



TARTU ÜLIKOOL
RAKE



Shrinking regions and innovative solutions: entrepreneurship, employment and the accessibility of services

Study Report

September 2017



The study report was commissioned by the Estonian Ministry of Finance, Department of Regional Development.

Authors of the report: Veiko Sepp and Jaanus Veemaa

The authors wish to thank the contributors responding to our consultations - Axel Rød, Camille Dressler, Donna Borg Micallef, Frederick-Christoph Richters, Ingrid Gojević, Ivan Popov, Jan Vogelij, Juhana Rautiainen, Julius Hanus, Klaus Munkhøj Nielsen, Marie-Lorraine Dangeard, Maros Finka, Milou van Mourik, Nathalie Hubert, Niklas Ulfvens, Peter Jung. Roland Arbter.

Contact person:

Veiko Sepp (e-post veiko.sepp@ut.ee)

Lossi 36-329, 51003, Tartu

<http://rake.ut.ee>

Table of Contents

1	The aim and methodology of the study.....	4
2	The concept and process of regional shrinkage	6
3	Typologies of shrinkage and regional patterns in Europe	8
4	Strategic responses to regional shrinkage	15
5	Improving accessibility of services and responding to shrinking with new services.....	20
5.1	Innovative mobility solutions	21
5.2	Broadband ICT service and Internet based e-services	23
5.3	Delivery outlet innovations	26
5.4	Co-design and co-delivery of services	28
5.5	New services responding to and capitalizing on shrinking and ageing processes	30
6	Innovative policies and smart solutions for regional development in entrepreneurship and employment	34
6.1	Regional innovation systems and other initiatives improving regional entrepreneurial ecosystem.....	34
6.2	Co-operative product and marketing innovations	38
6.3	Social entrepreneurship	40
6.4	Teleworking and co-working solutions.....	42
6.5	Solutions increasing the flexibility of labour market for marginalized groups	43
6.6	Reorientation of labour force.....	45
7	Conclusions and recommendations.....	47
8	References	48
	Annex 1: Shrinking patterns and perspectives on shrinking problems in selected European countries	55
	Annex 2: Best Practice Portfolio	59

1 THE AIM AND METHODOLOGY OF THE STUDY

The aim of the study is to map innovative solutions adopted in different EU countries to facilitate the development of shrinking regions. The main focus of the study is on the analysis of effective policy responses contributing entrepreneurship, employment and service accessibility in shrinking regions in different territorial contexts.

The analysis relies: 1) on the review of academic and applied research literature; 2) on written consultations with the representatives NTCCP (Network of Territorial Cohesion Contact Points); and 3) on public information collected from the Internet webpages of key co-operative organizations associating European regions and local municipalities - namely CEMR (Council of European Municipalities and Regions), CPMR (The Conference of Peripheral Maritime Regions), ESIN (European Small Islands Federation), AEM (European Association of Elected Representatives from Mountain Areas), AEBR (Association of European Border Regions) and Nordregio – and their member organizations.

The initial methodology devised written consultations with the representatives of the organizations listed under point 3 above as well, in order to determine the range of potential best practice cases. Totally 45 e-mails were sent, with the plea to elaborate on the most important innovative solution (policy response to the processes of decline and stagnation) in their region/locality, which has been effective in creating new jobs and/or promoting entrepreneurship or improving the accessibility to services – to describe concisely the essence of the innovative solution in response to the developmental problem/challenge and explicate how it uses local opportunities for development and to assess the significance of various factors (listed in added table) for the success of the solution in question. Only three substantial responses were received – from Pohjanmaa, Finland, Scottish islands and North Denmark Region. Therefore, the consultative data collection method planned for searching of best practice innovative solutions “from the ground” was substituted with the scanning of such practices based on the information published (and thus considered as important) by the same organizations in their webpages.

The consultations with NTCCP representatives were much more productive. 27 e-mails were sent with the plea to list key challenges of shrinking regions (both in rural and urban areas) in their country and elaborate on the most innovative responses to these challenges applied right now. 12 countries – Austria, Belgium, Bulgaria, Croatia, Finland, France, Germany, Luxemburg, Netherlands, Norway, Slovakia and Sweden – provided substantial responses to the consultations. The representatives of Malta decided that the concept of ‘shrinking regions’ is not applicable to Malta.

As a result, the contents of the best practice portfolio are predominantly formed by the consultations with the representatives of NTCCP and by the abundant best practice information collected from the webpages of territorial governments and of their unions, from the electronic databases and reports published by research consortia within projects financed by various EU programs. The final selection of practices was made by the authors, based on the suggestions made within consultations and on the exemplary qualities of these practices – the clarity of ideas, the sustainability of solutions,

regional coverage of Europe. The available descriptions of innovative practices were considered sufficiently detailed and analytic for the task, which made additional consultations with relevant stakeholders redundant.

2 THE CONCEPT AND PROCESS OF REGIONAL SHRINKAGE

In the most minimal sense a **'shrinking region'** could be defined as a **region in which the number of inhabitants decreases** (see e.g. EP, 2008) or a **location (urban or rural) that is losing population** (Sousa and Pinho, 2015). The process of regional shrinkage takes place within the broader **megatrend of demographic change** in 21st century Europe, which according to the DART project report "covers mainly four areas", of which the first and fourth ones pertain directly to the process of population shrinkage, while second and third ones describe demographic changes that almost certainly accompany shrinking processes in contemporary European context:

1. the **quantitative change of the total population**, i.e. altogether territorially differentiated contraction of the population particularly in the area with embedded urban growth islands;
2. the change of the age structure of the population and shift of the proportions between the age groups, i.e. above all **ageing of the population**, increase of the average age, sinking of the youth quotient and growth of the elderly quotient;
3. the **change of the social structure, above all the family, and household structures**, i.e. also the growing 'separation' and importance of the economic and political meaning of the older population age groups;
4. the **change of the territorial distribution of the population by migration movements**, i.e. in particular drift from rural areas and immigration into growth centres (DART, 2012).

Regional shrinkage is simultaneously **demographic and economic process** – „demography and economy in combination are potential drivers of shrinking” (Gruber et al., 2015). Most often shrinking regions are less favourable **in terms of economic situation** - with lower GDP per capita and with higher unemployment rates (EP, 2008). From the social and economical viewpoints, in the core of the process lies **selective emigration** of either “young adults with a high level of education that are not able to find [suitable, rewarding] work in their own region” (DEMIFER, 2010), or of teenagers looking for better educational (or other living) opportunities outside their home region. The selective outward migration from a region will, in turn, result in lower fertility rates of a region (Syssner, 2015) and thus both in the decline and ageing of regional population.

The most common socio-economic cause behind regional shrinkage is some sort of **structural change linked to modernization and technological innovations** – be it urbanization, industrialization or deindustrialization mixed with globalization – which results “in the diminishing of demand for labour force [and in] economic pressure to migrating out from a region” (EDORA, 2011; see also e.g. Doussard, et al., 2009; Haase et al., 2014; 2016; Gospodini, 2015; Wiechmann and Bontje, 2015; Weaver et al, 2017), which are less successful (both in structural and locational reasons and in policy reasons) in responding to structural change (Panagopoulos and Barreira, 2011a). It could also result from an external or internal shock like the recent economic crisis (see Gospodini, 2015; FOCI, 2010). The specific case of regional shrinkage is provided by Central and Eastern Europe post-socialist countries, which were exposed to the strong socio-economic and cultural shock in the end of 1980s and at the beginning of 1990s, and “experienced a so-called **double-transition**: political and

economic changes resulted in a **convergence to the former Western** countries, and, at the same time, localities started to be influenced by similar **globalization pressures** as experienced elsewhere” (Leetmaa et al., 2015; see also Rumpel et al., 2013; Rink et al., 2014; Popescu, 2014; Sporna et al., 2016; Ubaraviciene et al., 2016).

The process of regional shrinkage often **results** in the situation where the **technical and social infrastructure tend to be oversized** (Syssner, 2015; DART, 2012) and their **cost-efficiency diminish** (Sousa and Pinho, 2013; see also SeGI, 2013). This creates the **pressure to optimize both technical infrastructure and services** (or at least cut investments into these, and thus undermine their quality) (see e.g. Haase et al, 2012; Syssner, 2015; Copus et al., 2017). The next (potential) stage of the process is “the **disintegration of certain services**” and thus the **deterioration of the accessibility of services** in shrinking areas (EP, 2008; DART, 2012). At the same time, the need and **demand for** other services – first of all for **social and health services** – increases, because **shrinking regions are also ageing regions** (Schlappa and Neill, 2013).

In general, there are significant spatial consequences of shrinkage - in social and technical infrastructures, settlement structures, housing stocks, “in lower densities, lower frequencies or fragmentation of spatial functions” (Gruber et al, 2015). The special physical expression of dis-managed shrinkage in urban environment is **urban decay** – “a general hollowing-out of the inner city, eroding the viability and sustainability of neighbourhoods and the services that support them” (Sousa and Pinho, 2013; see also Andersen, 2003). All that could seriously diminish the liveability of shrinking cities, rural localities and regions, and reinforce the acceleration of outward migration, making economical renewal very challenging.

In addition, shrinking processes undermine “the capacity [of regions] to react to change” (EP, 2008) and “limit considerably the ability of small [and not only small] localities to take over the responsibility for their development in the future” (Leetmaa et al., 2015). Declining population means lower revenues in local and regional budgets for services and infrastructure (see Haase et al., 2012; Syssner, 2015; Copus et al., 2017), and also for entrepreneurial policies. Due to the selective out-migration, social capital structure of shrinking regions changes (ibid.). The selective depopulation of regions could lead to “a loss of creative and innovative talent” (EP, 2008) and of actual or potential local leaders (Raagmaa, 2002). There are serious risks in shrinking regions to get into “the spiral of decline, not shrinkage” (Sousa and Pinho, 2013), into the vicious circle on negative causation (EDORA, 2011).

3 TYPOLOGIES OF SHRINKAGE AND REGIONAL PATTERNS IN EUROPE

Regional shrinkage takes place within the **interdependent processes of peripheralization and centralization**. While some regions shrink others grow, and most often do it at the expense of the formers - “the dynamic of spatial centralization determines the peripheralization of other spaces by attracting population, economic productivity and infrastructural functions to the disadvantage of other regions” (Lang, 2012). DART project report concludes:

*The current and future demographic developments are local, and in particular regional. The main effects of the demographic change are declining and as well as an increasing concentration and internationalization. These developments don't along political or administrative borders. We are seeing **a juxtaposition of the growth and contraction processes**. (DART, 2012)*

The actual territorial patterns of shrinkage detected in Europe depend on the exact operational definition of shrinkage, on the rules of regional classifications and on territorial scale used. Three kinds of typologies could be brought forward:

- 1) typologies **based on simple criterion of population change** – those regions where population is (significantly) declining, or will decline according to forecasts, are classified as shrinking regions;
- 2) typologies **integrating** into the definitions of demographic change also **key processes causing shrinkage or growth** (e.g. migration, birth and death rates, demographic structure) and/or probable **consequences of demographic change** (e.g. scarcity of labour force);
- 3) typologies linking dominant demographic processes underlying shrinkage with **broad societal and regional contexts** these processes dominate.

The typology presented in the report commissioned by European Parliament in 2008 “**Shrinking Regions: a Paradigm Shift in Demography and Territorial Development**” exemplifies the first kind of typology. It operates with general **population forecasts at NUTS2 level** for period 2005-2030 and discriminates between regions based on population change – all those regions with decreasing population are classified as shrinking regions. The results (see Figure 1) indicate “**pandemic” and spreading nature of shrinking processes in Europe**:

...practically every EU Member State has at least one region that will probably or very probably be in demographic decline during the next 25 years and this phenomenon is to a large degree spatially distributed (EP, 2008)

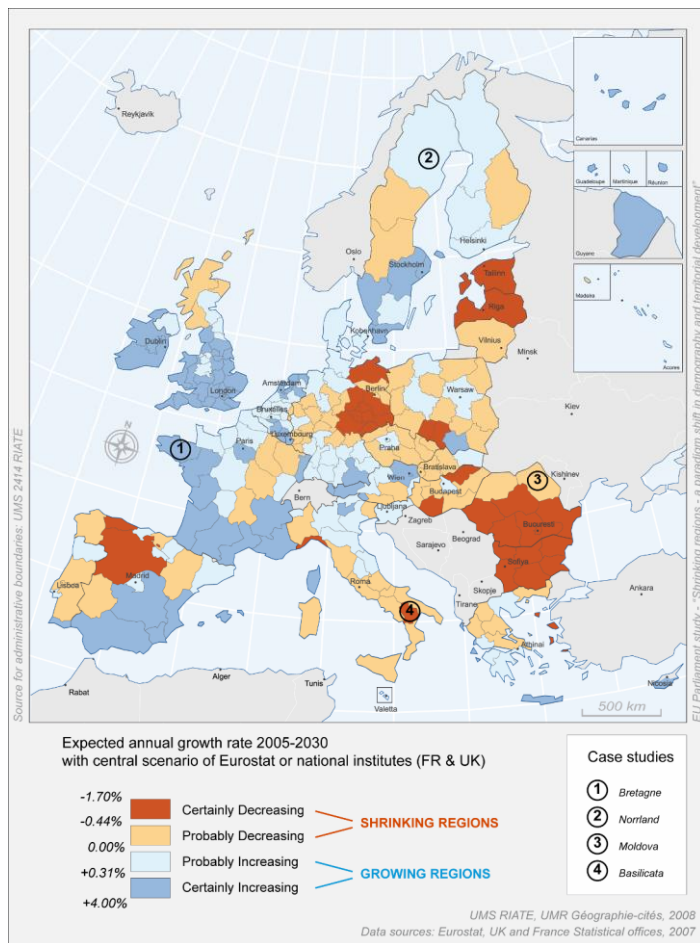


Figure 1. Regional patterns of shrinking and growing regions in Europe (2005-2030) at NUTS2 level (EP, 2008)

The typology constructed within **ADAPT2DC project for the Central Europe** relies on NUTS 3 level population data about previous period (Šimon and Mikešová, 2014). Three main classes are differentiated based on population change (%) in 2001-2011. The operational definition draws the line for shrinking regions not at the demographic balance point (0% change) but higher - only those regions who “have experienced a decline in the total size of the population **higher than two per cent**” are **classified as shrinking regions**, and as such separated from regions with stable and growing population (ibid.). The past regional patterns of shrinkage in Central Europe at NUTS 3 level presented in Figure 2 are not dissimilar to those presented in Figure 1 about future prospects of population change at NUTS 2 level, but nevertheless highlights additional intraregional variations – within growing NUTS 2 level regions are shrinking regions at lower territorial levels (and probably, vice versa).

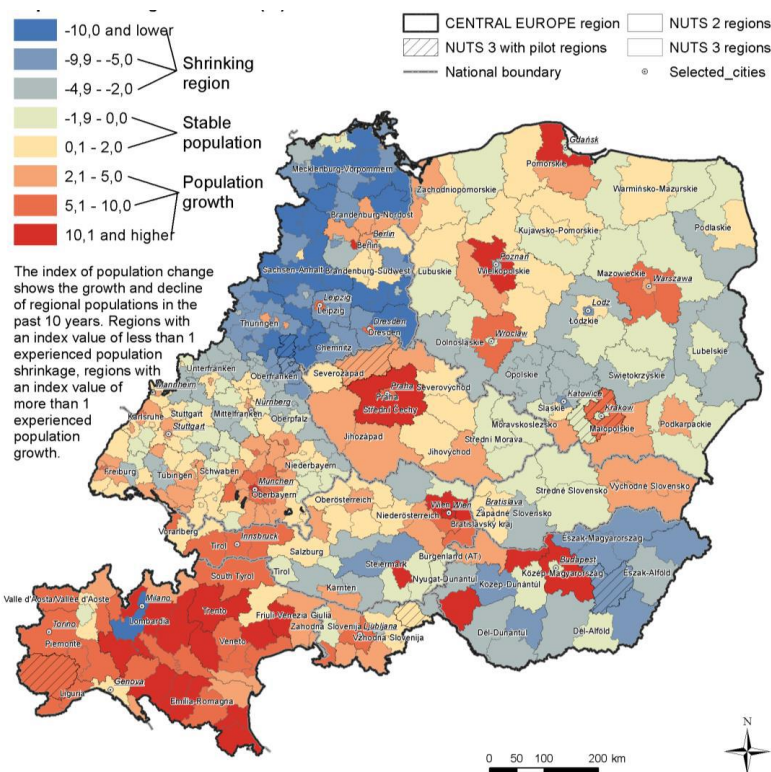


Figure 2. Regional patterns of shrinking, stable and growing regions in Central Europe (2001-2011) at NUTS3 level (Šimon and Mikešová, 2014)

The recent legal initiative in the Netherlands addressing the problems of regional shrinkage (Wet Bestrijding Krimpproblematiek, 2016) adopts even higher bars for the discrimination of shrinking regions - **shrinking regions are defined as 12,5% decrease of population and 5% decrease of households during 2014-2020**. According to the population forecast nine shrinking regions are detected in the Netherlands (compared to only one (Limburg) at NUTS 2 level in Figure 1).

The typology constructed within **DEMIFER project** of ESPON 2013 program exemplifies the second kind of typologies, which **differentiate between (shrinking) regions according to key processes involved**. The classification of regions based on their demographic status by 2005 distinguishes between seven regional types in Europe, of which population decline was considered as the demographic challenge, first and foremost, for the two distinctive Eastern European types of regions of the *Challenge of Labour Force* type and even more for the *Challenge of Decline* type.

- “Type 5 – **Challenge of Decline**” is shaped by a **negative natural population balance, as well as a negative migratory balance**. In consequence, this leads to depopulation accompanied by demographic ageing. This type of region is situated in Eastern Europe, including Eastern Germany.

- “Type 2 – **Challenge of Labour Force**” features a high share of population in young working ages and a slight population decline, driven by a **negative natural population development**. These regions are mainly situated in Eastern Europe and in some peripheral areas in Southern Europe (DEMIFER, 2010)

Thorsten Wiechmann’s (2003) much earlier classification of shrinking regions in Europe represents the third option - it **relates different shrinking factors with groups of countries these factors dominate**, thus providing some sort of explanation to the shrinking processes in these countries. He differentiates between four groups of shrinking regions: **industrial areas in economic decline** (foremost in Western Europe), **peripheral, depopulating areas** (foremost in Northern Europe), **regions in or after political transformation** (foremost in Eastern Europe) and **structurally weak rural regions with falling fertility rates** (foremost in Southern Europe) (Gruber et al., 2015). In a quite similar fashion, Gospadini is maintaining that “the main clusters of shrinking cities appear to correspond to regions of (a) the post-socialist countries – and especially Latvia, Bulgaria, Romania, Hungary, Slovakia, and the eastern part of Germany; (b) the northern countries – and especially Finland and Sweden; and (c) the southern countries – and in particular, Greece, Italy, Spain and Portugal” (Gospadini, 2015).

Thus, the empirical data (and forecasts) indicate that **the process of shrinkage is characteristic for almost every European country**, although in varying degrees, scales and patterns, and **„affects all types of regions”** (Haase et al., 2016). It could also be argued that it takes specific forms in different territorial contexts and has varying set of causes in there.

Population decline in Europe has been longest in **rural areas** – as a result of increased efficiency in agriculture and of urbanization process in general. The results of EDORA project of ESPON 2013 suggest that „[t]he most important driver of social change in rural areas is migration” and that migration has had different impact on rural areas in different regional contexts. The process of “rural exodus” of young people into the urban centres is having **strong impact** on the “more **remote and sparsely populated parts of Europe** (especially in the Nordic Countries, and in the Mediterranean countries” (EDORA, 2011). In **CEE countries, the large-scale international migration flows motivated by unemployment** (especially characteristic to rural areas) **and wage differences are amplifying the shrinking processes in rural areas**. The situation may be different in suburban rurality:

In many rural regions, especially the more accessible ones, the dominant direction of migration flow is out of the urban areas and into the countryside. Many of the migrants retain an employment link with a town or city, and daily commuting is an important feature of modern rural life in such areas (EDORA, 2011).

In general, the shrinking process is **aggravating the inherent disadvantages of rural areas** – lower density, larger distances, poverty of scale economies – first of all **in relation to service delivery and accessibility** (OECD, 2010).

Nevertheless, regional shrinkage is not only a rural phenomenon. Almost 42 % of all large European cities are currently shrinking (Haase et al, 2016) and according to forecasts, the number of European

cities with shrinking population will significantly increase during the coming decades (FOCI, 2010). Pallagst et al. (2009) have distinguished five main causes of **urban shrinkage**:

- **Suburbanization** leading to the **depression of the city centres and inner city areas** by means of flight of people and jobs from the inner city areas towards urban periphery and exurban space;
- Economic transformations such as **de-industrialization** - the shift from traditional industrial-based economy towards new urban economies (e.g. culture and leisure economic activities, technology-intensive and knowledge-rich firms);
- **Economic restructuring** like the shift from state economy to market economy that occurred in the cities of the former socialist East European countries in the 90s;
- **Economic crisis** due to forces of economic globalisation and other structural global conditions such as the ongoing economic crisis of public debt in the Eurozone, and particularly in Greece, Ireland, Portugal, Spain and Italy;
- **Demographics as well as immigrant settlement-patterns** such as low birth rates of inhabitants (Gospadini, 2015).

The „paradigmatic“ cause of **urban shrinkage** has been de-industrialization, which could undermine the social-economy of the whole city, or only its „industrial districts“. The key issues to be addressed in shrinking cities by policy interventions are unemployment, the inequality of social welfare and the quality of life in urban environment.

Territorial category closely related to shrinking regions is a **periphery**. Territorial peripherality is an important factor, increasing „economic and social costs and penalties faced by locations at a distance from the main “hubs” of economic activity in Europe, where the benefits of agglomeration economies were maximised” (PROFECY, 2016), and with that also the possibility of getting meshed into vicious circle of decline, to face a sharp decline of economic activity because they are simply left out (Kiely, 1998, in Panagopoulos and Barreira, 2011b). The “contingent” disadvantages” of territorial peripherality – “**the high cost of service provision**, low rates of entrepreneurship, and a range of associated problems, such as slow adjustment of sectoral structure, poor local infrastructure, and so on” (Copus, 2001; cit. in EDORA, 2011) - are simultaneously the potential causes of shrinkage and the negative effects of shrinkage to be dealt in regional policy. ESPON 2013 Geospecs project (2012) has distinguished between various types of special (peripheral) regions, of which remote and sparsely populated areas, island and mountains share enduring condition of **structural-territorial peripherality resulting in physical accessibility problems** that could not be made non-existence by policy interventions but should just be taken into account in any policy measure. The situation is somewhat different in case of border regions, where peripherality and marginality is politically and socially constructed and therefore “possess development potential that is not fully exploited due to **administrative and legal obstacles** caused by the border situation” (WGISCB, 2017).

The special instance of peripherality is captured with the concept of **inner periphery**, which “peripherality comes primarily from their poor accessibility and paucity of real urban centres where

central functions can be concentrated” (PROFECY, 2016). In the inception report of ESPON 2014-2020 PROFECY project, the “family” of inner periphery types is deployed:

1. Areas with **low levels of economic potential** ...which are “interstitial” **between core areas** with higher economic potential.
2. Areas which are characterised by **poor access to services of general interest**, whether this is a consequence of geographic remoteness, or to changing service delivery technologies, or to austerity, or other changes in provision such as privatisation.
3. Areas which exhibit **low levels of socio-economic performance which can be attributed to an absence of “organised proximity”** (of whatever kind), which are in some way excluded from “the mainstream” of economic activity, or which can be said to be experiencing a process of “peripheralization”. These characteristics will often be associated with an absence of influence, distant from the centres of political power, lacking influence in terms of governance (ibid.).

Most often, inner peripheries are also shrinking regions – either rural or urban. What is important, like in case of border regions, is “that **the problem of "disconnection", and the other "non-spatial" peripherality factors that characterise inner peripheries, are less structural and, consequently, more likely to be influenced by good policy and practices**”, compared to “the “tyranny” exerted by geographic peripherality in some types of territories (e.g. mountainous areas, small islands or secondary islands in archipelagos, remote rural areas, etc.) is so structural that it becomes very difficult to escape its effects (mostly negative)” (PROFECY, 2017). The table below summarizes the characteristic causes and consequences of regional shrinkage in different territorial contexts.

Table 1. Key causes and consequences of regional shrinkage in different territorial contexts

Territorial context	Causes of shrinkage	Consequences of shrinkage
rural	Technological innovations in agriculture Globalization of food markets Unemployment Educational outward migration	Oversized technical infrastructure Insufficient demand for services
urban	Structural change (based on technological innovations) and overaccumulation of physical capital De-industrialization within globalization of production Suburbanization	Empty facilities and brownfields Urban decay Diminished quality of urban milieu Urban sprawl Structural unemployment
(remote sparsely populated) periphery	Distance from growth centres – high transport costs Scarcity of demand and supply	Oversized technical infrastructure Insufficient demand for services Poverty or alternative development paths
inner periphery	Poor connectivity to urban centres Poor social capital Inefficient governance	Oversized technical infrastructure Provincialization

The existence of shrinking regions in Europe as distinctive and legitimate objects of regional policy is much rarer phenomenon, compared to the territorial spread of population shrinkage as a socio-economic process. It is because a ‘shrinking region’ is first or all a relatively new academic and analytical concept within the set of more established concepts of regional studies and regional policy.

The detection of shrinking regions as a distinctive policy object is not related to the extent of shrinking process in the particular country (see the overview of specific range of problems related to shrinking regions and the perspective on those problems in selected countries in annex 1)). Thus, **in CEE countries**, where shrinkage is the predominant path of regional development – apart from capital city regions and some other regions with specific locational, functional or community strengths – the problems of population decline and ageing are acknowledged but nevertheless **conceptualized within the themes of regional inequality and (insufficient) economic growth**. In Norway, where there are multitude of local municipalities with vulnerable demographic situation in remote sparsely populated areas (see Nordregio, 2016a), the respective regional policy is organized around rurality. Because shrinking regions in Norway is predominantly a rural phenomenon, associated with peripheral areas with already very low population density, it is considered to be appropriate to approach these within rural policy (by measuring the degree of rurality, instead of shrinkage, as the empirical base for policy support measures).

In **some countries of Western Europe, like France and Belgium**, where population density is predominantly high and regional shrinkage much less common, the concept of shrinking regions is not a informative “entry point” into the regional policy dealing with shrinking processes and consequences either. Instead, the **problematics of shrinkage is subsumed under and divided between rural and urban policy**, where the first one is dealing also with the challenges coming from low population density, and the latter one with former industrial areas, deprived urban neighbourhoods in inner cities. Yet, in the similar territorial context, **the Netherlands** has recently initiated the legal base (Wet Bestrijding Krimpproblematiek) for **addressing specifically the problems of shrinking regions** (see above specific definition of shrinking regions for policy purpose), grounding on the argument that the rural approach does not reflect adequately the specific aspects (e.g. temporal) of the shrinking process.

In any case, there are much more regions in Europe where shrinking processes actually take place, than regions which are designated as shrinking regions by national, regional and local policy makers or by the regional communities at large.

4 STRATEGIC RESPONSES TO REGIONAL SHRINKAGE

The deep and often aggravating developmental problems undermining the quality of life in shrinking regions suggest that **societies cannot „rely on the market** to halt or reverse the process of [regional] shrinkage” (Schlappa and Neill, 2013). Instead, **adequate policy response is required** on different territorial levels (ibid.; EP, 2008; Sousa, 2010; Bernt, et al., 2012).

In relation to urban shrinkage four typical strategies are identified: **(1) trivializing shrinkage**, where “the local government does not take symptoms of shrinkage seriously and consequently does not take any action”, **(2) countering shrinkage**, where shrinkage is defined as temporary problem and policy measures aim on the renewal of growth; **(3) accepting shrinkage** and trying to “mitigate the negative effects of shrinkage”, and **(4) utilizing shrinkage** by increasing quality of life based on lesser density or on slowing down community life, and also by utilizing the opportunities of changing demand within “silver economy” concept (Hospers, 2014). Others have found that “a broad variety of responses to shrinkage ...can be structured along **two dimensions: between growth orientated and accepting or mediating policy responses**”, which have (had) territorial pattern in Europe:

- 1) ‘Western’ holistic explicit growth or stabilization strategies dealing implicitly with consequences of shrinkage, and
- 2) Post socialist pro-growth strategies emphasizing job-creation based on attraction of inward investment and European funding, rather not regarding at causes and consequences of shrinkage (Bernt, et al., 2012).

The traditional regional policy aim has been “to **counteract shrinkage and return to a growth path**” (Gruber et al., 2015; see also Wiechmann and Bontje, 2015), because “growth has been a synonym of success throughout the world” (Sousa, 2010). In spatial planning for growth, “[p]lanning tools are directed towards new development of land, new construction and more public infrastructures as an incentive to attract economic activity and residents in opposition of planning actions towards recycling of land and buildings or adaptation of public facilities to changed needs” (Muller and Siedentop, 2004). **In most of the regions and local municipalities, the strategic development activities of regional and local actors still “privilege policies promoting growth**”, despite the existence or absence of preconditions for that, because this brings - at least theoretically - more job opportunities, more inhabitants and thus also tax revenues for policy budgets (Panagopoulos and Barreira, 2011a).

During the recent years it has been argued that a ‘**paradigm shift**’ in spatial planning and regional development policy is needed in relation to shrinking regions - **from growth-oriented policies to the approaches that accept „the reality of shrinkage** and its long-term as well as short-term implications” (Schlappa and Neill, 2013; see also Sousa, 2010; Wiechman and Volkmann, 2011). Instead of investing into the growth strategies, it could be much more effective and efficient to invest into the opportunities created by shrinking processes:

...it can open the way to renewal and modernisation (e.g. in competition, in urban development revitalisation); it can offer opportunities for quality improvement (e.g. in the residential

*environment, for open space quality and local recreation, as well as for neighbouring natural landscapes); and provide **an incentive to mobilise the endogenous resources of regions** (e.g. new economic sectors and initiatives) (Strohmeier and Bader, 2004, in Sousa, 2010).*

*...it may allow for regions and **municipalities to catch up with the demands for new infrastructure and social services**, and to address pressing environmental issues (Bourne and Simmons, 2001, in Sousa, 2010).*

The same pertains to the process of ageing. Instead of '**apocalyptic demography**', "it is important to **search for new roles for the older adults**, reducing the importance of chronological age as a feature shaping an individual's life and the creation of institutions' networks, which enable seniors to be independent in meeting these basic needs (activities of daily living)" (Klimczuk, 2015). Most importantly, the ageing population modifies the demand for services and sets additional requirements for accessibility and with that, creates also new opportunities for businesses.

Understanding shrinking processes and raising awareness about the phenomena

The precondition for a specific regional policy with the focus on shrinking regions is conceptual and theoretical advancement, and based on that - **raised societal awareness (especially among policy makers) about shrinking phenomenon**, its causes and consequences. Most of the activities towards deliberate shrinking policy in Europe have been occupied with that task up to now. First of all, it has been the initiative of European Union and its governmental structures, who have commissioned studies in the specific topic (e.g. "Shrinking Regions: a Paradigm Shift in Demography and Territorial Development", the study commissioned by the Directorate-General for Internal Policies of the Union at the request of the European Parliament's Committee on Regional Development in 2008), and financed **thematic research within scientific programs** like COST framework (CIRES project – "Cities Regrowing Smaller - Fostering Knowledge on Regeneration Strategies in Shrinking Cities across Europe" in 2008-2013) or 7th Framework programme (project Shrinking Smart - The Governance of Shrinkage within a European Context, 2009-2012). European countries and regions have increased their knowledge and awareness about shrinking regions also **within the EU territorial co-operation programs**, e.g. DC NOISE project – "Demographic Change: New Opportunities in Shrinking Europe" within Interreg IVB North Sea Region programme (2008-2013), DART project "Declining, Ageing and Regional Transformation" within Interreg IVC programme (2009-2012), ADAPT2DC project - "New innovative solutions to adapt governance and management of public infrastructure and services to demographic change in shrinking regions and cities of CE" within Central Europe programme (2011-2014). The significant part of co-operative projects has been – along with the policy recommendation by European Parliament "to exchange experience, best practices and new approaches to preventing the negative consequences of demographic change" (see Galjaard, 2014) - **the distribution of best practices and/or methodologies** dealing with various challenges related to shrinkage among project partners and beyond, in the form of specialized datasheets, reports or databases.

At least some of the **national governments** have also turned their attention to the specific problematics of shrinking regions. Thus, in addition to legal initiative in the Netherlands referred above, the thematic expert report has been produced in Austria within partnership between federal ministries and regional authorities – ÖREK-partnership "Strategies for regions with population

decline" – about shrinking regions, with the aim of delimiting the subject matter and outlining preliminary proposals for politics and practice (Dax et al., 2016).

Shrinking smart

The contemporary developmental discourse is reshaped by „a new **language of 'smartness'**“ (Luque-Ayala and Marvin, 2016), first of all in relation to urban development as something oriented towards and capitalizing from smart cities. The concept emphasizes the role of **technology** and especially **ICT** in the urban life, but includes also the consideration of **human capital and education, co-operation, partnership and social inclusion, good participatory governance, inspirational culture** as the significant characteristics of smart development (see Nam and Pardo, 2011; Tezelle and De Amicis, 2015; Salvia et al., 2016).

In European regional policy smart development is most effectively institutionalized in the form of **Research and Innovation Strategies for Smart Specialisations (RIS 3)**, which represents the **strategic approach aiming at growth** – “smart specialisation is relevant to achieve sustainable growth, ...smart specialisation contributes to inclusive growth between and within regions by strengthening territorial cohesion and by managing structural change, creating economic opportunity and investing in skills development, better jobs and social innovation” (Foray, et al., 2012). As an alternative, **the concepts of smart decline** (“planning for less—fewer people, fewer buildings, fewer land uses”) (Popper and Popper, 2002, in Hollander and Németh, 2011) and **shrinking smart** (Geys et al., 2007) have been launched. The latter developmental model applied to cities includes the understanding that „cities are shrinking smart by returning abandoned neighbourhoods to nature, increasing walking spaces, making urban space more liveable and housing more affordable“ and that „shrinkage smart strategies imply the reconfiguration of infrastructures to the new dimension of population, increasing often per capita spending“ (Panagopoulos and Barreira, 2011a; see also Smas et al., 2017). The theory of smart decline operates with the concepts of **“ethics, equity, and social justice, ...but is well-grounded in observations of successful smart decline practice”** (Hollander and Németh, 2011).

Innovations

The concept of smart development subsumes much older concept of **innovation**, that „**might have a major role to play in the transformation processes of shrinking cities**, particularly [in the form of] regional innovation systems“ (Martinez-Fernandez and Wu, 2006, in Sousa, 2010; see also 6.1. below). The role of innovations in the development of shrinking and ageing regions is multifarious and contradictory. It has been argued that **process innovations** most often **“result in a direct labor-saving (job-destroying) effect**, related mainly to the introduction of machinery and equipment that can substitute for labor and allow the production of the same amount of output with fewer inputs (generally workers)” (Vivarelli, 2015). Technological product innovations have been made process innovations - destructing industrial and agricultural jobs in many (shrinking) regions – possible. In the positive side, product innovation is a way to create new jobs and new businesses, **“through the emergence of new products and new markets”** (ibid.). Technological innovations, especially in the field of ICT, are providing best opportunities for developing new (forms of) services (Boivard, 2003) and for the improvement of service accessibility in peripheral and shrinking regions (OECD, 2010). The broad development strategy relying on innovations in ICT, is captured by **the concept of e-**

Development – “a set of tools, methodologies, and practices that leverage ICT to catalyse and accelerate social, political, and economic development”, with the aim of becoming Knowledge Economies (Carayannis and Sipp, 2006).

The processes of shrinkage and ageing themselves could be **triggers of innovation**, e.g. when “there is a **need to improve access to and the diversity of services**” (OECD, 2010) or **to respond to the changing labour market** with new forms of entrepreneurship and employment. Along with technological innovations, these responses require another form of innovations, social innovations. According to the most simple and most quoted definition, “**social innovations are innovations that are social in both their ends and their means**” (Mulgan and Pulford, 2010, in Copus et al., 2017). In entrepreneurial sector, social innovation is taking the form of **social enterprise** (see e.g. Dart, 2004; Borzaga and Defourny, 2001; Nyssens, 2006; Defourney and Nyssens, 2008; 6.3. below).

Good governance and regional partnerships

Social innovation has also important relations with governance – on the one hand “social innovation needs innovative governance” (Bock, 2012, in Copus et al., 2017), on the other hand, good governance of shrinking regions relies on social innovations, capable of mobilizing relatively scarce human and social capital in policy planning and service delivery – “alternative models of service provision are grounded in collective action and co-operation” (Copus et al., 2017). The **development of urban-rural partnerships** has been suggested in many countries as a useful policy response helping to deal with the problems in (shrinking) rural regions (see also CEMR, 2013; Jacuniak-Suda et al., 2014). **More flexible application of legal constraints** in certain sensitive fields of activity (housing, labor, education and public transport sectors), as the new legal initiative in the Netherlands allows, could also be part of better governance for shrinking regions.

Strategic place-based and holistic approach to shrinking

The most important general requirement for policy responses to regional shrinkage is holistic and strategic perspective – “development of a realistic vision and a set of sustainable strategic choices is essential before the social and economic resources of the population can be released” (Shlappa and Neill, 2013; see also OECD, 2010). First of all, theoretically and empirically informed choice between “shrinking smart” and attempting to return to the growth path should be made. The holistic strategy itself should search for the **potentials for future development** and rely predominantly on the endogenous resources (human capital, natural resources, governance innovations, community engagement, etc.) of the region. Based on the article of Ferry and Vironen (2010), Klimczuk (2015) summarizes **four dimensions of simultaneous actions** necessary to be covered by **regional strategies**, which approach demographic challenges related to shrinkage and ageing in a positive manner:

- regional labour markets – restructuring of the region’s economy and active employment policy is recommended to adaptation of free labour resources to the needs of regional businesses, as well as promoting the re-emigration and organizing support for returnees and increasing incentives for internal (inside the region) and transregional migration;

- planning of technical and social infrastructure – it is important to adapt the infrastructure to the needs of older adults, preventing its degradation, encouraging younger people to move from the suburbs to the abandoned buildings in city centres;
- consumption of goods and services – matching changes in the offer directed to residents and tourists as well as undertaking research on product and service innovation;
- social integration – increase the availability of jobs, lifelong learning training and education programs for all age groups as well as an adjustment of administrative structures to involve citizens in the use of local services, voluntary work and activities of self-help groups (Klimczuk, 2015).

It is within such broad strategic framework where specific policy measures aimed at improving the accessibility of services or promoting entrepreneurship and employment in shrinking regions can have in their complementarity (as a policy-mix) planned sustainable effects on regional development path.

5 IMPROVING ACCESSIBILITY OF SERVICES AND RESPONDING TO SHRINKING WITH NEW SERVICES

European Parliament has declared that European citizens deserve **services of “universality and equality of access**, continuity, security and adaptability; quality, efficiency and affordability, transparency, protection of less well-off social groups, protection of users, consumers and the environment, and citizen participation” (European Parliament 2003). There is a consensus in that the accessibility of services is important **component of citizen well-being** and that the provision of ‘services of general interest’ is a key **factor in the process of economic, social and territorial cohesion** (SeGI, 2013).

The processes of shrinkage and ageing are undermining the aggregate regional/local demand for services and also rearrange the need for particular services. The shrinking process could lead to the **disintegration of certain services and aggravate the inequality of service accessibility** (EP, 2008) first of all **in terms of physical access**, but also **diminish financial affordability of services** by individuals and/or local communities (SeGI, 2013). The most obvious result of ageing population is the “increase in **demand for health and social care services**”, but also “**the need for housing adaptations and improved access to services**” (Schlappa and Neill, 2013).

OECD (2010) has envisaged the broad strategies to overcome „rural problem“ in service accessibility, which are also applicable for the broader territorial category of shrinking regions, namely: a) **aggregating service demand**, and b) **consolidating the locations of service provision**. The first strategy could be implemented in either in improved mobility measures or in ICT based solutions, the second one requires rethinking of service delivery outlet models and investments into physical facilities. In addition, OECD emphasizes the role on innovations in responding to the problem of inadequate service accessibility, which can take different forms: „it could be both a **new or improved service** – e.g. health care at home - and to a **change in the rationale behind a service** – e.g. abolish information monopolies by government and open up information for reuse by citizens” (OECD, 2010), it could also mean new more co-operative forms of service design and delivery.

In sum, five main groups of innovative measures improving the accessibility of services in shrinking regions and responding to the processes of shrinkage and ageing could be distinguished:

- Innovative mobility solutions
- ICT based digital services (e-services)
- Delivery outlet innovations
- Co-design and co-delivery of services
- New services based on growing demand in shrinking and ageing regions.

5.1 Innovative mobility solutions

The mobility needs of people differ depending on their daily and weekly life paths (to work, to schools, to services, etc.) and the demand for transport services in local communities vary depending on the size and location of localities - on the needs, resources and habits of people living there (see e.g. Kamruzzaman and Hine, 2012). Therefore, traditional public transport system does not suit (best) for all persons and locations and the mobility solutions should adopt for complex social and territorial circumstances. The efficiency of traditional fixed-route public transport system could be enhanced by modifying the system in two principal directions:

- 1) By increasing its flexibility
- 2) By increasing its integrity in terms of routes, lines, stops and timetables.

The concept of flexible transport has been summarized as “a flexible, integrated and customer centric adaptive transport option that sits somewhere between private car ownership and fixed route traditional transit” (Waters, 2003). The benefits of flexible transport systems (FTS) include:

- potential to increase public transport patronage;
- integration between current fixed route and FTS to achieve more ‘holistic’ transport solutions;
- ability to serve areas with demand too high for door-to-door, but too low for fixed route services (Ferreira et al., 2007; see also Velaga, et al., 2012)).

The concept of flexible transport subsumes the concepts of shared transport and demand responsive transport (Ferreira et al., 2007). The contemporary synonym of **shared transport** is Uber, but there has been and is lot of different models (from platform based universal services to community and/or neighbourhood based solutions) and companies (e.g. BlaBlaCar, Lyft, Carpoolworld) for sharing transport vehicles. The problem with platform-based opened (that is, universally available) shared transport services is that these require (for cost-efficiency and quality) concentrated demand that can be found only in larger urban areas (see Dickinson, et al., 2015). To motivate Uber-type services to operate in shrinking regions, **a public subsidy for service** could be a viable option.

Autofree project in Tinchebray-Bocage, France

Tinchebray-Bocage, the small municipality of 5 thousand people, is offering “affordable” car-sharing and car-lending service with four electric cars within **Autofree project**, based on internet booking platform <http://tinchebray.monautopartage.fr>. The project has been awarded with national innovation award (see <http://periurbain.cget.gouv.fr/content/Linnovation-périurbaine-à-lhonneur>).

The alternative for public sector led solution would be **car-sharing service based on social entrepreneurship model**, which could also reduce economic sustainability risks inherent to shared transport.

Mull and Iona Sustainable Transport Project in Scottish islands, UK

The solution includes car-sharing solution in the form of **Lift Share page** established on Facebook. The page has attracted over 350 members to match willing drivers with willing passengers to share journeys. **The project got** rural Innovators award 2015-2016 in transport.

Demand responsive transport solutions have been promoted as an alternative to more traditional public transport services at least since 1970s (Davison et al., 2014, about Great Britain). Demand-responsive services usually use smaller vehicles (including taxis) in place of conventional buses, while still charging fares for each passenger, but vary the fixed routes and/or time-tables that define other forms of public transport (Davison et al., 2014, p. 47). The findings of academic research indicate the growth of voluntary and private sector stakeholders in organizing and providing demand responsible services (ibid.). The **integration of public infrastructure and private capacity for mobility** (i.e. personal cars) could be an opportunity.

CARLOS in Burgdorf, Switzerland

CARLOS is a spontaneous car passenger system without registration. At digital columns that are integrated into the stops of the public transport system people can enter their destination and purchase a ticket. The destination is visible for drivers who pass by. The driver who is willing to pick up the waiting passenger receives the ticket which can be exchanged at gas stations or the public transport agency. Cost reduction is achieved by integrating the commuter service into the public transport system. The solution is recommended by ADAPT2DC project.

The special case of demand responsive transport is a **social transport service** targeted for (older) people with mobility limitations.

The project MobiSaar in Saarland, Germany

The project was initiated in 2015 in order to adapt to changing customer needs resulting from demographic change in the region, where more and more people need individual support to execute their daily routines (see <https://www.technik-zum-menschen-bringen.de/projekte/mobisaar>). The project aims at a comprehensive, technology-supported service for older and mobility-limited people in public transport. The solution evaluates context-sensitive transport information (public transport routes, timetables, stops, vehicles) dynamically and in real-time and links it with the needs of an individual passenger. It also comprises interaction interface with the customer. In addition to the technical solution, the project has also **the component of social innovation** – it involves voluntary pilots, who are available to the passengers as contact persons and helpers.

5.2 Broadband ICT service and Internet based e-services

Another way to mitigate remoteness, aggregate service demand and improve the accessibility to services in peripheral and rural regions (with shrinking population) is by using opportunities provided by ICT. ESPON Geospecs project report describes the uneven regional situation with broadband connections – “while there are some good examples, usually deriving from public investment, there are many regions which are far behind” (Geospecs, 2012). Some of the good examples of how broadband investment plans have contributed to the development of regions from different countries and regions have been described in **Immodi project best practice database**, e.g. Extremadura Broadband Extension Plan; Finland's National Broadband Plan; No digital divide: Reducing the digital divide in the mountainous territories in Basilicata. The demand for broader bandwidth is nevertheless continuous – the services tend to become more complicated and demand faster and faster internet connections. Thus, according to the consultation within this project, in Netherlands the idea of using ultra-fast (5G) internet for medical purposes is only in the stage of investigations. The necessity of 5G connections in rural and peripheral regions has been recently emphasized, for example, by the Federal Minister for Food and Agriculture of Germany, who defined **broadband internet connection as basic service** (and thus also a SGI).

The specific aspects regarding **digitalization in low density areas**, where territorial innovation and development are intertwined, were brought forward in the consultations with French experts: one doesn't go without the other. In such contexts, appropriate **coverage of broadband infrastructure** for both mobile and landline is a prerequisite for developing and using digital services (e-services). This has led France to launch a **programme seeking to encourage the development of an appropriate infrastructure** (similar programs are in other countries as well, e.g. MOROdigital in Germany). As the cost of digital technologies innovation tends to be quite high in vulnerable or low density territories, a concerted effort at national level in France has led to the development of several **methodologies** (in association with other ministries, regions and interested stakeholders) seeking to **measure closely the investment returns from the use of broadband infrastructure**.

The opportunities provided by ICT are resulting in the specific form of services – digital or **electronic services (e-services)**, which sometimes substitute or provide alternatives to “traditional” services, sometimes complement these, and sometimes are expanding the supply side of services. ICT is also an important tool for improving the quality of public services (CEMR manual, 2010). Rowley's (2006) has defined e-services in a minimal sense as “deeds, efforts or performances whose delivery is mediated by information technology”. The number of e-services developed and delivered in Europe is huge, like the number of successful practices. The broadest use of e-services takes place in the fields of **social security and health services, where** ICT tools improve the accessibility of services in all territorial contexts (because limited accessibility is often a personal issue), but are most needed and cost-effective in rural and remote areas. The services developed for older people tend to combine social and medical services.

SpeakSet, UK

SpeakSet is a private enterprise founded in 2013 in UK in order to solve the **problem of isolation for older people**. SpeakSet provides super simple video calling for older people to **connect to their health and social care services** in their own homes. The strength of the solution lies in its simplicity. SpeakSet provides a device that converts any TV into a simple video calling system. It enables older people to speak face to face with healthcare professionals and their relatives and friends on an interface they are familiar with. This empowers your local population to live independently and improves their lives. At the same time health professionals can focus on their job to deliver medical and social care service rather than spending hours on travelling.

The future of such services is in the **integration of smart home solutions** with e-services, as in the model developed by international consortium Home Sweet Home consisting of public health authorities and SMEs from Belgium, Ireland, Italy and Spain.

Home Sweet Home, international consortium

Home Sweet Home (<http://www.homesweethome-project.be/>) is a **health monitoring and social integration environment** to support the extension of independent life at home. Since 2010, the consortium has developed a new, economically sustainable home assistance service which extends elders independent living. It is providing a comprehensive set of services which support elders in their daily activities and allows carers to remotely assess their ability to stay independent. While systems of this kind inevitably represent an intrusion in the elders private life, this system privileges features which can be used by the elders themselves and limits to a bare minimum the need for other people to interfere with their private life unless a clear need is detected by the system. The solution comprises Smart Home Components - motion detectors, badges to open doors and windows, light adjusters and climate control.

The target group of social e-services could also be young people.

Klik voor Hulp in Limburg, the Netherlands

Klik voor Hulp (Click for Help in English) is an internet-based platform for the provision of **social work services to young people** ten to twenty-one years of age developed in the shrinking region of Limburg, suffering from diminished availability of services. Moreover, as there are fewer people, it becomes more and more difficult to stay anonymous. Klik voor Hulp has been designed to offer a solution to these two major problems, as the online provision of social work closes the distance between the service users and the service provider. Young people are offered the possibility to discuss their psychosocial issues with a qualified social worker via real-time chat or e-mail. Also, internet fora are available in which young people can discuss their issues with peers, while moderated by a qualified social worker.

Some of e-services are combined with e-commerce. In that case the postal services are used to increase the accessibility of service, which in traditional form tend to concentrate into urban (or

rural) centres with higher accumulated demand, like the example of internet pharmacy in Estonia demonstrates.

Apotheka internet pharmacy (Apotheka Netiapteek) in Estonia

The service is based on the internet webpage operating similarly to e-shopping outlets. Due to the legal constraints, the system asks lists of relevant questions about buyer and her/his needs before accepting the order. In addition, the online professional counselling is integrated into the service. The internet pharmacy operates since 2013, as a response to the legislative amendment allowing such activities in Estonia.

Quite often **ICT based technical innovations** are not in the centre of innovative solutions, but only **complement social innovations**.

PlugInnovation.se, nationwide web platform in Sweden

PlugInnovation.se digital platform was initiated and built up within the national framework of **Plug In project addressing the early school leaving issue in Sweden**. The website is the virtual location, where the methods which have been developed and tested in the participating municipalities have been coordinated and research in the area has been made available. The project itself was initiated by the Swedish Association of Local Authorities and Regions (SALAR) together with five regions in 2012. The target group of the project has been students at risk of abandoning their studies and young adults who have already discontinued their high school education. Together, the partners of in Plug In have identified challenges, contributed to solutions and increased knowledge of the school dropout issue. New ways of working and forms of collaboration that reduce school dropout rates have emerged. The initiative has been awarded by the European Social Fund.

Local and regional authorities can provide **an open platform for e-services**, making it easier for smaller organizations to enter into e-service market.

e-Bourgogne in France

e-Bourgogne (<https://www.e-bourgogne.fr/>) was created at the end of 2003 by the Bourgogne Regional Council as an experimental virtual public marketplace and is nowadays an independent organizational body bringing together all public entities of the region (i.e. regional authorities, union of municipalities, local municipalities, high schools, hospitals, etc.) and the state to ensure an efficient and sustainable delivery of e-services provided by public and private sector. Its main strength is in its openness – it could be efficiently used by various smaller municipal organizations to provide their e-services to their customers without need to develop their own technical solutions.

5.3 Delivery outlet innovations

The limited number of available services is a problem in many rural regions with declining population. In order to guarantee important (basic) services for local population, economically sustainable and easy-to-use solutions are needed. The improving of accessibility to the services in shrinking areas needs a development of (territorially) balanced presence of quality services to the public. The obvious policy response to the shrinking processes, especially in rural sparsely populated areas, is consolidating service delivery locations in the form of **multiservice centres** or **one-stop-shops** (OSS). The innovations could be part of the nation-wide programs like the following examples from Norway and France demonstrate.

Merkur program in Norway

The program was introduced for the purpose of developing **multi-functional service hubs in villages** already in 1995. The aim of the program is to provide new services in the shops to increase their profitability and to give the local population a broader and better level of service. The program assumes that there should be a good cooperation between local population and shop owners because shops (and development of services) in rural villages are dependent on the support of local community. The key concepts of the program are the competence-enhancing measures, multiple service functions, the multifunctional store, local involvement and goal achievement.

Les Maisons de services au public in France

In France, the government in cooperation with regional and local authorities and private businesses launched in 2013 the project that aimed at to develop of **the network of public service houses (Les Maisons de services au public)** in shrinking areas (<http://www.cget.gouv.fr/sites/cget.gouv.fr/files/atoms/files/en-bref-28-cget-11-2016.pdf>). These houses group a minimum of 2 services related to social and employment issues but can include also such services like energy or postal service, transport, health prevention, entrepreneurship centre, pension insurance or a number of national social services etc. Usually, the services provided at houses are developed on a basis of the particular local needs.

The house could be managed by a municipality, an intermunicipal association, or a public interest group which signs a local agreement with local and national operators of local services. The establishment of the house of services needs to follow several criteria set by regional authorities. For example, it should be compatible with the regional plan for improving the accessibility of services to the public; travel time between two houses of services should be at least 20 minutes; the house should be occupied by at least two operators in the fields of employment and social assistance; and the house should be opened at least 24 hours a week. The recognition of the house is based on an agreement signed between the supporting structure (community, association, public interest group)

and several operators - public and private. A framework agreement defines the services rendered to users, the area in which the service house operates, the tasks performed there and the services it can provide. Houses are set up on a contractual basis and are supported through governmental grants allocated for the operational costs. Around 1100 houses are in the process of being opened in France. This network of public service houses in rural areas is part of the government's overall strategy for territorial reform and the national regional strategy 2015-2020.

These could be also local initiatives in either urban or rural contexts.

Resident service points in Rzeszow, Poland

The solution exemplifies a tool for improving residents' access to public services in medium-sized cities with ageing population. Four RSPs have opened since 2011 in easily accessible shopping malls that have extensive parking and are tailored to the needs of people with disabilities. RSP services include issuing ID cards and driving licenses and registering vehicles, as well as helping with official applications and providing information on local events. This local self-government initiative was based on residents' needs as identified in a survey. Residents' expectations were taken into account when defining factors such as location, opening hours and the scope of services. The important component of Rzeszow RSP solution is **organisational change**. All activities undertaken are realised with a participatory approach and the implementation of new ideas takes place with the active participation of the local community.

The community building and energy saving aims are in the forefront in the consolidating and restructuring of administrative offices and village centres in smaller municipalities. Two cases from the list of Belfius Smart Cities Awards 2016 (Belgium) exemplify the innovative approaches.

The Huis van de Puursenaar is a municipal centre in Puurs, locating several external organizations - the Academy of Drawing and Music, the World Shop and the Carmina Musical Youth Association - as well as the nursery and the local service centre. In addition, the municipality is renting multipurpose premises to citizens, socio-cultural associations and individuals. The facilities of the centre were recently renovated using sustainable solutions, including insulation, ventilation, lighting and heating working only in case the rooms are actively used.

The municipal administration of Laakdal is building a new, **low-energy administrative centre**. By the end of 2017, residents will be able to introduce their administrative questions and declarations in a single location. For the organization of public events, a new place will be created in order to strengthen the **social fabric of the municipality**.

The new initiative launched in Ireland in 2016 addresses the task of community building and liveability of places from different perspective, by **diversifying a service and making its use more convenient and flexible**.

My Open Library in Ireland

The governmental initiative extends the availability of library services during unstaffed hours while continuing to provide the regular staffed hours for ongoing delivery of the service and supporting users in 22 locations of the country. During My Open Library hours, the service is operated on a self-service basis to library members aged 16 and over for borrowing and returning items, using the internet via library PCs or via Wi-Fi using their own devices, browsing, printing, photocopying, individual study or community activities and meetings.

It is possible to increase the accessibility of services in the areas with insufficient demand by **making services themselves mobile**, like in case of mobile youth work in Estonia.

MoNo bus (the bus for mobile youth work) in rural municipality near Tartu, Estonia

The solution is based on the youth organization in regional centre Tartu and midi-size bus equipped with basic “tools” for youth work. The bus serves both as transport vehicle for youth workers while visiting villages without youth centre and as place for activities.

5.4 Co-design and co-delivery of services

Public services and governments around the world face pressures from a more demanding public, increasing social complexity and diversity, and overstretched resources (Bradwell and Marr, 2008). In case of shrinking regions, the pressure is aggravated by declining public sector budgets available for the financing of services. Therefore, “it would seem imperative to activate and engage citizens to contribute to ...service coproduction” (Shlappa and Neill, 2013) and to “to have the end user in mind at all stages” of service delivery” and “adopt a citizen-centred approach that matches the service interface with citizens’ own quality expectation” (OECD, 2010).

The concept of service co-design captures significant share of social innovations in the development of services. In co-design, diverse experts come together, such as researchers, designers or developers, and (potential) customers and users—who are also experts, that is, “experts of their experiences” (Sleeswijk Visser, et al., 2005)— to cooperate creatively (Steen et al., 2011). The co-design of services is a collaborative and **developmental process, which** “involves the exchange of information and expertise relating to both the subject of the design process and the process itself” (Bradwell and Marr, 2008). Steen et al. (2011) argue that “**co-design is critical to service design** because different perspectives, and a productive combination of different perspectives, are needed in order to understand both a service’s demand side, i.e. **users’ and customers’ needs**, and its supply side, i.e. technologies and processes, in order to develop successful services”.

The co-design of public sector services in shrinking regions is a territorial practice – “the territorial influence over the development of collaborative design is strongly evident, shaping the successes and

failures across sectors” (Bradwell and Marr, 2008). Therefore, there is “the need to understand the territorial narratives that have shaped professional roles, policy processes and resource allocations” within shrinking processes and in small, peripheral, rural and/or remote regional contexts, and take it into account when “scaling” co-design best practices for the particular region in question (ibid.).

The TACTIQUES project in the mountain department of Hautes-Alpes, France

The **TACTIQUES project** was initiated to identify the health needs of the population (access to care) within the framework of the Region's Digital Territories program and to raise awareness about e-health among population. The project started as the project developing and testing **technological innovations** (telehealth and telemedicine solutions) in isolated areas (ski resorts, shelters, elderly homes), but has evolved into the initiative with strong **social and organizational innovation component** relying on co-designing health and social care services for specific territorial and social contexts: it has resulted in the "network of collective intelligence" concretized by the creation of the Alpine Triangle Platform uniting health and social care specialists and development agents; it has transformed the practices of health professionals by designing new ways of working, new forms of cooperation between medical and social professionals.

The context of shrinkage could also motivate **co-operative delivery of services**. For example in France, the government coordinates the strategic efforts to overcome the problems in sparsely populated areas, related to the accessibility of primary health care services. Since the year of 2010, the French authorities have tried to address this concern within the framework of the various **contractual and integrative strategies** throughout the country. The objective is develop, in parallel with health centres a network of health houses - *maisons de santé pluri-professionnelles*.

Health houses in France

The health houses are private enterprises, organized by the regional health agency in accordance with the regional health care strategies. The minimum number of professional staff is two physicians and another health professional. The ideal model of health house will include also other health professionals - doctors (e.g. radiologists, gynaecologists), dentists, pharmacists, midwives, paramedical professions (nurses, physiotherapists, speech therapists, dieticians, paramedics etc.), sports educators, psychologists etc. 910 of such centres are currently in place and more than 300 projects, with an average of 5 physicians and 9 other health professionals are underway. A policy decision has also been made to subsidize “health houses” (over 1000 in existence) where doctors work as employees of local authorities in spite of the fact that nearly 40% of them run a deficit. Both systems, though somewhat costly are regarded as a genuine improvement both for practitioners and patients. The advantages of the health houses are related to the improvement of working conditions for health professionals in rural and sparsely populated areas. The houses strengthen coordination and continuity of care, particularly for patients with chronic pathologies, and facilitate the interventions of local public health actors.

In Sweden, after the 1994 education reforms, **private or volunteer operators were allowed to open new schools**. The local municipality must pay the school the same amount as if the child was educated by the municipality and the institution is entitled to make a profit. There are no fees to students and they are admitted on a first-come first-served basis with no requirements (*i.e.* religion or entrance exams).

Knowledge Schools in Sweden

The *Kunskapsskolan* (Knowledge Schools) was founded in 1999 and currently operates 22 secondary schools for pupils between the ages of 12 and 16, and ten upper secondary schools for 16 to 19 year olds, totalling 10 000 students. They have now 750 employees and teachers and a net profit-turnover ratio of 10.6%. The model relies on students doing most of the work through their ***Kunskapsporten (Knowledge Portal)***, which provides the standardised curriculum, while having personalised assistance from tutors. This portal **allows each student to work at his/her own pace and to balancing his/her own time depending on his/her own strengths and weaknesses**. School facilities are simple and standardised. It rents fields nearby for sport activities, and sends pupils away to one of two special built facilities for a week each term for home economics, woodwork and art, rather than providing costly, little-used facilities in the school. This allows cost savings. Close monitoring of teachers is crucial for the model to work. It tracks performance of individual teachers to see which ones do best as personal tutors or as subject teachers. It offers incentives (bonuses) to excellent performance, and considers extra pay for good performing teachers who are willing to move to underperforming schools.

5.5 New services responding to and capitalizing on shrinking and ageing processes

Shrinking and ageing regional population creates new demand for services, which could at the same time be used as opportunities by entrepreneurs. Two main areas have emerged directly dealing with and **capitalizing from demographic changes** – silver economy services as the response to the ageing of population and integration services as a response to the lack of labour force.

Schlappa and Neill have argued that „shrinking cities are also ageing cities” and that “[t]he growing costs of housing, care and transport for older people create a formidable problem constellation for shrinking cities, which face rapidly declining revenues and increasing demands for services” (Schlappa and Neill, 2013). On the other hand, they maintain that meeting “the needs of older people should not be viewed as a burden; it is one way of making strategic investments which strive to retain and attract economically active groups, especially young people, into shrinking cities” and that “responding to the needs of older people benefits the whole population” (*ibid.*).

The general term covering the market demand for services and goods by elderly is “**silver economy**”, which according to Enste et al (2008) “should not be regarded as an own economic sector, but rather as a cross-section market, in which numerous industrial sectors are involved”. In the context of present report, most important product innovation areas are a) **integrated social care and health services**; and b) **housing and residential solutions** addressing the specific accessibility and sociability issues of elderly people - **housing adaptations and supported living services** (ibid.; see Klimczuk, 2015). Most often these services and solutions include strong ICT component and are **delivered in the form of e-services** (see above 5.2). Innovative housing and residential solutions adopt the principles of **smart living and smart homes**.

The product and technical innovation are not the only forms of innovations used in silver economy. Many of the services are developed and delivered as social and organizational innovations – e.g. in the form of social entrepreneurship and/or with community based co-design and co-management of services.

Sport village concept in the Netherlands

The concept of **sport villages** is used to increase the quality of life in and the liveability of small locations with ageing population. The municipal governments stimulate creating groupings for upcoming new, small sports. New, not yet organized addicts are facilitated and brought together in cooperation with other new sports and other groupings. The demand among the population is guiding rather than the supply thinking of existing associations. Financial support may be offered by the national government under the heading of sport impulse. In such policy elderly, playing *jeu de boules* are for instance connected to existing sport clubs, which gain membership again. Instead of shrinking membership of existing clubs of large sports (football) club life revitalizes.

Population decline and especially the outmigration of younger people from shrinking regions result in **problems in local and regional labour markets**, with risks of entering into vicious circle where companies are forced to downsize their operations due to scarcity of labour force leading to the acceleration of outmigration. According to DART report (2012), at least a partial solution could be achieved by **appealing to the immigration** that “has been experienced in recent years in Europe”, although “it is increasingly questionable from which source potential immigrants would come from as the traditional areas, especially in Eastern Europe, are now also affected by an extreme shrinking process” (DART, 2012). Nevertheless, as DEMIFER project report (2010) suggests, “the EU needs migration in certain sectors and regions to deal with the specific economic and demographic needs of the territory” and “[m]easures [are] already [been] taken to capitalise on extra-European immigration as a means of addressing gaps in the labour market”. Even more importantly, they report that “policy makers [in EU] recognize that the **interconnection between migration and integration remains crucial**”. The immigrants could be an opportunity for regional economies, especially for those shrinking, but only if integrated into local, regional and national communities and into labour markets.

This interconnection forms the need for **specific group of services aiming at social and cultural integration of immigrants** at large, and for **labour market services** focussing on the immigrants as potential employees (or employers) in particular. The project of the Nordic Working Group on Demography and Welfare – “From Migrants to Workers” has outlined the comprehensive analytical approach “on the immigration as a potential to solve future labour market needs at a regional level”:

- We need to know more about who is coming, where they settle and what skills they have;
- The immigrant’s education and skills have to be validated according to national requirements and criteria. Also, informal skills and practices need to be validated;
- Complimentary education and language courses have to be provided for those not fulfilling national labour market requirements;
- Matchmaking with local labour markets has to be analysed;
- Affordable housing and schools have to be provided where people are needed (Lindblad, 2016).

The case studies from the NORDREGIO report (2016b) exemplify the best practice in implementing these principles in **complex solutions** combining different services to immigrant populations with more broad governance measures.

The **Immigrant Villages Project** in Punkalaidun municipality, Finland

The **project**, co-financed by LEADER program in 2012-2015, aimed to promote employment opportunities for immigrants in farms, in small businesses and in the third sector and the integration of immigrants into local society through flexible and practical measures. The key components of the project are **refugee centre** and an **immigration co-ordinator**. Also, the educational services both to preschool and school age children were provided in time, starting already during the process of asylum application. In addition to program and private funding, the project relied on voluntary work of local activists, organizing social events contributing to the cultural integration of immigrants. Important factor of the success is an early “matching of migrants’ competences and their compatibility with the local labour market needs, and its rural setting, already when selecting quota refugees from refugee camps abroad” – that is, in case of rural economy, there is much higher chance to integrate immigrants to local labour market if they are also from rural areas.

The project is located in the broader national and regional governance framework in Finland. The national migration strategy maintains that “there is a common understanding that foreign labor force is needed in Finland and especially so in future, as a solution to the ageing population and population loss in rural regions”.

In contrast, “in Denmark, there is **no national policy on the attraction and retention of EU labour migrants as a response to population decline in general**, but attraction of high-skilled labour has been in focus”. Nevertheless, as Frederikshavn case demonstrates, “certain municipalities in Denmark have addressed the potential of labour migration in tackling the negative demographic trends in a more deliberate manner”. In addition to language training courses offered by the state

government, “Frederikshavn municipality has recently initiated a new structure of their language tuition for refugees, more closely connected to job placement options in local companies” and “the companies, are encouraged to offer language tuition for labour migrants during working hours in order to increase participation”. Like in Finnish case, many actors acknowledge that civil society plays a pivotal role for a successful long-term integration of newcomers. In Frederikshavn, the local sport club is very active in engaging immigrants with the support of the municipality. Another novel initiative is a language café, acting both as an intercultural meeting place and a forum for improving language skills.

On the national level, the integration agreement “Better environment for hosting and integrating refugees” was adopted between the Danish Government and the nationwide municipalities’ organization KL in March 2016, with the focus on mapping of refugees’ skills and education. A new portal *Education and integration has been launched*, aimed primarily at employees, municipalities and those working at asylum centres to provide information on opportunities for mapping and upgrading of refugees’ skills.

Swedish **Jämtland case** includes governance innovation in the form of **regional agreement** “concerning the roles and responsibilities of the different actors in the process of receiving refugees”. Jämtland case demonstrates the challenges that sparsely-populated regions face in providing vocational training. Long distances and low population density makes it challenging to fill vocational training classes: the number of students may be low in smaller towns and villages whereas collecting students to fewer locations can prove challenging due to long commuting distances. However, in the field of finding work placements and internships for immigrants, Jämtland showcases a good practice in tackling the issue. In the municipalities of Östersund and Strömsund, apprenticeships and internships for immigrants are organised especially in the public sector and at the regional and municipal administration in order to provide work experiences and to serve as an example to other employers.

6 INNOVATIVE POLICIES AND SMART SOLUTIONS FOR REGIONAL DEVELOPMENT IN ENTREPRENEURSHIP AND EMPLOYMENT

The decline of economic activity and loss of jobs is simultaneously the causal factor of regional shrinkage and the result of population decline in shrinking regions. Therefore, policies focusing on the revival of entrepreneurship and on job-creation are vital for any policy in/of shrinking regions – be it smart shrinkage or a regional policy aiming to reinvent the path of smart growth. Five lines of interventions particularly suitable and necessary for shrinking regions are brought forward here:

- 1) policy initiatives improving regional entrepreneurial ecosystem;
- 2) co-operative product innovation;
- 3) social entrepreneurship;
- 4) teleworking and co-working solutions;
- 5) solutions increasing the flexibility of labour market for marginalized groups;
- 6) reorientation of labour force.

6.1 Regional innovation systems and other initiatives improving regional entrepreneurial ecosystem

There is almost a consensus in Europe in that regions and locations – especially those that are less competitive within globalized economy – need policy interventions into what has recently denoted as “**entrepreneurial ecosystems**” (Foster et al., 2013). The related commonly shared idea is that such interventions should be based on the analysis of both internal (endogenous) assets and external context and have some sort of holistic approach (Mason and Brown, 2014) – a systematic understanding of regional economy, general vision about its future and/or coherent set of policy actors, measures and tools (see also ch 4 above). The concept of **regional innovation system** - “a network of research centres, universities, think tanks, private enterprises and community groups is necessary to tap into the growing stock of global knowledge, assimilate and adapt it to local needs, and create new knowledge.” (WB, 2007) - captures the general organizational form of such innovation based regional economic policy.

Although the concept itself has become “old”, various forms of social (and governance) innovations are continuously launched and applied within the regional innovation system approach to make some positive difference to regional economies. **BioTech North (BTN)** in Tromsø region, Norway, represents the model of **triple helix clustering** applied in **sparsely populated Arctic area**.

BioTech North (BTN) in Tromsø region, Norway

The emerging biotechnology cluster involves 38 enterprises and R&D organisations, and is funded by governmental program - Norwegian Innovation Clusters program (see <http://www.innovationclusters.no/english/>) – along with 38 other cluster initiatives (NIC, 2015). The cluster gives members access to infrastructure such as laboratories, testing and production facilities, with the ambition to make breakthroughs in biotechnological product innovation and contribute to the “green shift”.

Biovallée approach in Drôme, Rhône-Alpes – a French region dominated by agricultural economy – **integrates concept innovation, organizational innovation and process innovation.**

Biovallée approach in Rhône-Alpes, France

Biovallée is **simultaneously a process, a territory and an association**: an approach since the region has since tried to valorise the local common goods (water, land, air, energy sources) for the benefit of the local population through various projects; a territory, since the approach involves three municipalities (Val de Drôme, Diois and Crestois, Saillans Coeur de Drôme) which correspond to the valley of the Drôme; a Biovallée association, which manages the Biovallée brand and which is composed of elected representatives, companies and local associations that are committed to sustainable development actions. The concept innovation of the approach is in the creation an inclusive brand, with **a permanent progression mechanism** that allows all the players to be involved on the basis of their will to act in favour of sustainable development. Each partner of the association (company, association, farmer) is committed to a certain number of actions listed in a charter (purchase of low consumption light bulbs, short circuit supply) that are worth between 1 and 5 points. They may also propose their own actions, which are then added to the charter. The association is also collecting and disseminating good practices in sustainable development, training its members in sustainable development issues.

An initiative of the rural Hoeksche Waard region **combines regional analysis, strategy building and citizen engagement.**

Hoeksche Waard region, The Netherlands

The main question when considering new development activities in the region is no longer whether some specific developments should be allowed or not, but whether it is a desirable development in terms of the holistic view on the region – in terms of its “DNA”, which is the base and starting point for regional development policy. To address this DNA, several activities have taken place, amongst which is **a dialogue with inhabitants to formulate a vision for the region**, pinpointing the strengths of the region and corresponding economic activities. Next, a process was started to connect to existing economic dynamics and, by connecting and combining them, scale up. A website invited (future) initiators in the region to communicate their initiatives, ambitions and ideas to a large range

of people. Network meetings brought these initiatives together and brought individual initiatives together in so called “waardenketens” (value chains): a group of coherent initiatives that can amplify and/of support each other and that, once organised, independently creates its conditions for maintenance and further realisation of the individual initiatives. The local government facilitated this by organising the process and connecting the different initiatives. This has created such an attractive form of collaboration that large companies, like the Port of Rotterdam, are showing interest to connect to these value chains as well. Recently the Hoeksche Waard has decided to try to break the pattern of shrinking and an ageing population by turning its focus on **opportunities from neighbouring urban areas**. An already existing, joint organisation for collaboration has been given the lead. The first cooperative step is a “gebiedsagenda” (area agenda) that defines the present and future needs of the region to stay vital, the most relevant social tasks (incl accessibility of services) and how these are best dealt with by the municipalities.

The Rural Centre of Excellence for Cultural Heritage Renovation in the Pay de Montmedy exemplifies **cross-border co-operation in innovative R&D intensive tourism**.

The Rural Centre of Excellence for Cultural Heritage Renovation in the Pay de Montmedy, France

The project combines organizational innovation (a transversal vision of heritage as a key entry point for a large number of public policies: training, economic development, tourism, territorial marketing, etc.; cross-border cooperation which corresponds to the population's life patterns (the nearest urban centre is in Belgium) and technological innovation (the development and dissemination of new energy saving solutions to renovate the built heritage; development of interpretation software, making visible the history of the construction of the building and the associated know-how).

Building and strengthening of regional knowledge economies might need targeted research organizations with different focuses. Thus, **the Nordic thematic group for innovative and resilient regions** is aiming to develop **policies and new solutions** to the broad field of challenges that the Nordic regions face when it comes to resilience, innovative capacity and skills provision, while focusing on green transition, smart specialisation and digitalisation. The thematic group is financed by the Nordic Co-operation Programme for Regional Development and Planning 2017-2020. **AlgeCentre Danmark, a research consortium**, with the aim to “find out how algae can be used as a new resource in a world where traditional resources are under pressure” (AlgeCenter Danmark 2016), on the other hand, has much more specific focus and direct link to **product innovation** (e.g. projects about ethanol fermentation of Algae (process), MacroFuels advance the case for algae-based biofuels).

The complex urban regeneration programs can significantly contribute to the entrepreneurial ecosystem of respective city and surrounding area, as the experience from various countries suggests. The project of **Leipzig OstWerkStadt** addressed the **multiple issues of deprivation** in the eastern parts of Leipzig, Germany – a paradigmatic case of **shrinking city turned into growing city** (see Bontje, 2004; Hollander et al., 2009; Kabish et al., 2010; Rall and Haase, 2011).

OstWerkStadt project in Leipzig, Germany

OstWerkStadt project was made up of five integrated blocks: 1) Business: small businesses received support to stabilise and develop their activities such as training and coaching measures; 2) Location: entrepreneurs co-operated through business associations and regular open meetings; 3) Expertise/competence: residents were able to earn low-threshold qualifications and get assistance in job seeking or training; 4) Employment: entrepreneurs were able get advice on how to create jobs, receive small financial incentives for creating new jobs and participate in employment-related projects in the area; 5) Strategy/concept: a city-wide, area-based integrated development strategy was implemented in 2011 and 2012 using the lessons learned from OstWerkStadt. The project targeted entrepreneurs, microbusiness owners and jobseekers with advice and coaching services, giving disadvantaged groups the opportunity to enter the labour market. The project was devised and planned **within the Leipzig development strategy** adopted in 2008. The results and **lessons learnt from OstWerkStadt were fed into the 'economy and employment' section of the city's integrated area development strategy**, approved in March 2013. The strategy identifies support for the local economy as a priority.

In France, the innovative urban priority areas governmental programme has focused on disadvantaged urban neighbourhoods (1550 areas with 5,5 million people in total), with the aim at lifting the barriers to employment, maintaining fragile SME businesses, establishing new commercial activities with high employment potential in these neighbourhoods. The policy has identified support to innovations as a key factor positively influencing the dynamics of job creation and economic development in the deprived neighbourhoods.

The **Smart Basilicata initiative** In Italy has grown out from teamwork between business and academia/research centres. Starting from the definitions of smart city and taking into account the peculiarities of Basilicata region, the partners designed Smart Basilicata as a coherent framework in which urban policies and design strategies are combined to achieve an integrated sustainable urban development. The project is based on a strong connection with the main public administrations operating on the regional territory (the Municipalities of Potenza and Matera, the Provinces of Potenza and Matera, and the Basilicata Regional Authority) that shared the objectives and expressed their interest in the development of innovative products and services (see Salvia et al., 2016).

In a much smaller scale both in terms of territory and field of interventions, **the ID-islands project in Ponant Islands** has linked **socio-economic research** with entrepreneurial education and awareness raising.

ID-islands (Initiatives and Development) project in Ponant Islands, France

The project has had two stages: ID-islands 1 (2011-2014) and ID-islands 2 (2014-2018). The objective of ID-islands 1 was better understanding of the demographic, social and economic situation of each of the 13 Ponant islands and the identification of the key economic players developing new projects, and also their prospects for development and difficulties in it. The results of the study indicate that

the arrival of new entrepreneurs significantly alters the social and economic fabric and thus create new prospects for the future. ID-islands 2 aims to continue the analysis of the socio-economic evolutions taking place on the Ponant islands while deepening four research axes: the spatial behaviour of entrepreneurs; new technologies (esp. ICT) for the development of islands new technologies, inter-island comparison and opening to overseas territories, transmission and exchange of experiences between islands and between scientists, entrepreneurs and elected officials. As a part of the ID-Îles 2 project "Transmit, share and communicate", monthly ID-Islands TV Magazine (2015-2018) programs have been produced and broadcasted to disseminate the results of the research among the inhabitants of Ponant Islands. The magazine aims at encouraging the networking of entrepreneurs in the Ponant islands and the sharing of experiences and innovations between entrepreneurial actors of the Ponant islands. It offers a space for debate and collective reflection devoted to the development of these territories.

6.2 Co-operative product and marketing innovations

The success of businesses in small, rural and/or peripheral regions often depends on their ability and willingness to co-operate in marketing and product design. These are solutions where product innovation depends on successful social innovation in the forms co-operative and integrative approaches.

The Danish Small Island Food Network and Ø-specialties® trademark

In Denmark, food producers of small islands have formed **the Danish Small Island Food Network** (Småøernes Fødevarerenetværk) to develop and market quality food from the islands, thereby promoting the development of the Danish small islands while **ensuring better living and production conditions for the island producers**. The core of the co-operation is **Ø-specialties® trademark**, reserved for food of a distinctive quality and history, developed and produced by producers on one of the 27 small Danish islands. The trademark is simultaneously **a tool of quality improvement and a policy measure of local employment**. Only those food producers who meet a list of criteria can apply for the permission of use from the Food Network. Producers entitled to use the trademark Ø-specialiteter® have the right to benefit from - and duty to contribute to - the joint efforts in the Småøernes Food Network in marketing, sales and distribution of products bearing the trademark.

Based on the Danish experience, the head of the network proposed in 2017 **to launch international trademark Island Specialties®**. The idea is to develop synergy with already existing islands' food brands in order **to contribute to the concerted marketing efforts**, i.e. presentation on international food exhibitions, targeting specific markets such as Japan and the USA.

Cap.Marche.be exemplifies innovative **web based co-marketing solution** in the small urban municipality contributing to social innovation in the locality.

Cap.Marche.be in Marche-en-Famenne, Belgium

The project was developed in public-private partnership, in the co-operation of the municipality of Marche-en-Famenne with the Cap-sur-Marche association of traders and the Local Development Agency (ADL). It offers every merchant the opportunity to benefit from a showcase on the web. The interface is customizable, includes calls to action and allows a real business-to-consumer relationship, including the possibility for customers to make an appointment with certain merchants. Shared data management is the added value of the project. On the one hand, the database is checked regularly by the municipal staff. On the other hand, each merchant has private access to his personal page. This mixed system proves to be flexible while remaining perfectly secure. The use of the solution has **contributed to the digital transition of small businesses**. Workshops, conferences and training courses organized within the project have laid the foundation for **the formation of the entrepreneurial community**.

The **producers' outlet of 12 Belle-île farmers** has successfully capitalized on **ecological and innovative production** during the last 10 years when their Producers' Corner has been operating in the island: the use of local resources, the closeness of agricultural production to the sales point, following the principles of animal welfare, inscribing in a process of continuous improvement. Their success has made it necessary and possible to opt for crowdfunding as a source for financing the building of their new outlet.

Kompetenzlandkarte Obersteiermark represents quite different form of co-marketing. The project initiated by the regional administration of Obersteiermark Ost, Austria, has mapped the competences of innovative companies, numerous R&D organizations, higher education and training programs, high-caliber service providers, etc. of the region (see <http://kompetenz.obersteiermark.at>) and did it first of all for the purpose of **internal marketing**, so that the people of the region would be comprehensively informed and invited to take advantage of the regional opportunities. The rationale behind internal marketing reaches back to **the structural shock and resulting economic downturn of the 1980s in the industrial region** and in the hope to regain the growth path by convincing local businesses and employers that the region has many opportunities for a success.

In urban context, **the interim and temporary use of buildings and land** provides sustainable way to respond to shrinking processes and even to urban decay (see Shlappa and Neill, 2013), and use these as business opportunities.

Plateau Urbain, France

Plateau Urbain is an **urban development cooperative in France delivering vacant spaces for cultural, associative and social economy actors on temporary base**. Plateau Urbain has an organizational team and co-operates with urban experts providing their expertise on premises and projects. The team makes the partnership agreement with the owners of vacant premises and then sets up a call for applications to select project promoters who will occupy the premises in order to obtain a workspace at low cost. The aim is to turn the vacant space into the better use thus

preserving urban resources and prefiguring the neighbourhoods of tomorrow. This new way of "recycling buildings" allows to minimize the often undervalued cost of an unoccupied site, linked to charges and taxes. Plateau Urbain is currently working with projects in Ile-de-France and also in Lille, Lyon, Nantes, Marseille and Bordeaux.

In tourism, the innovative Italian concept of Albergo Diffuso – **diffused or scattered hotel** – provides **sustainable co-operative model** for the development of accommodation business in small (historical) towns. The diffused hotel **uses existing but converted rooms** in different houses, especially in historical buildings, to accommodate visitors and provide the experience of "going local". At the same time, it guarantees normal hotel service – it has common quality standards, unified management and central reception area with cafe and food available.

6.3 Social entrepreneurship

Copus et al. (2017) have suggested that "social enterprises may well be part of the solution to the challenges associated with demographic change". EU working definition states that "a social enterprise **is an operator in the social economy whose main objective is to have a social impact** rather than make a profit for their owners or shareholders. It operates by providing goods and services for the market in an entrepreneurial and innovative fashion and uses its profits primarily to achieve social objectives. It is managed in an open and responsible manner and, in particular, involves employees, consumers and stakeholders affected by its commercial activities" (ILDN, 2016; see also Bourzaga and Defourny, 2001; Kerlin, 2006; Social Enterprise Alliance, 2010).

Concurrent to the definition, the most of social enterprises operate in the field of social services in a broad sense. **Yet, as the best practice examples from the study on social entrepreneurship in Ireland** demonstrate, the principles of social entrepreneurship could be successfully applied "across a wide range of business sectors, **in urban and rural** as well as **socially and economically marginalised locations**" (Hynes, 2016; for a broader coverage of European practice in social entrepreneurship, see e.g. Defourny and Nyssens, 2008; Terstriep et al., 2015).

Ballyhoura Development Ltd, a rural development company in Limerick and Cork, Ireland

The company has worked in partnership with local landowners, communities and agencies since 1989 to **develop a range of recreation infrastructure**. The Ballyhoura Way, a walking route of 90km, has been successfully followed by the development of a broad range of short way-marked walking loops, fell running, orienteering courses, nature walks, equestrian, mountain bike and 4x4 trails. The economic and social impact of the trails is continuing to develop, offering year-round opportunities to existing and new businesses across the rural area to grow.

Village Life Association in Romania

The associations has been founded by an individual initiator in the year 2011 based on her traveling and expat life experiences. The social enterprise is the response to the high rate of unemployment in rural areas and exploits the assets Romanian villages can offer for tourist. The potential for ecotourism and agro tourism is deemed to be one of alternative development opportunities. The social innovation comprises families in four Romanian villages who participate in it through hosting tourists in their houses. The best practice is recommended by SIMPACT project Social Innovation Biographies.

The concepts of **social farming and care farming** capture the solution providing care services, rehabilitation, therapy, and sheltered work for older people (or other disadvantaged social groups) while at the same time “**alleviating the shortage in the regional workforce** because care farmers perform labour otherwise provided by regular workers” (Nefs et al., 2013). The solution is contributing “to the social inclusion, health, and mental well-being of older individuals among other target groups” (ibid.).

An Tairseach, an organic farm and ecology centre in Wicklow, Ireland

An Tairseach is offering a **variety of courses** including the New Cosmology They also provide extensive 10 Week Residential Programmes, which include becoming familiar with our evolution over 14 billion years as discovered by contemporary science. They explore the implications of evolution for understanding our place in the universe and look at the theological implications of this new cosmology (see more www.ecocentrewicklow.ie).

The practice of **urban gardening** adopts **temporary use strategies** in order to transform “vacant land into a community resource for urban regeneration with multiple socioeconomic and cultural effects” (Nefs, et al., 2013). It “has been identified as an effective means to foster the local and sustainable food system and the social embedding and equity of senior groups, particularly those seniors with a migratory background” (ibid; see Beckie and Bogdan, 2010).

KempenLIFE initiative in rural Netherlands provides a bottom-up co-operative response to ageing, where citizens themselves help each other in maintaining independent living in this area.

KempenLIFE, in Eersel, Bladel, Bergeijk, Reusel-De Mierden and Oirschot rural municipalities, the Netherlands

KempenLIFE is a cooperative of older citizens in the rural area, established to organise new services for comfort, welfare and care, making use of broadband (fibre to the home) and an ICT community platform. The initiative is matching paid and voluntary work and represents social entrepreneurship approach to service delivery.

In Scotland, the Development Trusts Association exists to promote and facilitate establishment of new local community owned and operated organisations, typically operating as charitable or not for

profit businesses, in partnership with other agencies, including local authorities. For about 20 years, such social enterprises (trusts) have been proliferating, making significant contributions to maintaining and improving local quality of life throughout rural Scotland, helping to meet all manner of needs which are not statutory responsibilities of local or central government.

The Mull and Iona Community Trust (MICT), for example, has established recycling and reuse schemes to reduce waste, and a community owned hydro electricity scheme. It has also facilitated the development of community transport schemes to enable inclusive travel for all, promoted and acquired electric vehicles, and hosted meetings of all kinds of groups including the mentally ill people.

6.4 Teleworking and co-working solutions

Work related mobility, especially in case of office work, could be reduced by offering alternative facilities known as coworking spaces or hubs. The concept of teleworking capturing the phenomenon of „work remote from the office“ (Baruch, 2000) - is approximately 40 years old (see Jackson and van der Wielen, 1998). Social and technical innovations within the approach are nevertheless important for peripheral shrinking regions with accessibility problems to „better“ jobs in growth centres.

The 2015 Global Coworking Survey results indicate that the number of coworking spaces and users of these spaces has grown in recent years almost exponentially. The research shows that coworking space is used along other options – team offices, home offices, etc. – thus contributing to the spatial flexibility of office work. There is a tendency **to use coworking spaces as part of revitalisation programs of urban development**. The ideal coworking space would offer 24-hour access, have an even number of flexible and permanent desks, and would involve members in decisions about the interior design. The key problem of coworking spaces, especially in smaller towns has been their limited profitability.

Telework Training Centre in Murat, France

Telework Training Centre in Murat is an example of accommodation and training facility for self-employed persons wishing to create their business and also for employees whose employers have opted for the use of the approach **in small** (approx. 2 thousand inhabitants) **municipality with declining population**. Self-employed or employed teleworkers can reserve a fully equipped office on a daily, weekly, monthly or annual basis. In addition, Murat telework centre is the part of a regional network specialised in training of self-employed or employed professionals for teleworking. Each year several training sessions are organised.

CoWallonia is a co-working space network currently including eight urban co-working spaces in Charleroi (Switch Coworking), Namur (Coworking Namur), Louvain-la-Neuve (Louvain Coworking Space), La Louviere (The Cowork Factory), Mons (Co-nnexion), Tournai (Espace Coworking Tournai

(ESCO), Seraing (Cristal Hub) and Liège (La Forge Coworking). The idea is to **broaden the network into rural and semi-rural areas.**

The recent trend in teleworking is to see **public transport vehicles**, first of all intercity trains, as **mobile offices** (Jaffe, 2012). The study of Gripsrud and Hjorthol (2012) suggests to evaluate transport modes and connections not only according to travel time as “dead” or wasted time, but by taking account their productive time as office work time. The precondition for that is, of course, that public transport vehicles are suitable for office work – equipped with necessary facilities (desk, internet, power) and with suitable spatial arrangements (e.g. cabins) or regimes (e.g. “quiet car” practice, where cell phones, music players and loud conversations are foreboded in train wagons). The mobile offices in commuting public transport between larger urban centres and peripheral areas could diminish the pressure of selective outward migration from smaller towns and form preconditions to reverse migration flows.

6.5 Solutions increasing the flexibility of labour market for marginalized groups

In the regions with diminishing labour resources, the policies oriented towards the raising of labour force participation rates could be appropriate. These policies would focus on specific target groups like “young persons, women, immigrants, and older persons” or aim at the change in “attitudes [and labour market behaviour] towards full time, part time and self-employment” (DEMIFER, 2010).

Ballymun Accredited Skills & Work Taster Programme was developed and launched in suburban district of Dublin, Ireland, in response to an identified need for the local population in Ballymun where, despite urban renewal under way, there remains a high concentration of **long-term unemployed people.**

Ballymun Accredited Skills & Work Taster Programme in suburban district of Dublin, Ireland

The programme was designed for unemployed persons who does not have the confidence, self-knowledge, occupational knowledge, decision making skills and/or may face environmental and practical problems impeding them in their progression into the labour market. The initiative sought to find a way to give long term unemployed people the **opportunity to be assessed by the Partnership**, meet the employer and receive work experience on the job. Beneficiaries were placed with local employers to gain practical experience and a real life work simulation to access work culture, relationships and face the reality of managing a 9-5 job. The needs and requirements of individuals were matched with the available placements in the local area. The Work Tasters enabled employers to try out unemployed people in a particular job for up to 4 weeks, whilst the person remained entitled to benefits.

The Individualised Revival Skills Training and Support Programme in small town Newport, Ireland, targeted on the growth of self-worth and confidence **for women returning to workplace**.

The Pathways to Employment through Individualised Revival Skills Training and Support Programme in Newport, Ireland

The programme was developed by South West Mayo Development Company with the funding of national programme The Equality for Women Measure (EWM). It put emphasis on participants' ambitions and on helping them achieve their career goals and aspirations through **individualised career growth plans** involving one-on-one career conversations that were focused and specific to each participant. The support element of the programme required the participants to **work with a mentor in a navigational relationship** enhancing personal and professional growth which focused on career development, and personal growth.

The Second Chance initiative in Centru region of Romania addresses the population group of **adults without basic education**, who have therefore serious difficulties when trying to find a job. The scheme includes three main processes: identification of the persons who need to complete their education; identification of their training needs; setting up the curricula in accordance with the identified education needs and job market requirements.

The target group of **ageing people** is also important in some cases. Osuva "Change of Ownership" service in North Karelia focused on **ageing entrepreneurs** while addressing the problem of diminishing entrepreneurship. Many entrepreneurs in North Karelia (and also in Finland) are ageing and bound to retire during the next 5-10 years. Many of them have no successor. In the spring 2004, the North Karelia University of Applied Sciences conducted an interview study among local entrepreneurs on the continuation of their business operations after their retirement. The most worrying finding was that as many as 70% of the entrepreneurs interviewed stated that they have no transferee to take over their operations.

Osuva "Change of Ownership" service in North Karelia, Finland

Osuva service contributes to the solving of the problem by providing consultation and advisory services. The Josek Development Agency's services include free of charge Osuva business consultation that specializes in changes of ownership. Impartial assistance is offered to both the outgoing and the new operator, in change of generation, and the selling and purchasing of businesses. The counselling service is available everywhere in the region through regional contact persons. The most visible part of the OSUVA business consultation service concerning the enterprise exchange is available on Josek's web pages. It is a noncommercial marketplace for the sellers and purchasers of small enterprises. The best practice is recommended by DART project Good Practice Posters.

In Brasov county of Romania, the focus has been on **ageing employers** having 3 years until retirement and on unemployed persons aged over 45 years.

The subventions programme in Brasov county, Romania

The system is based on the state government subsidies. The employer hires the unemployed persons registered in the database of the County Agency for Employment and signs a contract with the Agency in order to receive the subvention. The employers are obliged to maintain the working place for a minimum period of 2 years. The system has been operational since 2002 and is recommended by DART project (Good Practice Posters).

6.6 Reorientation of labour force

The long term structural changes in regional economies, amplified by the effects of recent economic crisis in many shrinking regions, have created the pressing need for the reorientation of labour force both in terms of economic subsectors (fields of occupations) and in terms of necessary skills.

The ET-Struct, a co-operative project financed by Central Europe program in 2010-2012, addressed the problem with complex approach adapting the logic of triple-helix model.

The ET-struct project, a co-operation project between regions in Austria, the Czech Republic, Germany, Italy, Poland, Slovenia and Ukraine

In order to match and optimise work-force qualification with the needs of regional economies, the project began with the development of an **innovative, dynamic, flexible and systematic model** called “ET-Inventory”, **designed to predict employment needs**. Using this model, surveys were conducted in the 10 partner regions, to determine what skills employers are looking for and to give investors insights into the economies of those regions. Based on the analysis of regional demands, an **e-learning platform** called “ET-LearnTrain” was developed and tested to offer online and on-site training for regional work forces in the ET-struct regions. The 24 training modules that were developed cover a wide spectrum of subjects, such as entrepreneurship, ICT support, social skills, intercultural communication skills, vocational orientation and technical training. After identifying labour needs, and offering appropriate training, the project sought to encourage a continuation of the process with “**regional management triangles**”. These are bodies that coordinate the process, so that regional labour needs and labour skills will stay in sync with one another in the future. The project also produced a document called “ET Management”, which offers other European regions a blueprint for creating their own “management triangles”. The solution is recommended by Central Europe programme (Project Stories from the CENTRAL EUROPE Programme: Demographic Change and Knowledge Development in Central Europe).

In Italian Veneto region, **Talentaged project** has resulted in development and implementation of **skills & competence empowerment methodology for aged workers** in order to assist and support them during their professional choices. The Jobstarter initiative in German Saxony region, on the

other hand, has focused on the potential of young generation to mitigate the lack of apprentices in enterprises. The Vocational Training Agency “Custom-fit” tries to **bring enterprises and pupils together** to show them a future in the region. They help pupils to get **to know vocational possibilities in the region** and make a safe decision for the right vocational training.

“Learning West” is a **network of private enterprises** based in the West Region of Ireland, set up in 2005 to promote and facilitate training and development. Its ambition is to give employers and workers an opportunity to rapidly improve, realign or revise current skills base. It is helping peoples from member organizations to leverage off each other, **share expertise**, leverage cost efficiencies, **deliver relevant flexible training and through the involvement of the network**, support each other. Its goal is to create a Climate of Training Excellence to become a model of Best Practice for a Regional Training Network thereby providing a unique opportunity for enterprises, management and staff to rapidly up-skill workers and employees to provide career progression and employability and respond to specific competitive challenges. The project initiated by Kainuu Vocational College in 2004 addresses the territorial context of **sparsely populated peripheral areas** by developing and applying **e-learning methods and tools**. All these projects have been recommended as good practices of education, lifelong learning and job market interventions by DART project.

7 CONCLUSIONS AND RECOMMENDATIONS

- The phenomenon of regional shrinkage affects all types of regions and most countries in Europe. Regional shrinkage takes place within the interdependent processes of peripheralization and centralization – while some regions shrink, others are growing at the expense of shrinking regions.
- Shrinking regions can and should learn from all kinds of regions – from those shrinking smartly and from those growing smartly. The territorial context could nevertheless determine the typical shrinking problematics and with that also the selection of adequate responses. In rural sparsely populated areas the broadband infrastructure service together with e-services, multi-functional outlet innovations and flexible mobility solutions and teleworking measures should be prioritized. The business opportunities in green economy capitalize on specific assets of rural regions. In urban contexts, (spatial) planning for smart shrinkage, the innovative and sustainable uses of built environment, the renewal of inner cities are specific needs to be addressed in shrinking policies.
- Best practice knowledge provides ideas and inspiration for place-based regional policy, not ready made solutions to be taken over. The context matters and each policy intervention should be based on the analysis of challenges and opportunities of the particular region and its territorial context.
- Based on the regional analysis, the principal choice should be first made in shrinking and ageing regions – to accept shrinkage or keep trying to return to growth path. Most often the acceptance is more rational choice resulting in more efficient and effective development policy. The goals of socio-economic resilience and sustainability should be prioritized ahead of growth.
- The holistic understanding and strategic vision is needed - effective policy measures can address the shrinking problem within appropriate policy mix. Measures dealing with singled out problems and devised by imported best practice examples most probably are not changing the developmental path of the region.
- Key to the smart decline (or growth) lies in continuous social innovations within public administration and (territorial) governance, within entrepreneurial culture and community building activities.
- The digital development forms the ground for all sorts of innovations. On the one hand, it catalyses new community and governance models contributing to the smart (and sustainable) shrinkage or growth. On the other hand, new digital solutions depend on the digital competence of people, the insufficiency of what considerably delimits the application of e-services and e-governance solutions and does it most importantly in regions with high demographic vulnerability.

8 REFERENCES

- Andersen, H. S. (2003): Urban sores. On the interaction between segregation, urban decay and deprived neighbourhoods. Aldershot: Ashgate
- Baruch, Y. (2000): Teleworking: benefits and pitfalls as perceived by professionals and managers. *New technology, work and employment*, 15 (1), 34-49
- Beckie, M. and Bogdan, E. (2010): Planting Roots: Urban agriculture for senior immigrants. *Journal of Agriculture, Food Systems, and Community Development*, 1(2): 77–89
- Bernt, M; Cocks, M.; Couch, C.; Grossmann, K.; Haase, A.; Rink, D (2012): Shrink Smart. The Governance of Shrinkage within a European Context. Research Brief No. 2, Policy Response, Governance and Future Directions. FP7 Research Project
- Bock, B. (2012): Social innovation and sustainability; how to disentangle the buzzword and its application in the field of agriculture and rural development. *Studies in Agricultural Economics* 114, 57–63
- Boivard, T. (2003): E-Government and e-Governance. Organizational Implications, Options and Dilemmas. *Public Policy and Administration*, Volume 18 no 2
- Bontje, M. (2004): Facing the challenge of shrinking cities in East Germany: The case of Leipzig. *GeoJournal* 61, 13–21
- Borzaga, C. and Defourny, J., eds. (2001): *The Emergence of Social Enterprise*. London and New York: Routledge
- Bourne L. S. and Simmons, J. (2003): New Fault Lines? Recent Trends in The Canadian Urban System and Their Implications for Planning and Public Policy. *Canadian Journal of Urban Research* 12(1): 22–47
- Bradwell, P. and Marr, S. (2008): Making the most of collaboration an international survey of public service co-design. DEMOS REPORT 23
- Carayannis, E. G. and Sipp, C. M. (2006): *e-Development toward the Knowledge Economy leveraging Technology, Innovation and Entrepreneurship for "Smart" Development*. Houndmills: Palgrave Macmillan
- CEMR (2013): Urban-rural partnership. CEMR survey on integrated territorial development. June 2013
- Copus, A. K. (2001): From Core-Periphery to Polycentric Development; Concepts of Spatial and Aspatial Peripherality, *European Planning Studies*, vol 9 No 4, 539-552

- Copus, A; Perjo, L.; Berlina, A.; Jungsberg, L.; Randall, L. and Sigurjónsdóttir, H. (2017): Social innovation in local development: Lessons from the Nordic countries and Scotland. NORDREGIO WORKING PAPER 2017:2
- DART (2012): Declining, Ageing and Regional Transformation. Final Report, DART project
- Dart, R. (2004): The Legitimacy of Social Enterprise. NONPROFIT MANAGEMENT & LEADERSHIP, vol. 14, no. 4
- Davison, L.; Enoch, M.; Ryley, T.; Quddus, M. and Wang, C. (2014): A survey of Demand Responsive Transport in Great Britain. Transport Policy 31, 47–54
- Dax, T.; Fidschuster, L.; Fischer, M.; Hiess, H.; Oedl-Wieser, T; Pfefferkorn, W (2016): Regionen mit Bevölkerungsrückgang. Experten-Impulspapier zu regional- und raumordnungspolitischen Entwicklungs- und Anpassungsstrategien Strategische Orientierungen. Im Auftrag des Bundeskanzleramtes Österreich Wien, 11.3.2016
- Defourny, J. and Nyssens, M., eds. (2008): SOCIAL ENTERPRISE IN EUROPE: RECENT TRENDS AND DEVELOPMENTS. EMES WP no. 08/01
- DEMIFER (2010): Demographic and Migratory Flows affecting European Regions and Cities Applied Research 2013/1/3. Final Report. Version 30/09/2010, ESPON 2013 Programme
- Dickinson, J. E.; Cherrett, T.; Hibbert, J. F.; Winstanley, C.; Shingleton, D.; Davies, N.; Norgate, S. and Speed, C (2015): Fundamental challenges in designing a collaborative travel app. Transport Policy 44, 28–36
- Doussard, M; Peck, J. and Theodore, N. (2009): After Deindustrialization: Uneven Growth and Economic Inequality in “Postindustrial” Chicago. Economic Geography, 85(2):183–207
- EDORA (2011): European Development Opportunities for Rural Areas Applied Research 2013/1/2, Final Report Parts A, B and C August 2011, ESPON 2013 Programme
- Enste, P.; Naegele, G. and Leve, V. (2008): The discovery and development of the silver market in Germany. In F. Kohlbacher and C. Herstatt (eds), The Silver Market Phenomenon The Silver Market Phenomenon. Business Opportunities in an Era of Demographic Change, 325-339, Springer Berlin Heidelberg
- EP (2008): Shrinking Regions: a Paradigm Shift in Demography and Territorial Development. STUDY IP/B/REGI/IC/2007-044 11/07/2008
- Ferreira, L; Charles, P. and Tether, C. (2007): Evaluating Flexible Transport Solutions, Transportation Planning and Technology, 30:2-3, 249-269
- Ferry, M. and Vironen, H. (2010): Dealing with Demographic Change: Regional Policy Responses. European Policy Research Paper, nr 72

FOCI (2010): Future Orientations for Cities. Applied Research 2013/1/1, Final Report | Version 15/December/2010 , ESPON 2013 Programme

Foray, D.; Goddard, J.; Goenaga Beldarrain, X.; Landabaso, M.; McCann, M; Morgan, K.; Nauwelaers, C. and Ortega-Argilés, R. (2012): Guide to Research and Innovation Strategies for Smart Specialisations (RIS 3). Luxembourg: Publications Office of the European Union

Entrepreneurial ecosystems around the globe and company growth dynamics

Foster, G., Shimizu, C., Ciesinski, S., Davila, A., Hassan, S., Jia, N. and Morris, R. (2013): Entrepreneurial ecosystems around the globe and company growth dynamics. World Economic Forum. vol. 11

Galjaard, R. (2014): Thematic study: Demographic change and knowledge development in the CENTRAL EUROPE Programme. FINAL REPORT, May 2014. Groningen:Bureau PAU. CENTRAL EUROPE Programme

GEOSPECS (2012): European Perspective on Specific Types of Territories. Applied Research 2013/1/12 Final Report | Version 20/12/2012, ESPON 2013 Programme

Geys, B.; Heinemann, F.; Kalb, A. (2007): Local governments in the wake of demographic change: Efficiency and economies of scale in German municipalities. Paper available at ZEW – Zentrum für Europäische Wirtschaftsforschung/ Center for European Economic Research, Discussion Papers Serie, Paper No.07 – 036

Gospodini, A. (2015): ECONOMIC CRISIS & SHRINKING CITIES. Searching a path for addressing shrinkage in Greek cities

Gripsrud, M. and Hjorthol, R. (2012): Working on the train: from ‘dead time’ to productive and vital time. *Transportation*, 39, 941–956.

Gruber, E.; Humer, A. and Fassmann, H. (2015): Managing rural decay. Strategies and responsibilities for declining regions in Austria. Paper presented at the AESOP Annual Conference 2015 “Definite space – fuzzy responsibility” in Prague

Haase, A.; Hospers, G-J.; Pekelsma, S. and Rink, D. (2012): Shrinking Areas. Front-runners in Innovative Citizen Participation. European Urban Knowledge Network

Haase, A.; Rink, D.; Grossmann, K., Bernt, M. and Mykhnenko, V. (2014): Conceptualizing urban shrinkage. *Environment and Planning A* 2014, volume 46, pages 1519 – 1534

Haase, A.; Bernt, M. Grossmann, K., Mykhnenko, V. and Rink, D.; (2016): Varieties of shrinkage in European cities. *European Urban and Regional Studies*, Vol. 23(1) 86–102

Hollander, J. B.; Pallagst, K.; Schwarz, T.; Popper, F.J. (2009): *Planning Shrinking Cities*

- Hollander, J.B. and Németh, J.(2011): The bounds of smart decline: a foundational theory for planning shrinking cities, *Housing Policy Debate*, 21:3, 349-367
- Hospers, G-J. (2014): Policy Responses to Urban Shrinkage: From Growth Thinking to Civic Engagement, *European Planning Studies*, 22:7, 1507-1523
- Hynes, B. (2016): CREATING AN ENABLING, SUPPORTIVE ENVIRONMENT FOR THE SOCIAL ENTERPRISE SECTOR IN IRELAND. Submission to: The Irish Local Development Network
- ILDN (2016): Supporting the Social Enterprise Sector in Ireland
- Jackson, P. J. and van der Wielen, J. M., eds. (1998): *Teleworking: international perspectives: from telecommuting to the virtual organisation*. London and New York: Routledge
- Jacuniak-Suda, M.; Knieling, J. and Obersteg, A. (2014): URBAN-RURAL PARTNERSHIPS AS A TOOL OF TERRITORIAL COHESION. A CONCEPTUAL APPROACH DERIVED FROM INTERREG IV C URMA "URBAN-RURAL PARTNERSHIPS IN METROPOLITAN AREAS" in *Towards Urban-Rural Partnerships in Poland. Preconditions and Potential*
- Kabisch, N.; Haase, D. and Haase, A. (2010): Evolving Reurbanisation? Spatio-temporal Dynamics as Exemplified by the East German City of Leipzig. *Urban Studies*, Vol 47, Issue 5, 967 - 990
- Kamruzzaman, M. and Hine, J. (2012): Analysis of rural activity spaces and transport disadvantage using a multi-method approach. *Transport Policy* 19: 105-120
- Kerlin, J. A. (2006): Social Enterprise in the United States and Europe: Understanding and Learning from the Differences. *Voluntas* 17:247–263
- Klimczuk, A.(2015): Regional Development in an Ageing Society: Overview of Selected Foreign and Polish Recommendations and Practices. MPRA Paper No. 65372, posted 1. July 2015
- Lang, T. (2012): Shrinkage, Metropolization and Peripheralization in East Germany, *European Planning Studies*, 20:10, 1747-1754
- Leetmaa, K.; Kriszan, A.; Nuga, M and Burdack, J. (2015): Strategies to Cope with Shrinkage in the Lower End of the Urban Hierarchy in Estonia and Central Germany, *European Planning Studies*, 23:1, 147-165
- Lindblad, S. (2016): Immigration. A solution to demographic challenges? *NORDREGIO NEWS*
- Martinez-Fernandez C. and Wu. C.-T. (2006): Tackling Urban Decline through Innovation Activities. International Symposium "Coping with City Shrinkage and Demographic Change – Lessons from around the Globe", Dresden
- Mason, C. and Brown, R. (2014): Entrepreneurial Ecosystems and Growth Oriented Entrepreneurship. Background paper prepared for the workshop organised by the OECD LEED Programme and the

Dutch Ministry of Economic Affairs: The Hague, Netherlands, 7th November 2013. Final Version: January 2014

Müller, B. and Siedentop, S. (2004): Growth and shrinkage in Germany—Trends, perspectives and challenges for spatial planning and development. *German Journal of Urban Research*, 43(1), 14–32

Nam, T. and Pardo, T.A. (2011): Conceptualizing Smart City with Dimensions of Technology, People, and Institutions. *The Proceedings of the 12th Annual International Conference on Digital Government Research*

Nefs, M; Alves, S.; Zasada, I. and Haase, D. (2013): Shrinking cities as retirement cities? Opportunities for shrinking cities as green living environments for older individuals. *Environment and Planning A* 2013, volume 45, 1455 – 1473

Nordregio (2016a): Nordic-Baltic Demographic Vulnerability Assessment at municipal level. *NORDREGIO POLICY BRIEF 2016:4*

Nordregio (2016b): From migrants to workers. Immigration and Integration at the Local Level in the Nordic Countries. *NORDREGIO POLICY BRIEF 2016:5*

Nyssens, M. ed. (2006): *Social Enterprise. At the crossroads of market, public policies and civil society*. London and New York: Routledge

OECD (2010): *OECD Rural Policy Reviews. Strategies to Improve Rural Service Delivery*

Pallagst, K. et al., eds. (2009): *The Future of Shrinking Cities: Problems, Patterns and Strategies of Urban Transformation in a Global Context*. IURD Monograph Series

Panagopoulos, T. and Barreira, A.P. (2011a): Shrinkage perceptions and smart growth strategies for the municipalities of Portugal. *Built Environment Vol 38, No 2, 276-291*

Panagopoulos, T. and Barreira, A.P. (2011b): Determinants and shrink smart strategies for the municipalities of Portugal. *Conference Shrinkage in Europe: causes, effects and policy strategies Amsterdam, 16-17 February 2011*

Popescu, C. (2014): DEINDUSTRIALIZATION AND URBAN SHRINKAGE IN ROMANIA. WHAT LESSONS FOR THE SPATIAL POLICY? *Transylvanian Review of Administrative Sciences*, No. 42

Popper, D.E., and Popper, F.J. (2002): Small can be beautiful: Coming to terms with decline. *Planning* 68 (7), 20–3

PROFECY (2016): *Inner peripheries: National territories facing challenges of access to basic services of general interest*. Applied Research, Inception Report, Version 07/08/2016, ESPON 2020 Programme

PROFECY (2017): *PROFECY – Inner Peripheries: national territories facing challenges of access to basic services of general interest*. Applied Research, Interim Report, Version 07/03/2017, ESPON 2020 Programme

- Raagmaa, G. (2002): Regional identity in regional development and planning, *European Planning Studies*, 10(1), 55–76
- Rall, E.L. and Haase, D. (2011): Creative intervention in a dynamic city: A sustainability assessment of an interim use strategy for brownfields in Leipzig, Germany. *Landscape and Urban Planning*, Vol. 100, Issue 3, 189-201
- Rink, D.; Couch, C.; Haase, A.; Krzysztofik, R.; Nadolu, B. and Rumpel, P. (2014): The governance of urban shrinkage in cities of post-socialist Europe: policies, strategies and actors, *Urban Research & Practice*, 7:3, 258-277
- Rowley, J. (2006): An analysis of the e-service literature: towards a research agenda. *Internet research*, Vol. 16 Issue: 3, 339-359
- Rumpel, P.; Slach, O. and Koutsk, J. (2010): SHRINKING CITIES AND GOVERNANCE OF ECONOMIC REGENERATION: THE CASE OF OSTRAVA. *Business Administration and Management/ Ekonomika a management*, 113-128
- Salvia, M.; Cornacchia, C.; Di Renzo, G. C.; Braccio, G.; Annunziato, M.; Colangelo, A.; Orifici, L. and Lapenna, V. (2016): Promoting smartness among local areas in a Southern Italian region: The Smart Basilicata Project. *Indoor and Built Environment*, Vol. 25(7), 1024–1038
- Schlappa H and Neill W.J.V. (2013): From Crisis to Choice – Re-Imagining the Future in Shrinking Cities: Findings from the URBACT Capitalisation Project on Shrinking Cities and Demographic Change. Paris: URBACT
- SeGI (2013): Indicators and perspectives for services of general interest in territorial cohesion and development. *Applied Research 2013/1/16, ESPON 2013 Programme*
- Šimon, M. and Mikešová, R., eds. (2014): *Population Development and Policy in Shrinking Regions: the Case of Central Europe*. Prague: Institute of Sociology, Academy of Sciences of the Czech Republic, ADAPT2DC project
- Sleeswijk Visser, F., Stappers, P. J., Van der Lugt, R., and Sanders, E. B. N. (2005): Contextmapping: Experiences from practice. *CoDesign*, 1(2), 119-149
- Smas, L.; Fredricsson, C; Perjo, L.; Anderson, T.; Grunfelder, J. and Dymén, C. (2017): *Urban Contractual Policies in Northern Europe*. NORDREGIO WORKING PAPER 2017:3
- Social Enterprise Alliance (2010): *Succeeding at Social Enterprise: hard-won lessons for nonprofits and social entrepreneurs*. San Francisco: Jossey-Bass
- de Sousa, S. Á. (2010): *PLANNING FOR SHRINKING CITIES IN PORTUGAL*. Faculty of Engineering of the University of Oporto. Doctorate in Civil Engineering
- de Sousa, S. Á. and Pinho, P. (2015): Planning for Shrinkage: Paradox or Paradigm, *European Planning Studies*, 23:1, 12-32

- Spórna, T.; Kantor-Pietraga, I. and Krzysztofik, R. (2016): Trajectories of depopulation and urban shrinkage in the Katowice Conurbation, Poland. *Espace populations sociétés*
- Steen, M.; Manschot, M. and De Koning, N. (2011): Benefits of Co-design in Service Design Projects. *International Journal of Design* Vol.5 No.2
- Strohmeier, K. P. and Bader, S. (2004): Demographic Decline, Segregation, and Social Urban Renewal in Old Industrial Metropolitan Areas. *German Journal of Urban Studies* 44(1): 1–14
- Syssner, J. (2015): Planning for shrinkage? Policy implications of demographic decline in Swedish municipalities. *Ager. Revista de Estudios sobre Despoblación y Desarrollo Rural Journal of Depopulation and Rural Development Studies*
- Terstriep, J.; Kleverbeck, M; Deserti, A.; Rizzo, F. (2015): Comparartive report on Social Innovation across Europe. SIMPACT project report
- Tezzele, R. B. and De Amicis, R. (2015): THE ROLE OF TECHNOLOGY AND CITIZENS' INVOLVEMENT IN SMART, INCLUSIVE AND SUSTAINABLE URBAN DEVELOPMENT. REVIEW OF INNOVATION AND COMPETITIVENESS VOLUME 1, ISSUE 1
- Ubareviciene, R; van Ham, M. and Burneika, D. (2016): Shrinking Regions in a Shrinking Country: The Geography of Population Decline in Lithuania 2001–2011. *Urban Studies Research*
- Velaga, N. R.; Nelson, J. D.; Wright, S.D.; Farrington, J. H. (2012): The Potential Role of Flexible Transport Services in Enhancing Rural Public Transport Provision. *Journal of Public Transportation*, 15, 111-131
- Vivarelli, M. (2015): Innovation and employment. Technological unemployment is not inevitable—some innovation creates jobs, and some job destruction can be avoided. *IZA World of Labor 2015: 154*
- Weaver, R.; Bagchi-Sen, S.; Knight, J. and Frazier, A.E. (2017): *Shrinking Cities. Understanding urban decline in the United States.* London and New York: Routledge
- WGISCB (2017): Working Group on Innovative Solutions to Cross Border obstacles July 2016 – July 2017 Draft Final REPORT
- Wiechmann, T. (2003): Zwischen spektakulärer Inszenierung und pragmatischem Rückbau - Umbau von schrumpfenden Stadtregionen in Europa, in: G. Hutter, I. Iwanow & B. Müller, *Demographischer Wandel und Strategien der Bestandsentwicklung in Städten und Regionen*, IOR Schriften (41), 103–126
- Wiechmann, T. and Bontje, M. (2015): Responding to Tough Times: Policy and Planning Strategies in Shrinking Cities, *European Planning Studies*, 23:1, 1-11

ANNEX 1: SHRINKING PATTERNS AND PERSPECTIVES ON SHRINKING PROBLEMS IN SELECTED EUROPEAN COUNTRIES

In **Norway**, the shrinking regions are considered first of all as a rural phenomenon, associated with peripheral areas with already very low population density. In these areas, declining and ageing populations may exacerbate already prominent challenges with regard to service provision, jobs safety and regional resilience in terms of the dynamics of the labour market. In low population density areas, shrinking regions (migration combined with ageing) may at some point reach a tipping point, where the population level is unsustainable in the absence of inward migration. This has consequences for the ability to provide public and private services (lack of sufficient amount of skilled people, the cost of providing services to a very low population basis), for the ability to provide housing for people moving to the area (with a housing market dominated by ownership, falling prices combined with outward migration leads to existing houses staying empty or serving as private holiday homes rather than being available for rent). With a shrinking skills base and challenges to attract in-migration the basis for new jobs may also erode in areas dominated by few industries in declining sectors.

In **Poland**, the phenomenon of population loss is presently observed in a greater part of its territory. According to Central Statistical Office's forecast, the percentage of administrative units (provinces, counties) experiencing depopulation will be increasing in the coming decades [Prognoza..., 2014]. The region where depopulation will be particularly strong is the Silesian Voivodeship in southern Poland [Runge, 2010]. Within it, the largest decrease in population is recorded in the polycentric Katowice conurbation. (Sporna et al., 2015)

In **the Netherlands** the problems of shrinking regions are relatively new. The crisis of 2008 hit the Netherlands in such a way that peripheral regions were more affected than the central urban region in the western part. Those peripheral regions mainly located in the North, the Southeast and the Southwest of the country, are low density, predominantly rural areas, which suffered also before the crisis from difficult accessibility of services. Unemployment resulted from closed firms, youngsters departed from their region or did not return after studies, population aged, commercial services like shops and banks withdraw and public services had to close. Key challenges of shrinking regions in the Netherlands are:

- vacancy of buildings: houses, shops, public buildings like churches, schools, office buildings, farms etc.
- mismatch between demand and supply in real estate
- decline in population, change in composition of the population (more elderly people)
- local services and facilities concentrate in larger towns. Travelling is required for inhabitants of smaller, rural areas

- congestion around large(r) towns because of concentration of facilities, services and work
- downgrading of public transport
- education and schools are also concentrated in larger towns and/or cluster to large(r), comprehensive school types in order to survive
- loss of financial support for facilities and services.

In **Bulgaria**, the sprawling, expanding, rapidly developing cities and the shrinking and suffering from depopulation cities and settlements are the two poles of territorial development. Population drop coupled with ageing of the population is a factor, which has a grave impact not only on the economy and the quality of life, but also on the demand for specific social care and health care services, recreation and tourism, culture, administrative services and habitation.

The main problems in the territorial development are related to:

- Population drop and population ageing, depopulation of certain territories, mainly in border and peripheral municipalities
- Delayed connection of the national territory with the neighbouring states and hence with the European communication-transport network because of the lack of adequate interest on the part of the governments of these countries, which have in due time built the most important for them connections with Europe and Asia;
- Excessive construction in the most attractive territories along the coast and in the mountains around the already established holiday-making and tourism areas and destruction of precious landscapes, overloading of the transport and engineering infrastructure and deterioration of the quality of the environment and the offered tourist services;
- Lagging behind construction of networks and facilities of the engineering infrastructure, which is a threat for the ecological balance and undermines the standard of habitation;
- Inadequate utilization of the opportunities provided by the ICTs because of low population density, remoteness and insufficient competition in a number of areas, low income rates and inadequate educational level, absence of access to new technologies, low quality of services, absence of applications with appropriate contents for the agricultural business and the businesses in rural areas, low awareness level or ageing population;

The problem remains unresolved despite the numerous research studies, the applied models for smart growth and the targeted policies, which in fact strengthen the polarization and the growing disparities between centre and periphery on global and European, regional and national scale.

Key challenges of shrinking regions in **Finland** are:

- Skewing of demography (lack of young people and families, old age dependency, predominantly male population, young female population migrates to areas providing more education opportunities)

Annex 1: Shrinking patterns and perspectives on shrinking problems in selected European countries

- Lack of employment opportunities (single product economies, areas are slow in economic transition, manufacturing industry in decline, agriculture and forestry services are stable or in decline, not many alternative industries growing, low rate of investments)
- Lower quality of the built environment (public places and buildings of lower quality and faced with lack of maintenance, maintenance of basic infrastructure backlog, especially public road network deteriorating)
- Budgetary pressure of municipalities (struggle to provide basic services (especially elder care and demanding social/health care), lack of public investment capacity)
- Lower provision of private services (service foreclosures in urban centres that have loss of population, services locate to larger units in bigger centres or highway interchanges, longer distance of travel to shops, banks, etc.)
- Lower accessibility than more populated areas (less public transport services, less broadband service networks)

In France, the main problems and challenges related to the shrinkage of regions are:

- the loss of attractiveness, prior industrial area encountering difficulties in its reconversion, inadequacies between availability of housing and cost of land and demand etc.
- loss of employment in an area has an impact on outward flows and increases the base of vulnerable and poor population with ever deepening consequences for local authorities to counteract the effects of pauperisation;
- maintenance and funding of an adequate level of services of general interest becomes a problem when there is a gradual loss of adequate fiscal base;
- businesses and retail services: businesses and services are pushed away and further impact negatively those who remain; devising methods to maintain them depends very much on the characteristics of the population and their dynamics;
- ageing challenge: with in toe adaptation of services for a more vulnerable and dependent population (in and outside homes);
- consequences of vacancy, lack of maintenance and dimension inadequacies of infrastructure and housing: major cost, health and security problems emerge in connection with the upkeep of deserted and unmaintained built infrastructure (housing, public buildings) and oversize of intermittent services (energy, water and sanitation, transport etc.).

The list of **Croatian** problems and challenges linked to depopulation and shrinking regions comprise following:

- decline and ageing of population and imbalance in the population's age structure
- migration to cities, coastal areas and other EU countries
- underdeveloped network of settlements in rural areas
- mountain areas, border areas and some islands have numerous development restrictions and poor access to public services
- problems to implement the concept of polycentric development
- need to improve the residential tenancy system and focus on housing improvement

- youth long-term unemployment and the need to integrate them into the labour market.

In **Austria**, the “Expert-Impulspapier” on regions with population decline describes the problems and challenges in the following way:

- (2) The phenomenon of the decline in population has spread over the past decades on the regional level of the political districts as well as on small regional and municipal level. By 2030 no stabilization or even a trend reversal is to be expected in the affected regions (30% of the political districts, about 40% of the municipalities) according to the current population projections. However, no new regions are likely to be heading towards population decline. The impact of the currently high influx of refugees on the medium to long-term regional distribution of population development is still unpredictable. For strategy development, this means that adaptation strategies for coping with demographic change will in any case be necessary and should be seen as a regional policy task.
- (3) Regions with a population decline differ markedly over time, in the extent and according to the components of the population decline. For strategy development, it should be considered whether a difference should be made between regions where the birth balance is relevant and regions where the migration balance is relevant.
- (4) Almost all regions with population growth have small regions or individual municipalities with population decline. The phenomenon of population decline therefore affects all regions to varying degrees. A small regional and community-specific strategy development is therefore also necessary.
- (5) Immigration from abroad reduces the population decline in all regions. Addressing immigration, integration and increasing the attractiveness of immigration is therefore also an important strategic option for regions with a declining population.
- (6) Regions with population decline are not automatically regions with weak economic performance or low quality of life. The self-understanding and the regional strategies should not be linked to the population development in these regions.



ANNEX 2: BEST PRACTICE PORTFOLIO

[in a separate file]