expect to live for 80.9 years.

Young and working versus older and economically inactive. An increasing median age affects old age dependency ratios. The number of economically inactive elderly people compared to the number of people of working age is high in large parts of Europe. Most parts of Sweden, France, Greece, Italy, Germany and Portugal have high old age dependency. The highest values are on the Isle of Wight (UK), Bornholm (Denmark), on Greek islands and in the Oristian region in central Sardinia (Italy). Ratios are particularly low in the Canary Islands, French Guyana, Azores (Portugal), large parts of Ireland, Poland, Czech Republic, Slovakia, Cyprus and Iceland.

EXAMPLE 2.1

Seniorpolis – when the ageing population turns into a development asset

The municipality of Ristijärvi is in the sparsely populated area of Kainuu, Finland. The municipality has set up an expertise centre, called *Seniorpolis*, which develops business operations promoting the well-being and lifestyle opportunities of its senior citizens. These focus on housing, education, learning and care. In cooperation with universities, research institutes and technical high schools, it promotes know-how and business concepts for different senior services and acts as a pilot area for testing new technologies and products to be offered to the elderly.



Ageing poses social and economic challenges for some regions. These challenges derive from simultaneous drops in fertility rates across Europe, longer life expectancy and a shift of baby boomers to the top of the age pyramid. Among others, elderly people demand more healthcare, so healthcare systems might be challenged. Another challenge can be a decreasing labour force, as the number of young people entering the labour force cannot counterbalance the number of older people leaving it. Last but not least, this can lead to decreasing public income, challenging government tax systems and intergenerational financial transfer at the expense of younger generations. These challenges may be particularly profound in eastern Germany, Estonia, Latvia, Lithuania, Bulgaria and rural areas in the UK, Spain, Portugal, Italy, Greece and Romania.

Additional challenges may come from migration flows affecting the demographic development of territories.

2.2. Migration showing demographic flows

Migration can happen at different levels. Intra-regional and national migration describes when people move to urban centres within the same region or country. Intra-European migration is when European citizens move to another country, while extra-European migration refers to European citizens moving outside Europe as well as people moving to Europe from non-European countries, including the recent spate of refugees.

People migrate for several reasons. The objective is to improve their quality of life, either by choice or need. The search for better job opportunities, as well as family reasons, are the main reasons why people tend to leave their homes and move.

Furthermore, easier access to SGIs (services of general interest) is another reason for intra-regional and national migration to urban centres. Migration – especially migration towards Europe – can also happen due to political reasons, conflicts, wars, or environmental disasters.

For a greater focus on migration and brain drain effects, please read chapter 2.

2.2.1.
Intra-regional and national migration

People moving to urban centres. Intra-regional and national migration refers to flows of people, mainly to urban centres in the same region or country. The 'rural exodus' is a common phenomenon, where human capital migrates from (remote) rural areas to urban and accessible rural locations. As urban centres are more attractive, and offer more job opportunities, more people move to major or second-tier cities. Dynamic urban centres report high positive net migration, with capital cities showing the highest net migration rates.

Intra-European migration

Intra-European migration remains the dominant form of international migration in Europe. 10% of working age citizens don't live in their country of birth. Many people from Romania, Portugal, Lithuania, Latvia and Croatia emigrated and live in other countries.

In 2015, 1.4 million EU citizens moved across national borders to other EU Member States. In general, regions with high unemployment remain a source of migration for developed and ageing regions. Germany reported the largest number of intra-European immigrants (1.54 million), followed by the UK (632,000), France (364,000), Spain (342,000) and Italy (280,000). EFTA countries also received intra-European immigrants with Switzerland receiving the most (154,000), followed by Norway (61,000), Iceland (6,000) and Liechtenstein (700).

Luxembourg recorded the highest intra-European immigration, relative to the size of the country, followed by Malta, Austria and Germany.

Young, highly skilled, and specialised workers are generally more mobile than other groups in the population. Since 2004, all European regions have experienced an increase in labour mobility. Especially young people with higher education degrees from eastern, partially also southern parts of the continent moved further west and north, looking for better work and living conditions. The migration rates in the age groups 20-29 and 30-44 are 3% and 4% respectively which is about 3 times higher than the rates of people aged 45 and above (1.4% for 45-64 and 0.1% for the 65+ group).

Migration can have different social impacts. Brain drain is one of the most prominent impacts of intra-European migration. Young and educated people seek better opportunities in urban areas of their own or other countries. In consequence, sending (often rural) regions may suffer from brain drain and become caught in a vicious circle with population decline. In many cases this results in changing demographic profiles, declining economic activities and increasing challenges to provide SGIs. This may lead to shrinking regions, which eventually entails a risk of declining development perspectives and service levels. The economic crisis also increased out-migration from rural and high unemployment areas, particularly among highly skilled young people, reducing the growth potential of these areas (see also chapter 8).

2.2.2.
Extra-European emigration: Young people going global

Europeans emigrate outside Europe in search of better prospects. Although Europe is an attractive continent to live and work in, highly skilled young people tend to increasingly migrate to dynamic global centres outside Europe.

Major economic and demographic development is occurring elsewhere. The growth of very large cities is increasing not only in Pacific Asia but also in Europe's Mediterranean neighbourhood. New global cities with high concentrations of advanced producer services and young, highly qualified populations are emerging. To a certain extent they also start to compete with European and other cities in the Western hemisphere in attracting international investment and skilled labour.

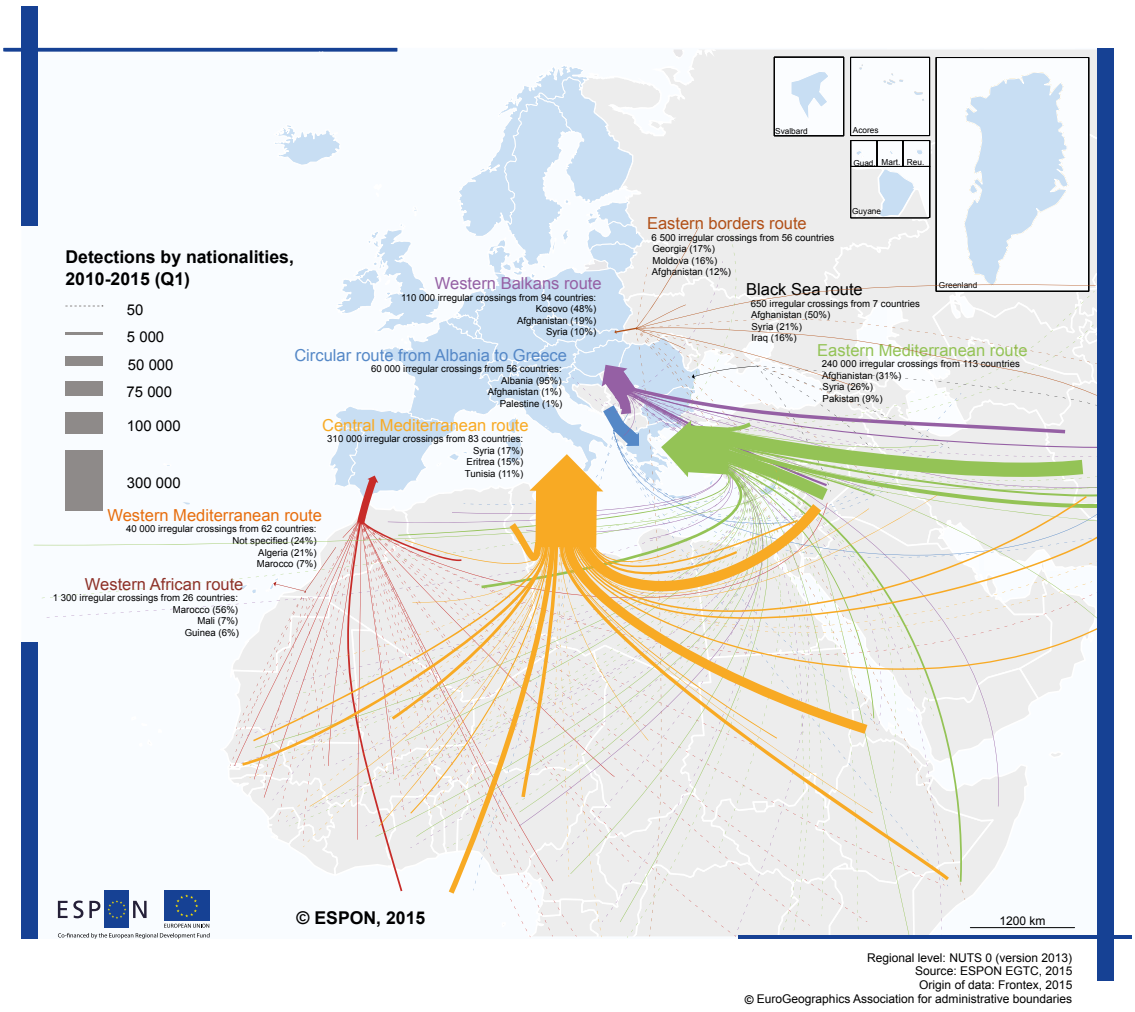
This points to a future in which the main reference places for economic and intellectual development also include dynamic metropolitan regions in Europe's neighbourhood or in India, China, Brazil, South Africa, etc. Already today, Europe's neighbours look not only to European cities when it comes to migration and business opportunities.

This trend contributes to the overall brain drain some countries and regions are already facing.

2.2.3.
Extra-European immigration: the refugee influx to the EU

Migration flows to Europe have not always followed the legal path. While some young Europeans are leaving the continent for better prospects, a large number of people migrate to Europe seeing it as the Promised Land. There are eight primary routes for irregular border crossings into the EU, either by land or sea. The eastern Mediterranean route (in purple), became the biggest migratory hotspot in 2015, used mainly by asylum seekers from Syria, Iraq, Afghanistan and Pakistan. About 66,000 people used this route to Europe. During the current migration crisis, the Western Balkan route has reached its highest level of irregular migration. Looking over a longer time horizon (see map), the central Mediterranean route attracted the most migrants from 2010 to 2015.

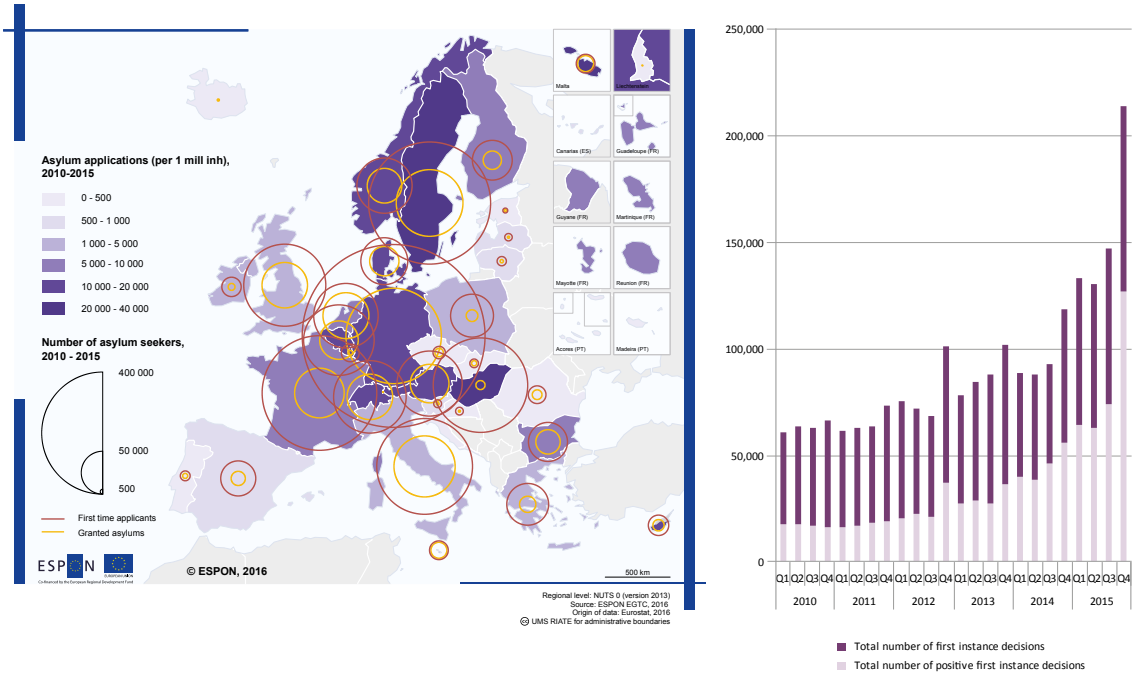
Map 2.1
Main irregular border crossing routes by nationalities, 2010-2015 (Q1)



Islands in the Mediterranean and small inland towns are transit areas for refugees. These transit areas are the main entry points for refugees and asylum seekers. In many cases islands in Italy or the North Aegean in Greece, as well as some smaller cities in Serbia and Hungary serve as a first stepping stone for refugees, before they move to more economically attractive places. Due to the large influx of refugees, transit cities find themselves in a critical position, with humanitarian, social and financial consequences. This is especially challenging for the transit areas and their local population, as they are small islands or cities hosting a large number of refugees. North Aegean, for example, has a population of 199,231 inhabitants and in 2016 alone received 169,993 refugee arrivals. Thus, local authorities need to make systematic and coordinated efforts to manage the temporary accommodation.

Asylum applications are predominantly an urban issue. More than 60% of refugees are found in urban areas globally. In Europe, asylum applications have increased in recent years and differ across countries, with the most in Germany, Sweden, France and Italy. The highest acceptance rates are in Bulgaria, Malta, Denmark, the Netherlands, Sweden, Switzerland and Italy. The lowest application rates are in most Central and Eastern European countries (see map).

Map 2.2
First time asylum applications and asylum granted, 2010-2015



2.3.
Cooperation on ageing and migration and pointers for policy to strengthen cooperation

Cooperation is beneficial and in some cases necessary to bridge needs and to turn challenges into a boon for societies in the field of demographics. Territories can in particular benefit from cooperation by learning from each other's solutions to demographic challenges and by managing the effects of flows of people. Two topics stand out for which territorial cooperation is beneficial at different levels and which are discussed in detail below, ranging from the European to the local levels:

- cooperation on ageing to ensure relevant service provision;
- cooperation on migration to balance integration and flows of people.

2.3.1.
Why and how to cooperate on ageing

Better access to SGIs for elderly people in remote areas. The elderly are often in need of good access to healthcare and other public services. Through cooperation these can be streamlined and applied on a larger scale. Furthermore, such actions can create synergies and eventually save costs. Remote and other inaccessible areas, or areas with geographic specificities, such as mountain, island or sparsely populated areas could find cooperation offering added value.

Sharing SGIs across regions or offering healthcare advice online could create win-win situations.

Designing better opportunities for seniors. Cooperation can help increase the quality of life for seniors, providing a dignified and healthy lifestyle, where the elderly can still feel as useful contributors to society.

Urban centres and rural areas can work together to provide accessible spaces, recreational activities and alternatives for the elderly.

Benefit from experience. Ageing should not be seen as a one-sided effect. Although it is inevitable, complementarities between regions with young populations and regions facing ageing can be found. There are plenty of examples at people-to-people level where younger generations benefit from the experience of older generations especially in business development, while older generations remain active and contributors to society. It should also be possible to identify cooperation issues at the level of 'young and vibrant' and 'silver ageing' regions, e.g. in terms of services created in the areas or particular differences in quality of life (e.g. vibrant and slow lifestyles).

Keep regions attractive for the young. Economic and education centres, places with cultural and leisure activities usually attract large numbers of young people. This keeps regions attractive and counteracts ageing imbalances across Europe.

EXAMPLE 2.2

Active Plus – Keeping the elderly active through cross-border cooperation

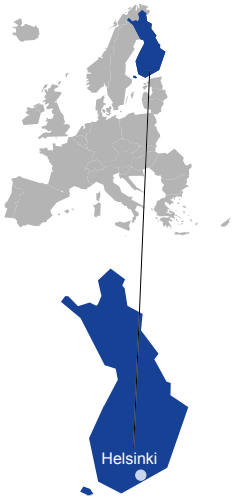
The cross-border region of Lower Austria (Austria) and Vysočina region (Czech Republic) cooperated on a project funded by ERDF during 2007-2013. The aim of the project was to improve the lifelong learning experience of senior citizens through the *Active Plus* programme. This involved organising lectures, seminars and workshops designed for elderly people, as well as promoting good practice exchange to assist social services. The actions help seniors to improve their quality of life and to contribute more to their local communities.



EXAMPLE 2.3

Young renters offered cheap flats at care homes

In various cities in Europe, such as Helsinki, Finland, young people are offered the chance to rent a cheap apartment in an old people's home, if they agree to spend time socialising with the elderly residents. These initiatives provide an integrated response to the challenge of affordable housing, in particular for young people wanting or needing to leave their parents' home, as well as the challenge of an ageing society which needs to improve the quality of life for the elderly.



Pointers for policy 2.1
Cooperation on ageing

Develop joint e-healthcare advice provision.

- **Level of cooperation:**
  Transnational / macro-regional level
- **Parts of Europe where cooperation might be particularly relevant:**
  Especially areas with low accessibility and high old-age dependencies, e.g. eastern Germany, Estonia, Latvia, Lithuania, Bulgaria and rural areas in the UK, Spain, Portugal, Italy, Greece and Romania
- **Territorial types for which cooperation might be particularly relevant:**
  Inner peripheries, rural areas, mountain areas, islands
- **Possible stakeholders to initiate cooperation:**
  Regional authorities, local authorities together with hospitals, private doctors and elderly support centres

Ensure that elderly have high levels of access to SGI through joint offers and investment (see also section 8 for more details on SGI provision).

- **Level of cooperation:**
  Functional urban and rural regions, functional urban-rural partnerships, cross-border regions
- **Parts of Europe where cooperation might be particularly relevant:**
  Especially areas with low accessibility and high old-age dependencies, e.g. eastern Germany, Estonia, Latvia, Lithuania, Bulgaria and rural areas in the UK, Spain, Portugal, Italy, Greece and Romania
- **Territorial types for which cooperation might be particularly relevant:**
  Rural areas, peripheral areas with low accessibility
- **Possible stakeholders to initiate cooperation:**
  Local and regional authorities

Develop joint regional one-stop-shop administration solutions for the elderly.

- **Level of cooperation:**
  Functional urban and rural regions, functional urban-rural partnerships
- **Parts of Europe where cooperation might be particularly relevant:**
  Especially areas with low accessibility and high old-age dependencies, e.g. eastern Germany, Estonia, Latvia, Lithuania, Bulgaria and rural areas in the UK, Spain, Portugal, Italy, Greece and Romania
- **Territorial types for which cooperation might be particularly relevant:**
  Rural areas, islands, mountain areas, sparsely populated areas
- **Possible stakeholders to initiate cooperation:**
  Local and regional authorities

Explore complementarities in development potential between ‘young and vibrant’ and ‘silver ageing’ regions.

- **Level of cooperation:**
  European level
- **Parts of Europe where cooperation might be particularly relevant:**
  Parts of Europe with high share of young people (e.g. regions in Poland, Slovakia, the Baltic States, Sweden, Norway and Iceland) and parts of Europe with high share of old people (such as large parts of Germany, in France, Spain, Italy, Greece and Bulgaria)
- **Territorial types for which cooperation might be particularly relevant:**
  All types of territories

- **Possible stakeholders to initiate cooperation:**
  Local and regional authorities

Create education or cultural hubs to attract young people.

- **Level of cooperation:**
  Functional rural regions and cross-border regions
- **Parts of Europe where cooperation might be particularly relevant:**
  Northern Sweden, rural areas in Bulgaria and Romania, parts of Eastern Germany
- **Territorial types for which cooperation might be particularly relevant:**
  Sparsely populated areas, rural areas
- **Possible stakeholders to initiate cooperation:**
  Local and regional authorities

2.3.2.
Why and how to cooperate on migration

Different types of migration suggest different joint actions and cooperation.

Reducing pressure on urban areas from intra-regional and domestic migration. In intra-regional and national migration, flows are towards urban centres, increasing the pressure on these places. Cooperation can help reduce this pressure, finding joint solutions for integration, urban segregation and uncontrolled sprawl.

Better integration of intra-European immigrants. These are immigrants from other European countries who are in search of residence and interested in joining the community. Urban areas can jointly plan and take action to better integrate newcomers, helping them find accommodation and become part of their new community.

Better integration of migrants. Settling in a new place is not easy for persons moving to a new place, especially for refugees from a different culture and without employment. Joint actions across regions help to familiarise newcomers with their new countries, help them learn the language and integrate into the education system and also enable them to gain access to the labour market.

Improved management of refugee flows. The recent influx of refugees called for immediate action at the EU level. Cooperation was needed to manage the entrance, transit, settlement and flows of refugees across Europe. This is especially relevant for transit areas such as the North Aegean islands, Malta, the coast of southern Italy and smaller towns in eastern Europe that function as transit areas.

EXAMPLE 2.4

Cooperation projects for the integration of migrants

There have been a number of cooperation projects which have helped integrate migrants and strengthen social inclusion.

- **Creative Europe Projects.** 12 projects were funded under Creative Europe. These aim to promote culture for better social inclusion of migrants including refugees. Regions in different countries have worked together and focused on developing a common understanding of different cultures, democratic values, diversity and actions to support the integration of migrants.
- **AIMER.** The project, funded under ERDF within 2 Seas programme 2007-2013 between France, the UK, Belgium and the Netherlands, worked with integrating newly arrived migrants and enabling established minority groups to improve their access to jobs and services. Developing methods and approaches to engage migrant groups was one of the priorities.
- **European Rural Futures.** The project, funded under the Central Europe programme 2007-2013, promoted actions for the provision of innovative solutions to restructure services and infrastructure in shrinking regions and cities, to cope with the challenges of demographic change in rural areas.
- **REGI – Reacting to Growing Immigration** – Strengthening social inclusion of Estonian migrant families in Finland and Estonia. The project funded under the Central Baltic programme 2014-2020, aims at supporting Estonian migrant families that are either split between Estonia and Finland due to work-related reasons, or have moved to Finland. The project aims to improve the well-being of these migrants, develop networks and stronger cultural and social understanding between the two countries.
- **Migrants in Intercultural Romania:** The project was launched by the Intercultural Institute of Timisoara in Romania. It developed a new approach for integrating non-EU migrants into society. The project initiated new ways for interaction with bottom-up intervention, involving local authorities, civil society and migrants.

These projects are just a few examples. Capitalising on the good practices and experiences of these and other projects, future projects can help deal with the effects of migration across Europe.

Pointers for policy 2.2
Cooperation on migration

Strengthen joint labour mobility platforms to better integrate European immigrants in labour markets (taking into account the profiles of existing platforms).

- **Level of cooperation:**
  Transnational / macro-regional level
- **Parts of Europe where cooperation might be particularly relevant:**
  Parts of Europe receiving high numbers of intra-European migrants, such as capital regions in West and North Europe, urban areas in Germany, Luxembourg, Belgium, the Netherlands, Sweden and parts of Europe sending high numbers of intra-European migrants, such as Romania, Greece, Italy, Spain
- **Territorial types for which cooperation might be particularly relevant:**
  Urban areas, especially those with high numbers of intra-European migrants (receiving and sending areas)
- **Possible stakeholders to initiate cooperation:**
  Regional, local and national authorities

Develop joint systems to regulate controls and flows of extra-European migrants and ease the pressure on entrance points (e.g. coastal areas and islands in the Mediterranean).

- **Level of cooperation:**
  Transnational / macro-regional level
- **Parts of Europe where cooperation might be particularly relevant:**
  Mediterranean and Balkans
- **Territorial types for which cooperation might be particularly relevant:**
  Islands, coastal regions, small towns, such as current transit regions, entry points (e.g. islands in the Aegean and in Italy), smaller towns on the 'Balkan route'
- **Possible stakeholders to initiate cooperation:**
  National and regional/local authorities

Join forces to support cultural activities, sports activities and classes for better integration of extra European migrants.

- **Level of cooperation:**
  Functional urban regions
- **Parts of Europe where cooperation might be particularly relevant:**
  All parts of Europe, in particular in the coastal and island regions in the Mediterranean as well as main destination areas in Germany and Sweden
- **Territorial types for which cooperation might be particularly relevant:**
  Urban areas hosting many migrants and rural regions with limited capacity for cultural and sports activities
- **Possible stakeholders to initiate cooperation:**
  Local and regional authorities

Establish twinning projects between arrival regions of extra-European immigrants and other regions.

- **Level of cooperation:**
  European level
- **Parts of Europe where cooperation might be particularly relevant:**
  Arrival regions (such as islands in the Aegean, or small towns in the Balkan states) and hosting regions (such as capital cities and urban areas in destination countries across the EU)
- **Territorial types for which cooperation might be particularly relevant:**
  Islands, small towns, capital cities
- **Possible stakeholders to initiate cooperation:**
  Local and regional authorities

3

Stimulating employment in the knowledge economy



3. Stimulating employment in the knowledge economy

The knowledge economy is one of the most dynamic sectors of the European economy. Different policies and strategies, such as regional smart specialisation strategies, aim at enhancing the knowledge economy in European regions. Emphasising the knowledge economy is increasingly important with the move to the 4th industrial revolution. The 4th industrial revolution is expected to have a great impact on people's daily habits regarding work, leisure and living. European regions will have different advantages and development paths towards the 4th industrial revolution.

Already today, the uptake of the knowledge economy varies considerably from region to region. This is especially visible in the territorial diversity of employment in the knowledge economy, which is constantly changing due to the particularly dynamic character of employment in this sector of the economy.



Further ESPON reading: The geography of new employment dynamics in Europe; Possible European territorial Futures; Knowledge, innovation, technology (KIT).

3.1. Territorial diversity of employment in the knowledge economy

The knowledge economy covers a sector of the labour market where developments come with particular territorial implications. The knowledge economy demands specialised and highly skilled labour, for example in ICT and engineering. The knowledge economy stands out from other sectors with its capacity to create (and necessitate) highly skilled high-wage jobs, and to produce spill-over effects for the creation of jobs in related sectors, fostering a demand for worker 'upskilling'.

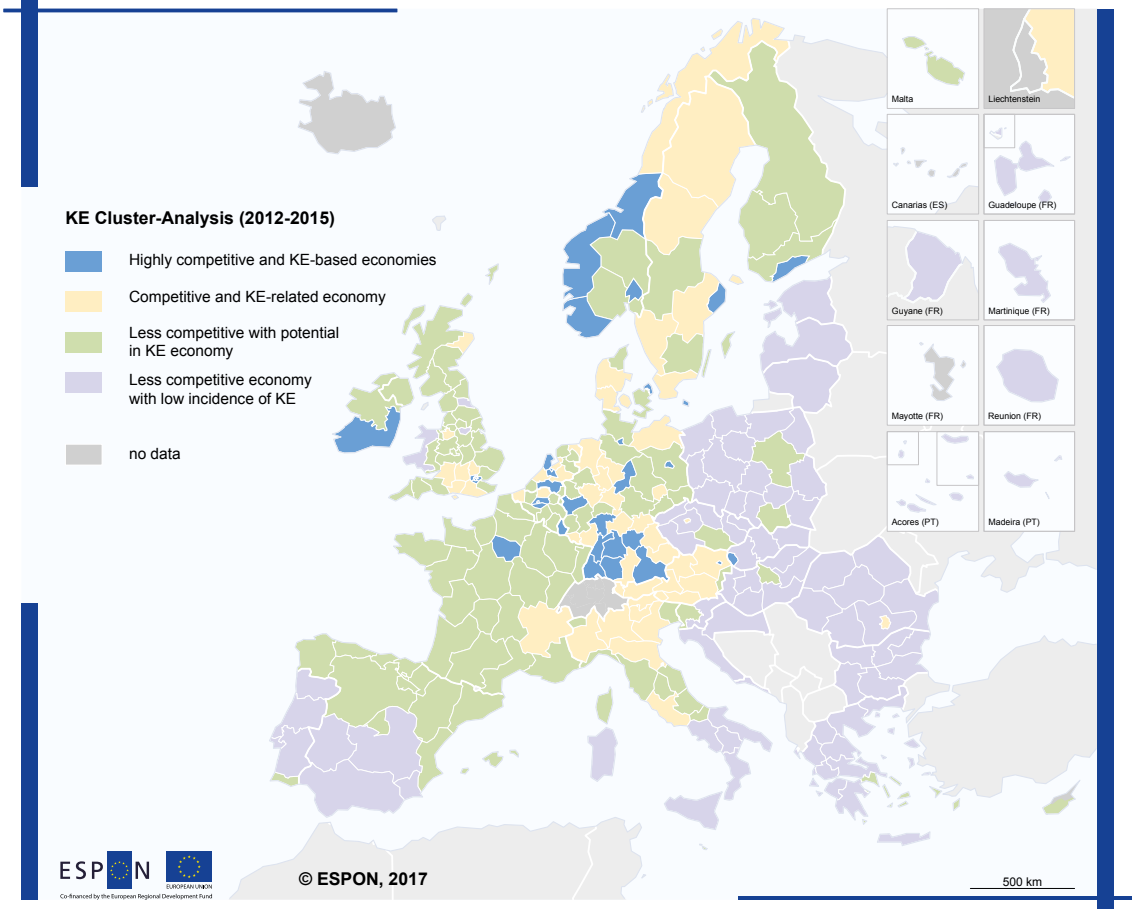
3.1.1. The knowledge economy is highly concentrated in a few centres in Europe

Differentiating European regions for their knowledge economy potential by combining regional labour market migration and population dynamics, research and innovation and territorial context factors shows five different types of regions.

Highly competitive and knowledge-based regions are mostly urban areas in northwest Europe, such as southern Germany, Paris, Dublin, as well as the Norwegian and Swedish west coast. These regions are characterised by economic growth and have seen improvements or very small declines in labour market characteristics since the economic and financial crises. Furthermore, these regions experience population growth, in particular due to the inflow of people.

The least competitive regions with low potential for the knowledge economy can be found in many eastern European regions as well as in the south of Spain, Portugal, Greece and Italy.

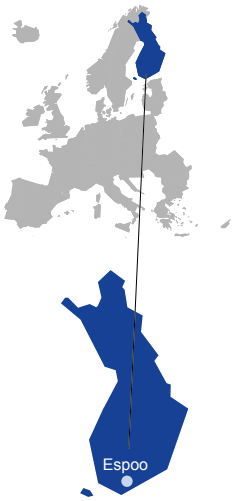
Map 3.1
Types of competitive knowledge economies



Regional level: NUTS 2 (version 2013)
Source: ESPON EMPLOYMENT, 2017
Origin of data: Eurostat, 2016
© UMS RIATE for administrative boundaries

EXAMPLE 3.1

Place-based innovation ecosystems in Espoo Finland



The town of Espoo in Finland is one of the most competitive knowledge economies in Europe. Espoo's knowledge economy can be described as an innovation ecosystem which benefits from continuous entrepreneurial discovery advocated by the region's smart specialisation strategy.

Key success factors for the development of the Espoo innovation ecosystem are: 1) the historical concentration of highly skilled human capital and research infrastructure, including the ups and downs of Nokia; 2) vision, political commitment and a collaborative culture; 3) a strong orchestrating actor, i.e. Aalto University; coupled with 4) the leadership, strategic and cross-disciplinary thinking of the university's management; 5) a local culture of innovation and entrepreneurship; 6) a focus on the potential and capability of people to inform policies and programmes; 7) financial and policy support from the central government; 8) the successful involvement of serial entrepreneurs in financing and mentoring further start-up activities.

3.1.2. Spatial concentration of the knowledge economy

The concentration of the knowledge economy can be described as a reinforcing circle, as the presence of a knowledge economy increases the inflow of social and human capital, which further strengthens the knowledge economy and so accelerates territorial concentration. This supports the exchange of tacit knowledge between firms.

High density and high levels of human and social capital are primary territorial characteristics attracting knowledge economy players. Firms in the knowledge economy are most likely to be attracted to areas, or are created in areas, with high population density and high education levels. There is a higher proportion of highly educated people in metropolitan areas.

One of the main consequences of knowledge economy concentration is the mobility of highly skilled migrants. Young people particularly move towards regions and urban centres that offer a match with their own skill levels. (For more details on migration flows, please see the chapter on demographic flows, section 2.2.)

3.2. Territorial links supporting the knowledge economy

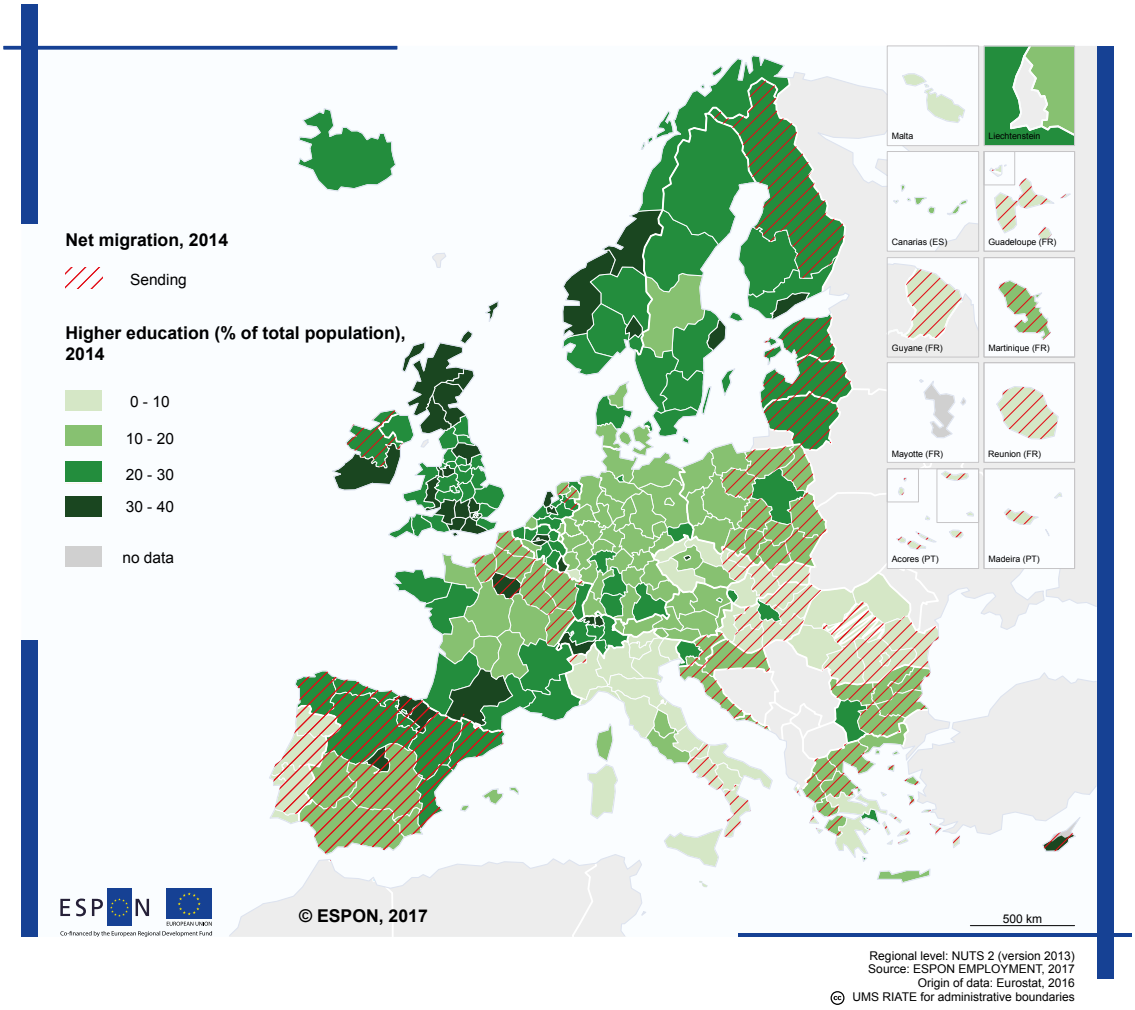
A competitive knowledge economy relies on technological developments as well as on knowledge flows. Knowledge flows can be 'codified knowledge' that is freely accessible to all, e.g. through academic publications. Knowledge flows can also be 'tacit', i.e. knowledge that is embedded in routines, experience and other less accessible sources.

Competitive knowledge economies rely largely on tacit knowledge. Less competitive regions are on the one hand challenged by losing knowledge workers to other regions, on the other hand they see an inflow of capital in the form of remittances or when knowledge workers return with entrepreneurial spirit.

3.2.1.
Labour mobility and territorial imbalances in the knowledge economy

Knowledge economy employees move to metropolitan areas. There is a greater share of people with higher education qualifications in northern Spain, Ireland, Scotland, western Norway as well as the metropolitan areas of Stockholm, Helsinki and Paris. In general, Nordic and Baltic countries, the UK and Ireland as well as Spanish and southern French regions have a larger share of population with higher education degrees in science and technology. Some of these regions benefit from this human capital, while others see an outflow to other regions. In particular cities and regions in the Baltic States, Ireland, northern Spain and eastern Finland as well as urban regions in eastern European countries are challenged by highly-skilled people leaving.

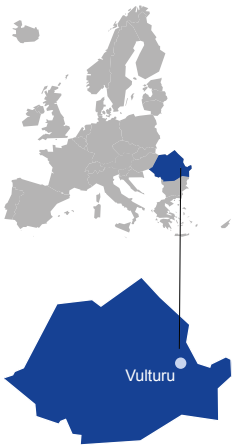
Map 3.2
People with Higher Education qualifications in science and technology, 2014



Increasing gender imbalances in the knowledge economy may challenge development in some regions in the North and East. Current data covering science and technology in the economically active population shows a shortage of woman in eastern European regions as well as in northern Sweden. A shortage of women is considered to be bad for the development of a region.

EXAMPLE 3.2

The role of financial and social remittances in Vulturu



Vulturu is a village of approximately 4,000 inhabitants in southeast Romania and it has been subject to the effects of labour migration in terms of depopulation and receiving remittances. The majority of the younger population began emigrating in 1993. While abroad the people from Vulturu maintained contact with those at home. Abroad, women's income was typically used to cover daily expenses, while men's income was directed towards savings and remittances. They remitted an estimated EUR 1.76 million as investments in tangible assets and existing businesses, excluding daily expenses for relatives. Social remittances illustrate the experience gained abroad and brought back upon return. For example, having lived in societies with higher gender equality, they now challenged traditional gender as well as generational relations at home. This change of attitudes also influenced the values promoted in their children's education, with greater focus on independence and education. Many of those who remained in Vulturu considered that brain drain losses were offset by incoming financial and social remittances.

3.2.2.
Knowledge economy brain drain

The knowledge economy has a long-term impact on European integration. In northwest Europe it is one of the pull factors attracting young highly skilled people from other regions. However, the push factors are usually stronger. These include unemployment and a poor economic outlook in their home region.

Regions with a large outflow of highly skilled people may receive additional capital in the form of remittances. One of the impacts of the highly skilled labour migration is the flow of capital back to the sending regions, so-called remittances. Latvia and Croatia are the economies most dependent on remittances in the EU, followed by Hungary, Lithuania and Bulgaria.

3.3.
Cooperation on the knowledge economy and pointers for policy to strengthen cooperation

Areas with a strong and competitive knowledge economy are concentrated in a few parts in Europe. This concentration trend may be further intensified by an increased focus on excellence and increased territorial imbalances at different levels. To make the most of the knowledge economy, territorial cooperation can help in different ways:

- by strengthening the knowledge economy in all regions by linking places with high and low profiles in the knowledge economy;
- by mitigating the negative effects of increased concentration.

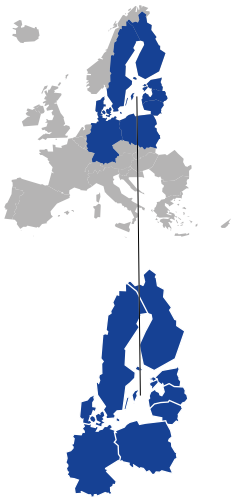
3.3.1.
Why and how to cooperate to strengthen knowledge economy employment

Knowledge economies benefit from territorial cooperation. A knowledge economy relies on sufficient social and human capital and interactions to flourish. Knowledge economies are thus partly defined by their capacity to cooperate. Cooperation rather than competition may also help to identify new technologies and emerging markets and so find a unique selling point or smart specialisation relevant for the region.

Strong knowledge economies can increase their global competitiveness Regions with strong knowledge economies may cooperate with neighbouring or distant regions that complement their niche for different reasons. Firstly, one knowledge economy may for example have a shortage of highly skilled labour in a specific sector. It may therefore wish to establish stronger institutional links with regions that offer education in these specific sectors. Cooperation, e.g. across national borders, addresses issues of matching demand and supply for knowledge economy workers. Secondly, complementarities may fill gaps in value chains relevant for knowledge economy sectors. Thirdly, increased cooperation may also increase the visibility and image of the region. A network of cities or metropolitan area may be able to present itself better than single cities at a global level.

EXAMPLE 3.3

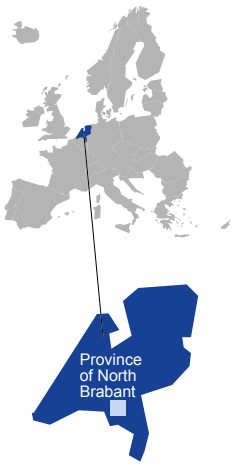
Baltic ScienceLink



By creating a network involving a variety of stakeholders, scientific expertise, industrial knowledge and governmental support, *ScienceLink* brings science and industry closer together. The *ScienceLink Network* offers the opportunity to use some of Europe's leading large-scale facilities for a company's R&D. Measurements for feasibility studies using neutron or synchrotron radiation and performed by the facilities will be free of charge. Apart from the research facilities, the network also includes scientific institutes, universities and regional organisations that serve as service and promotional units. In doing so it ensures that cooperation over facilities in the network is increasingly visible and at the same time regional networks are strengthened, ensuring that the Baltic Sea Region develops into a leading area in this field.

EXAMPLE 3.4

Jointly strengthening the global position of local knowledge economies in North Brabant



The five major cities in the province of North Brabant established the *Brabant-Stad* urban network to jointly work on an international and sustainable urban network. They focus on strengthening economic resilience through knowledge, innovation and added value, increasing international allure, increasing (international) accessibility and strengthening the spatial structure of the urban network. Through cooperation the different cities enlarge their network of potential partners in the knowledge economy and increase the visibility of the region at European and global levels. The region is active in the *Vanguard* initiative, a network of regions using their smart specialization strategies to boost growth through bottom-up entrepreneurial innovation. *Vanguard* regions build synergies and complementarities in smart specialisation strategies to boost world-class clusters and cluster networks, in particular through pilots and large-scale demonstrations. These investments will strengthen Europe's competitive capacity to lead in new industries and develop markets that offer solutions to our common challenges.

Pointers for policy 3.1
Knowledge economy cooperation to strengthen the knowledge economy

Complete value chains of domestic knowledge economies by cooperating with territories offering complementarities.

- **Level of cooperation:**
  European level and transnational / macro-regional level
- **Parts of Europe where cooperation might be particularly relevant:**
  Regions with competitive and knowledge economy-related structures, or less competitive regions with a potential for a knowledge economy, e.g. northern and western European countries, as well as norther Spain, northern Italy and the capital regions of southeast and eastern European countries
- **Territorial types for which cooperation might be particularly relevant:**
  Urban areas and small towns
- **Possible stakeholders to initiate cooperation:**
  Local, regional and national authorities together with universities and knowledge institutes, cluster organisations and enterprises

Attract knowledge employees from inside and outside Europe by improving the image of the region and create more visibility at global level.

- **Level of cooperation:**
  Functional urban regions
- **Parts of Europe where cooperation might be particularly relevant:**
  Northwest and northern Europe with highly competitive knowledge economies, e.g. areas with strong economic clusters such as Dublin, the regions of Brabant (the Netherlands), the regions of Baden-Württemberg (Germany) or Stockholm (Sweden)
- **Territorial types for which cooperation might be particularly relevant:**
  Urban areas
- **Possible stakeholders to initiate cooperation:**
  Local and regional authorities together with universities, knowledge institutes and enterprises

3.3.2.
Why and how to cooperate to counterbalance concentration of the knowledge economy

Less competitive knowledge economies benefit from cooperation with other regions. There is scope for win-win situations. Increasing concentrations of the knowledge economy may have negative impacts at different levels in regions sending and receiving knowledge economy workers.

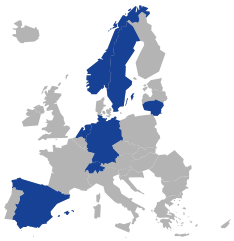
Cooperation on labour market issues can reduce territorial imbalances and demographic challenges. This holds true at European and macro-regional levels. To increase their critical mass, public authorities may coordinate their focus on the knowledge economy in order to balance the need for knowledge workers with specific skills rather than to compete for them. Also, public authorities can join forces to reduce the costs of specific training for knowledge economy workers needed in the region.

Cross-border cooperation supports the development of functional areas and enhances a common knowledge economy. Different cross-border obstacles may be removed, creating a functional area in support of the knowledge economy. This can include language classes and information on social security in the other country.

Cooperation at the level of functional areas increases economies of scale. Urban and rural regions may cooperate to balance areas of knowledge economy production and areas where knowledge workers live.

EXAMPLE 3.5

Brain Flow

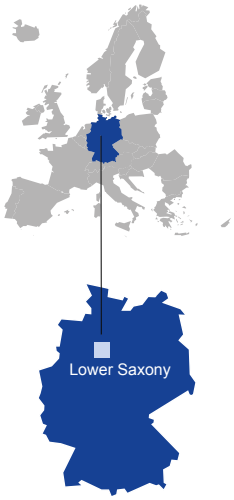


The *Brain Flow* partnership represented 8 border regions from 7 countries (Gelderland in the Netherlands, Hedmark, in Norway, Navarra in Spain, Nemunas Euroregion in Lithuania, North Rhine-Westphalia in Germany, Overijjsel in the Netherlands, Regio Basiliensis in Switzerland and Värmland in Sweden). All of these are affected by this phenomenon due to their specific socio-economic and geographic characteristics. The overall aim of *Brain Flow* was to enable regional authorities and other regional/local actors to develop and improve their policies and instruments to counter the outflow of highly educated and qualified people (brain-drain) and to attract and retain human capital (brain-gain) in their regions in support of their innovation capacity and competitiveness.

A lack of qualified labour force has been defined as a barrier to innovation and growth capacity in regions. The partnership was looking for new ways, instruments and measures to tackle the problem. During this cooperation, partner regions exchanged best practices and experiences to develop and introduce new or improved ways to minimise brain-drain and simultaneously foster brain-gain.

EXAMPLE 3.6

Skilled Labour Initiative of Lower Saxony



The Lower Saxony government, together with employers' associations, trade unions, chambers of commerce, the Lower Saxony-Bremen regional directorate of the German Federal Employment Agency, municipal authority umbrella associations and other social groups, have adopted an agreement to secure the supply of skilled labour. The priority areas of the agreement are (i) strengthening the dual system of vocational training, (ii) promoting science, technology, engineering and mathematics, and (iii) reconciling family and work commitments. Furthermore, the *Skilled Labour Initiative* is also designed to tap further into the skilled manpower potential of women, the unemployed, older people and migrants.

EXAMPLE 3.7

Information for cross-border workers in Luxembourg

The House of Luxembourg informs cross-border workers on all matters related to their social status in France and in Luxembourg. It also helps companies in the Thionville area to develop economic relations with the Grand Duchy. The House of Luxembourg is open to anyone seeking information on employment conditions in the Grand Duchy. Located in the city centre of Thionville, the House of Luxembourg is the first facility in the Luxembourg Greater Region dedicated to the cross-border community. It fully supports actions introduced by the urban community "Portes de France – Thionville" to promote cooperation regarding the cross-border territory.



Pointers for policy 3.2

Knowledge economy cooperation to counterbalance concentration of the knowledge economy

Support training and education programmes to develop critical mass in regions.

- **Level of cooperation:**
  Functional urban and rural regions, rural-urban partnerships, cross-border regions
- **Parts of Europe where cooperation might be particularly relevant:**
  Europe's main destination regions for skilled labour together with "sending regions", e.g. cities and regions in the Baltic States, Ireland, northern Spain and eastern Finland as well as urban regions in eastern European countries
- **Territorial types for which cooperation might be particularly relevant:**
  Urban areas, small towns and lagging regions
- **Possible stakeholders to initiate cooperation:**
  Local, regional and national authorities together with universities, schools and other education providers

Develop labour mobility strategies to generate win-win situations for receiving and sending regions.

- **Level of cooperation:**
  Functional urban and rural regions, rural-urban partnerships, cross-border regions
- **Parts of Europe where cooperation might be particularly relevant:**
  Areas with less competitive knowledge economies in particular in eastern and southern Europe
- **Territorial types for which cooperation might be particularly relevant:**
  Sparsely populated, rural regions, small towns
- **Possible stakeholders to initiate cooperation:**
  Local, regional and national authorities, private sector, research centres

4

Promoting economic growth through SMEs and FDI



4. Promoting economic growth through SMEs and FDI

Stimulating economic growth and job creation requires multiple drivers, two of which are Small and Medium Enterprises (SMEs) and Foreign Direct Investment (FDI). Territorial evidence on the distribution of SMEs and the attractiveness of regions to FDI provides important insight into economic growth and resilience. High shares of employment in SMEs require good access to finance and sufficient support for them to survive and grow. High shares of FDI illustrate attractive markets and an investment climate. Territorial assets in the region may benefit from FDI making the region's economy more resilient.

Further ESPON reading: Small and Medium-size Enterprises in European regions and cities; The world in Europe, global FDI flows towards Europe; Integrated territorial analysis of the neighbourhood (ITAN).

4.1. Territorial diversity of economies and the role of SMEs

The economic and financial crisis showed territorially diverse vulnerabilities to globalisation and interconnected markets. Cities and regions with diverse economic structures have been among the more resilient territories.

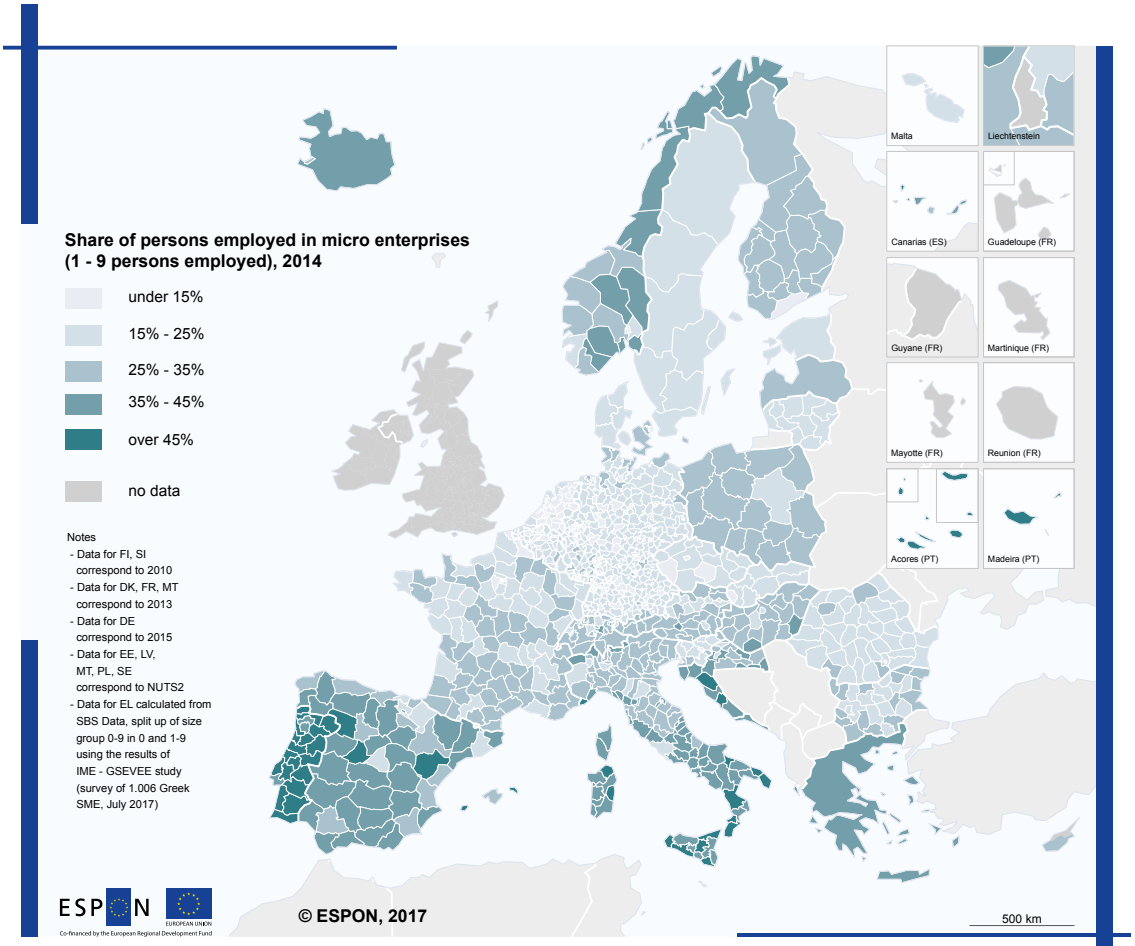
In the aftermath of the crisis public investments have been geared to diversify economic structures at all territorial levels. Linked to regional smart specialisation strategies, this implied a strategic choice of fields to diversify into. Investments focus on increasing the survival rates of SMEs, by increasing their access to finance as well as smart specialisation strategies and actions.

4.1.1. Territorial differentiations of the role of SMEs

SMEs represent 99% of all businesses in Europe and are important for ensuring economic growth, innovation, job creation and social integration. SMEs include medium-sized, small and micro-enterprises. Medium-sized enterprises have less than 250 employees, small enterprises have less than 50 and micro-enterprises less than 10 employees. This latter group is particularly dynamic. Micro-enterprises are among the fastest growing companies and tend to be more innovative, but they are also more vulnerable to external economic and financial shocks.

Micro-enterprises are particularly important in southern and northern Europe and in rural areas. 77% of the people employed in northern Portugal work in micro-enterprises. The share of people employed in micro-enterprises is high in Spanish rural regions as well as in the Canary Islands, Southern Italy, coastal regions in Croatia and northern regions in Norway and Iceland. In these countries the share of people employed in micro-enterprises is considerably lower in capitals and other urban regions. For example, the share of people employed in micro-enterprises is only 16% in Madrid and 24% in Barcelona, compared over 50% in La Palma (Canary Islands).

Map 4.1
Share of people in micro-enterprises, 2014



Regional level: NUTS 3 / NUTS 2 / NUTS 0 (version 2013 / 2010)
Source: ESPON SME, 2017
Origin of data: Eurostat Business demography,Statistics Austria national SBS, Statistics Belgium Demografie Ondernemingen, ORBIS, Beschäftigtenstatistik Bundesagentur, national SBS, Statistics Finland national BD, Insee. Direction des statistiques démographiques et sociales (DSDS), Financial Agency, Central Statistics Office (CSO) national BD, Statistics Iceland national BD, Amt für Statistik Fürstentum Liechtenstein - Beschäftigungsstatistik, Statistics Norway national BD, Central Statistical Office Poland national BD, Statistics Portugal Integrated Business Accounts System, National Statistics Institute Romania national SBS, Statistics Sweden Business Register, Bundesamt für Statistik Schweiz, Small Enterprises' Institute of the Hellenic Confederation of Professionals, Craftsmen and Merchants (IME GSEVEE)
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SME employment hotspots in central and eastern Europe. The share of employment in SMEs is highest in Swedish regions, eastern Germany, the north of Poland and in Lithuania, with the exception of the capital region. Particular sub-national differences can be noted in France, Italy and Romania.

Moreover, clusters matter. SMEs in industrial clusters appear more resilient due to synergy effects of clustering. SMEs in industrial clusters work with higher capital or skill intensity and innovate more. Gazelles – i.e. extremely fast growing companies – in strong clusters have been more robust, employing 35 staff in those clusters compared to 24 elsewhere.

4.1.2.
Changes in the development of SMEs and micro-enterprises

The importance of micro-enterprises as employers has changed between 2008 and 2014. The territorial pattern of people employed in micro-enterprises largely follows national borders. Between 2008 and 2014 the share of people employed in micro-enterprises decreased in Italy, Spain, the Netherlands and Romania, whereas it increased in Croatia, the Czech Republic, Latvia and Estonia.

Accessibility and quality of governance are important preconditions for enterprise birth rates. Accessibility, the relative distance to urban centres for potential labour, suppliers and clients along with governance quality are the two most determinant territorial assets for enterprise start-ups. High unem-

ployment rates hardly influence (or drive) start-up rates of enterprises. This may be linked to the fact that enterprises with no employees – i.e. providing work opportunities only for the owner – are not accounted for in statistics.

A region's education level and quality of governance positively affect the growth of micro-enterprises. Education is the most important driver for increased employment in micro-enterprises in; rural, intermediate and urban regions. The quality of governance improves access to finance and cluster development. It also increases tax receipts and increases employment in micro-enterprises but to a lesser extent. Accessibility and urbanisation seem to be less relevant for micro-enterprises.

SMEs employment was most dynamic in Italian regions between 2008 and 2014. The increased importance of employment in SMEs was less pronounced than that in micro-enterprises. SMEs gained importance in Estonia, Piemonte in Italy as well as Lozère in France and the city of Livorno in Italy. There were positive developments all over Germany, in Sweden and Norway, in the northwest and south of Poland, in the region neighbouring Bucharest and in several Italian regions. Outliers with a strong decline in the importance of SMEs are the very north of Portugal, some regions in the south of Italy and in and around the harbour city of Rijeka in Croatia.

Important preconditions for growth in SMEs are the quality of governance followed by urbanisation and accessibility. Compared with the drivers for micro-enterprise employment growth, education plays a less important role for SMEs. Changing growth objectives following enterprise life cycles may explain this. Whereas in the seed and start-up phases knowledge of the market and access to finance can help enterprises to survive, access to labour, suppliers and clients becomes more relevant in the growth and maturity phases of enterprise development.

4.2.
Foreign direct investment linking growth in different territories

Stimulating economic growth and job creation in a region can also include attracting foreign firms to invest in the region. In particular, FDI in the form of green field investment has positive effects on the economy and labour market in a city or region.

A better understanding of FDI inflows and their effects on cities and regions helps to embrace the benefits of globalisation and prevents potentially negative effects. With the 'right' policy framework FDI in Europe can support financial stability, promote economic development and enhance well-being in societies.

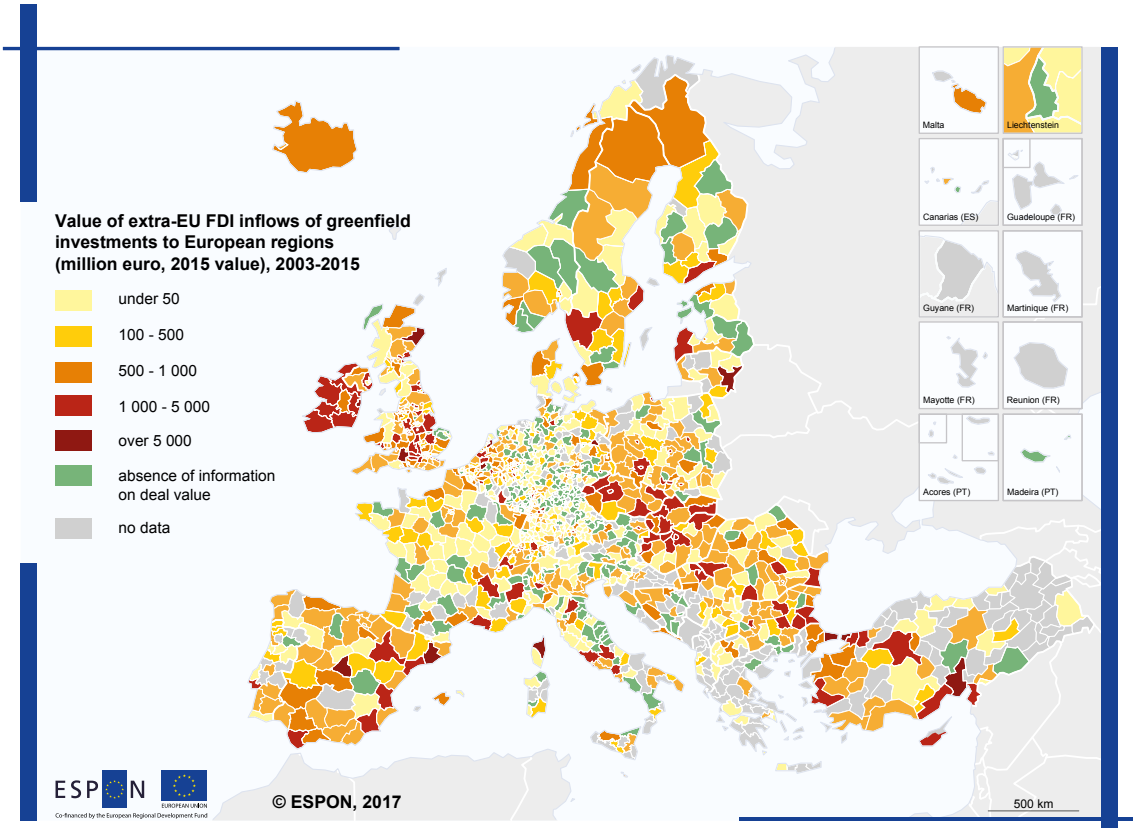
Productivity gains among local firms are higher in services in urban areas. Productivity gains from foreign owned-firms can emerge through different channels for hosting territories: (1) increased labour mobility; (2) learning from foreign firm production processes, so-called imitation or demonstration; (3) increased efficiency and faster adoption of new technologies; (4) new export possibilities and (5) vertical links between firms. These are direct relationships between foreign and domestic owned firms, for example local buyers and suppliers.

While non-European owned firms on average represent some 1% of the total number of firms, they account for 5% of employment, 11% of production and 9% of value added. There are large territorial differences in the share of foreign-owned enterprises per country. This ranges from 11% in Luxembourg to 0.1% in Belgium, Greece, Spain, Italy, Poland, Slovakia and Bosnia and Herzegovina. The share of employment in foreign-owned firms is highest in Luxembourg, followed by the UK, Hungary, the Czech Republic and the Netherlands. The value added is highest in Hungary, the UK, Luxembourg, the Netherlands and the Czech Republic.

Direct impact of non-European owned-firms is highest in urban regions, in particular capitals and metropolitan areas. 69% of all non-European owned firms in Europe are in urban regions, while 25% are in intermediate regions, and only 6% in rural regions. The focus on urban regions is more pronounced when analysing productivity spill over effects such as employment and value added (see map).

Non-European owned firms in urban regions account for 83% of employment and 81% of production (measured by operating revenue) generated by these firms across all regions. European capitals in particular benefit from foreign-owned firms.

Map 4.2
Extra-EU FDI flows across European regions 2003-2015



Regional level: NUTS 3 (2013)
Source: The World in Europe, global FDI flows towards Europe, 2017
Origin of data: Copenhagen Economics based on BvD´s Zephyr and the Financial Times databases, 2016
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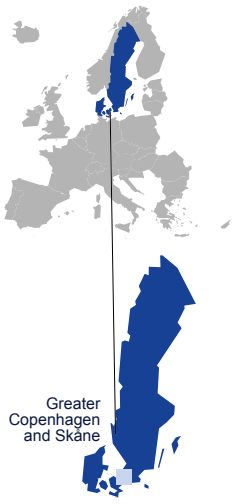
EXAMPLE 4.1

FDI in the cross-border Øresund region



Cross-border regions have a potential for FDI, but language and regulatory obstacles often hamper materialisation of this potential.

The greater Copenhagen region including Skåne in Sweden is one of the regions that successfully removed cross-border barriers and one with the most FDI projects in Europe. The policy approach of the Greater Copenhagen Region towards FDI is characterised by a focus on attracting R&D and innovation investment in niche markets that capitalise on the region's strengths – in particular, life sciences and clean/green tech. Further, the approach addresses cross-border cooperation as an avenue to increased market potential and is well integrated with regional and national development goals. By focusing on regional strengths, macroeconomic factors such as government stability, research and innovation, levels of education and economic growth are balanced by a policy approach that presents not only a solid value-proposition for investors but genuine FDI value-added for the region itself.

Good domestic institutions and infrastructure support productivity gains from FDI. FDI is highly flexible. Urban areas are in general more popular due to close proximity between suppliers and buyers. The economic and financial crisis made differences between regions in their levels of global integration even clearer. The crisis reduced investment flows mainly in southern and eastern European countries. In 2007 southeast and eastern European countries received EUR 55 billion from FDI, which decreased to 23 billion in 2009.

4.3. Cooperation on economic growth and pointers for policy to strengthen cooperation

Economic growth builds largely on cooperation beyond administrative borders, e.g. with different clients, suppliers, knowledge institutes, business angels outside the own region. Cooperation between public authorities can further encourage clusters and networks of firms to grow.

The analysis in section 4.1 illustrated drivers for SME growth. Cooperation may lead to better government support schemes for SMEs, fostering the growth of SMEs in every type of region. Cooperation in clusters is extensive and cluster organisations are catalysts supporting SMEs.

Analysis of the distribution of FDI in section 4.2 illustrates that urban, capital and well-developed regions in particular benefit from foreign-owned firms. Cooperation may also enhance productivity spill-over effects in other types of regions.

4.3.1. Why and how to cooperate to foster SME growth capacity

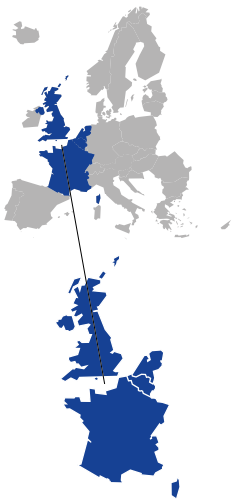
Efficient use of public resources to increase SME growth capacity. Good governance frameworks are essential for SMEs to grow. Public authorities may cooperate to reduce the cost of setting up different schemes by providing similar support schemes across a wider area.

Enlarging access to other networks and clusters. Cooperation may support enlarging networks and areas for cooperation between firms and clusters, for example through supporting cluster organisations, information on potential suppliers, clients, knowledge institutes, and also trade customs, taxation and other areas. This could build on initiatives like the “European Cluster Collaboration Platform”.

EXAMPLE 4.2

Doing business and trading cross-border

The *2ST* project financed through INTERREG IVA supported SMEs in the 2 Seas border area between France, Belgium, the Netherlands and the UK, taking their first steps in trading and doing business in another country. The project encouraged SMEs to do business in a partner region and to overcome obstacles such as the additional requirements when trading internationally as opposed to familiar markets and contexts. The project responded to the needs of SMEs in the partner regions with ‘early stage’ support for exporting.



EXAMPLE 4.3

Cross-border project identifying and mitigating production costs



The *cross.inno.cut* project supported by INTERREG IVA Greece-Bulgaria addressed the regional need to enhance the competitiveness of firms operating in the Greece-Bulgaria border region, while at the same time fostering a culture of innovation and cross-border links between firms in the area. Through collaboration between Greece's Aristotle University of Thessaloniki and Bulgaria's South West University Neofit Rilski and the involvement of 100 companies, a technological platform was developed containing an auditing toolbox for company production processes. The tool helps identify excessive production costs on the basis of objective and quantitative data. The toolbox may be adapted for companies of any size and thus applied in other regions.

Pointers for policy 4.1

Cooperation fostering SME growth capacity

Foster SME growth capacity in areas where the share and growth rate of SMEs is comparably low.

- **Level of cooperation:**
  Functional urban and rural regions, urban-rural partnerships, cross-border regions
- **Parts of Europe where cooperation might be particularly relevant:**
  Regions with low growth rate of SMEs. In particular, large parts of Sweden, western Germany and the Czech Republic as well as the more rural parts is France
- **Territorial types for which cooperation might be particularly relevant:**
  No specific types due to the wide spread appearance of SME
- **Possible stakeholders to initiate cooperation:**
  Local, regional and national authorities and the private sector

Support internationalisation of SMEs to strengthen the SMEs and their contributions to jobs and growth.

- **Level of cooperation:**
  Transnational / macro-regional level, cross-border regions
- **Parts of Europe where cooperation might be particularly relevant:**
  Regions with low growth rates of SMEs. In particular in northern and eastern European regions
- **Territorial types for which cooperation might be particularly relevant:**
  No specific types due to the wide spread appearance of SME
- **Possible stakeholders to initiate cooperation:**
  Regional and national authorities and the private sector

4.3.2.
Why and how to cooperate to enhance productivity spill-over effects of FDI

Larger firms in densely populated areas especially benefit from FDI. This has a positive effect on those regions due to dense networks of domestic suppliers and clients, and the possibility to acquire new technology and processes.

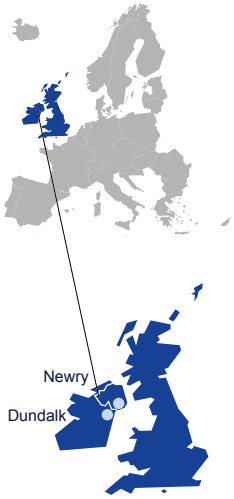
Increasing competitiveness usually drives cooperation in functional (cross-border) regions. This supports attractiveness for future investments and increases the possibilities of measuring the territorial impact of economic changes beyond administrative boundaries.

Critical mass for reducing costs of specialised labour. Neighbouring regions, including cross-border regions may benefit from cooperation to reach economies of scale and a critical mass for specialised labour, targeting the sector receiving most FDI. This will address the challenges of competition for labour in the region. Targeted training and education may boost the comparative advantage of a larger cooperation area in a certain sector, attracting more FDI.

Critical mass for visibility or improved global image of regions to attract FDI. Metropolitan regions profit slightly less from FDI than capital regions. A metropolitan region can benefit from cooperating with neighbouring regions or with neighbouring capital regions, increasing visibility and image for foreign firms.

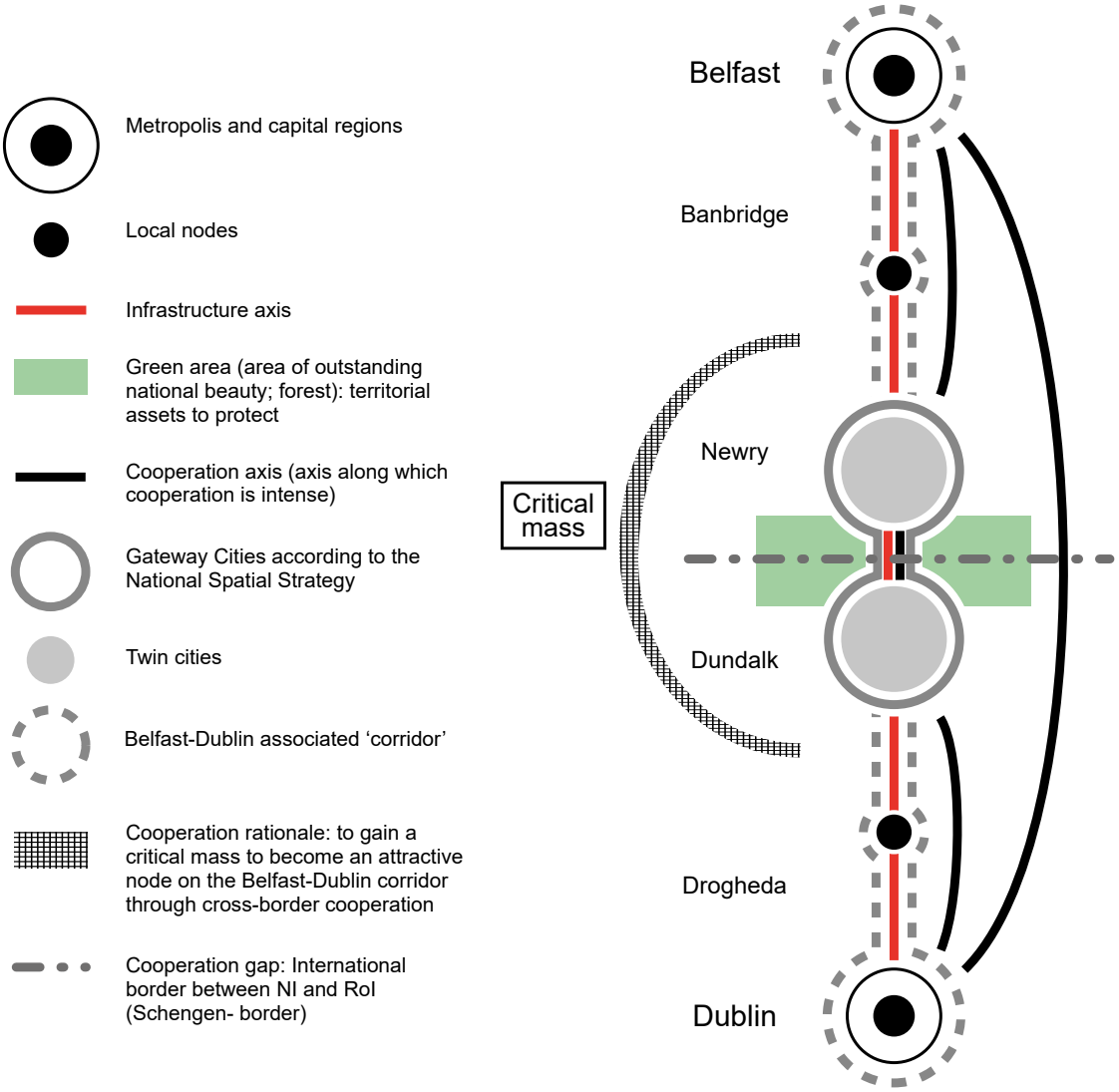
EXAMPLE 4.4

Newry and Dundalk gateway cities



One example of cross-border cooperation to create critical mass to attract investment and economic activities comes from Ireland. The Irish cities of Newry and Dundalk cooperate to materialise spill-over effects from the urban centres of Belfast and Dublin. These cities are the general growth engines and attract most of the economic activities. The main corridor between these urban centres is indicated as a growth axis by Irish authorities. Newry and Dundalk act as gateway cities. Naming these two cities as gateways has led to further visibility and political commitment to their development in the respective national capitals. Their proximity to the national capitals has in addition led to business development, particularly in Dundalk. One of the main objectives nowadays is to further stabilise and jointly develop the region, making use of the critical mass and joint natural and tourism potential. The main challenge looming over the region today, however, are the considerable economic and institutional effects of the Brexit process. However, this time of uncertainty has led to strong local and regional cooperation.

Map 4.3
Model map Newry-Dundalk Gateway



Pointers for policy 4.2
Cooperation to enhance productivity spill-over effects of FDI

Enhance productivity spill-over effects of FDI.

- **Level of cooperation:**
  Functional urban regions, urban-rural partnerships, cross-border regions
- **Parts of Europe where cooperation might be particularly relevant:**
  In particular in inland Spain, central France, eastern Germany, Greece, Bulgaria, northwest Romania and in Lithuania
- **Territorial types for which cooperation might be particularly relevant:**
  Rural areas or in lagging regions
- **Possible stakeholders to initiate cooperation:**
  Local, regional and national authorities, private sector players and cluster organisations

Increase investments to attract long-term FDI.

- **Level of cooperation:**
  Functional urban regions, urban-rural partnerships, cross-border regions
- **Parts of Europe where cooperation might be particularly relevant:**
  Economic clusters in particular in eastern European regions as well as southern Italy
- **Territorial types for which cooperation might be particularly relevant:**
  Urban areas
- **Possible stakeholders to initiate cooperation:**
  Regional and national authorities and the private sector

5

Boosting renewable energy sources



5.
Boosting renewable energy sources

In the light of climate change, the shift to a low carbon economy and in particular boosting the share of renewable energy sources in the energy mix are key concerns for a wide range of policies that all collectively contribute to this essential and almost unanimously supported policy objective. Examples are: suitable locations for renewable energy sources, energy efficient building materials, low carbon transport, energy grids and storage technologies. All these have important territorial and land management implications.

Further ESPON reading: Territories and low-carbon economy (LOCATE); Possible European territorial futures; Visions for Europe (ET2050); North Sea Star (NSS), North Sea – spreading transnational results; Territorial Scenarios and Regions at risk of energy poverty (ReRisk).

5.1.
Territorial diversity of renewable energy

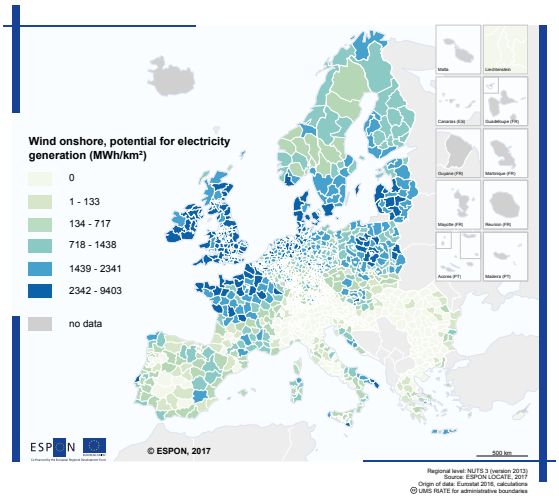
Increasing the share of renewable energy to become the main energy resource in Europe will require significant adaptation of both demand and supply and will have numerous territorial implications. These implications depend on the preconditions to produce renewable energy, energy consumption patterns and policy interventions.

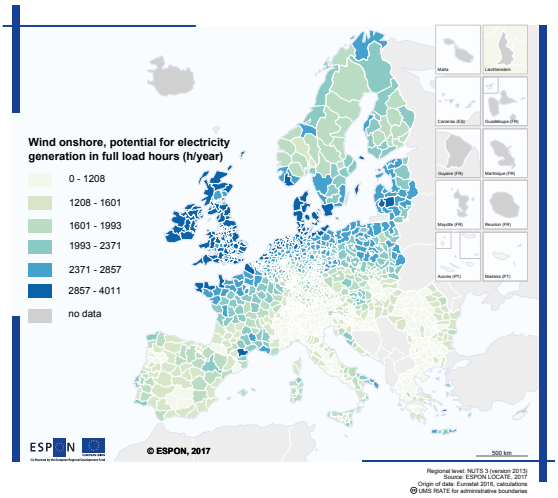
5.1.1.
Renewable energy production and potential

The potential and current use of renewable energy sources differ greatly between European regions. This can be illustrated by the examples of wind and solar power.

Onshore wind power potential is territorially concentrated. Such potential depends strongly on average wind speeds and land availability for wind power installations (see map). Areas with low wind energy harvest (less than 1 800 full load hours) have been excluded from the map. As a result, the highest potential can be found around the North Sea and Baltic Sea, but also along the Norwegian coast, in selected locations on the Iberian Peninsula, in the southwest of France, in Apulia and on the Dalmatian coast, as well as on the island of Crete in Greece. The lowest potential is found in the Alps and the Balkans. This analysis takes into account both technical and economic feasibility and land availability.

Map 5.1
Wind onshore energy potential in MWh/km2 and in full load hours (h/year)

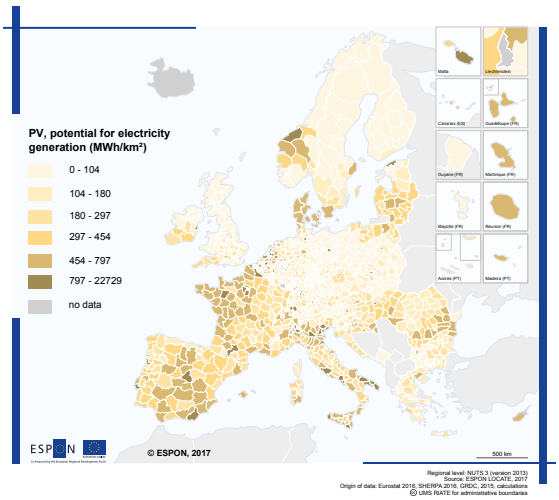


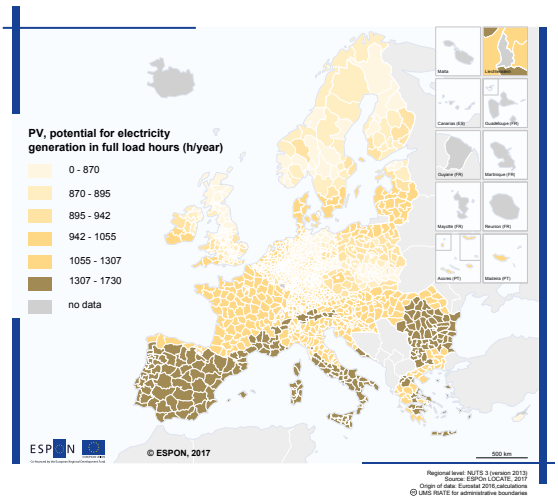


Off-shore wind holds additional major potential for renewable energy production, in particular in deeper waters. There is high potential in the Atlantic and North Sea. However, new technologies will also make offshore wind farming a viable option in some parts of the Mediterranean including the Adriatic and Ionian.

Solar power potential in Europe varies territorially. The biophysical solar energy potential based on local irradiation is higher in southern Europe than in northern Europe. However, the techno-economic potential gives a more differentiated picture, with the highest potential around the Mediterranean Sea, the Balkans, large parts of central Europe, but also in the southern part of the Baltic Sea Region (Latvia, Lithuania and Denmark). In short, areas with high full load hours, i.e. a high electricity harvest per installed capacity, may nevertheless have low potential due to restricted possibilities to install PV installations (e.g. parts of Spain). Areas with relatively low electricity harvest can have significant solar energy potential when there are low restrictions on solar installations (e.g. parts of Norway and central Europe) (see maps).

Map 5.2
Solar energy potential in MWh/km2 and in full load hours (h/year)





In addition, there are other renewable energy sources such as biomass, hydropower, tidal power, wave power, or geothermal. Each of these has a distinct territorial pattern. For example, geothermal plays an important role in Iceland. Furthermore, areas in Italy (mainly Tuscany), France (the Paris Basin and the Aquitaine Basin in the southwest, but mainly in overseas departments in the French West Indies and the Indian Ocean), in the Czech Republic and on the Hungarian Plain (Hungary and Austria) have high geothermal energy potential for district heating.

A mismatch of potential and production. The actual hotspots of renewable energy production and the potential for production do not necessarily match.

EXAMPLE 5.1

Solar energy on the rise: from macro plant to agrivoltism

Solar energy in Europe accounts for 75% of total worldwide photovoltaic capacity. Solar plants are increasingly large and use a growing number of technological solutions. In Spain *Gemasolar* generates electricity even at night, as heat is stored during the day and released overnight or during periods without sunlight. In Montpellier producers are testing agrivoltism, a concept that could trigger decentralised solar energy production in Europe by coupling the installation of solar panels above shade-tolerant agricultural crops. Because both energy and crop productivity increases, the value of farms could rise by over 30%.



EXAMPLE 5.2

Innovative use of low temperature geothermal resources

The Province of Pazardzhik, in Bulgaria, has many springs and boreholes with water temperatures varying from 30°C to 90°C. To use geothermal waters for energy production, an innovative technical solution has been developed for hybrid systems to use low-temperature geothermal water. The work was carried out within the *GeoSEE* project involving partners in several European countries (2013-2015). After a number of pilot cases including locations in the Province of Pazardzhik, the *GeoSEE* project developed a regional model of integrated hybrid systems based on process optimisation. This assessed possibilities for upscaling and identified several conceptual solutions with feasible investment returns. Some of these projects should start to come to life before 2020.



5.1.2.
Energy consumption

Consumption patterns and the availability of funding are important dynamics influencing territorial renewable energy patterns.

Energy consumption varies territorially. A significant reduction of energy consumption, especially for industrial processes, is needed to move to a low carbon economy. In Bulgaria, the Czech Republic, Estonia and Iceland energy consumption per GDP is much higher than in most other parts of Europe. However, it should also be noted that some of these countries have reduced the energy intensity of their economies between 2005 and 2015; partly as an effect of the economic crisis. The counties which changed most substantially are Bulgaria, Lithuania, Romania, Slovakia, and the UK.

Energy efficiency can increase the share of renewable energy in consumption. Driven by technology and innovation, energy efficiency can be increased. Potentially this may result in reducing overall energy consumption and thus allow an increased share for renewable energy. However, it often takes a long time for energy efficient solutions to become used widely enough to have major impacts. For example, new buildings can essentially be zero energy or even energy positive, however, they account for only a small proportion of the building stock. It takes decades to replace a substantial share of the building stock by highly energy efficient buildings. The same goes for retrofitting.

5.2.
Territorial links for renewable energy

For a low carbon economy – especially with a focus on renewable energy sources – energy transmission and grid networks are crucial. The need to further develop grid structures has been studied and widely reported.

An additional aspect which has received less attention, is the question of what a low carbon economy implies for the transport sector with changing mobility and accessibility patterns in Europe.

5.2.1.
Energy distribution and networks

In purely territorial terms, the European renewable energy market could be described as incomplete. To ensure that renewable energy production and consumption meet in the most efficient way energy networks and (super) grids are important. This is not least the case when considering issues of seasonality, variations throughout the day and of matching production and consumption peaks in different parts of Europe.

Energy networks linking renewable energy supply and demand. The European energy market is an incomplete network moving towards renewable energy sources. The further development of a single energy market and the establishment of an intelligent grid will mostly benefit industrial regions in the centre and north of Europe with higher levels of energy intensity. There, more network-related benefits can be achieved in the short term, increasing efficiency gains and lower prices.

For islands, access to energy grids and via these to renewable energy produced elsewhere not just on the island or near the coastline is a particular challenge. Most islands face high energy costs and challenges regarding secure energy supply due to their geographic insularity, small economies of scale, reliance on imported energy and limited or lack of connection to the EU single energy market.

Shifting transport towards a low carbon economy is a particular challenge. For short and medium distance passenger transport in particular technological solutions exist or are emerging. In the long distance segment, the rail network offers possibilities. For freight transport there is considerable potential but this includes a variety of challenges, not least the limited capacities of railway networks. Basing road, air and even sea transport increasingly on renewable energy sources will be a key challenge for a low carbon economy. This may imply increasing core-periphery patterns in Europe. In particular peripheral areas – to some degree also inner peripheries and islands – could face declining transport services coupled with increasing transport costs.

EXAMPLE 5.3

Mobility Centres Network



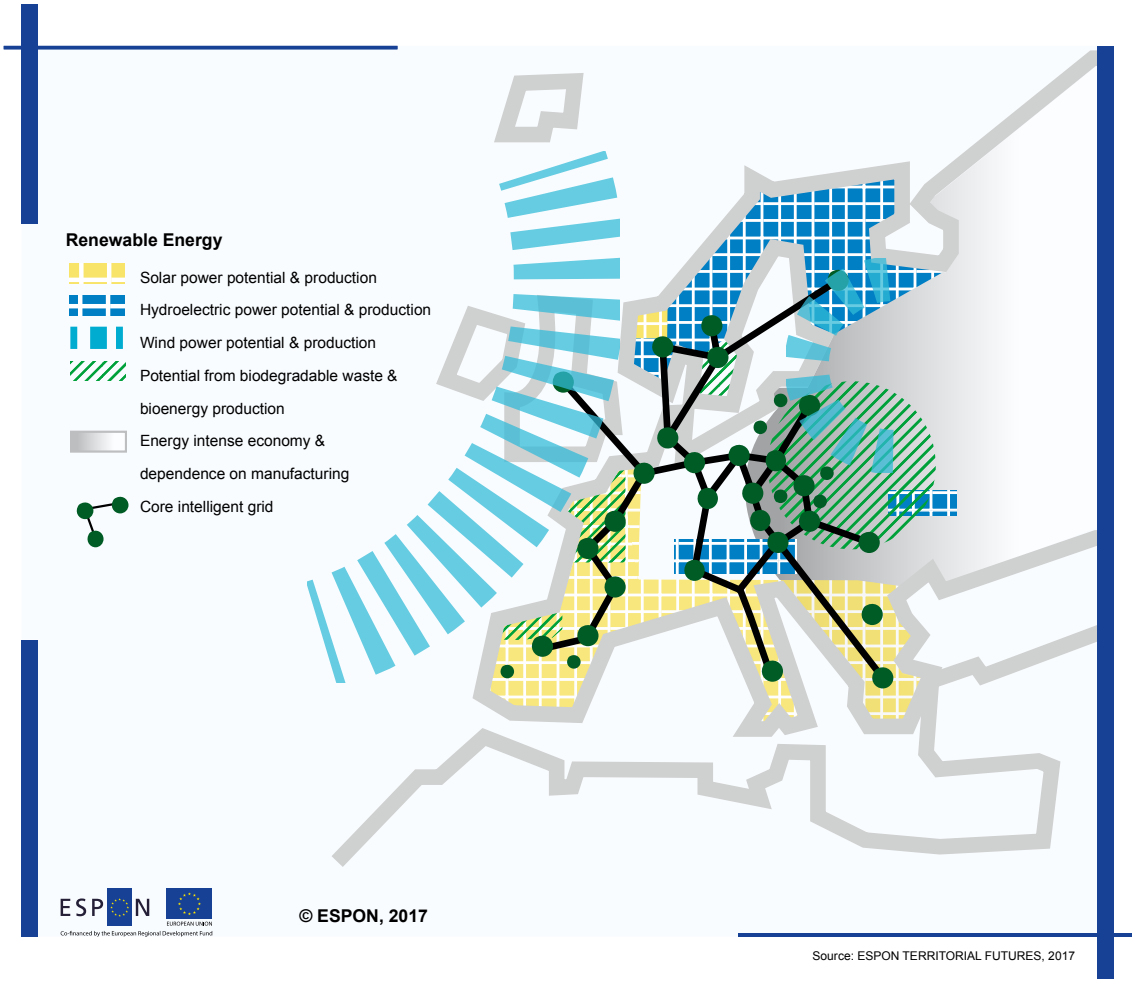
The Mobi-NET Project *Mobility Centres Network* (Intelligent Energy 2005), works locally and internationally to ensure coordinated planning of common local actions and customised local implementation as well as to collect and analyse the outcomes of implementation. This provides feedback to re-engineer implementation. Partners in the project (mainly energy and development agencies and local administrations) have created mobility centres in the cities of Biella (Italy), Evora (Portugal), Eskilstuna (Sweden), Thessaloniki (Greece), Mieres (Spain), Aranda de Duero (Spain) and Miranda de Ebro (Spain). Burgos Provincial Energy Agency is in charge of the mobility centres of Aranda de Duero and Miranda de Ebro, running Info Point offices in these two cities and working with local actors to develop activities to promote sustainable mobility locally. The project is expected to achieve positive results in the participant cities. These include effective involvement of local actors, local mobility plans, actions resulting from these mobility plans, an increase in the number of people with durable changes in their mobility behaviour, the development of Info Points as local mobility information offices, and a decrease in local mobility problems in general, including emissions, noises, and traffic jams.

5.2.2.
Territorial impacts of a shift to renewable energy

Moving towards a low carbon economy by increasing the production and use of renewable energy is not without challenges. Even if the production potential increases and European energy networks and grids develop further, there will be diverse territorial impacts.

Drawing on information on the location of potential for renewable energy production and the need for mega grid structures, a potential future focusing on renewable energy is shown in the map.

Map 5.3
Territorial foresight for 100% renewable energy market by 2030



Source: ESPON TERRITORIAL FUTURES, 2017

Increasing energy prices hit territories differently. Moving towards fully renewable energy markets will most likely imply increasing energy costs, at least in the short to medium term. The sensitivity of territories to changing energy prices varies dramatically. Reasons for this include the energy consumption needed to generate 1 EUR of economic added value, or impacts of higher energy prices on transport systems and European mobility patterns.

Consumption behaviour differs territorially. Changing consumption behaviours are another key driver for moving towards a low carbon economy. Behaviour varies today between territories, not only in households but also electricity demand in the tertiary sector. Accordingly, potential for change varies and both low and high consuming areas could learn from each other. However, the scope for improvement has limits. Experience shows that in many cases, energy efficiency gains are 'eaten up' by more energy consuming activities and devices.

5.3.
Cooperation on renewable energy and pointers for policy to strengthen cooperation

Shifting towards a low carbon economy and considerably increasing the share of renewable energy sources requires collaborative effort. More specifically, territorial cooperation on renewable energy may support:

- functional urban regions and rural-urban partnerships to increase renewable energy production and consumption;

- macro-regional cooperation bridging the territorial mismatches between renewable energy potential, production and consumption; and
- global cooperation to develop the potential of bringing together renewable energy markets inside and outside of Europe.

5.3.1.
Why and how to cooperate on functional regions for renewable energy

Increasing the share of renewal energy production and consumption requires that all areas make the most of their potential. At local level there are often limits for production potential (e.g. in urban areas) or limited demand (e.g. in rural areas) which can be solved through functional cooperation involving energy infrastructures.

Functional regions are the centre point for boosting renewable energy based on specific territorial potential. This may involve intra-regional cooperation between various players to establish centralised or decentralised productions sites and link production and consumption via smart (super) grids. This may also involve cooperation across different parts of an urban region and partnerships between players in urban and rural areas.

Integrated regional renewable energy strategies are needed to identify actions for a specific territory, to channel public and private investment and to mobilise public and private stakeholders (from the business sector, to local citizens).

EXAMPLE 5.4

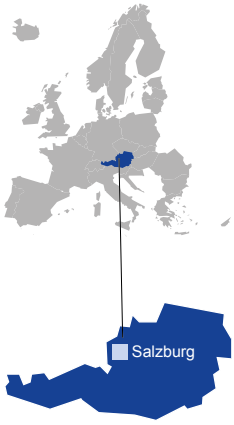
Cooperation on enhanced policies for smart grids



The INTERREG Europe project *SET-UP* focuses on smart energy transition to upgrade regional performance in 6 regions in Europe. Emphasis is given to enhancing policies on smart grids. The aim is to reduce energy consumption and improve energy security with better regional energy demand management. To do so, the project emphasises solutions to 3 main challenges to smart grid deployment. These include empowering consumers, economic and business models, and investment possibilities for smart network infrastructure. Action Plans for policy instruments support regions in their attempt to design, implement and direct more and better funding towards integrated smart grid strategies.

EXAMPLE 5.5

SmartGrid Model Region Salzburg



A SmartGrid is an electricity network that can intelligently manage the actions of generators and consumers to efficiently deliver sustainable, economic and secure electricity. The *SmartGrid Model Region Salzburg*, in Austria, is an urban pilot carried out by the local distribution operator to create a holistic smart grid system that manages energy intelligently. The system provides feedback on residential electricity use and automated switching on and off of household appliances to better synchronise demand with renewable supply, avoiding load peaks and increasing the hosting capacity of the grid.

Pointers for policy 5.1
Renewables in functional urban and rural regions

Integrated strategies to develop distributed renewable energy networks in functional regions, e.g. joint master plans for locations and network distribution.

- **Level of cooperation:**
  Functional urban regions, urban-rural partnerships, cross-border regions
- **Parts of Europe where cooperation might be particularly relevant:**
  Different parts of Europe, though with focus on different renewable energy sources, e.g. renewable energy networks for solar power in the Mediterranean, Balkans, large parts of central Europe, but also in the southern part of the Baltic Sea Region, or for onshore wind power in North Sea and Baltic Sea
- **Territorial types for which cooperation might be particularly relevant:**
  Urban areas, as well as islands, coastal areas, mountains with underexploited potential for generating renewable energy
- **Possible stakeholders to initiate cooperation:**
  Local and regional players, local communities and private players

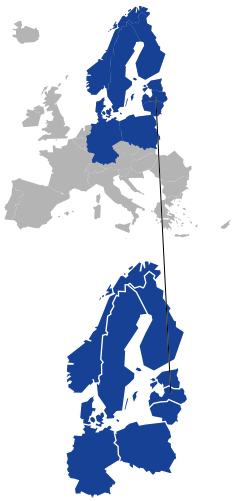
5.3.2.
Why and how to cooperate on matching renewable energy potential at the macro-regional scale

Acknowledging the unequal distribution of potential for renewable energy, energy should be available when demanded, rather than being based on production peaks. This includes the issue of daily and seasonal variations of outputs, so increasing the share of renewable energy needs to build on widespread cooperation where demand and supply peaks can balance each other. When it comes to the territorial dimension of renewable energy there are decisive mismatches where cooperation could help.

Mismatches between potential, production and consumption. Firstly, there is a considerable mismatch between potential, production and network connections. Across Europe, the hotspots for production and the potential for production do not necessarily match, i.e. there is still considerable development potential. Secondly, there is a mismatch between areas with high potential and areas with high energy needs. Cooperation can help to develop grid infrastructures linking supply and demand as well as building macro-regional renewable energy clusters.

EXAMPLE 5.6

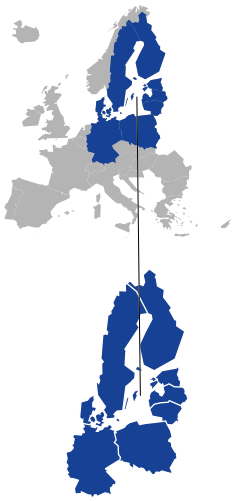
Macro-regional energy market interconnection plan



During the Latvian Presidency of the Council of the EU in 2015 the regional cooperation framework in the Baltic Sea Region was reformed. An agreement on a Memorandum of Understanding on the reinforced *Baltic Energy Market Interconnection Plan* (BEMIP) and revised Action Plan for EUSBSR – BEMIP was reached among representatives of Denmark, Germany, Estonia, Latvia, Lithuania, Poland, Finland, Sweden and Norway (as an observer). The Action Plan defines six key areas, namely electricity and gas markets, security of supply, energy infrastructure, power generation, renewable energy and energy efficiency, in which concrete projects need to be further developed to achieve the objectives and indicators defined in the Action Plan.

EXAMPLE 5.7

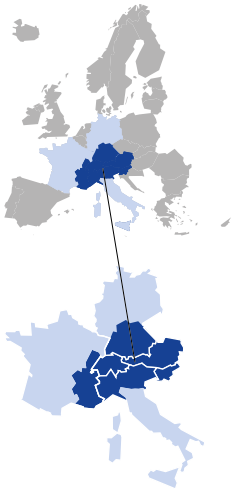
Lab Cooperation on sustainable local electricity generation



One project implementing the BEMIP is *Baltic InteGrid* supported by the INTERREG Programme Baltic Sea Region. It contributes to sustainable local electricity generation, further integration of the regional electricity market and enhancing security of supply around the Baltic Sea. The project focuses on a professional network for expertise exchange and state-of-the-art interdisciplinary research on the optimisation potential of offshore wind energy in the Baltic Sea region by applying the meshed grid approach. The project is a step towards the creation of a fully interconnected and integrated regional energy market, including implementation of the Baltic Energy Market Interconnection Plan and coordinated offshore wind connections.

EXAMPLE 5.8

Setting up macro-regional energy efficiency and renewable energy clusters



Action Group 9 of EU Strategy for the Alpine Region makes the territory a model region for energy efficiency and renewable energy. This involves among others setting up an Alpine energy efficiency cluster. This cluster shall serve as a forum for cooperation and innovation, bring technical solutions for specific energy needs of the Alpine Region, and develop energy efficiency processes and products particularly adapted to the Alpine Region, especially for housing and mobility. It also involves setting up an Alpine renewable energy cluster while taking into account ecological, economic and land use issues and considering societal trade-offs. Furthermore, it supports energy management systems in the Alpine Region by developing, sharing and installing energy efficiency and decentralised monitoring systems at the local level and by promoting regional energy monitoring.

Pointers for policy 5.2
Renewable energy cooperation at transnational level

Further develop transnational energy markets and implement interconnection plans.

- **Level of cooperation:**
  Transnational / macro-regional level
- **Parts of Europe where cooperation might be particularly relevant:**
  Different parts of Europe, though with focus on different renewable energy sources, e.g. renewable energy networks for solar power in the Mediterranean, the Balkans, large parts of central Europe, but also in the southern part of the Baltic Sea Region, or for onshore wind power in the North Sea and the Baltic Sea
- **Territorial types for which cooperation might be particularly relevant:**
  Urban areas, as well as islands, coastal areas, mountains with underexploited potential for renewable energy generation

- **Possible stakeholders to initiate cooperation:**
  National authorities and agencies in charge of energy policies and networks, relevant private players

Develop transnational renewable energy clusters supporting activities to bridge the mismatch between renewable energy potential and production.

- **Level of cooperation:**
  Transnational / macro-regional level
- **Parts of Europe where cooperation might be particularly relevant:**
  Different parts of Europe, though with focus on different renewable energy sources, e.g. renewable energy networks for solar power in the Mediterranean, the Balkans, large parts of central Europe, but also in the southern part of the Baltic Sea Region, or for onshore wind power in the North Sea and the Baltic Sea
- **Territorial types for which cooperation might be particularly relevant:**
  Urban, rural areas
- **Possible stakeholders to initiate cooperation:**
  National, regional or local authorities

5.3.3.
Why and how to cooperate on renewable energy with the European neighbourhood

To achieve a low carbon economy with most of the energy demands met through renewable energy sources, the production potential in Europe might not be sufficient.

Beyond Europe, cooperation may even involve further exploring possibilities to generate renewable energy e.g. in Northern Africa and transmitting it to Europe with acceptable transmission losses.

EXAMPLE 5.9

Africa-EU Renewable Energy Cooperation

The *Africa-EU Renewable Energy Cooperation* Programme (RECP) is a multi-donor programme that supports the development of markets for renewable energy in Africa. It was launched by more than 35 African and European Ministers and Commissioners under the Africa-EU Energy Partnership (AEEP). It focuses on 4 areas for support: (1) developing a policy and regulatory framework favourable to private investment; (2) facilitating African and European business cooperation for co-investment, exchange of expertise and technology and promote investment in Africa's renewable energy markets; (3) renewable energy projects to reach bankability, assisting valuable project ideas to develop into concrete investment opportunities; and (4) the development of technical capacities and business skills by creating an African-European network including research, education and private sector institutions.

Pointers for policy 5.3
Renewable energy cooperation beyond Europe

Discover and utilise the potential for renewable energy production outside Europe for European markets.

- **Level of cooperation:**
  European neighbourhood cooperation
- **Parts of Europe where cooperation might be particularly relevant:**
  Mediterranean

- **Territorial types for which cooperation might be particularly relevant:**
  Urban areas, coastal areas, islands, mountain areas
- **Possible stakeholders to initiate cooperation:**
  European and national authorities, research centres

6

Developing the circular economy



6.
Developing the circular economy

A wide range of policies address the circular economy as a pathway for a competitive European economy which can meet the objectives of climate change policies and sustainable development.

The circular economy describes a move towards resource efficient industrial production where the value of products, materials and resources is maintained in the economy for as long as possible. This has wide-ranging territorial implications, from the local to the European level.



Further ESPON information: Possible European territorial futures; Green economy (GREECO); ESPON Policy Brief Pathways to a circular economy in cities and regions.

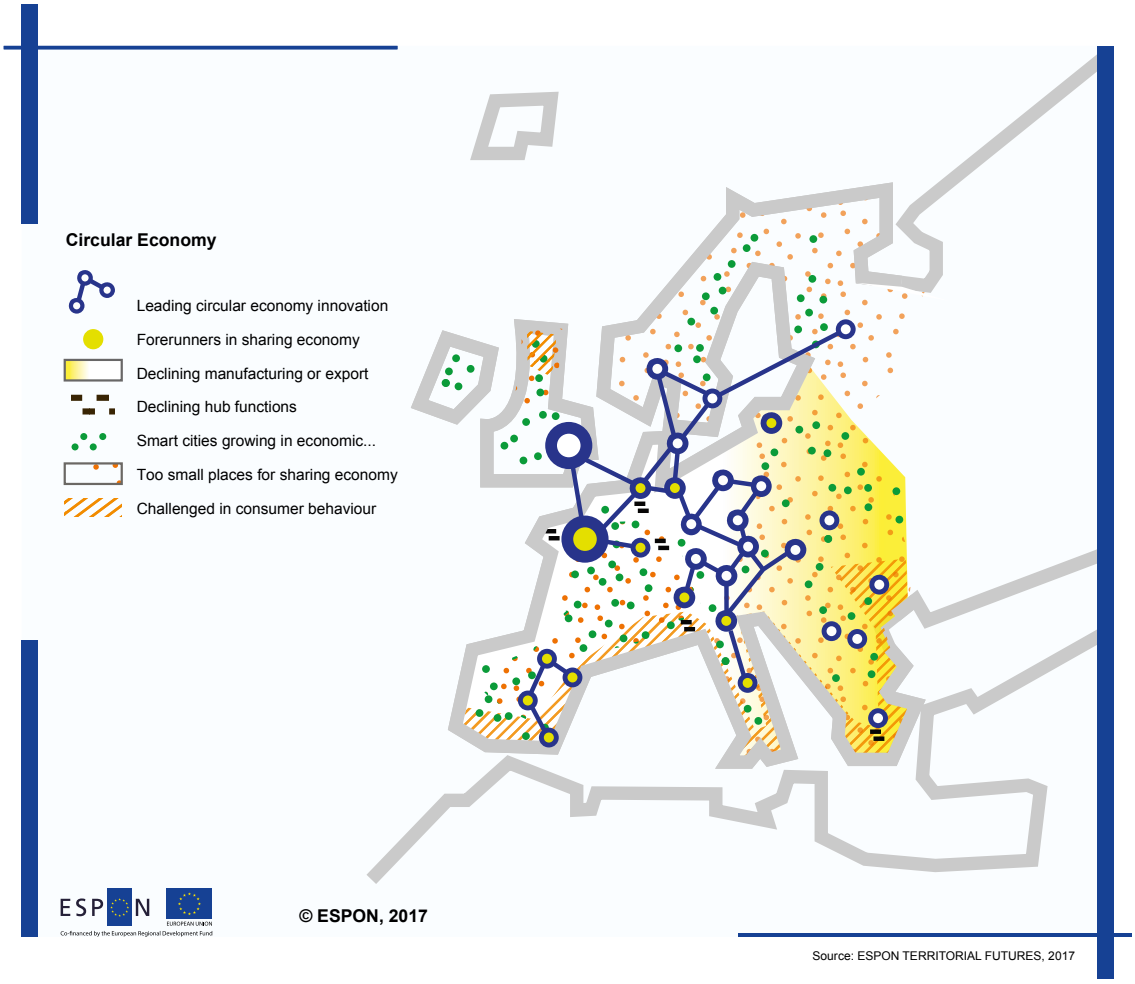
6.1.
Territorial diversity in a circular economy

Moving towards a circular economy implies a substantial transition both in production processes and consumption behaviour. The preconditions and consequences of these transitions vary considerably between European cities and regions.

6.1.1.
Resource efficient production

For Europe to move towards a circular economy, industrial production processes need to change dramatically. In territorial terms three features are of particular interest. They are further outlined below and also shown on the map in a more disaggregated form.

Map 6.1
Place-based circular economy – production and new economic systems



Source: ESPON TERRITORIAL FUTURES, 2017

A strong focus on 'repair, reuse and recycle' implies the creation of jobs in more labour intensive sectors. This allows also for more job creation in rural and lagging areas and holds the potential to help ease current rural-urban disparities. It is expected that some 180,000 new direct jobs will be created in that field by 2030. These new economic activities should follow the territorial logic of the provision of SGIs meeting 'everyday demands'. In other words, these activities will bring new job opportunities to large parts of Europe, however peripheral locations and sparsely populated areas far from the next larger settlement will profit less from this upswing.

Large scale manufacturing needs to adjust. This will be a challenge for all cities and regions with high shares of employment and/or GVA in the manufacturing sector. Particular transition challenges are expected for cities and regions with low levels of resource efficiency or with a limited variety of manufacturing activities able to cooperate to establish residual streams. Among the areas facing particular transition challenges are regions in the Czech Republic, most rural regions in eastern Romania, regions with high levels of manufacturing in Bulgaria and rural Poland and also partly rural areas in Estonia.

Innovative technological solutions are needed. Areas with strong innovation profiles, in particular for eco innovation and the green economy, face less of a transition challenge. Among others Île-de-France, the south coast in the UK, Switzerland, most urban agglomerations in Germany and the Nordic countries might increase their standing as areas where key innovations serve the economic transition across Europe.

EXAMPLE 6.1

Mainstreaming a circular economy in the Basque Country



The transition of the Basque country towards a resource-efficient economy, the promotion of green growth and eco-innovation includes among others:

- partnerships leading to more environmentally efficient processes being integrated into the strategies of companies:
- support for projects focusing on the development and demonstration of new, more efficient technologies, methods and processes:
- investment support to companies and industries for more efficient industrial approaches.

The smart specialisation strategy of the Basque Country which identifies three spearhead sectors (Advanced Manufacturing, Biosciences and Energy) also shows close links to the circular economy.

6.1.2. Resource efficient use

A circular economy cannot be implemented as a purely technical solution. Resource efficient use of products is also needed, focusing strongly on behavioural aspects and social capital.

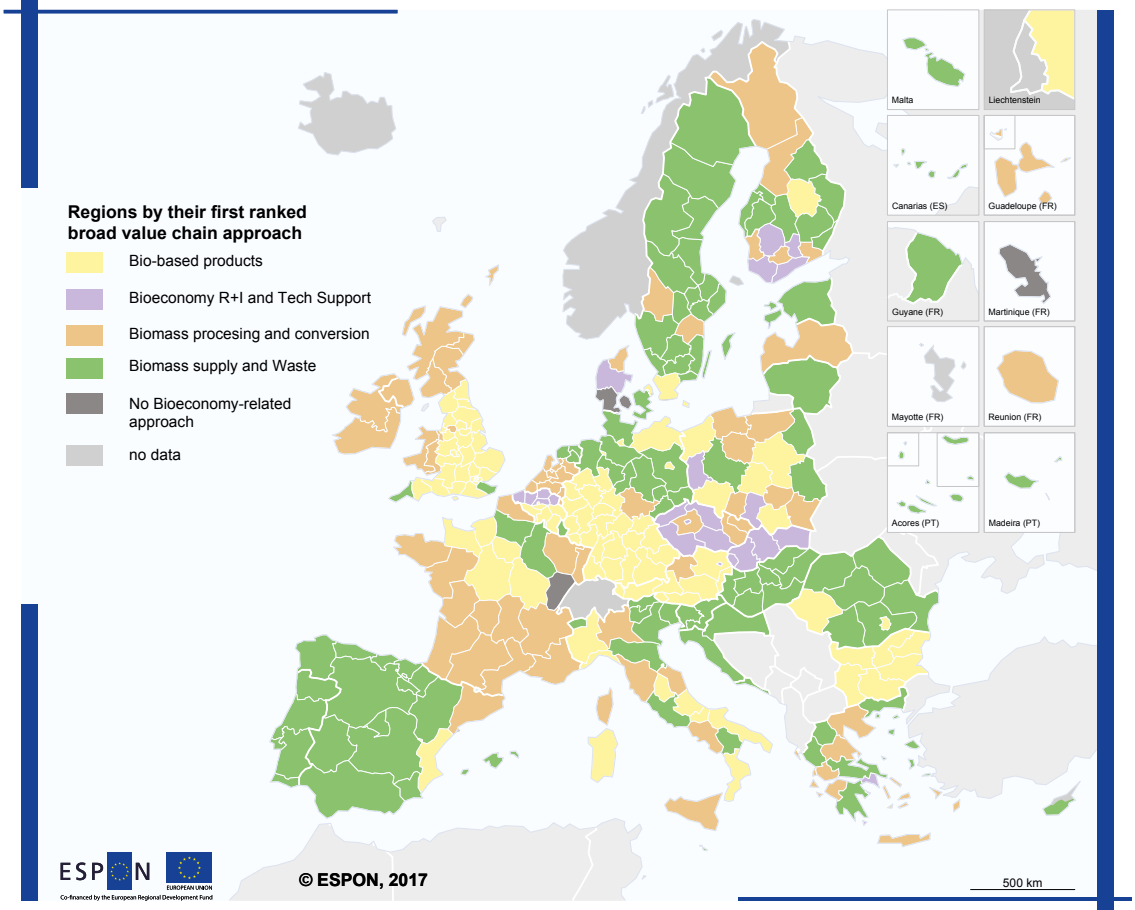
Households become more resource efficient and household waste is an exception in a circular economy. Areas with high levels of household waste per capita and little recycling will face more drastic transition processes, especially areas where large numbers of tourists or visitors increase the amount of household waste. Among these are Malta, Cyprus, tourist areas in Scotland, and along the Mediterranean coast in Greece, Italy, Spain and the Algarve in Portugal.

The sharing economy is one segment of a circular economy. Significantly increased product sharing (beyond occasional car or ride sharing) covering a wide range of products and a large share of society implies major social transitions. Cities and regions which already today are forerunners in using sharing and collaboration initiatives might have an easier transition, in particular if they have a critical mass of inhabitants. The level of social trust also plays a major role. Currently sharing economy platforms are more frequently used in France, Ireland, Latvia, Croatia, Germany, Estonia, Romania, Spain and Italy.

6.1.3. The bio-economy can be an important feature of a circular economy

Moving towards a circular economy offers also new development opportunities linked to agricultural and forestry products, i.e. bio-based products – and consequently the bio-economy. Following an analysis of smart specialisation strategies, there is no clear territorial pattern for the bio-economy. However, some specialisation trends can be observed. In most areas, bio-economy priorities are centred on ‘biomass supply and waste’. This is the case in large parts of Spain, Sweden, around the Adriatic Sea (northeast Italy, Slovenia, Croatia), central Finland, northern Germany and northern Netherlands, as well as in Hungary and Romania. Some other regions put a stronger emphasis on ‘biomass processing and conversion’. Among these are the south of France and north of Spain, i.e. along the Pyrenees, in the Netherlands, partially in northern Europe as well as in Poland, Greece and Latvia. Concentrations of ‘bio-based products’ from a bio-industrial perspective, are predominantly located in southern and western Germany, Austria, northern France and England, as well as Bulgaria and some regions in Poland and Italy. Many areas with a strong industrial profile (or legacy) are among these regions.

Map 6.2
Regional key profiles in the field of bio-economy



Regional level: NUTS 2 and NUTS 3 (version 2013)
Source: based on Spatial Foresight et al. (2017). Bioeconomy development in EU regions. Study for DG Research & Innovation
Origin of data: Spatial Foresight, ÖIR and t33, 2016
UMS RIATE for administrative boundaries

6.2.
Territorial links in a circular economy

A circular economy implies among others changing transport patterns. The amount of goods and raw materials transported over long distances is expected to decline considerably as less material goods will be produced when they are used, shared, reused and repaired. Furthermore, industrial symbiosis in production will lead to certain productions sites clustering in close proximity to each other.

6.2.1.
Changing links influence places and urban hierarchies

Major international freight transport hubs lose importance. In particular cities and regions which host major freight ports and airports and have a relatively high share of employment in the transport and storage sector are challenged by declining transport in a circular economy. Some of the major urban agglomerations may thus lose some of their dominance.

International export-import patterns change. The transition of production systems to a circular economy implies changing export and import patterns. Cities and regions with highly international economies and economic players, highly dependent on international imports and exports of goods, face particular transition challenges. These include manufacturing regions in Belgium, the Netherlands and Ireland. These places will become less prominent in future urban systems.

Impacts on the urban hierarchy in Europe. Changing transport patterns in a circular economy impact largely on urban hierarchies in Europe, as some of the largest and most thriving urban centres will decline in importance along with their transport hub functions.

Fewer products means less transport. The drivers which will influence transport declines concern the volume and location of products being produced. In a circular economy, the production of new products should decline as goods are increasingly shared (so not everybody needs to own them) and the lifetime of products is extended through an increasing focus on repairing and reusing. In addition, additive manufacturing may localise some production.

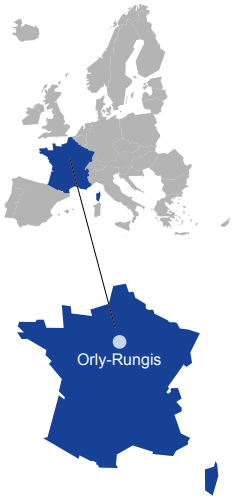
Industrial symbiosis influences transport patterns. For the products that will be produced, an increasing focus on resource efficiency and industrial symbiosis will also affect transport patterns. Logistics chains for a production process where a product is transported multiple times between locations in different countries could change and be optimised differently in a circular economy.

Personal transport will also change. This is largely due to increasing levels of transport sharing and behavioural changes.

EXAMPLE 6.2

Mobility planning in France

Moving towards a circular economy also has implications for person transport. As of 2018, French companies with more than 100 employees on the same site must set up travel plans for their staff. A number of companies have already done so to limit the use of individual cars in favour of alternatives – carpooling, public transport with the company contributing to the costs, special transport, bicycle schemes, etc. In particularly dense urban areas, the plan may be an inter-company travel plan. The biggest scheme is Orly-Rungis covering 4,000 companies, 63,000 jobs and 500 hectares. Given peculiarities, such as night work and the lack of public transport, priorities in the travel plan were to adapt existing bus services, introduce complementary services, occasional or on-request transport services and to optimise parking and carpooling.



6.3. Cooperation on boosting the circular economy and pointers for policy to strengthen cooperation

A circular economy builds on cooperation. This concerns production processes where residual streams and industrial symbiosis build on the cooperation of different enterprises. It concerns consumption where a sharing and collaborative approach requires cooperation between individuals.

To make the most of the circular economy, territorial cooperation can help in different ways, three of which stand out:

- industrial symbiosis processes and sharing economy approaches:
- polycentric manufacturing and transport systems:
- new technologies supporting circular economy production and consumption across territories.

6.3.1.
Why and how to cooperate on creating critical mass for circular economy processes

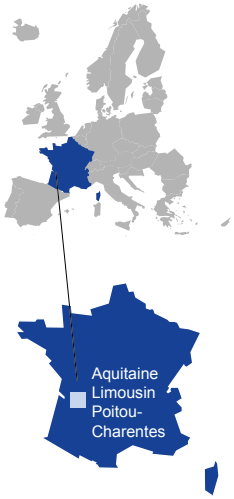
Moving towards a circular economy requires a critical mass to allow industrial symbiosis in production processes and for sharing economy approaches at local and regional levels.

Critical mass for industrial symbiosis. Industrial symbiosis mostly requires a range of production facilities in close proximity so the waste or by-products of one become the raw materials for another. In particular, for small places (e.g. rural areas or small and medium-sized towns) with limited industrial activities this can be challenging. Cooperation with other areas might help to create critical mass for efficient industrial symbiosis.

Critical mass for local sharing economies. Sharing economy approaches at local level – beyond the use of global sharing economy platforms – require critical mass. This means sufficient participants within reasonable proximity to share goods or collaborate on services. The same goes for local reuse and repair approaches. Areas with low population density, such as rural areas and inner peripheries, may suffer from insufficient critical mass to embrace changes in consumption behaviour.

EXAMPLE 6.3

Supporting circular economy stakeholders in Aquitaine Limousin Poitou-Charentes



The French region Aquitaine Limousin Poitou-Charentes has committed to being a national pilot on implementing a circular economy. Faced with the end of gas exploitation, a system of industrial symbiosis was established connecting new industrial facilities including chemical, bioenergy and carbon fibre industries. In December 2014, the region adopted a roadmap towards a circular economy which outlines twenty proposed actions. Among others, the proposals include mobilising stakeholders with a collaborative tool; observing, capitalising on, and sharing data on material flows and waste; promoting the use of recyclable materials and sorting within public procurement; and deploying operational tools aimed at businesses. One important role that the region has taken on is matchmaking and facilitating cooperation between stakeholders. In April 2016, the region launched *RECITA*, a regional platform dedicated to the circular economy and its deployment in the territory.

Pointers for policy 6.1
Circular economy cooperation for reaching critical mass

Develop industrial symbiosis processes building on the industries of an entire functional urban region (e.g. in smart specialisation strategies).

- **Level of cooperation:**
  Functional urban regions, urban-rural partnerships, cross-border regions
- **Parts of Europe where cooperation might be particularly relevant:**
  Parts where already some initiatives take place, e.g. in Spain, Sweden, the Adriatic, northern Germany, northern part of the Netherlands
- **Territorial types for which cooperation might be particularly relevant:**
  Urban areas

- **Possible stakeholders to initiate cooperation:**
  Regional and local authorities and private players

Develop joint regional sharing economy platforms, such as car sharing or tool sharing to reach critical mass through cooperation.

- **Level of cooperation:**
  Functional rural regions, urban-rural partnerships
- **Parts of Europe where cooperation might be particularly relevant:**
  These regional platforms could be developed all across Europe, in particular in less densely populated areas in eastern Europe, the northern periphery and central Spain, where creating critical mass would be relevant
- **Territorial types for which cooperation might be particularly relevant:**
  Functional rural areas and inner peripheries
- **Possible stakeholders to initiate cooperation:**
  Local players

6.3.2.
Why and how to cooperate on decentralised production and transport systems

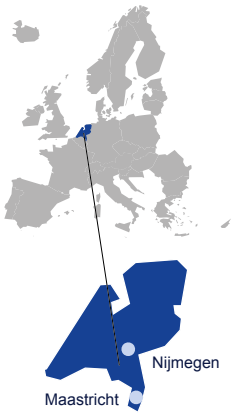
Moving towards a circular economy implies substantial changes in production and transport systems, as the role of major transport hubs is expected to decline. At the same time a focus on repair and reuse contains the potential for more decentralised systems supporting territorial cohesion at European level. To achieve these benefits, the development of polycentric structures needs to be supported and areas facing declining importance need to be assisted in the transition process.

Polycentric networks for new production and repair systems. The transition to additive manufacturing, repair and reuse holds development potential in particular for small and medium-sized towns as well as for lagging regions. However, players in these areas should cooperate in larger networks or with central places. For instance, with additive manufacturing the development and design can come from different places and the manufacturing processes can be located closer to the final users.

Regional cooperation for transport pooling. The transition to a circular economy will also impact transport flows from the global to the regional level. Freight transport systems may even change to much more polycentric and decentralised systems with various forms of transport pooling. Regions with below average levels of physical connectivity may hold the potential to rethink transport systems at the level of macro-regions or functional urban areas.

EXAMPLE 6.4

Example on cargo pooling for sustainable city logistics



The INTERREG NorthWest Europe project *LaMiLo* focused on a step change in freight deliveries by fully considering the ‘last mile’ of a supply chain when planning a freight logistics journey. This ensures a more efficient and integrated logistics approach. As part of this project a pilot project in the Dutch cities of Nijmegen and Maastricht tested solutions to reduce the impact of inner city deliveries to homes. End users sign up to the “Freight Circle” service, choosing a central hub as the delivery address for their goods. Parcels are then consolidated at the hub with the last mile delivery using electric bikes, at a time that is convenient for customers. By consolidating the deliveries and offering ad hoc reverse logistic services, the “Freight Circle” cuts down the number of vehicles in the city centre and residential areas, as well as reducing failed deliveries.

Pointers for policy 6.2
Circular economy cooperation on decentralised structures

Develop decentralised and polycentric structures for additive manufacturing, repair and reuse industries (e.g. in smart specialisation strategies).

- **Level of cooperation:**
  European and national level
- **Parts of Europe where cooperation might be particularly relevant:**
  Parts where already some initiatives take place, e.g. in Spain, Sweden, the Adriatic, northern Germany, northern part of the Netherlands
- **Territorial types for which cooperation might be particularly relevant:**
  Urban areas, especially small and medium-sized towns
- **Possible stakeholders to initiate cooperation:**
  Local and regional players

Develop joint strategies on how to adjust (freight) transport systems to the circular economy (e.g. transport pooling).

- **Level of cooperation:**
  Functional urban regions
- **Parts of Europe where cooperation might be particularly relevant:**
  Mainland Europe, e.g. France, Belgium, the Netherlands, Luxembourg, Germany, Poland
- **Territorial types for which cooperation might be particularly relevant:**
  Urban areas
- **Possible stakeholders to initiate cooperation:**
  Regional and local authorities and private players

6.3.3.
Why and how to cooperate on disseminating circular economy technologies

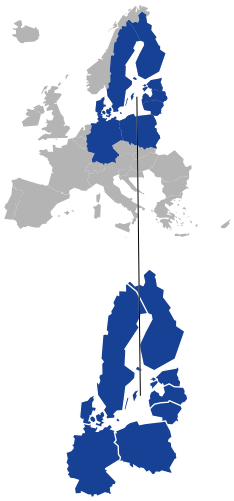
Moving towards a circular economy requires new solutions and innovations for both production processes and for consumption behaviour.

Spreading new ideas for production processes. At present there are a few, mainly urban, areas leading the way in terms of developing new solutions for production processes supporting a circular economy. To ensure that these are picked up rapidly, cooperation is needed to bring together decision makers and entrepreneurs across Europe.

Spreading new ideas to change consumer behaviour. Consumer behaviour concerning waste prevention, recycling and the application of sharing economy approaches varies widely across Europe. Advanced territorial cooperation between areas covering waste reduction, recycling or use of the sharing economy for example, can be expanded to other areas to disseminate new solutions.

EXAMPLE 6.5

Baltic Sea Region ERDF MA network linking clean tech projects



Within the framework of the EU Strategy for the Baltic Sea Region a network of ERDF Managing Authorities across the Baltic Sea Region combine their efforts in the area of cleaner growth, including aspects of the circular economy and industrial symbiosis. Through their cooperation, the networks increase trans-national collaboration (complementing INTERREG) through continued focus on the implementation of smart specialisation strategies and small-scale operations (e.g. jointly targeting new markets, knowledge transfer/networking and feasibility studies). More concretely the network helps align activities and resources by coordinating on-going project operations and by attaching additional activities and corresponding budgets to on-going projects. ERDF Structural Funds with strong local and regional connection, meet the need.

EXAMPLE 6.6

Cooperation on the adoption of systemic design to transition towards a circular economy



RETRACE is an INTERREG Europe project promoting the adoption of Systemic Design as a method to help develop regional and local policies in their transition towards a circular economy. Systemic Design aims to implement sustainable productive systems in which material and energy flows are designed so that waste from one productive process becomes an input for other processes, preventing waste from being released into the environment. *RETRACE* partners deem that the adoption of more systemic approaches at territory/regional level can have a leverage effect in such a transition. The project identifies and shares good practices, organises interregional exchange of experience activities and reaches out to politicians and policy-makers to increase the ownership of the process and target policies at the level of research and innovation strategies for smart specialisation.

Pointers for policy 6.3

Circular economy cooperation on new technologies

Set up circular economy knowledge transfer networks bringing together forerunners and areas needing to adapt (e.g. where waste is abundant or resources are scarce).

- **Level of cooperation:**
  European level
- **Parts of Europe where cooperation might be particularly relevant:**
  Touristic parts in Greece, Italy, Malta, Cyprus, Portugal, Spain
- **Territorial types for which cooperation might be particularly relevant:**
  Islands, coastal regions, urban regions
- **Possible stakeholders to initiate cooperation:**
  Regional and local authorities

Set up circular economy knowledge transfer networks on consumer behaviour in the circular economy, mixing different cultural habits.

- **Level of cooperation:**
  European level
- **Parts of Europe where cooperation might be particularly relevant:**
  Does not apply to specific parts of Europe
- **Territorial types for which cooperation might be particularly relevant:**
  Urban regions, rural regions, islands, mountains
- **Possible stakeholders to initiate cooperation:**
  Regional and local authorities

7

Developing physical and digital connectivity

7. Developing physical and digital connectivity

All four freedoms of the European Single Market, the free movement of goods, capital, services, and labour, rely on connectivity. Both the physical and virtual dimensions of connectivity have strong direct and indirect territorial implications, as both link places, trade and human activities. The territorial relevance of connectivity can be seen in a wide range of regional development aspects. Some of those are also addressed in other sections of the Review, e.g. in relation to population change (see section 2) and the access to services of general interest (see section 8).

Connectivity by its very nature implies cooperation. Joint actions within a country or across borders are a prerequisite to bridge imbalances and ensure better accessibility.

Further ESPON reading: Transport accessibility and regional / local scale and patterns in Europe (TRACC); Knowledge, innovation, territory (KIT); ESPON Atlas – Mapping European territorial structures and dynamics; Territorial Observation 2 – Trends in accessibility, Territorial Observation 4 – Trends in internet roll out.

7.1. Territorial diversity of connectivity

For both physical and virtual connectivity different types of infrastructure are necessary. For the first, adequate road, rail, air and maritime infrastructures, including inland waterways, are essential. For the second, suitable ICT connections are important for territorial development outside the main urban centres. In both cases Europe is has considerable territorial diversity.

7.1.1. Patterns of physical connectivity

Accessibility is a key component of city and region attractiveness and plays a key role in decisions on where to work, live and invest.

Road and rail accessibility is still characterised by a core-periphery pattern. Good physical connectivity is more prominent in the European core. High-speed rail connections have contributed to increasing the accessibility of places outside the European core, including second-tier cities. These connections, however, also bring comparable disadvantages for less densely populated areas and areas away from the main transport networks. Easier access to different services, faster access to job opportunities and leisure activities, eventually attract more people from less accessible areas.

Territories with geographical specificities have more often lower accessibility, as compared to the European average. Road and rail accessibility is considerably lower for insular and sparsely populated regions than for other European territories, as figures show. In this case, air accessibility can partially compensate for low accessibility by road, rail and sea.

Figure 7.1
Distribution of accessibility by road (2014) within specific types of territories

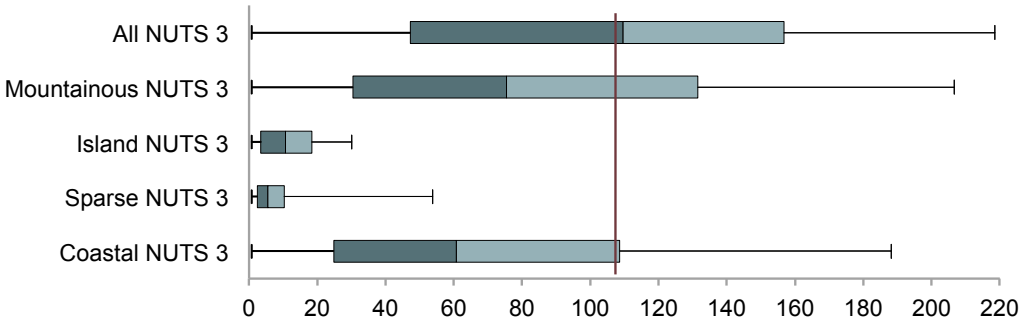
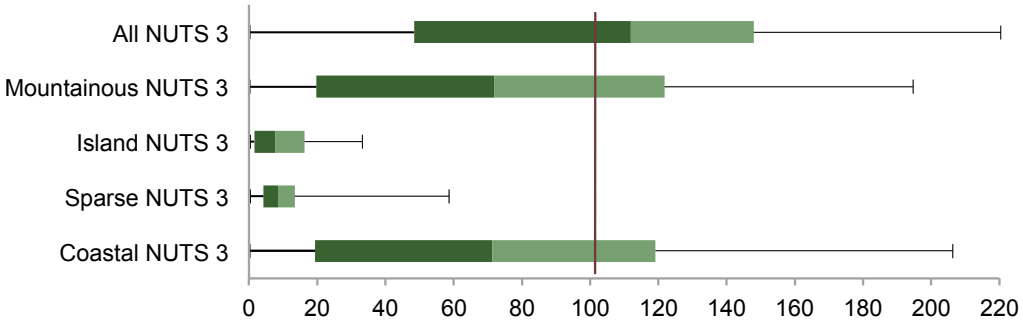


Figure 7.2
Distribution of accesibility by rail (2014) within specific types of territories



7.1.2.
ICT connectivity state of play

Connectivity is not only about physical connections. Access to broadband is becoming increasingly important for quality of life. 85% of European households had access to the internet from home in 2016. The highest shares of households with internet access were in Norway, Luxembourg and the Netherlands, followed by Denmark, Sweden, the UK, Germany and Finland.

Daily internet use has increased across Europe. More than four fifths of people in the EU used the internet at least once every three months in 2016. Still ten Member States are below the Digital Agenda target of 75% of EU population using the internet. 71% of all individuals used the internet every day in 2016, with the highest rates in Luxembourg (93%), Denmark (89%), the UK (88%), the Netherlands (86%), Sweden and Finland (85% each).

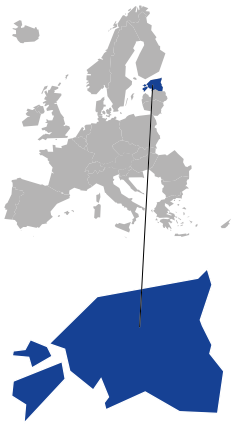
ICT accessibility is characterised by a core-periphery pattern. The rates are much lower in eastern and southern Europe with the lowest access rates in some regions of Bulgaria, Romania and Greece. This is also reflected in the use of internet based services across Europe. For instance, almost all people in the Nordic and Benelux countries use online banking, while percentages are much lower in southern and eastern European countries.

ICT access follows a rural-urban divide. At a lower geographical scale, there are substantial urban-rural divides within countries. ICT hubs tend to be concentrated in large and easily accessible urban centres, making these regions more attractive for highly skilled people. As a result, peripheries and rural regions tend to become more peripheral and the core more attractive.

Technological development can counterplay peripherality. To cover and counterbalance distances, different alternatives have been developed. For instance, additive manufacturing and digitisation allow decentralisation from major hubs. Advances in service robotics, 3D printing and automation are reshaping production processes and the distributions of manufacturing activities.

EXAMPLE 7.1

Estonia paving the way to e-government



When Estonia started building its information society about two decades ago, there was no digital interaction between government and citizens. Today, Estonia is one of the most advanced e-societies in the world, and has become a role model for e-government. Several interactions of citizens and companies with the state take place through digital means, reducing bureaucracy to the minimum and increasing transparency, easy access to services and decentralisation. Estonia was the first country to allow electronic voting and sees the natural next step in the evolution of the e-state as moving basic services into a fully digital mode.

Taking things one step further, Estonia is the first country to offer e-residency, a government-issued digital ID available to anyone in the world. The e-residency offers the freedom to easily start and run a global business in a trusted EU environment.

7.2. Linking places through connectivity

Physical connectivity is all but static. Good connectivity serves flows of goods, services, people and knowledge. For example, European ports can be an alternative to limited inland connectivity and play a fundamental role as hubs for the transport of goods and passengers. Another example is ICT connectivity which is important for innovation, communication and information flows.

ESPON has published a wide range of studies and reports on accessibility (see further reading in section 7). More recently new evidence has been provided with regard to maritime transport links. Maritime transport is crucial for connecting peripheral coastal and island regions.

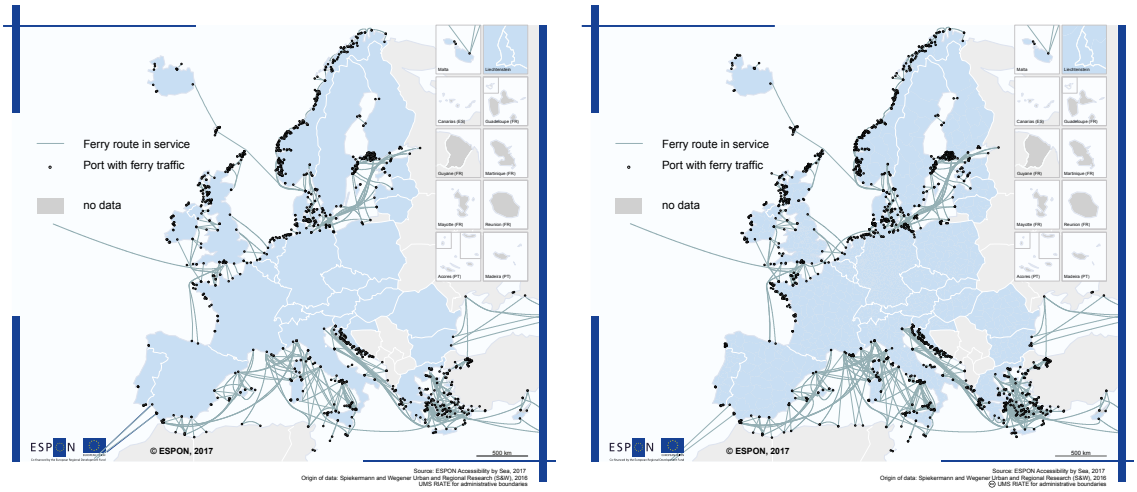
7.2.1. The paramount importance of sea connectivity

Sea accessibility is vital for flows of goods and people. European ports are vital gateways from Europe to the rest of the world, for both goods and people.

European ports as hubs for flows of goods to and from Europe. As the maps show, European ports play an important role in facilitating trade both within as well as with the rest of the world. For goods, the port of Rotterdam really stands out, receiving most goods from Europe, followed by Africa and America. Smaller coastal ports in northwest Europe, as well as along the Mediterranean are also important. Regarding outflows, again Rotterdam, but also Antwerp facilitate exports to the rest of Europe and other continents.

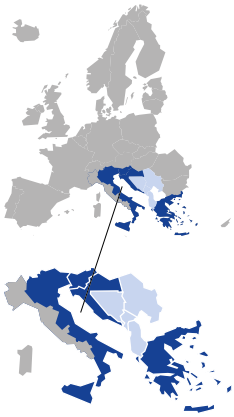
European ports respond to the lack of inland passenger connectivity. Sea connectivity is not only important for flows of goods. It plays an important role in transporting people across Europe. Sea connections and routes can serve as an alternative for places that lack good rail or road connectivity and can be crucial in connecting peripheral coastal or island regions. As the maps show, there is a high density of ferry routes in coastal regions in northern Europe and the Baltic Sea region, as well as islands and ports all along the Mediterranean.

Map 7.1
Ferry routes November 2016 and August 2016



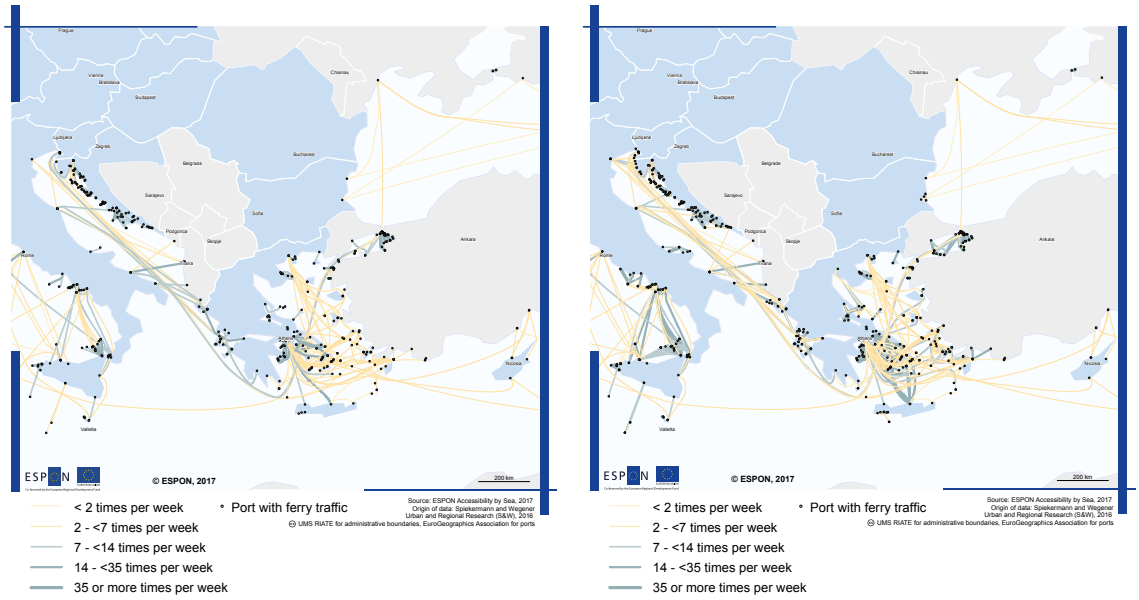
EXAMPLE 7.2

Ports to support local economies



The maps present a closer look at ferry routes in one of the most touristic regions in the EU, the Adriatic-Ionian region. Ferry connections can contribute to supporting local economies. In the case of the Adriatic-Ionian region, ferry connections help transporting people from the peripheral islands and coastal regions to the mainland and to other islands or coastal regions and vice versa. Especially during the high tourist season in summer ferry connections are more frequent, they can serve more passengers across coastal areas and islands, contributing to the development of tourism and thus to local economies.

Map 7.2
Ferry routes in the Adriatic Ionian Sea November 2016 and August 2016



7.2.2.
Connectivity relevant for trade and human relations

Connectivity plays a role for both trade and human relations. Trade flows are based on both physical and virtual connectivity. Adequate infrastructure and good connections facilitate trade across regions and countries in Europe and the world, while good internet connections facilitate trade opportunities, for example through e-commerce.

The effects of connectivity contribute either directly or indirectly to better European integration, affecting the four freedoms of the Single Market, flows of people, goods, services and capital. Human relations are nowadays also subject to other forms of connectivity and effective communication depends on the availability of ICT infrastructure.

7.3.
Cooperation on physical and ICT connectivity and pointers for policy to strengthen cooperation

In a globalised world, cooperation to improve physical and virtual connectivity is de facto. Building adequate infrastructure is a prerequisite for better connectivity, physical and/or virtual. For this, cooperation across regions within a country, but also cooperation across borders and at different levels is necessary to successfully connect places and facilitate flows of goods, people and information. Benefits of territorial cooperation and pointers for policy to strengthen territorial cooperation are discussed for:

- physical connectivity;
- virtual connectivity.

7.3.1.
Why and how to cooperate on physical connectivity

Reliable, frequent and affordable connectivity improves trade and passenger flows. Improved accessibility of trade hubs benefits trade relations. Goods reach their destinations faster. Road, rail, maritime and air accessibility also trigger more passenger flows. Cooperation on improved connections is particularly relevant for inner peripheries and for peripheral regions.

Similarly, however, urban and rural connectivity benefit from cooperation both on more frequent connections and also on proposals for modal shifts.

Development of critical mass, know-how and networking. Cooperation is not only the key to improve accessibility, it can also bring further positive effects. These include achieving critical mass, acquiring know-how, networking and other human connections that can be developed through regions, authorities and companies working together for repairing broking links in the mobility chain across borders of different kinds. The creation of maritime clusters among port authorities, for example, can lead to know-how being shared by different regions across countries. This can also help SMEs, which can expand into different regions. Such cooperation can be relevant for peripheral regions and also for ports or urban areas that are transport hubs.

Keep it green. Cooperation in the transport sector can also contribute to a sustainable environment. There is a great need to work together on eco-friendly transport solutions, such as e-buses or joint actions to deal with environmental risks of transport, such as oil spills. Cooperation (also across borders) between urban transport hubs, on modal shifts and multi-modal solutions would be helpful. Bigger ports can work together with smaller coastal regions, or other transport hubs to deal with transport-related environmental risks.

Cooperation on transport connecting the globe: When linking Asia and Europe. Territorial cooperation on physical transport issues also concerns global transport networks. In particular, the rail connection for freight transport between Europe and China, the so-called 'New Silk Road' has been under development for years, partly by European INTERREG Projects (e.g. East-West Corridor) and more recently by initiatives of the Chinese government. A direct rail link for freight transport between China and Europe is faster than shipping and more sustainable and less costly than by air.

EXAMPLE 7.3

Cooperation on transport supports growth

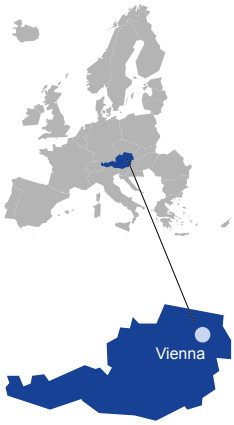
Oslo and Akershus in Norway have a strong tradition of joint transport planning. A joint company established in 1974 provides inhabitants in the metropolitan area with seamless public transport. A regional land-use and transport plan for Oslo and Akershus has also been developed. Furthermore, profits from the toll ring road, put in place in 1989, are used for joint actions in transport investment and operational support. All these policies and plans, as well as joint public transport operations have increased the potential for sustainable and competitive growth. Better transport connections, and thus accessibility, contribute to inclusive growth, as more people can benefit from job opportunities across the region.



EXAMPLE 7.4

The benefit of cooperation on water transport is historically proven

River navigation is another important way for trade across countries. The importance of inland navigation dates far back into history, when the first international organisation was set up in Europe, proving that cooperation across countries is paramount. The Central Commission for the Navigation of the Rhine (CCNR) dates back to the Congress of Vienna in 1815. Its purpose is to guarantee high level security for navigation of the Rhine.



Pointers for policy 7.1
Cooperation on physical connectivity

Share information on port coordination and eco-friendly solutions.

- **Level of cooperation:**
  Transnational / macro-regional level, macro-regional and sea basin strategy areas
- **Parts of Europe where cooperation might be particularly relevant:**
  Mediterranean and Baltic Sea, North Sea and Atlantic
- **Territorial types for which cooperation might be particularly relevant:**
  Coastal areas, islands
- **Possible stakeholders to initiate cooperation:**
  National and thematic coordinators of macro-regional strategies, local and regional authorities

Develop common ticket services for commuters and passengers across borders.

- **Level of cooperation:**
  Cross-border regions
- **Parts of Europe where cooperation might be particularly relevant:**
  Border areas in Europe with functional labour markets such as along the French-Swiss border, around Luxembourg, between Vienna and Bratislava, Tallinn-Helsinki and Copenhagen-Malmö
- **Territorial types for which cooperation might be particularly relevant:**
  Urban areas, especially those characterised by high cross-border urban mobility
- **Possible stakeholders to initiate cooperation:**
  Local authorities

Invest in multimodal transport for eco-friendly connectivity across administrative borders.

- **Level of cooperation:**
  Functional urban regions, cross-border regions
- **Parts of Europe where cooperation might be particularly relevant:**
  Mainland Europe, in particular densely populated border regions
- **Territorial types for which cooperation might be particularly relevant:**
  Large urban areas
- **Possible stakeholders to initiate cooperation:**
  Local and regional authorities

7.3.2.
Why and how to cooperate on ICT connectivity

ICT can link players in different locations. Consequently cooperation on ICT offers opportunities – in particular for smaller places – to link up with other locations and widen the range of accessible services, trade and employment possibilities etc.

Alternative ways to access broadband. A precondition are good ICT connections, which can be less of a focus for cooperation. In specific cases, as e.g. in far off mountain areas, landlines of broadband connections are not available or envisaged for the foreseeable future. Here cooperation on alternative offers for broadband access, e.g. via satellite, can be made possible through territorial cooperation (see example).

Peripheries can find alternatives through ICT. Peripheral regions and islands usually have less physical accessibility. Cooperation on ICT connectivity can complement or compensate for low physical accessibility. With ICT connectivity, services can be delivered through e-commerce and e-governance solutions and offer new opportunities, often building on cooperation with players in other territories.

Cyber security. Cooperation on ICT is necessary when it comes to cyber security. The internet is an integral part of today's society and wireless networks, smartphones etc. are part of everyday life. So common security provisions are necessary to protect citizens and administrations of all kinds from cyber threats and attacks. This may be particularly relevant for urban centres where innovation is concentrated.

Developing different niches through cooperation on ICT. ICT connectivity is integral to innovation. By working together on improving ICT accessibility, regions can further improve their innovation capacities and niches.

EXAMPLE 7.5

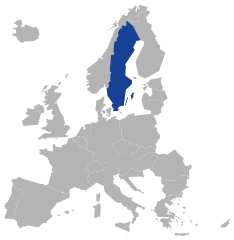
Bridging the digital divide across the EU through joint satellite internet access



Satellite broadband offers high-speed and high quality internet connection. This solution can be ideal for areas with low accessibility, as it is ready-to-use. The EU funded *SABER* project brought together regional authorities and other public and private stakeholders to work together and exchange experience, knowledge and information on the topic. Similarly, another EU funded project, *BRESAT*, works with local and regional authorities to develop satellite broadband solutions and guidelines.

EXAMPLE 7.6

Smart city hackathon



Hackathons offer new possibilities to bring people from different locations together. For instance, a smart city hackathon focusing on the circular economy model and technology in India looked at food, water, energy, waste, transport and materials and on actual problems faced in Indian cities and villages. The challenge was to explore and create solutions through a 24-hour hackathon bringing together Swedish and Indian university students, developers, entrepreneurs, designers, professors, researchers and people interested in rethinking problems, inspiring innovation and building smart solutions.

Pointers for policy 7.2
Cooperation on ICT connectivity

Develop joint ICT platforms for transnational e-services (e.g. transport, tourist information).

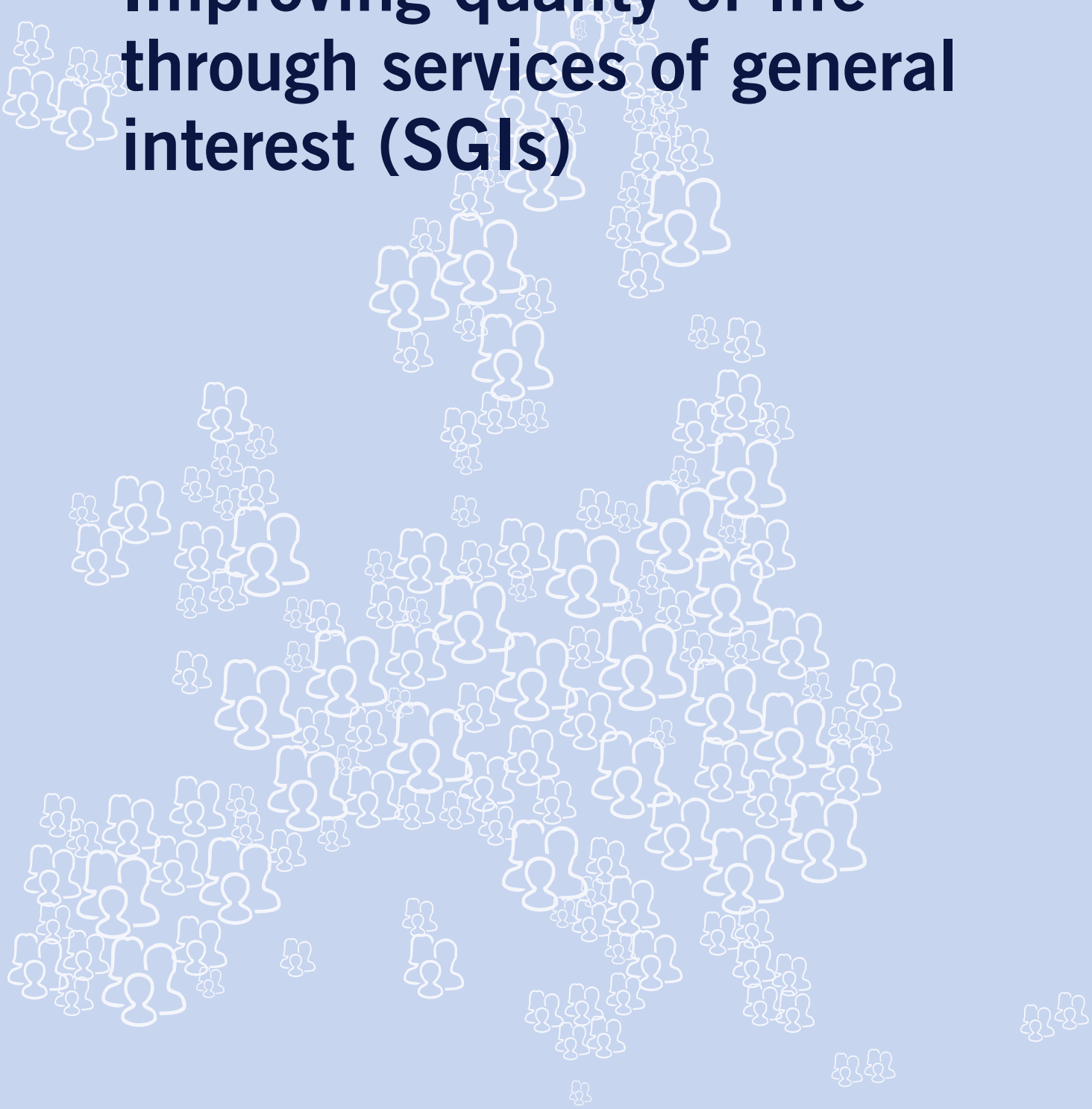
- **Level of cooperation:**
  Transnational / macro-regional level
- **Parts of Europe where cooperation might be particularly relevant:**
  Regions in countries with high ICT connectivity such as Luxembourg, Sweden, Estonia or with high needs, given sufficient infrastructure, such as remote Greek islands, rural areas in Romania
- **Territorial types for which cooperation might be particularly relevant:**
  Sparsely populated, peripheral areas, islands, outermost regions
- **Possible stakeholders to initiate cooperation:**
  Local and regional authorities

Initiate hackathons and e-solutions to solve territorial development challenges in peripheral areas.

- **Level of cooperation:**
  European level and/or functional rural regions
- **Parts of Europe where cooperation might be particularly relevant:**
  Regions in countries with high ICT connectivity such as Luxembourg, Sweden, Estonia or with high needs, given sufficient infrastructure, such as remote Greek islands, rural areas in Romania, mountain regions around the Alps
- **Territorial types for which cooperation might be particularly relevant:**
  Peripheral areas, islands, rural areas, cross-border regions, inner-peripheries
- **Possible stakeholders to initiate cooperation:**
  Local and regional authorities, research centres

8

Improving quality of life through services of general interest (SGIs)



8. Improving quality of life through services of general interest (SGIs)

Good access to SGIs is an important factor contributing to quality of life across European territories. Good access implies that the service is affordable, of good quality, treating users equally, safe and has universal access. Reasons for the diverse level of service provision across European cities and regions include increasing privatisation and demographic change. These same drivers may cause services to withdraw or cluster in certain regions, pushing more regions into becoming peripheral.

Further ESPON reading: Processes, features and cycles of inner peripheries in Europe (PROFECY); Indications and perspectives for SGIs in territorial cohesion and development (SEGI); European perspective on specific types of territories (GEOSPECS).

8.1. Territorial diversity of service provision

People in European cities are satisfied with their quality of life. In 2015, over 80% of residents were satisfied with their life reaching 95% in cities such as Antwerp, Belfast, Graz, Munich, Zurich and cities in Nordic countries. Quality of life considers multiple criteria including education and healthcare provision, public transport and access to goods and services. It is not only based on wealth or GDP. Many of the services contributing to a high quality of life are SGIs.

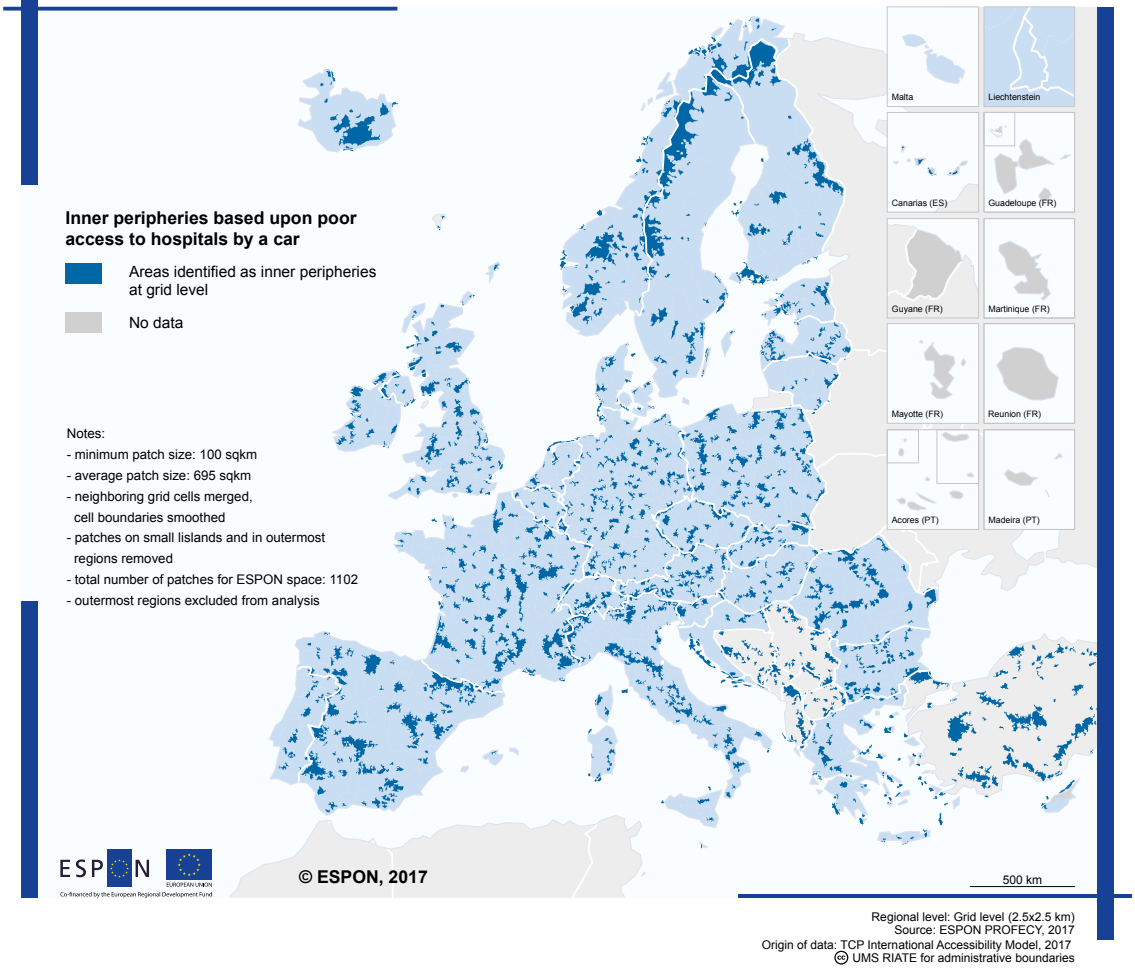
8.1.1. Low SGI levels in sparsely populated areas and inner peripheries

Areas with relatively lower access to SGIs, such as education, health and transport, compared to their direct surroundings can be characterised as inner peripheries. Examples of such inner peripheries are areas somehow disconnected from general territorial development in their region or islands. Other ways to differentiate inner peripheries can be based on travel times to regional centres, economic potential, or organised proximity. This chapter focuses on inner peripheries due to poor access to SGI.

The size of the area of inner peripheries differs by type of SGI. More accessible services (e.g. through many decentralised locations), result in smaller peripheries which are reflected in a patchier European pattern. For example, the number of inner peripheries at grid level for schools is larger than for hospitals, but the average area (km2) is larger for hospitals.

Inner peripheries can be found in all parts of Europe, in the core as well as in outer regions. Comparing the different delineations of inner peripheries by type of SGI shows some commonalities. Cross-border regions, as well as mountain areas most often contain inner peripheries. The inequalities are larger in these regions.

Map 8.1
Inner peripheries by level of service provision (hospitals)



EXAMPLE 8.1
National Strategy for Inner Areas



Valle Ossola is a mountain area near the Swiss border. It is an eligible territory in the *National Strategy for Inner Areas* (SNAI). SNAI aims at contributing to national economic and social development, improving the quality of life and the economic well-being of people living in relatively isolated and sparsely populated areas. It works through a new perspective on access to services to overcome the urban/rural dichotomy. The rationale behind SNAI includes the need to provide adequate education, health and transport services to reduce socio-economic disparities and to support the development of inner areas. Within this framework, the Valle Ossola focuses on cooperation in a non-metropolitan territory providing political and technical support to local authorities to improve their performance, not least related to SGI.

8.1.2.
Socio-economic changes and government interventions shape SGI provisions

Even for frequently used SGI which are usually provided as close to the citizen as possible, ensuring a critical mass of users in the area becomes increasingly important.

Territorial disparities in the way SGI are provided. In the long run, increasing focus on critical mass may lead to increasing diversity of SGI provision. While commercial and/or public service provision, following the logics of cost efficiency, can be provided in areas which are home to a critical mass of people, new models emerge and will become necessary in areas with low SGI provision. For example, e-services can ensure territorially equal access to services. In other cases, community based provisions are emerging, replacing private and public service provisions.

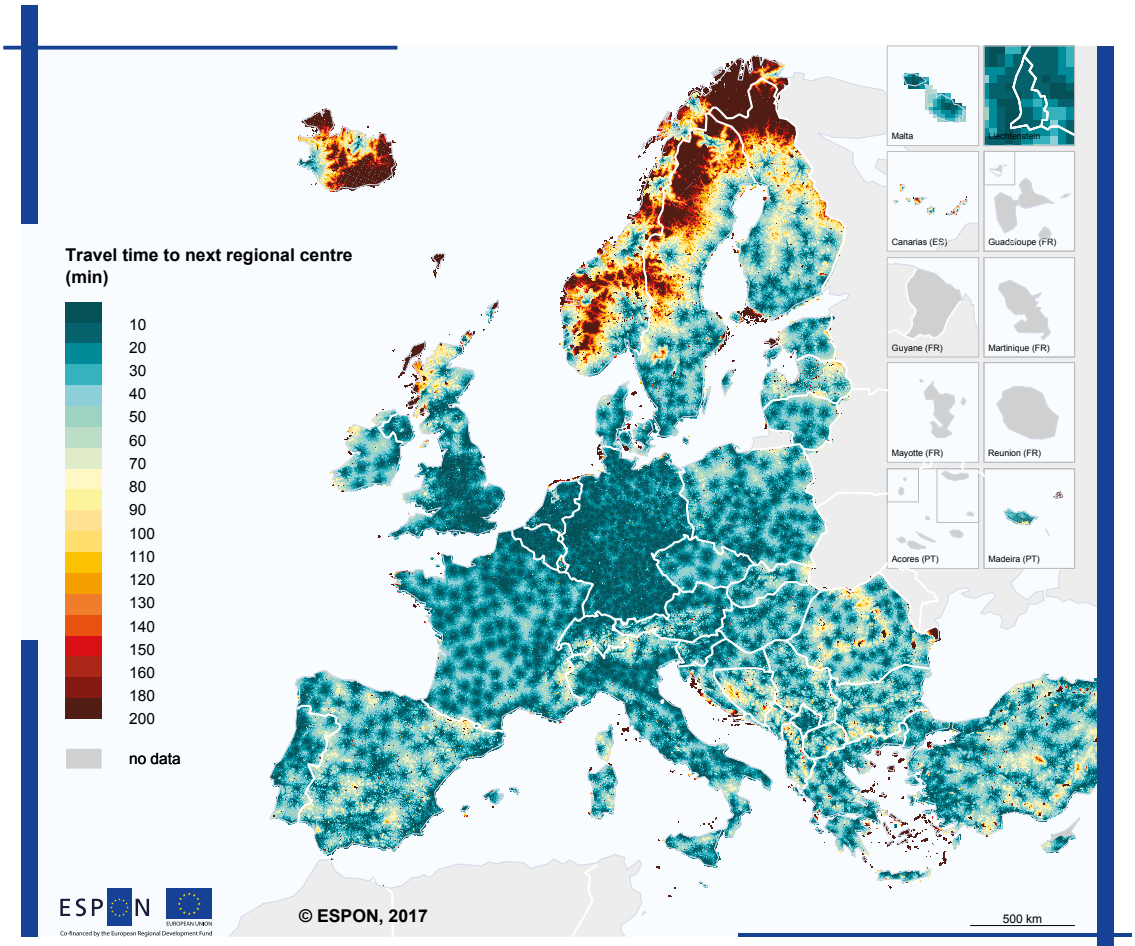
8.2.
Territorial links affecting the level of service provision

Changing levels of SGI provision in and between European regions can lead to changing levels of inequality. Increasingly the provision of SGIs is based on links and flows between different territories. The number of SGIs may decrease in a region, or SGIs may be more expensive when providing the same quality to less people. In particular, less wealthy people might be affected by changing provision levels of SGIs. These people may not be able to move with the SGI to regional centres and thus are at risk of decreased access to the SGI.

8.2.1.
Long travel times to the nearest regional centre complicate access to SGIs

In particular people living in the northern periphery as well as people living on islands and mountain areas have long travel times to regional centres. Due to the difference in access to SGIs these areas face the risk that in the medium or long run, service providers, enterprises, general economic and also social activities may move away to areas with better access. These regions are thus more vulnerable to social inequalities. In particular banking and shopping may become less accessible as providers and customers accept certain maximum travel times. For other SGI such as everyday healthcare and education people accept only short travel times.

Map 8.2
Access to regional centres by car (in min), 2016



Grid level (2.5 x 2.5 km)
Source: RRG GIS Database, 2016
Origin of data: TCP International Accessibility model, 2017
UMS RIATE for administrative boundaries

EXAMPLE 8.2

Joint agreement to maintain affordable SGI provision



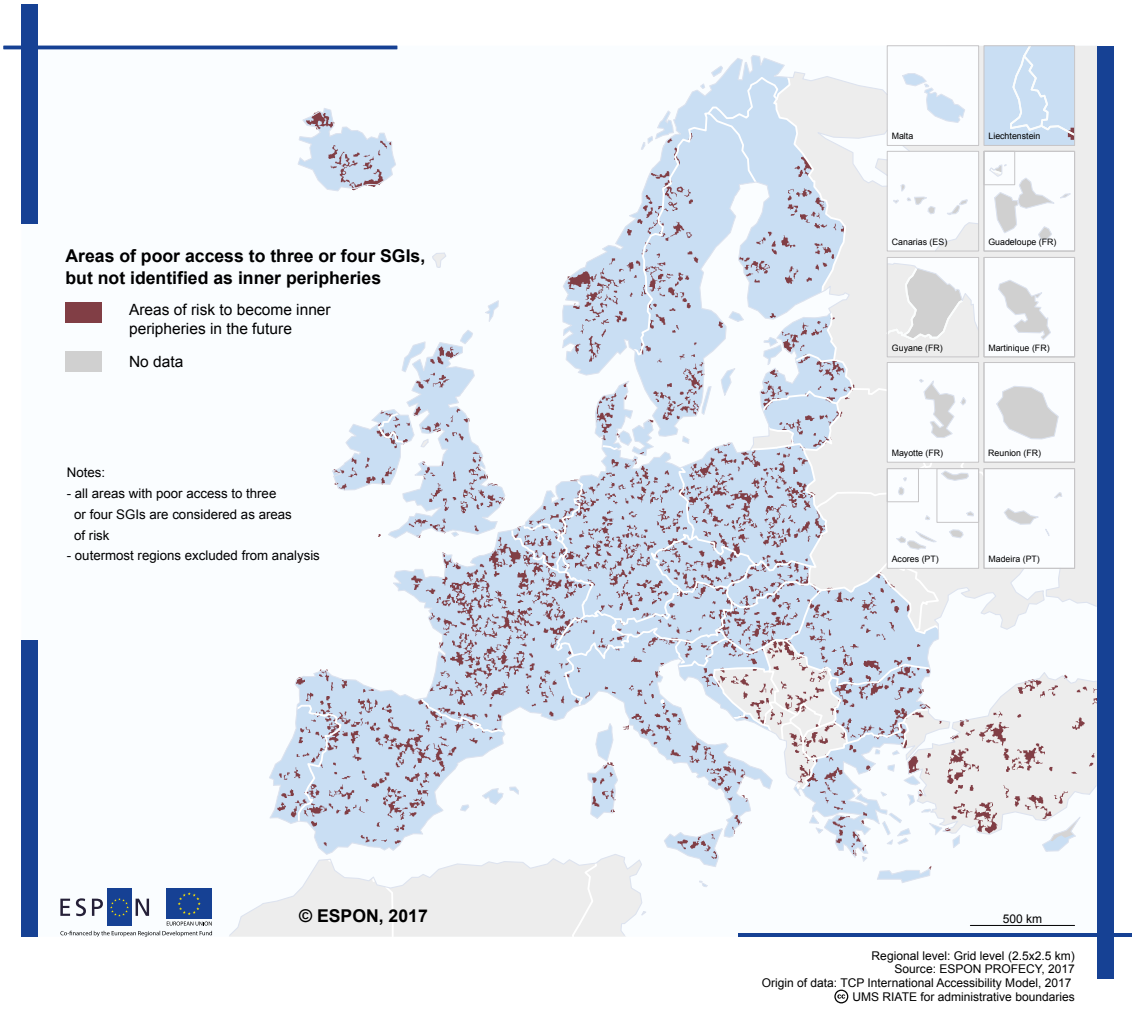
In the city of Bilbao (Spain), the power company Iberdrola and the city council recently (2015) signed an agreement for the protection of vulnerable customers. They agreed to establish coordination mechanisms to avoid the suspension of electricity and/or gas provision for unpaid bills to economically disadvantaged citizens. The protection is applicable to all customers who purchased power and/or gas from Iberdrola, who are registered in Bilbao and who may, upon technical evaluation and application, receive economic benefits intended to care for basic subsistence needs in situations of social emergency. Under the agreement, Iberdrola agreed not to suspend the supply of electricity and/or gas to such customers in vulnerable situations, while grants are managed by the City Council. Both institutions agreed to create a joint commission to monitor the agreement.

8.2.2.
Regions at risk of becoming inner peripheries for multiple reasons

The travel time to regional centres and SGI may increase, areas may be too dependent on one or a few facilities, or suffering from population decline or increasing unemployment. This includes areas around current inner peripheries.

Increasing inner peripheries. Changing demographic patterns as a consequence of ageing and/or out-migration can contribute to fewer people living in an area covered by a particular SGI. As a consequence, the service provision declines. Different developments as well as habits and traditions result in some peripheral areas enlarging. Furthermore, socio-economic changes and government interventions impact the quality of life and attractiveness of places. Which may lead to vicious circles of SGI provision – demographic change, more peripheral areas and increasing inequalities of living conditions around Europe. (For more details see section 7.2. For more information on changing demographic patterns due to migration see section 1.2).

Map 8.3
Areas at risk of becoming inner peripheries

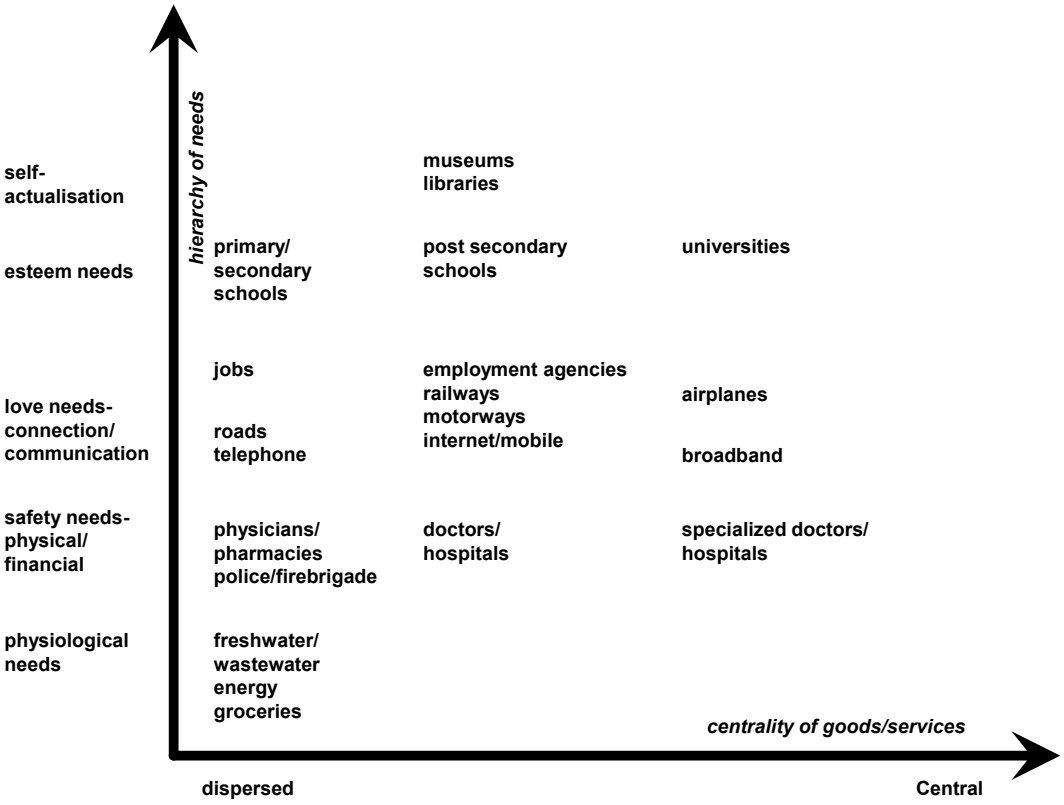


8.3.
Cooperation on improving service provision and pointers for policy to strengthen cooperation

Public authorities benefit from territorial cooperation on service provision to increase efficient use of resources and the service availability, quality and affordability. The variety of services that can be provided implies different ways and benefits of cooperation.

The size of the SGI area is different per service. People are not willing to travel as far for a primary school as for specialised medical care. The need for cooperation differs by type of service provision. The figure places different examples of services according to the size of service area on the x-axis from small and thus dispersed to large and thus centralised areas, with the need for the services on the y-axis.

Figure 8.1
Territorial centrality of SGIs



8.3.1.
Why and how to cooperate on everyday service provision

Cooperation provides ways to maintain or improve daily SGI provision in inner peripheries. Daily SGIs reflect a basic need, such as fresh water, energy, groceries, doctors, primary schools etc., so they have relatively small service areas. Regions with low access to these services are therefore more scattered around Europe as illustrated in section 8.1. To improve accessibility to these services local authorities may benefit from cooperation.

Enhanced economies of scale for local authorities in inner peripheries. Local authorities join forces by sharing the provision of certain services. Services provided by local authorities, such as waste management, primary education, or healthcare may be offered jointly by local authorities. With declining financial capacities, for example due to austerity measures, or a declining population, the level of service provision may reduce. Local authorities may need to increase the cost for the service, decrease the quality or limit the areas covered by the service. Cooperation and coordination with neighbouring authorities may increase the financial efficiency of service provision, as the same work can be shared by more

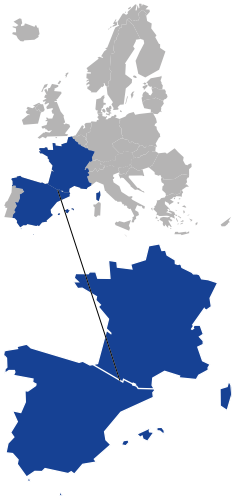
people. It also increases the area covered by the service, e.g. making better use of the investment in new waste collection trucks by using them more frequently in a wider area.

Increased possibilities for local authorities to attract services to inner peripheries. Services are increasingly provided by private enterprises, for example pharmacies, banks and public transport. These services are mostly attracted to densely populated areas due to the higher profit margins. In order to maintain these services in areas with low population density or with low levels of accessibility, authorities may cooperate to increase the critical mass. Authorities may also pull together resources to be able to attract services provided by private players that would not be attracted to the area otherwise.

Possibilities for cross-border areas to increase the service area. Cross-border cooperation on service provision can increase the service area, making a region more attractive for service provision. European Groupings of Territorial Cooperation (EGTC) are a tool to overcome possible legal issues for cross-border service provision.

EXAMPLE 8.3

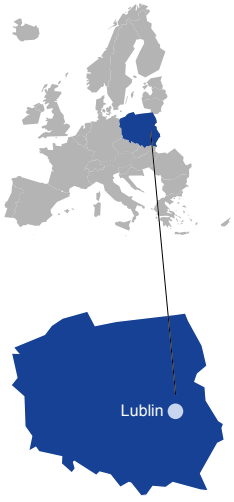
Cooperation on border hospital services



Cooperation to increase the service area of a border hospital by accepting employees and patients from both sides of the border. The EGTC *Hospital de la Cerdanya* was created in 2010 to allow joint construction of the hospital and its further management. The EGTC is a legal solution and a binational governance tool for operating a cross-border hospital providing healthcare to both Spanish and French citizens in a remote area of the Pyrenees. It is an example of how to solve SGI provision in remote border areas. The EGTC members are the French government, the Catalonian region and the corresponding health and insurance agencies. Experience with operating the hospital indicates practical difficulties of SGI provision across borders – at least for healthcare services. Being located on the Spanish side of the border, the EGTC aims for a ratio of 40% French and 60% Spanish patients after five years of operation. During the first few months, French patients accounted for below 20%. This increased slightly in the following months and one year after opening more French patients were visiting.

EXAMPLE 8.4

Inter-municipal cooperation driving sustainable waste solutions in Lublin



A partnership of 15 municipalities within the Polish voivodeship of Lublin joined forces to coordinate waste collection to save costs and upgrade the service provision to Europe standards. Until completion of the ERDF funded project, waste collection and management was disorganised resulting in relatively high costs for individual local authorities and low levels of recycling. By joining forces, the municipalities could construct a state-of-the-art waste management plant, equipped with technology capable of processing the region's entire municipal waste stream. This partnership was instrumental in seeing through this new waste segregation centre, which handles waste for around 137 000 inhabitants.

Pointers for policy 8.1
Cooperation on everyday service provision

Ensure daily services in inner peripheries by establishing functional areas with a larger critical mass.

- **Level of cooperation:**
  Urban-rural partnerships, cross-border regions
- **Parts of Europe where cooperation might be particularly relevant:**
  In particular in parts of northern Norway, Sweden and Finland as well as in central Spain, eastern Poland and Romania.
- **Territorial types for which cooperation might be particularly relevant:**
  Inner peripheries, mountain areas and islands
- **Possible stakeholders to initiate cooperation:**
  Local, regional and national authorities as well as enterprises and service providers

Mitigate border effects that hamper the accessibility of public services / SGI.

- **Level of cooperation:**
  Cross-border regions
- **Parts of Europe where cooperation might be particularly relevant:**
  Border regions that are additionally disadvantaged by their geography for example in the Alps, Pyrenees and the Carpathians between Poland and Slovakia
- **Territorial types for which cooperation might be particularly relevant:**
  Cross-border regions
- **Possible stakeholders to initiate cooperation:**
  Service providers, national, regional and local authorities

Develop joint agreements to optimise urban service provision in a wider area.

- **Level of cooperation:**
  Functional urban regions, cross-border regions
- **Parts of Europe where cooperation might be particularly relevant:**
  Regions that are mostly at risk of becoming an inner periphery due to increasing travel times to urban centres can be found in large parts of Europe and are in particular concentrated in Norway, Sweden, Iceland, France, Romania and Spain
- **Territorial types for which cooperation might be particularly relevant:**
  Urban regions and small towns with their surrounding rural areas
- **Possible stakeholders to initiate cooperation:**
  Service providers, local authorities

8.3.2.
Why and how to cooperate on specialised service provision

Cooperation enhances access to specialised services in sparely populated areas. Cooperation between authorities can open access to networks that would be too costly in single regions. This reduces remoteness and improves the quality of life for people living in regions with low levels of specialised service provision.

Territorial cooperation improves service provision in inner peripheries. Cooperation may support offering specific services in these regions, for example specific hospital care or specific education and courses targeted at the young.

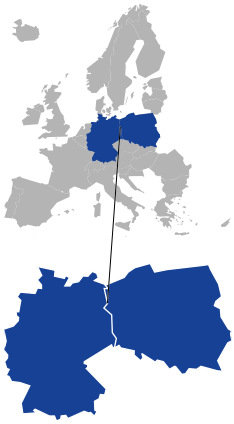
Schemes can be developed to allow service provision at a distance, for example e-health. In this example specialised doctors can support and advise local doctors. Patients in inner peripheries can stay at home under observation by specialised doctors elsewhere.

Territories with geographic specificities can maintain or increase their service provision through territorial cooperation. Remote and sparsely populated regions with territorial specificities such as mountain regions, or islands often have additional challenges to provide services due to geographical barriers or a seasonality of visitors and employment. Cooperation between authorities in these regions can increase visibility for their specific issues and access to networks that are otherwise too costly in terms of human resources, or finance to set up.

EXAMPLE 8.5

Cooperation on e-health services

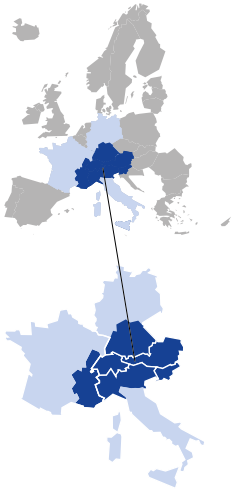
E-health solutions are improving healthcare in sparsely populated regions in the Polish-German border area. The cross-border project *Telemedicine within the Euroregion Pomerania* contributed to better healthcare provision in rural areas. Data transfer systems were installed in hospitals in the region allowing specialists from Poland and Germany to analyse medical information and provide second opinions on diagnoses made by local doctors regardless of distance. This makes it easier for patients in outlying hospitals to receive the same standard of care as those in more densely populated areas.



EXAMPLE 8.6

New ways to maintain service provision in sparsely populated mountain areas

The *ACCESS* project funded by the transnational cooperation programme Alpine Space contributed to increasing service provision in sparsely populated mountainous areas. The project aimed at finding and testing new ways to offer services in these areas, and focused on organising service provision using ICT and fostering demand oriented, integrated mobility systems. Of the 25 *ACCESS* pilot activities in the test areas, 22 have started implementation. Some of them are already fully operational and opening events have been organised for a mobility centre in Carinthia, video service desks in France Comté as well as nature park bus lines in Austria.



Pointers for policy 8.2
Cooperation on specialised service provision

Provide digital solutions to ensure specialised service provision in less accessible areas.

- **Level of cooperation:**
  Europe, Transnational / macro-regional level, functional urban or rural regions, urban-rural partnerships
- **Parts of Europe where cooperation might be particularly relevant:**
  Regions that are mostly at risk of becoming an inner periphery due to increased travel times to urban centres can be found in large parts of Europe and are in particular concentrated in Norway, Sweden, Iceland, France, Romania and Spain.
- **Territorial types for which cooperation might be particularly relevant:**
  Inner peripheries, mountain areas, islands
- **Possible stakeholders to initiate cooperation:**
  Local, regional and national authorities together with hospitals, universities, enterprises and other providers

Establish joint agreements on SGI provision to mitigate border effects that hamper accessibility.

- **Level of cooperation:**
  Cross-border regions
- **Parts of Europe where cooperation might be particularly relevant:**
  Border regions that are additionally disadvantaged by their geography for example in the Alps, Pyrenees and the Carpathians between Poland and Slovakia
- **Territorial types for which cooperation might be particularly relevant:**
  Urban regions and small towns functioning as regional centres
- **Possible stakeholders to initiate cooperation:**
  Local, regional and national authorities (e.g. health or social security institutions, transports regulators)

9

Evidence for strengthening territorial cooperation on post-2020 policies: a brief review



9. Evidence for strengthening territorial cooperation on post-2020 policies: a brief review

Understanding Europe's territorial diversity means understanding places in their territorial context at any geographical level. This includes their specific characteristics and development as well as how they link to each other, both physically and in terms of human interaction, as well as the level of cooperation between them.

Below are key messages concerning European territorial diversity. Links and cooperation between them are presented, followed by a section with reflections on the why and how of territorial cooperation. Taken together, these sections highlight the need to strengthen the territorial dimension, including functional cooperation, of Cohesion Policy post 2020. To do so, mainstreaming territorial cooperation in the ESIF should be seriously considered.

9.1. Territorial diversity: concentration tendencies

Analysing Europe's territorial diversity from the point of view of the policy objective of territorial cohesion, highlights one overriding key message: territorial concentration of population and economic activity is increasing. This tendency has further implications.

The territorial concentration of population has several dimensions which are expected to become stronger and which could even mutually reinforce each other:

- **Focus on urban centres in western and northern Europe.** The more densely populated urban centres in wealthier western and northern Europe attract ever more young and economically active people. This creates challenges for the urban centres themselves (housing, congestion), but even greater challenges for regions in eastern parts of the EU and many rural regions which are losing population.
- **Focus on metropolitan areas.** There is a very strong pull to metropolitan centres which disadvantages especially 3rd, 4th and 5th tier centres. This is expected to increase in the years to come and implies a greater urban-rural divide.
- **Sub-urbanisation process.** In many places, technological developments support medium-sized settlements and more rural areas close to urban centres.
- **Challenges in shrinking regions and (inner) peripheries.** The other side of the coin of these trends are declining rural areas and inner peripheries where the provision of SGIs is not viable. Increasingly, additional areas risk becoming inner peripheries.

Concentration of population is inherently correlated with a concentration of economic activities.

Increasing concentration of economic activities. Developments towards slightly more territorially balanced socio-economic cohesion in Europe were stalled by the economic and financial crisis of 2008. Since then, and probably also for the foreseeable future, asymmetric economic growth and development are expected:

- **Concentration of GDP growth.** Over the past decade and for some time to come, economic growth rates are expected to be highest in the European core extending from Switzerland and southern Germany to the Czech Republic, with Slovakia and south western Poland to the east. The catching-up process in the rest of central, eastern and southern Europe is expected to be cumbersome and take a long time – if it happens at all.

- **Metropolitan areas are performing better than other types of territories.** As with demographic developments, increasing economic disparities between metropolitan and less densely populated areas are expected, measured by both GDP and employment.
- **Increasing social inequality.** At various geographical levels, economic and social inequalities continue to increase. These inequalities manifests themselves at all levels: between different parts of Europe, between regions in the same country and between people living in the same city or region. The acceptability of this trend seems to be reaching its limit and is beginning to have political repercussions.

Technology and innovation hold the potential to make new regional stars. As in earlier cases (see the breakthrough of ICT), it is expected that major technological innovations, including robotics and 3D-printing, will reduce the importance of location. In other words, production can be decentralised and people can work from wherever they like. However, until then it seems that location does matter.

- **The '4th industrial revolution' accelerates territorial differences.** To a large extent, it is expected that the next wave of technological changes (the 4th industrial revolution) will exacerbate the differences between technological/economic players and between cities and regions attracting, or not, those players. It is assumed that in the coming decades 'winner takes all' will be the driving principle, meaning that the advantages will be with those leading the field.
- **Urban areas in northwest Europe are innovation locations.** Innovation and its economic application is largely concentrated in capital cities and northwest Europe. Looking more particularly at key enabling technologies and SMEs, the picture is more balanced. Still, regions in Croatia, Bulgaria, Hungary, Poland, Romania, Slovakia and Spain could experience more challenges than others.
- **Circular economy innovations are even more concentrated.** In the light of green growth and the widely held objective of pursuing a green economy, future economic development may be influenced by innovations in these fields. New patents indicate that western and southern Germany, Denmark, the southern UK and parts of Belgium and the Netherlands lead the way. Other hotspots are metropolitan and capital regions mainly in western Europe.
- **Decreasing agglomeration advantages and increasing sprawl.** Urban sprawl is expected to increase as new forms of mobility, paired with decentralisation, reduce agglomeration advantages. In some cases, the advantages of major transport hubs for goods can even be questioned.

9.2. Territorial links: interdependency but further concentration

Key messages relate both to flows influencing everyday life including daily routines in areas close to 'home', and to flows which need to be seen in a broader perspective.

Flows to urban centres shape our daily routines. To a large extent, 'everyday territorial links' involve flows to the nearest urban centre. In other words, they further underline territorial concentration tendencies.

- **SGI flows to regional centres.** Everyday SGIs are increasingly provided in more populated, central places. Smaller centres do not have the critical mass to support them, which means that inhabitants have to go to these central places for services such as schools or basic medical services.
- **Sharing economy – new types of flows mainly in urban centres.** Many services are provided through a collaborative or sharing economy built on centrality and critical mass. Accordingly, these also stimulate flows between territories towards larger urban centres.

Flows to main hubs shape the broader picture. For more specialised links between territories, flows are characterised by greater distances and more specialised centres.

- **Knowledge – global network society.** Centres of excellence striving towards global recognition in the knowledge economy are limited to a few major, more urbanised areas in Europe, such as southern Germany, Paris, Dublin, the Norwegian coast and the Swedish west coast. These places are, however, highly interlinked with other places in Europe, through different forms of cooperation,

sub-contracting or staff flows. For these centres of excellence to compete globally, links with other places in Europe are crucial.

- **FDI – direct impact of non-European owned firms highest in urban regions.** 70% of all non-European owned firms in Europe are located in larger urban regions, especially in capitals and metropolitan areas. Only 6% are in rural areas. There are productivity spillovers for employment and value added, as non-European firms in urban regions account for 83% of employment and 81% of production (measured by operating revenue).
- **Freight – growing volumes and hubs.** Ports and sea accessibility are vital for trade relations. European ports continue to play an important role as gateways for imports and exports of products across Europe and the world and are also hubs for passenger flows.
- **Migration – acceleration of territorial concentration tendencies.** People migrate within countries and regions, EU citizens migrate to other EU Member States, while Europeans also migrate outside Europe mainly for their careers. With the recent refugee crisis, a lot of non-Europeans have migrated to Europe. Migrants tend to be strongly attracted to larger urban centres where jobs and people of their own culture tend to be.
- **Labour migration – 'soft flow back' dimension.** From the point of view of the sending countries and regions, intra-European migration tends to be seen in terms of a loss of educated human resources, a brain drain. But such emigration also generates positive flow back effects. This includes the flow of information, investments, skills and trade links. These links are often undervalued in policy-making, as are benefits from trained labour that other countries have paid for in the receiving centres and regions.

9.3. Territorial cooperation needs

Interdependence gives cooperation an undisputed added value. It means that territories have to cooperate in their policies, major investments and knowledge generation. Cooperation is needed to overcome the often rather static territorial administrations and introduce an element of functionality and cohesion to sustainable development policies. Not to do so means reduced effectiveness, wasteful investment and a weakened (global) competitiveness, even for the stronger regions.

Local territorial development is shaped by its characteristics and interdependencies with other places, so territorial cooperation is indispensable for sound and effective development policies. Any local or regional development initiative should include territorial cooperation within the appropriate functional area (functional urban/rural region, cross-border region, transnational / macro-region).

The threat of political-territorial division has to be responded to in future European policies (and structures and procedures), starting with post-2020 ESIF. There is a strong case to mainstream territorial cooperation investments in Cohesion Policy post-2020.

Cooperation can be at different levels. Key messages and pointers of policy opportunities on territorial cooperation have been mentioned throughout the report. A few key points to be considered for strengthening territorial cooperation are highlighted for each level.

Local functional areas including cross-border regions

- addressing ageing and demographic change:
- integration of labour markets:
- strengthening the knowledge economy:
- providing governance frameworks allowing SMEs to grow:
- enhancing productivity spillovers of FDIs:
- boosting renewable energy production and consumption:
- reaching critical mass for boosting the circular economy:
- creating industrial symbiosis processes:
- providing transport services at the level of functional regions:
- ensuring the provision of daily SGIs.

Macro-regions / transnational regions

- dealing with intra- and extra-European migration:
- managing refugee flows across borders:
- cushioning territorial centralisation trends in the knowledge economy:
- finding the right complementarities, common challenges and opportunities between regions:
- ensuring transmission infrastructures for renewable energy in Europe and beyond:
- development of centralised economic structures for a circular economy:
- reaching critical mass for certain sectors boosting new technologies:
- ensuring the provision of specialised SGIs, especially e-services:
- developing transnational ICT solutions.

Need to map cooperation needs and efforts

- detailed analysis of territorial interdependencies at European level:
- European cooperation patterns and network analysis for territorial development.

9.4. Pointers for good territorial cooperation

The core element in the Territorial Review is the need for administrative territorial entities to cooperate, faced as they are with the need to find common and collective policies for the challenges highlighted in the seven issues covered. Good governance aiming at territorial cohesion and not territorial fragmentation is therefore crucial. This implies recognition by politicians and other influential stakeholders that their (shared) responsibility goes beyond governing their own (small or large) fragment of territory, and that cooperation with neighbouring entities or entities with similar (economic, social, environmental, cultural) interests is vital. Good governance also implies being able to identify cooperation needs and to implement a good approach in practice.

This is not a simple process. It is clear that across most of Europe governance structures and systems, given the vested interests, are not easy to change. So the only alternative is to change the approach and cooperate from within existing structures. Moreover, territorial cooperation involves multiple government levels, which in many governance systems implies established or implicit hierarchies. Lastly, by its very nature, governance also has to cover, if not integrate, sector policies.

To assist the process, and following the detailed pointers for policies per theme, a number of general policy opportunities for cooperation are outlined below.

Start from local development needs. The most effective and long-lasting territorial cooperation often initiates from common issues at local and regional levels. That said, global objectives and European or national policy frameworks have shown themselves to be useful drivers for territorial cooperation at different levels.

Assess the issue at stake and collect territorial evidence. Good knowledge of the territorial diversity and the dynamics of the issue at stake help to determine the most suitable level for territorial cooperation following subsidiarity and proportionality principles.

Identify and involve stakeholders. Different levels of government, different policy sectors and different non-governmental stakeholders have to be involved in the process to engage in a partnership, create broad based ownership of the issue at stake, increase the knowledge base and ensure efficient and effective territorial cooperation. This can be a complex process. So it should be realised that, when identifying and implicating stakeholders for territorial cooperation, a balance needs to be found between the number of stakeholders involved and the effectiveness of the process. It is important to adjust the composition of the stakeholder groups for different steps in the policy development process.

Foster diversity of territorial cooperation arrangements. Territorial cooperation can serve multiple purposes at different stages of the policy cycle. The right level of, and approach to, cooperation needs to be considered for each local development need and moment in the policy cycle. Territorial development does not allow for one-size-fits-all solutions.

Beyond INTERREG funding. INTERREG has been a successful instrument for funding European territorial cooperation. However, cooperation at the cross-border, macro-regional or European levels should not be restricted to INTERREG programmes and funding only. So far, different initiatives have proven this, including projects under macro-regional and sea-basin strategies. Furthermore, Article 70(2) of the CPR allows for this diversification, as it gives the opportunity to all ESIF programmes to invest outside their programme area under certain conditions.

Base territorial cooperation on functional areas. Territorial cooperation needs to be delineated according to the function (transport, labour market, etc.) that is addressed by a given policy initiative. Accordingly, a single place can be part of many different functional areas ranging from different local or regional functional cooperation to European wide networks.

Foster a new culture in the public sector. Even though changing attitudes takes time, a more entrepreneurial culture in public decision-making processes is needed. However, this would have to include more transparency and open communication. Intensified cooperation with different stakeholders could encourage such a shift in attitude.

Empower driving individuals. Territorial cooperation and multi-level governance processes are often initiated and driven by organisations with good leaders, good networks and a broad understanding of governance in their respective area or policy field.

Keep stakeholders motivated. Different cooperation partners have different motives to join the partnership. Furthermore, the motive and need for cooperation can change over time. Knowledge about motivation is important for getting stakeholders involved and keeping them on board. Motivation factors include influence, funding possibilities, cost savings and response.

Communicate and create co-ownership. Facilitating territorial cooperation processes involving a large number of stakeholders needs communication routines and practices that support agreement. These can include awareness-raising techniques for a common understanding, consensus among stakeholders, shared visions, objectives or strategic plans and contractual agreements. The crucial factor is the ability to create co-ownership and commitment among stakeholders.

More territorial evidence on cooperation. At European level, most territorial evidence focuses on places. However, whilst links between different territories are the primary driver for territorial cooperation, evidence on flows of goods, people and services as well as different forms of cooperation is limited. The INTERACT database is one of the richest data sources on territorial cooperation, but the data reflects only INTERREG cooperation and largely reflects the active engagement of only some regions in Interreg. There is room for European players and programmes to initiate and support more data collection and analysis of territorial cooperation. ESPON can also play its role, linking into and contributing to the key policy processes and debates, not only on Cohesion Policy post-2020, but also on related EU sector polices (e.g. transport, digital, environment, migration, employment), the Urban and Territorial Agendas, regional development strategies etc.



Further ESPON reading on cooperation and governance: Thinking and planning in areas of territorial cooperation (ACTAREA); Regional strategies for sustainable and inclusive territorial development (RESSI); Spatial dynamics and strategic planning in metropolitan areas (SPIMA); Comparative analysis of territorial governance and spatial planning systems in Europe (COMPASS); Towards better territorial governance in Europe: A guide for practitioners, policy and decision makers based on contributions from the ESPON TANGO Project.

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