



**European Committee
of the Regions**

**Commission for
Social Policy, Education,
Employment, Research and Culture**

SEDEC

Addressing brain drain: The local and regional dimension



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List of acronyms

CoR	European Committee of the Regions
CCIs	Cultural and Creative Industries
EC	European Commission
ERDF	European Regional Development Fund
ESPON	European Observation Network for Territorial Development and
EU	European Union
EUR	Euro
GDP	Gross Domestic Product
ICT	Information and Communication Technology
ISCED	International Standard Classification of Education
LAU	Local Administrative Units
LRAs	Local and Regional Authorities
NACE	<i>Nomenclature statistique des activités économiques dans la Communauté européenne</i> (Statistical classification of economic activities in the European Community)
NUTS	Nomenclature of Territorial Units for Statistics
RCI	Regions and Cities Illustrated
RIS	Regional Innovation Strategy
R&D	Research and Development
R&I	Research and Innovation
SMEs	Small and medium-sized enterprises
SWOT	Strengths, Weaknesses Opportunities, Threats
USD	United States dollar

Executive summary

The free movement of workers, one of the fundamental rights enjoyed by European citizens, has facilitated intra-EU labour mobility. However, in some regions (‘sending regions’) this freedom has led to a significant out-migration of their highly educated workforce to the advantage of other regions (‘receiving regions’). This is determined by the growing competition for talent and the limited capacity of sending regions to create attractive conditions for these workers. Local and regional authorities (LRAs) in sending regions have to cope directly with the socio-economic effects caused by the significant loss of talent or brain drain. Addressing these effects may require the formulation of appropriate policies and/or measures to retain, attract, or regain a highly educated workforce.

In 2017, there were almost 17 million EU28 movers, of which about one-third (32%) were in the 15-34 age bracket. The majority of EU28 movers head towards Germany and the UK, which are also the two top destinations for younger (15-34) European movers. Top countries of origin are Romania, Poland, Italy and Portugal (EC-DG EMPL, 2018). In 2017, 25% of EU28 movers with a working age of between 15 and 64 have tertiary level education. These highly educated European movers favour urban settings and northern areas of the EU (Sweden, Ireland, Estonia, Denmark as well as several regions in the UK). They also usually enjoy very high employment rates.

Using the data available, this study focuses on statistics at regional level regarding cohorts of young and of highly educated EU28 movers (Part 1). It then investigates successful local and regional level policies and/or measures used by LRAs to tackle brain drain in sending regions through the prevention of brain drain, the mitigation of brain drain, and the response to the negative effects of brain drain. It also looks at ways to attract or retain talent in receiving regions. This was done primarily by compiling an inventory of 30 initiatives undertaken by LRAs from 22 Member States. Twenty of these initiatives are described in a concise manner in Part 2 of the study. The other ten initiatives are developed in the form of ‘case studies’ in Part 3. In the final part of the study (Part 4), recommendations for LRAs are drawn from the findings highlighted in the case studies as well as from the information gathered in all the other initiatives. These recommendations are aimed at LRAs in sending regions and focus on outlining measures/policies that have proved effective in some European regions. By necessity, they are broad in nature since the transferability of these measures/policies depends on many factors. These factors range from a region’s policy development model (e.g. competencies of public authorities) to its contextual conditions (e.g. labour policy and regulatory framework, economic

development, education system and demographic trends). In fact, there is a high correlation between the socio-economic conditions of a region and its brain drain/gain dynamic. Structural migration inflows, especially of young highly skilled individuals, usually occur in regions that have a comparative advantage and play a dynamic role in competing for international talents.

As a first recommendation (R1), it is fundamental for LRAs in sending regions to become aware of the brain drain problem. LRAs should also identify the talent they want/need to retain, attract or regain. Various intelligence tools/measures can be utilized for this, ranging from SWOT and comparative analyses to surveys. Notably, establishing a dialogue with the talent in question appears to be essential. This is especially true for young talent. For receiving regions, these intelligence and dialogue tools also become monitoring instruments for measuring the satisfaction level of talent and for understanding whether their needs are being met. A second recommendation (R2) relates to the need for the coordination of players and the synergy of resources to focus on talent-based growth strategies. These circumstances both occur, for example, when a Smart Specialisation Strategy exists. Examples of other valid instruments are physical spaces, virtual spaces, or quadruple/triple helix-based approaches/mechanisms. Coordination among relevant players is also intended to improve the local/regional matching of the demand and supply of talent. Similarly, it is intended to strengthen the talent-producing capacity of a region by nurturing its gifted youth. A third recommendation (R3) relates to the opportunity to identify key driving sectors for retaining/attracting talent. Examples show that the targeting of promising sectors by LRAs does not necessarily relate to specialisation within the region. A fourth recommendation (R4) is to stimulate the absorption of talent from outside. This could be achieved by attracting international talent and/or regaining such talent that had previously moved away. It may involve the setting-up of specific projects or medium-term strategies as well as branding initiatives or initiatives aimed at rewarding talent. A fifth recommendation (R5) is for LRAs to work on the removal of structural impediments/barriers which may, for example, be related to infrastructure (e.g. physical and/or technological), services and facilities, the reputation of the locality/region and culture (e.g. gender-biased mentality). Finally, as brain gain automatically leads to competition for the same resource (i.e. talent), it is suggested (R6) that public authorities facing the same challenges should seek cooperative and/or shared solutions.

The sending/receiving status of a region can be viewed as dynamic and the evidence of this is an incentive for LRAs in sending regions to adopt an active approach to the intra-EU mobility of talent. Ad-hoc policies/measures implemented locally/regionally may increase a region's visibility and/or create job opportunities for highly skilled workers and/or directly improve a regions' attractiveness to talent.

Part 1: Concise state of play of brain drain at local and regional levels

1.1 Introduction

Brain drain is the result of growing competition for talent and is found in regions where there are weak incentives for highly skilled workers (and students) to remain. More specifically, the brain drain phenomenon refers to a region's permanent loss of skilled workers or students. Local and regional authorities (LRAs) in these regions have to cope directly with the socio-economic effects caused by the significant loss of talent. This may require formulating appropriate policy and/or measures aimed at mitigating and/or preventing brain drain at territorial levels.

In the European Union (EU), the free movement of workers is guaranteed by Article 45 of the Treaty on the Functioning of the European Union. It is one of the four economic freedoms to which EU citizens are entitled (together with the free movement of goods, services and capital). This freedom has facilitated intra-EU labour mobility. However, the uneven distribution of highly skilled workers and the growing competition for talent has led to the brain drain phenomena, with some regions ('sending regions') experiencing a significant out-migration of their highly educated workforce to the advantage of other regions ('receiving regions'). Regions that attract skilled workers are more promising in terms of labour opportunities (e.g. higher employment rates and higher remuneration). They also may be more attractive places in which to live, especially for young individuals (e.g. the reputation of education systems and a good quality of life). However, the free movement of workers has not only facilitated brain drain, it has also favoured related phenomena such as brain regain, which is the return to a region of the same high skills and/or competencies that were previously lost, and brain circulation, which is the continuous gain-loss of high skills and/or competencies. These and other mobility-related concepts used in this study are reported in Box 1.

Box 1. Definitions used in this study

Brain drain: a region's loss of individuals with high skills and/or competencies (workers/students) due to permanent emigration.

Brain gain: a region's gain of individuals with high skills and/or competencies (workers/students) due to permanent immigration.

Brain regain: a region's reacquisition of the same high skills and/or competencies (workers/students) previously lost due to emigration which was supposed to be permanent.

Brain circulation: the continuous and simultaneous gain-loss of high skills and/or competencies (workers/students) in a region. Such high skills and/or competencies may relate to the same or different sectors/domains.

Brain waste: the loss of high skills and/or competencies (workers/students) due to emigration to regions where, for different reasons, such skills and/or competencies cannot be properly exploited (e.g. highly skilled workers remain unemployed or are employed in jobs not requiring their competencies)(Garcia Pires, 2015).

Sending regions: regions that are losing high skills and/or competencies (in one or more sectors/domains) as a result of permanent emigration over a specific time period.

Receiving regions: regions that are gaining high skills and/or competencies (in one or more sectors/domains) as a result of permanent immigration over a specific time period.

Permanent emigration/immigration: stable emigration/immigration which, nevertheless, is still reversible.

EU28 movers: EU citizens who reside in an EU country other than their country of citizenship (EC-DG EMPL, 2018).

Intra-EU mobility: the migration flows of EU28 movers within the EU borders.

Sources: the authors, unless otherwise specified.

Knowledge of the extent and type of movement by (young) highly skilled workers makes it possible to formulate appropriate policy and/or measures aimed at mitigating, preventing and/or reacting to the loss of human capital at territorial level. Although statistics are becoming more and more comprehensive and make it possible to distinguish migrating individuals on the basis of their country of birth (for example, EU or non-EU countries), relevant data gaps still exist at sub national level. This is especially evident when focussing on a particular age group (i.e. young cohorts) with a specific level of education or skills (i.e. high), as is the case in this study. Given these limitations, an assessment of the state of play of brain drain at regional levels (NUTS2) with a focus on highly educated talent can only be made by separate analysis of its main components. The latest available data are presented here with regards to the following specific aspects:

- Migration flows at the regional level. This helps in understand the overall demographic trend of a region (NUTS2 level), and whether it is a sending or receiving region in terms of intra-EU mobility.
- Characterisation of the mobility of young, and of highly educated Europeans. In this study ‘highly educated’ refers to individuals with tertiary level education (i.e. corresponding to ISCED11 levels 5-8)¹. Due to the lack of statistics allowing a further distinction, ‘highly educated’ is considered equivalent to ‘highly skilled’.

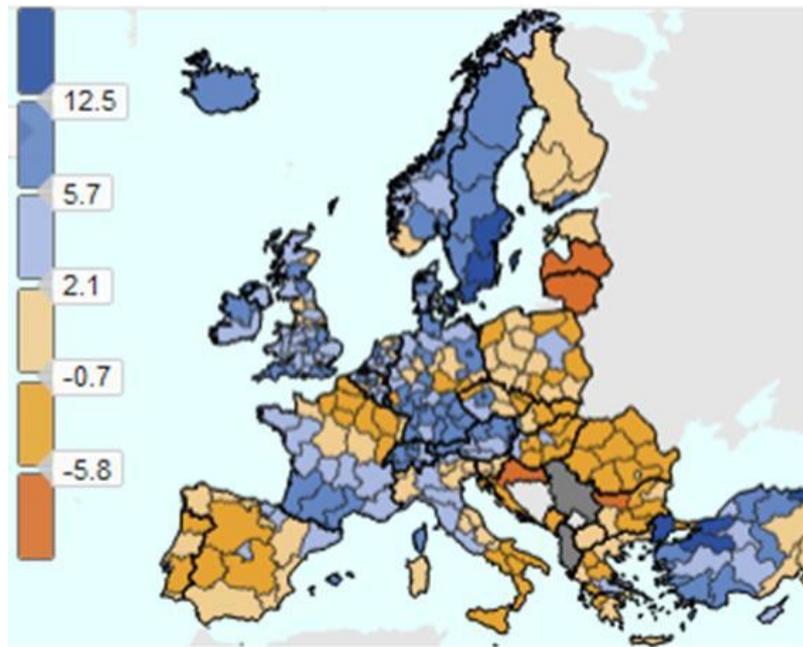
1.2 Migration flows at the regional level in Europe

Migration of highly skilled individuals is not only driven by educational and professional opportunities. There are many other reasons, including personal ones, which cause people to move to another place. In addition, **job-related intra-EU migration contributes only partially to overall job-related migration**, and any region might also match its labour demand with an extra-EU skilled workforce. The analysis of overall migration flows is primarily used to understand whether or not a region is suffering from a population decline. The ‘crude rate of net migration plus statistical adjustment’ is the indicator that measures this demographic change. It takes into consideration the change in population determined by immigration and emigration as well as by live births and deaths (natural change). In 2017, this indicator showed that at regional levels in the EU (Figure 1):

- Population loss occurs in most regions of Finland, Greece, Portugal and Spain, in several regions of Italy, in north-eastern regions of France, in most regions of Eastern European countries (including the three Baltic states), in a few regions of central Germany, and in a few regions of Belgium and of the Netherlands.
- Population growth occurs in all regions of Austria, Luxemburg, Sweden and Ireland as well as in Cyprus, in almost all regions of the UK, in several regions of Germany, in several regions of Belgium and of the Netherlands, in the southern and western regions of France, in the western regions of the Czech Republic and in a few regions of Italy and Hungary.
- Regional disparity is evident in several Member States.

¹ Level 5: Short-cycle tertiary education. Level 6: Bachelor’s degree or equivalent. Level 7: Master’s degree or equivalent. Level 8: A Doctorate or equivalent (UNESCO-UIS, 2012).

Figure 1. Crude rate of net migration plus statistical adjustment, NUTS2, 2016



Source: Eurostat data ‘Regions and Cities Illustrated’ (RCI), based on demo_r_jind3. The indicator is defined as the ratio of net migration during the year to the average population in that year and is expressed per 1000 persons (EU Open Data Portal [definition](#)).

Eurostat identifies the **main drivers** of these demographic changes at national levels. **Population decline** in Estonia and Italy is due to natural change – a greater number of deaths than births – which is also the main cause for the population decline in Bulgaria, Greece, Hungary, Portugal and Romania whilst **in Croatia, Latvia and Lithuania, it is mostly due to negative net migration. Population gain** is mostly determined by a greater number of births over deaths (natural change) in Ireland, France, Cyprus and Slovakia, whilst it is **mostly determined by positive net migration in Austria, Belgium, the Czech Republic, Denmark, Luxemburg, Malta, the Netherlands, Slovenia and Sweden**. Finally, it is **only due to positive net migration in Germany, Spain, Poland and Finland** (Eurostat, 2017a).

The crude rate of net migration does not distinguish the contribution made by intra-EU mobility to overall mobility. Details on intra-EU migration flows can be found in the results of the ESPON project, ‘The Geography of New Employment Dynamics in Europe’. The project mapped sending and receiving regions across the EU, concluding that, in 2014, there were **84 sending NUTS2** and **336 receiving NUTS2** in the EU28. Sending regions appear to be located in most of Portugal and Greece, in Spain, the north-eastern parts of France, the northern parts of Finland and Ireland, the Baltic States and in several parts of Eastern Europe, as well as in Cyprus (Figure 2).

Figure 2. Intra-EU mobility: receiving and sending regions, NUTS2, 2014



Source: extracted from ESPON (2017) and modified by the authors.

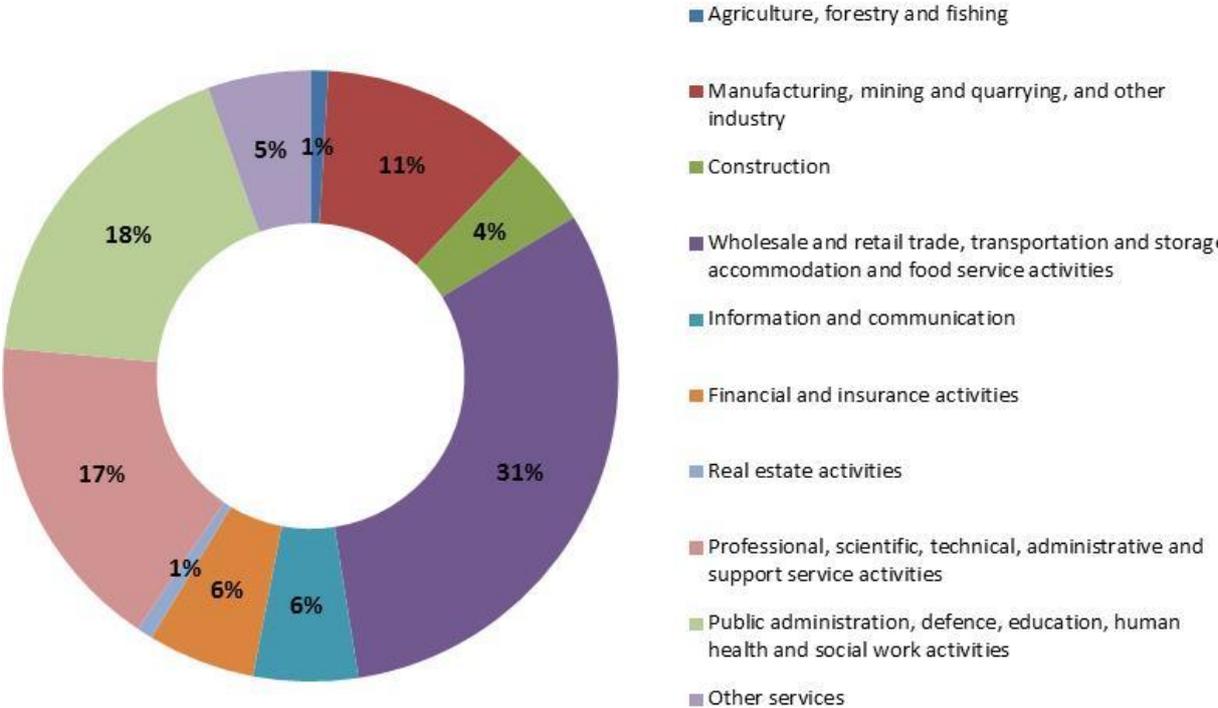
The project found that over a 10-year period (2004-2014) 28 regions (8%) switched from ‘sending’ to ‘receiving’ and 60 regions (17%) switched from ‘receiving’ to ‘sending’ (Samek Lodovici, 2018). On a positive note, this demonstrates that a region’s **sending/receiving status can be viewed as dynamic**. However, it is evident that an increasing number of regions are facing problems related to out-migration. The ESPON project also concluded that (ESPON, 2017):

- Sending regions have an average GDP per capita that is 64% of the EU28 average, whilst receiving regions have an average GDP per capita that is 108% of the EU28 average.
- Migration flows follow east-west, south-north and rural-urban patterns.
- Peripheral regions are mostly sending regions.
- The knowledge economy is an important driver of intra-EU mobility and in particular of the mobility of young people and of highly skilled migrants. Regions relying on the knowledge economy (e.g. science-based sectors, high-tech manufacturing and services) tend to be characterised by the presence of both physical and technological infrastructures, educational and cultural assets, good connectivity among development players (e.g. businesses and universities) and accessibility. These regions also provide high standards of living and good labour conditions.

When investigating the **main sectors that employ young (15-29 year old) and highly skilled (with tertiary education) EU28 movers at regional levels**, the 2011 Census database is the most comprehensive and updated source of comparable information across the EU. The information, which covers 18 EU countries, indicates that major employers are the ‘Wholesale and retail trade, transportation and storage, accommodation and food service activities’ sectors (31%). They are followed by ‘Public administration, defence, education, human health and social work activities’ (18%) and ‘Professional, scientific, technical administrative and support service activities’ (17%) (Figure 3).

Analysis of 2011 Census data makes it possible to identify regions (NUTS2) where young and qualified EU28 movers prefer to relocate. It also identifies which sectors are their major employers at regional levels. Without exception, there is evidence that **regions that are home to national capitals are the preferred destination within each country** (Région De Bruxelles-Capitale in Belgium, Yugozapaden in Bulgaria, Praha in the Czech Republic, etc.).

Figure 3. Sectors of employment of young and highly skilled EU28 movers, 2011



Source: 2011 Census database of the European Statistical System, accessed in July 2018. No data available for Denmark, Italy, Latvia, Finland, Germany, the Netherlands, Poland, Slovakia, Spain, and Sweden.

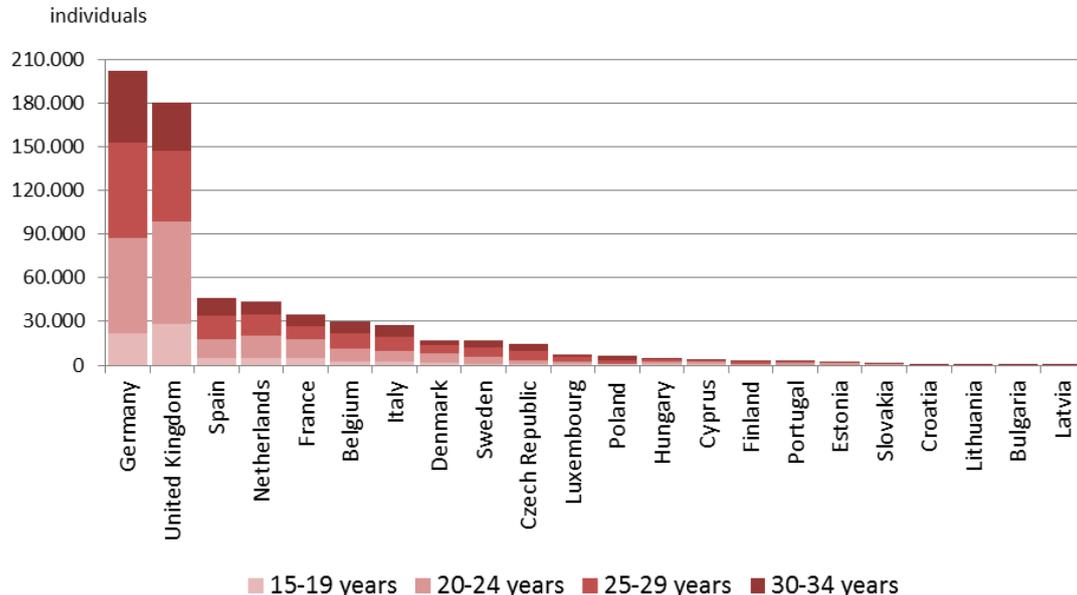
Using more recent information, preferred destinations across EU countries are further detailed in the next section. Reasons for migration are further discussed under section 1.4.

1.3 Intra-EU mobility of young and of highly educated people

Intra-EU mobility concerns only a small percentage of Europeans. In 2017, out of a total population of about 511 million citizens, there were **almost 17 million EU28 movers** (i.e. about 3%). Two countries – **Germany (33%) and the UK (20%)** – absorbed more than half of EU28 movers. Lagging far behind these **top destination countries** were Spain (9%), France (7%), and a group of countries comprising Italy, Austria, the Netherlands and Belgium (5% each). **Top countries of origin of EU28 movers** were **Romania, Poland, Italy and Portugal**. Germany and France also generated significant numbers of European movers (EC-DG EMPL, 2018).

According to 2016 data, out of the 17 million EU28 movers, 3.5 million (21%) were in the 15-29 age bracket, but when the 15-34 age group was taken in consideration, that number rose to 5.5 million (32%). Figure 4 shows the destination preferences of the young cohorts of EU28 movers aged between 15 and 34. **Germany and the UK were also the leading destinations for the young.**

Figure 4. Destination country of young EU28 movers, by age class, 2016



Source: data are from Eurostat, migr_imm1ctz, accessed in July 2018. No data available for Austria, Greece, Ireland, Malta, Slovenia and Romania. For the UK, the unit is not ‘Age reached during the year’ but is ‘Aged in completed years’.

In 2017, approximately **4.2 million** of EU28 movers with a working age of between 15 and 64 had a **tertiary level of education** (ISCED11, levels 5-8)². This represents 25% of the almost 17 million EU28 movers. The share of highly skilled EU28 movers has been increasing regularly over the period 2014-2017, with the largest increases being recorded, at country level, in Hungary (+51%), Croatia (+46%), and Slovakia (+41%). In absolute terms, the **highest number of highly educated movers** in 2017 was from Poland (576,300 individuals), Germany (472,700), and Romania (467,500) (Eurostat data [online](#), accessed in July 2018).

Regional distribution of **highly educated EU28 movers** is mapped in Figure 5. These movers **favour the northern parts of the EU** (Sweden, Ireland, Estonia, Denmark, and several regions in the UK) **and urban settings**. The less attractive regions for highly educated movers appear to be mostly located in Italy. With a few exceptions, employment rates of highly educated EU28 movers are very high across the entire EU (Figure 6). The lowest rate is found in Campania (52.7%), Italy. The highest rate, equivalent to the full employment of highly educated movers (i.e. 100%), is found in two Czech regions (Severozápad and Stredni Morava), in Corsica (France), and in Lincolnshire (UK).

Figure 5. Share of highly educated EU28 movers, NUTS2, 2017

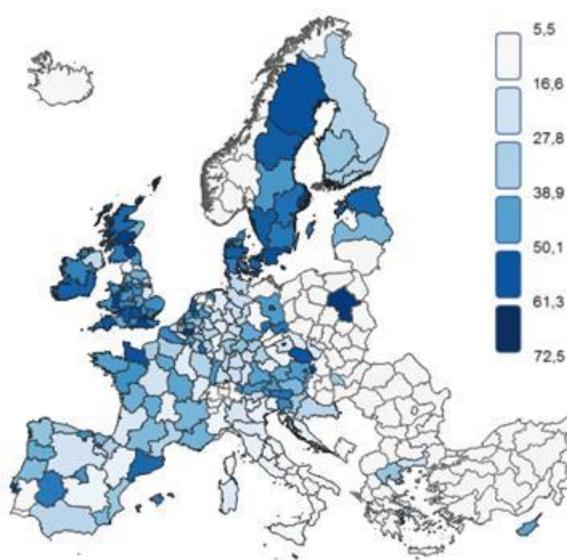
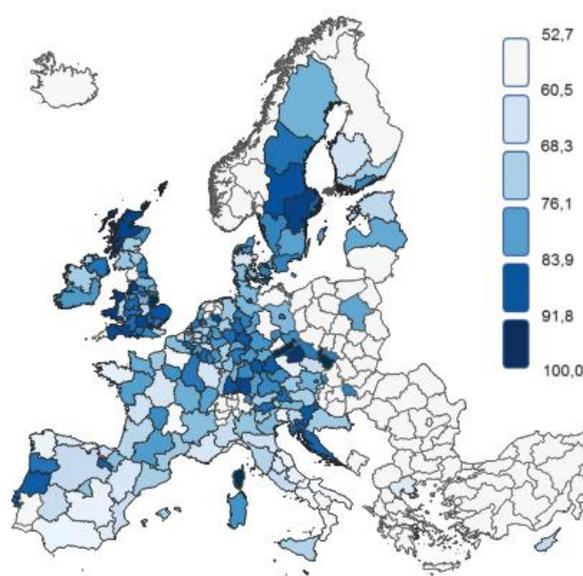


Figure 6. Employment rates of highly educated EU28 movers, NUTS2, 2017



Source: maps elaborated by the authors, based on Eurostat data edat_lfs_9917 and lfst_r_lfe2emprc, accessed in July 2018.

² This information is not available by age class.

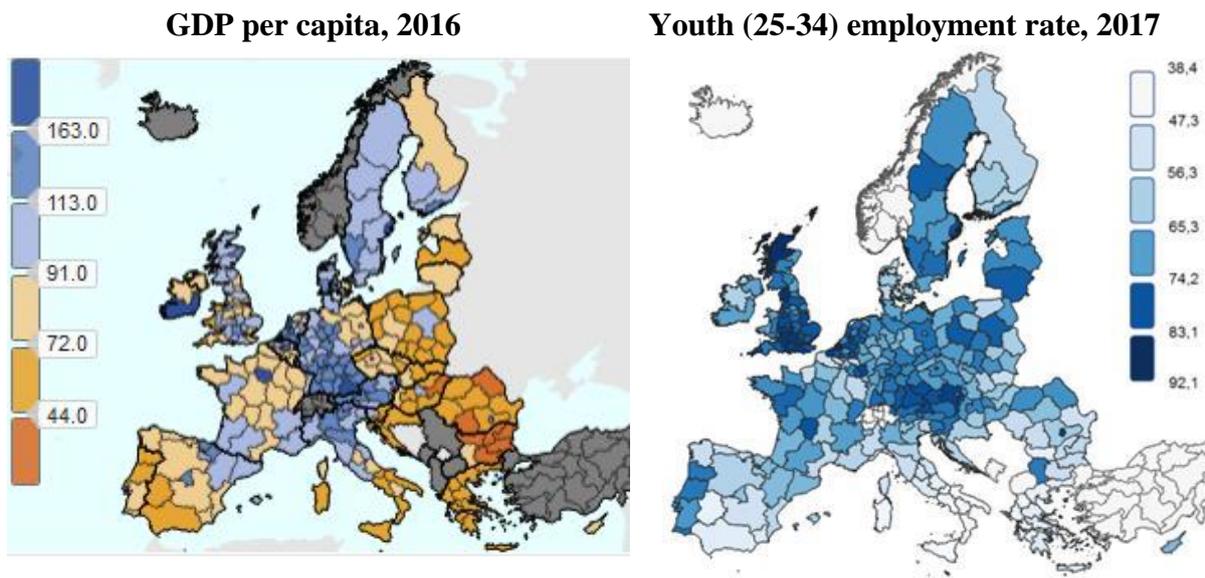
By comparing evidence on the preferred destinations of highly educated EU28 movers and prevailing sectors of employment at regional levels, it can also be seen that the most attractive regions for EU28 movers are those with a high regional employment share of the non-financial services economy (i.e. wholesale and retail trade, transportation and storage, accommodation and food service activities, information and communication, real estates, professional, scientific and technical activities, administrative and support service activities) (Eurostat, 2017b). Several of the most attractive regions are also ‘the most specialised’ in specific NACE divisions³. For example, Inner London is the most specialised region in ‘multimedia publishing’, ‘legal and accounting activities’, ‘activities of head offices’ and ‘advertising and market research’, whilst Praha is the most specialised region in ‘other professional, scientific & technical activities’ (Eurostat, 2017b).

1.4 Factors driving the mobility of highly skilled workers

Push factors causing workers’ mobility are those (unfavourable) structural conditions (e.g. high youth unemployment) existing in a region that lead to the emigration of human capital. Workers’ mobility pull factors are those (favourable) structural conditions (e.g. high GDP per capita) that lead to the immigration of human capital (Bana, 2016). According to Todisco *et al.* (2003), when mobility concerns highly skilled workers, pull factors play a more relevant role than push factors. Notably, **highly skilled workers give great importance to the types of job opportunities available. This makes their job-related mobility to one place more likely to be temporary as it is partially dependent on the attractiveness of the location.** Even so, **social and economic structural conditions of receiving regions are amongst the most relevant pull factors which determine the mobility of highly skilled workers.** Among these factors are active economic growth, higher wages, robust social security, high *per capita* wealth, linguistic similarity, cultural similarity, easier access to the labour market, higher employment rates (EC-DG EMPL, 2018) and sector-specific strengths such as a well-established knowledge economy (ESPON, 2017). Figure 7 maps examples of pull factors at regional levels.

³ ‘The Statistical classification of economic activities in the European Community, abbreviated as NACE, is the classification of economic activities in the European Union (EU); the term NACE is derived from the French ‘Nomenclature statistique des activités économiques dans la Communauté européenne’. Various NACE versions have been developed since 1970. NACE is a four-digit classification providing the framework for collecting and presenting a large range of statistical data according to economic activity in the fields of economic statistics (e.g. production, employment and national accounts) and in other statistical domains developed within the European statistical system (ESS)’ (Eurostat Glossary [online](#)).

Figure 7. Examples of pull factors, NUTS2 level



Source: Eurostat data RCI, based on nama_10r_2gdp, accessed in September 2018.

Source: map elaborated by the authors, based on Eurostat data lfst_r_lfe2emprr, accessed in July 2018.

Box 2 reports on the most important pull factors identified at regional levels within the framework of the Interreg IVC mini-programme ‘Brain Flow and Knowledge Transfer fostering Innovation in Border Regions’ (2010-2014).

Box 2. Key factors for successfully attracting talent to the regions

The ‘BrainFlow’ project highlights a series of factors that are considered key to successfully attracting talent to the regions. Among these factors are:

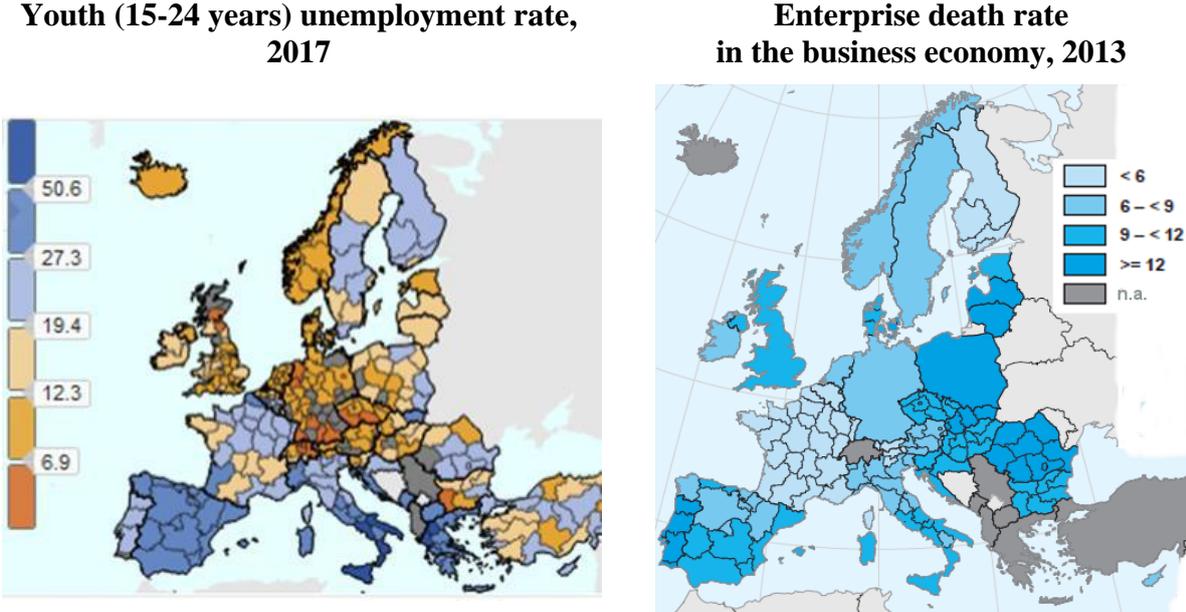
- Quality of life, intended as affordability and availability of housing, cost of living, quality of the education system and the availability of infrastructure, leisure activities (e.g. culture), social life and a healthcare system.
- Perception of the region from the outside (i.e. reputation and image).
- The existence of a marketing or branding strategy that highlights the information of interest to the talent targeted.
- Labour conditions, intended as career opportunities and support for business development (e.g. start-up incubators and office facilities).
- Availability and accessibility of information on the above factors. This is particularly important for facilitating cross border labour mobility between neighbouring regions.
- Availability of ‘welcoming services’ aimed at facilitating the relocation of talent attracted to the region. A one-stop shop is usually the option preferred by international migrants.

Furthermore, the project highlights how an integrated approach across the various intervention areas, possibly coordinated by one entity, is more likely to be successful.

Source: Brain flow [website](#) and downloadable documents.

In sending regions, negative labour market conditions (e.g. high unemployment and low salaries) may exacerbate mobility, especially among young people, thus becoming relevant push factors (ESPON, 2017). Among other push factors are administrative barriers, economic depression (e.g. death of enterprises), and a bad political environment. Figure 8 maps examples of push factors at regional levels.

Figure 8. Examples of push factors, NUTS2 level



Source: Eurostat data RCI, based on lfst_r_lfu3rt, accessed in August 2018.

Source: Eurostat (2017). Data relate to NACE Sections B–S, excluding Group 64.2.

Notwithstanding a regime of free movement of workers, impediments/obstacles to labour mobility within the EU still exist. These obstacles are common to all workers, regardless of their skill level. Among them, the linguistic barrier is key (Barslund and Busse, 2014). This is demonstrated by the observed phenomenon of higher mobility across neighbouring regions of different countries that share the same language (EC-DG EMPL, 2018). Other obstacles include cultural differences, lack of information on local labour demand and the absence of the full recognition of qualifications.

1.5 The socio-economic impact of brain drain at regional levels

Brain drain has a socio-economic impact on concerned regions. For the purpose of this study, regions are classified into four broad types according to whether this impact is positive or negative:

- Type 1. Negative impact for sending regions.

This impact is the most researched in the academic literature on brain drain. Among the negative effects are: reduction of the stock of human capital, labour/skills shortage, limited capacity to innovate and adopt more advanced technologies, labour market changes (e.g. reduction of wages), fiscal consequences (e.g. reduction of tax income), market-size (e.g. reduction of consumption), reduced economic growth, reduced productivity, higher costs of public goods, and the loss of investment in human capital formation.

- Type 2. Positive impact for receiving regions.

Positive effects for receiving regions include benefits such as an increase in innovation potential, economic growth, competitive advantage and the consumption of and demand for services (e.g. housing).

- Type 3. Positive impact for sending regions.

Sending regions may also experience benefits with regards to brain drain such as return migration, remittances, incentives for investment in education and training and an improvement of governance (Bana, 2016).

- Type 4. Negative impact for the entire system, meaning for both sending and receiving regions.

The main effect is ‘brain waste’. This occurs when highly skilled workers migrate to a region with bias/insufficient information on the labour/skills demand and they end up in being unemployed or employed in a job not requiring their high skills (Garcia Pires, 2015).

In order to make recommendations to LRAs in terms of policies/measures for coping with brain drain, Part 2 (compilation of an inventory of initiatives implemented by LRAs) and Part 3 (more detailed descriptions of ten of the identified initiatives as case studies) focus on:

- Successful initiatives **that reduce the potential/actual negative impact experienced by sending regions** (Type 1) with examples of **measures/policies** for addressing brain drain (i.e. prevention of brain drain, mitigation of brain drain, and response to the negative effects of brain drain) in order to transform it into **brain regain, brain circulation, or brain gain.**
- Successful initiatives **that increase the current positive impact for receiving regions** (Type 2) with examples of **measures/policies** that aim to facilitate **brain gain** (creation of brain gain and reinforcement of brain gain).

Part 2: Inventory of local and regional initiatives to address the negative effects of brain drain

The compiled inventory includes a total of 30 initiatives related to fighting brain drain and/or favouring brain gain at the local and/or regional levels (Figure 9). Out of these initiatives, 20 are described under this part of the study and the remaining 10 are developed under Part 3 as ‘case studies’. The 30 initiatives were identified on the basis of desk review of literature, documents, and web-based information, including of EU-funded projects. Only initiatives implemented by LRAs or by their agencies were considered. In addition, during the selection process attention was given in order to guarantee a balanced geographical coverage across the EU as well as a wide scope in terms of the type of implementing public entity and of the approach used. Identified initiatives are from 22 EU countries. They are carried out by authorities at the local (i.e. LAU or NUTS3) and regional (i.e. NUTS2 or NUTS1) levels using a variety of approaches, from strategies and programmes to projects and one-time actions.

The initiatives included in this Part 2 are described using a format which reports:

- Country label (the country where the initiative is implemented). The ‘CROSS’ label is used when involved authorities belong to more than one Member State.
- Title of the initiative.
- Implementing public authorities and/or agencies.
- Target groups of the initiative.
- Area type (Type 1 – sending, Type 2 – receiving) and objective of the initiative, according to one or more of the following:
 - Prevention of brain drain.
 - Mitigation of brain drain/Response to the negative effects of brain drain.
 - Creation of brain gain.
 - Reinforcement of brain gain.
- The implementation period of the initiative.
- The approach used.
- A short description of the initiative.
- Results and/or evidence of impact.
- Sources⁴ (websites/webpages included in the sources were all accessed over the period July-August 2018).

⁴ The sources of the initiatives presented under Part 2 are indicated at the end of each initiative and are not included in Annex I - List of references.

Figure 9. Overview of the 30 initiatives included in the study's inventory

Code	Title of the initiative	NUTS name	NUTS level	NUTS code	Area type	Objective
01_AT	Your Region Your Future – YURA project	Styria	NUTS2	AT22	1	Prev-BD Mitig/Resp-BD
02_AT	Salzburg Model Region Pinzgau-Pongau-Lungau	Salzburg	NUTS2	AT32	1	Prev-BD Mitig/Resp-BD
03_BE CS01	BEWARE (BEcome a WAlloon REsearcher) Fellowships programme	Wallonia	NUTS1	BE3	2	Creat-BG
04_BG	Municipal Strategy of Varna	Varna	NUTS3	BG331	1	Prev-BD Mitig/Resp-BD (Creat-BG)
05_CZ CS02	SOMOPRO - South Moravian Programme for Distinguished Researchers	South Moravian Region	NUTS3	CZ064	1	Creat-BG
06_CY	JOBTOWN URBACT Project	Latsia	LAU	1023	1	Mitig/Resp-BD
07_DE	Chemnitz zieht an! (Chemnitz is booming!)	Chemnitz, Kreisfreie Stadt	NUTS3	DED41	2	Creat-BG
08_DK CS03	Ambitious talent strategy for the Copenhagen Region 2014-2017	Byen København	NUTS3	DK011	2	Reinf-BG
09_EE	Tallinn's Creative Strategy	Tallinn	LAU	EE784	1	Mitig/Resp-BD (Creat-BG)
10_EL	TRIGGER	Eastern Macedonia and Thrace	NUTS2	EL51	1	Mitig/Resp-BD (Creat-BG)
11_EL CS04	The Creativity Platform	Thessaloniki	NUTS3	EL522	1	Mitig/Resp-BD
12_ES	Regional Plan for Scientific Research and Technological Innovation 2016-2020	Madrid	NUTS3	ES300	2	Creat-BG Reinf-BG
13_ES CS05	The Talent House of San Sebastian	Donostia - San Sebastián	LAU	ES20069	2	Creat-BG Reinf-BG
14_FI	Expat-project	Helsinki-Uusimaa	NUTS3	FI1B1	2	Reinf-BG
15_FI	Talent Tampere	Pirkanmaa	NUTS3	FI197	2	Reinf-BG
16_FR	Transition Talents	Nantes	LAU	FR44109	1	Mitig/Resp-BD
17_HU CS06	URBACT CHANGE! Project	Nagykanizsa	LAU	HU30933	1	Mitig/Resp-BD (Creat-BG)
18_IT CS07	Brain Back Umbria	Umbria	NUTS2	ITI2	1	Mitig/Resp-BD (Creat-BG)
19_IT	'Lombardia is research and innovation'	Lombardia	NUTS2	ITC4	2	Prev-BG Creat-BG
20_NL	Open Amsterdam! Amsterdam Strategy for International Talent	Greater Amsterdam	NUTS3	NL329	2	Reinf-BG
21_NL CS08	Brainport's strategy for talent attraction and retention	South-East North Brabant	NUTS3	NL414	2	Reinf-BG
22_RO	Young Researchers in Science and Engineering Prize	Municipiul Cluj-Napoca	LAU	RO54975	1	Mitig/Resp-BD Creat-BG
23_RO	Benefitting from freedom of movement in the EU	Harghita County	NUTS3	RO124	1	Mitig/Resp-BD
24_SE	FILUR – Intensified actions for unemployed youth	Stockholm	LAU	SE0180	2	Prev-BD
25_SI CS09	Entrepreneurially Into a Business World	Central Sava Statistical Region	NUTS3	SI035	1	Mitig/Resp-BD
26_SK	The strategic role of culture for Košice	Košice Region	NUTS3	SK042	1	Mitig/Resp-BD (Creat-BG)
27_UK	Highlands and Islands Talent Attraction, Retention and Return Strategy and Action Plan	Highlands and Islands	NUTS2	UKM6	1	Mitig/Resp-BD (Creat-BG)
28_CROSS	Young People For The Development Of Local Economy, HU-HR	Various	MIXED	Various	1	Mitig/Resp-BD
29_CROSS	ORGANZA - Network of Medium Sized Creative Cities	Various	MIXED	Various	1	Mitig/Resp-BD
30_CROSS CS10	WOMEN - Realising a Transnational Strategy against the brain-drain of well-educated young women	Various	MIXED	Various	1	Mitig/Resp-BD (Creat-BG)

Notes: Case studies are in bold print; BG = brain gain; BD = brain drain; Prev = Prevention of brain drain; Mitig = Mitigation of brain drain; Resp = Response to the negative effects of brain drain; Creat = Creation of brain gain; Reinf = Reinforcement of brain gain.

01_AT: Your Region Your Future – YURA project

Authorities	Regionalmanagement Südweststeiermark GmbH, a corporate platform for the integrated and sustainable regional development of the southwest of Styria.
Target groups	Young people aged 14-30.
Area type and objective	Type 1 – Prevention of brain drain; Mitigation of brain drain/Response to the negative effects of brain drain.
Period of implementation	2010-2013.

Addressing the common problem of emigration of highly educated people within the framework of European co-funded territorial cooperation.

APPROACH

The region of Styria is facing a shortage of scientists and technical universities graduates, especially in the fields of mechanical engineering, electrical engineering, materials science, metallurgy and chemical engineering. The Central Europe project ‘YURA – Developing transnationally, transversal youth strategies for regions with migration’ was implemented with a budget of EUR 2.02 million (of which EUR 1.58 million contributed by the ERDF) in six regions: Saxony-Anhalt, Burgenland District, Germany; Ústí Region, the Czech Republic; Lower Silesian Voivodeship, Poland; Northern Great Plain, Hajdú-Bihar County, Hungary; Province of Novara, Piedmont, Italy; and Styria, South-West Styria, Austria. All these regions shared the problem of emigration of (highly educated) young people. The aim of the project was to develop strategies, measures and networks to keep young, qualified and highly educated individuals in the regions. A series of pilot actions were implemented, categorised into the following four main groups: 1) Learning Partnership - targeting better networking between regional schools and companies and improving the cooperation between schools and higher education facilities (e.g. universities, colleges etc.); 2) Business Academy – supporting intellectually gifted pupils of higher educational school grades; 3) Future Laboratory – focussing on the involvement of young people in decision-making processes for regional development; and 4) Pupil Research Centre – aiming to develop and test vocational field-oriented curricula and learning modules and to bring young people and regional companies together.

During the implementation of the YURA project, 3,500 young people aged 14-30 years (2,000 in the Styria region) and more than 50 companies (20 in Styria), schools and extracurricular institutions as well as political representatives from all levels, were involved.

IMPACT

Sources: Central2013.eu [website](#); Regionalmanagement Südweststeiermark [website](#); ISW Institut gGmbH (2012), Project YURA: [Transnational Benchmarking Study](#); Innovation Region Styria [website](#).

02_AT: Salzburg Model Region Pinzgau-Pongau-Lungau

Authorities	Regional Government of Salzburg, Department of Spatial Planning.
Target groups	Young people, women.
Area type and objective	Type 1 – Prevention of brain drain; Mitigation of brain drain/Response to the negative effects of brain drain.
Period of implementation	2009-2012.

Preserving the region's social cohesion and identity through pilot initiatives while offering young people more attractive socio-economic conditions in terms of housing and job opportunities.

APPROACH

The model region includes the three southern districts of province Land Salzburg. It covers an area of 5,400 km² and in 2010 had a population of 184,000 people. This population is ageing and expected to change structurally in the medium term. Among the reasons for this change is the emigration of young people who are attracted by better professional opportunities and urban culture and lifestyle elsewhere. In order to anticipate the potential socio-economic consequences of these demographic challenges, the region began implementing a series of pilot initiatives aimed at preserving its social cohesion. These were part of the DEMOCHANGE project, funded under the Alpine Space Programme. In particular, the focus was a) on improving the quality of the location, by means of more participated housing and spatial planning policies aimed at securing affordable houses, especially for young families; and b) on improving labour market conditions. Job opportunities for the youth were increased by better matching their educational careers with local labour market demand. Furthermore, a Welcome-Service-Pinzgau was set up to fight brain drain by initiating a dialogue with the young professionals living in the region and by actively inviting those who had already left to return. These persons were provided with professional support to search for child care, affordable housing and similar services.

According to [Statistics Austria](#), migration in Salzburg has slightly improved in recent years. Departures in 2017 were 15.292 against the 16.586 of 2016.

IMPACT

Source: DEMOCHANGE project (2011), Model Region Pinzgau-Pongau-Lungau [poster](#).

03_BE: BEWARE (BEcome a WAlloon REsearcher) Fellowships programme

This initiative is described as a case study in Part 3.

04_BG: Municipal Strategy of Varna

Authorities	Municipality of Varna.
Target groups	Young people.
Area type and objective	Type 1 – Prevention of brain drain; Mitigation of brain drain/Response to the negative effects of brain drain (+ Creation of brain gain).
Period of implementation	2015-ongoing.

Confirming the municipality’s commitment towards youth and talent through the setting of a local strategy based on partnerships with higher education institutions as well as through the implementation of different youth-attracting activities.

APPROACH

Since 2010, the Municipality of Varna has been promoting the participation of young people in the cultural and social life of the city. In 2015, as a result of its participation in the URBACT II project ‘Partnership between Cities and Universities to Develop Sustainable City Economies and Societies’, a ‘Municipal Strategy for cooperation with the institutions of higher education and consolidation of Varna as an international university city’ was developed. Under the strategic objective ‘Assisting the orientation of the local economy towards a ‘knowledge economy’ as the main economic priority of Varna Municipality’, expected result 2.4 focuses on the ‘Creation of preconditions to keep talented students in the city after the completion of their higher education’. This result is tackled through: a) the improvement of public spaces and of the overall attractiveness of Varna (including through the organisation of major events which attract thousands of (young) participants such as the yearly organised FUNCITY festival); b) the creation of a knowledge base of market supply and demand of talent; and c) the enhancement of the dialogue of the municipality with talented students. This is done by listening to the students’ feedback regarding what would convince them to remain in the city after graduation, and by involving them as far as possible in the activities of the municipality.

The rationale for the preparation of this strategy was the acknowledgement that education, with 35,000 students yearly spending an amount equivalent to the municipality’s annual budget, had become a significant sector for economic development.

IMPACT

Sources: Municipality of Varna (2015), [Municipal Strategy for cooperation with the institutions of higher education and consolidation of Varna as an international university city](#).

05_CZ: SOMOPRO - South Moravian Programme for Distinguished Researchers

This initiative is described as a case study in Part 3.

06_CY: JOBTOWN URBACT Project

Authorities	City of Latsia.
Target groups	Unemployed young people.
Area type and objective	Type 1 – Mitigation of brain drain/Response to the negative effects of brain drain.
Period of implementation	2013-2015.

APPROACH

Using a project framework to address youth unemployment as a cause of brain drain and by developing partnership-based strategies.

The URBACT JOBTOWN project (total budget of EUR 709,597), aimed to address structural youth unemployment through the establishment of Local Partnerships in 11 European cities (Cesena, Latsia, Nagykovács, Kielce, Kaiserslautern, Thurrock, Enfield, Rennes, Avilés, Gondomar, Aveiro). In Cyprus, the unemployment situation worsened as a result of the economic crisis, ending up hitting the young people particularly hard: *‘2012 was the year that was marked by the migration "explosion" of residents, which continued in 2013. Specifically, in 2012, 18.100 residents of Cyprus (mostly young) left for abroad for a period longer than one year. The migratory wave rose in 2013, when 25,200 people prepared their luggage across borders’* (Latsia Municipality, 2015). Driven by city administrations and local stakeholders in order to improve youth employment and job opportunities, the JOBTOWN project in Latsia produced an integrated approach to the development and maintenance of a competitive and sustainable local economy and social model. Partnership with local stakeholders led to the identification and forecasting of the demand for skills and of the worker profiles needed by local and regional markets. In this way job opportunities increased as a result of better matching between supply and demand.

The JOBTOWN project produced a series of policy recommendations which are the most significant results of three years of experience in developing responses to youth unemployment. Among the recommendations addressed to local public authorities are implementation of effective consultation processes; provision of support and guidance to the unemployed; availability of labour market analyses and forecasts; identification of examples of successful local approaches; clustering and coordination of those services which address the same target groups (i.e. the ‘all under one roof’ approach); and information spreading with regards to the professional opportunities offered by some professions which often are perceived as unattractive because of the lack of adequate information or of low awareness.

IMPACT

Sources: Goldring I. (2015), [Local Approaches Doing it, Making it Work](#) - JobTown, an URBACT Network 4 Youth Employment & Opportunity; Latsia Municipality (2015), [Local Action Plan to tackle Youth Unemployment](#); Goldring I. (2017), URBACT News [‘Here comes the JobTowns’](#); URBACT project [website](#).

07_DE: Chemnitz zieht an! (Chemnitz is booming!)

Authorities	CWE – Economic Development Corporation, the business development agency of the City of Chemnitz.
Target groups	Highly skilled workers.
Area type and objective	Type 2 – Creation of brain gain.
Period of implementation	2008-ongoing.

Undertaking an intermediary role in the local labour market and using online tools to match the labour demand of local businesses with talent supply, including through the development of initiatives specifically addressed to young people.

APPROACH

Chemnitz is a modern metropolis in the heart of Europe with a population of around 241,705 residents. It is one of the fastest growing cities in Germany and is characterised by a leading position in R&D and by a high quality of life because of its excellent cultural services and a charming natural environment. In 2008, CWE – Chemnitzer Wirtschaftsförderung und Entwicklungsgesellschaft mbH, the municipality’s business development agency, started an online job platform called ‘Chemnitz zieht an!’ (Chemnitz is booming!), which helps Chemnitz businesses looking for specialists. Two initiatives were specifically focussed on the youngsters: 1) Chemnitz IT alliance for specialists – aimed at connecting graduates with regional businesses; and 2) School-Business working group – acting as a platform for exchanging information and experience among the Education Agency, the Employment Agency, and Chemnitz’s chambers and businesses. The involvement of the municipal business agency in the process of staff recruitment for private companies is a concept not found anywhere else in Germany. The platform also provides information to specialists interested in returning to their home region. Basically, the service’s target group includes people wanting to return to Chemnitz, commuters, graduates from Chemnitz University of Technology, and specialists having no previous connection with the city or region.

28 companies currently use the platform to place job advertisements for a wide range of professionals, such as engineers, technical experts and software developers. In 2014, there were 32 partner companies involved and the platform’s financing was equally shared between the municipal agency and the private sector. In terms of numbers, more than 1,700 qualified applications have been submitted to the respective companies via the portal. Since its launch, the portal has been accessed more than 5 million times with over 350,000 visitors, of whom half visit the platform on a regular basis. Since 2009, more people moved to Chemnitz than moved away (Chemnitz Stadt, 2017).

IMPACT

Sources: Chemnitz-zieht-an.de [website](http://www.chemnitz-zieht-an.de); CWE (2014), [presentation](#) on ‘Fachkräfteportal www.chemnitz-zieht-an.de – ein Erfolgsmodell’; European business network [website](#); Chemnitz Stadt (2017), [Chemnitz Gute Idee](#).

08_DK: Ambitious talent strategy for the Copenhagen Region 2014-2017

This initiative is described as a case study in Part 3.

09_EE: Tallinn's Creative Strategy

Authorities	City of Tallinn.
Target groups	Creative people, including young talents.
Area type and objective	Type 1 – Mitigation of brain drain/Response to the negative effects of brain drain (+Creation of brain gain).
Period of implementation	2011-ongoing.

Designing and implementing a long-term sectorial strategy for improving the socio-economic conditions of the territory and leveraging on the competencies of young creative people.

APPROACH

Tallinn, the capital of Estonia, has about 420,000 inhabitants. A highly skilled labour force with low wages and favourable tax regimes has attracted businesses, especially in the ICT sector, which in turn has favoured the development of cultural and creative industries (CCIs). Nevertheless, the city, as well as the whole country, continues to experience emigration to Finland (where better socio-economic conditions including higher salaries are offered) and brain drain of young and highly skilled workers, including to countries other than Finland. The Tallinn Manifesto – a Tool for Strategic Development across the Creative Economy (2011), the Tallinn Innovation Strategy 2009-2013, and the Tallinn Development Plan 2014-2020, all focussed on CCIs as key elements to boost the city's economy. Among their priorities are mitigating brain drain, attracting talents, and attaining international visibility for the city's CCIs. Among the tools to achieve these goals are the Tallinn Creative Hub, a physical space for creative people working on different activities related to new technologies, communication, culture management, cultural tourism, and non-formal education; and the Creative Incubator managed by the Business Support and Credit Management Foundation (ESA), founded by the Tallinn City Council to help entrepreneurship in the city area.

In 2009, the Tallinn City Government allocated 30 million kroon (about EUR 1.9 million) for the development of the Creative Hub as one of the activities of the European Capital of Culture 2011 award. In 2016, 290 events took place in the Tallinn Creative Hub attracting some 200,000 people. Since the onset of its activities, the Creative Incubator has hosted 170 enterprises and, at August 2018, there are 34 start-ups working mainly in information technologies, web services, fashion, production and design.

IMPACT

Sources: CREATIVE SpIN-Creative Spillovers for Innovation URBACT II Thematic Network (2012), [Baseline Study](#); [The Tallinn Manifesto](#) (2011); Tallinn City Council (2013), [Tallinn Development Plan 2014-2020](#); Tallinn Creative Hub [website](#); Creative Incubator [website](#).

10_EL: TRIGGER

Authorities	Ministry of Macedonia and Thrace.
Target groups	Young scientists.
Area type and objective	Type 1 – Mitigation of brain drain/Response to the negative effects of brain drain (+Creation of brain gain).
Period of implementation	2013-2015.

Cooperating in the framework of a EU co-funded project to make the cross border area attractive to young scientists through a strong collaboration between academic institutions and the business community.

APPROACH

‘TRIGGER - Transnational Initiative for guidance of graduated and entrepreneurship’ was a project implemented within the European Territorial Cooperation Programme Greece – Bulgaria 2007-2013. It had an overall budget of EUR 1,663,900 and was co-financed by the ERDF and national funds of Greece and Bulgaria. The main objective of the project was the investment on human capital for promoting economic growth through innovation in the cross border region of Greece and Bulgaria. In practice, the project aimed at creating employment, either in existing businesses or as self-employment. This was achieved through the creation of opportunities derived from networking and the establishment of synergies between the academic institutions and the business community. Businesses benefitted from the knowledge and innovation capacity released from the academic institutions, while young scientists benefitted from the upgrade of their skills and abilities. This in turn maximized their possibility of entering the local labour market, thus avoiding migrating elsewhere.

Expected results include 200 young scientists employed in the local economy of the Greece-Bulgaria cross border region, 30% of which are women. The Trigger ToolBox Platform is available online at <http://thetrigger-toolbox.eu> as a supporting tool for creating businesses and identifying job opportunities.

IMPACT

Sources: TRIGGER [website](#); TRIGGER [ToolBox](#); TRIGGER project (2015), *Good Practices Guide On Employment and Entrepreneurship*, TRIGGER project Brochure, July 2015.

11_EL: The Creativity Platform

This initiative is described as a case study in Part 3.

12_ES: Regional Plan for Scientific Research and Technological Innovation 2016-2020

Authorities	Comunidad de Madrid.
Target groups	Young talented people working in R&D, in particular PhD graduates.
Area type and objective	Type 2 – Creation of brain gain; Reinforcement of brain gain.
Period of implementation	2016-2020.

Developing a long-term plan for the structural promotion of research and innovation, and leveraging the effects of attracting/retaining young talents involved in the academic world or employed in businesses.

APPROACH

Given the negative effects produced by the economic crisis and the loss of competitive positioning in R&D at national and international levels, in 2016, the Community of Madrid launched the Regional Plan for Scientific Research and Technological Innovation 2016-2020 (V PRICIT). With a total budget of EUR 420 million – which is four times the budget allocated to the previous PRICIT (2005-2009) – and the participation in the development of the plan of more than 120 experts representing LRAs, universities, technological and research centres and enterprises, the Regional Plan aims at: i) attracting and retaining young talents working in R&D, in particular PhD graduates; ii) promoting R&D projects at national and international levels; iii) promoting dialogue and cooperation between researchers and enterprises, by empowering the figure of the industrial PhD graduate; iv) rewarding outstanding young PhD graduates working in regional research centres or universities, to acknowledge their daily work and attract other youngsters to follow their lead in the field; and v) enhancing the region’s competitiveness in R&D, by branding it as a leading world player in the field.

Despite the fact that the Plan is currently ongoing, initial results achieved include:

- As for 2016: creation of 120 vacancies as research assistants; creation of 120 vacancies as laboratory technicians; 150 vacancies for pre-doctoral researchers; 150 vacancies for post-doctoral researchers.
- As for 2017: 256 research assistants and 75 PhD graduates have been offered a contract of employment.

Furthermore, in 2016 and in 2017 the Community of Madrid has rewarded outstanding young and senior PhD graduates working in regional research centres or universities.

Sources: Consejería de Educación, Juventud y Deporte de la Comunidad de Madrid (2016), [Plan Regional de Investigación Científica e Innovación Tecnológica 2016-2020. V PRICIT](#); Comunidad de Madrid [website](#).

IMPACT

13_ES: The Talent House of San Sebastián

This initiative is described as a case study in Part 3.

14_FI: Expat-project

Authorities	Uusimaa Regional Council.
Target groups	Local and international knowledge workers, students, and their families and partners.
Area type and objective	Type 2 – Reinforcement of brain gain.
Period of implementation	2011-2013.

Promoting innovative services for international talents by means of a virtual space, with the goals of maintaining the region’s competitive advantage and of reducing any barriers for international professionals and students wishing to move there.

APPROACH

The Central Baltic Sea Region has enjoyed a relatively positive reputation in terms of quality of life and job opportunities. However, in 2011 the Uusimaa Regional Council led the Expat-project (a 2-year Interreg IVA project with a total budget of EUR 1,323,270, of which EUR 1,025,607 co-funded by the EU) in order to reinforce its appeal at the international level. In particular, the project aimed at minimising the difficulties encountered by international professionals and students when settling down in the region. The project performed an analysis of the regional background and the desk research of European best practices which

had succeeded in the achievement of similar goals. The project also developed a pilot initiative aimed at creating an open digital platform for the interaction of regional citizens, private and public service providers, and international professionals and students. Before developing the platform, a questionnaire was distributed to settled international professionals and students in order to assess their satisfaction with the regional lifestyle and available services. The platform was then created and tailored based on their answers.

According to the final report, the Expat-project achieved the following results:

- Greater accessibility to regional information due to the development and update of the platform with an inventory and description of the service providers existing in the region.
- Better coordination and dialogue among local service providers through the digital platform.
- Participation of local and international information technology students in the development and update of the platform.

The project further recommended to the Helsinki-Uusimaa region to establish a regional Expat Liaison Office and to develop a support system for international professionals and talents. This would serve to inform them on job opportunities as well as on job and social services in order to enhance their integration in the region and their dialogue with the locals.

Sources: Keep.eu project's [description](#); Expat-project [website](#); Expat-project (2014a), [Retaining international talents in Helsinki-Uusimaa region](#); Expat-project (2014b), [Cultivating the human capital of the Central Baltic Sea region. Policy recommendation](#); Expat-project (2014c), [Final report – Expat Virtual Platform](#).

IMPACT

15 FI: Talent Tampere

Authorities	Eight local authorities of the Tampere region: Tampere, Kangasala, Lempäälä, Nokia, Orivesi, Pirkkala, Vesilahti, Ylöjärvi.
Target groups	Talents (especially international ones).
Area type and objective	Type 2 – Reinforcement of brain gain.
Period of implementation	2010-ongoing.

Creating a networking space in partnership with other public authorities of the same region for matching local labour opportunities and professionals with international talents. Attention is put on attracting international talents by offering a variety of services.

APPROACH

Talent Tampere is a permanent networking platform coordinated by the Tampere Region Economic Development Agency Tredea. Tredea, or 'Business Tampere' since August 2017, is owned and financed by eight municipalities and towns of the region (Tampere, Kangasala, Lempäälä, Nokia, Orivesi, Pirkkala, Vesilahti and Ylöjärvi). Its activities are guided by the 2017-2021 Tampere City Region Economic Development Programme 'Creative Zest'. Talent Tampere supports internationalisation processes within the region by connecting international talents with regional companies and by providing these talents with services which make the region a more attractive place in which to work and live. One of these services is a mentoring programme addressed to international talents who come from one of the three universities of the Tampere region, or from abroad, and who wish to start a career in the region. First piloted in 2010 using EU funds, this mentoring programme is run every year and pairs each admitted mentee with an experienced professional working in the region.

According to a report from Tendensor (2014), evaluations found that the Tampere Mentoring Programme as well as two other similar programmes run in the region (i.e. Tampere Entrepreneurship Programme introduced in 2013 and targeting international degree students, and KOP mentoring programme carried out by Tredea in 2012–2015 and targeting graduated immigrants) resulted in the retention of many of the supported mentees.

IMPACT

Sources: Talent Tampere [website](#); Tendensor (2014), *Tools and Strategies for Innovative Talent Attraction and Retention – a Handbook on Talent Attraction Management for Cities and Regions*; The City of Tampere (2014), *Tampere City integration programme our Tampere - City of scenes and visions*.

16_FR: Transition Talents

Authorities	Prefecture of Nantes.
Target groups	Young people.
Area type and objective	Type 1 – Mitigation of brain drain/Response to the negative effects of brain drain.
Period of implementation	2017-ongoing.

APPROACH

Raising awareness on and providing competencies to young people for innovative (i.e. third sector) work opportunities.

The City of Nantes has a population characterised by a high share of youth (20.2%) if compared to the national average (12.9%). It also faces various challenges related to industrial restructuring, youth unemployment (i.e. close to 17%), and graduate brain drain – an increasing number of qualified individuals are out-migrating once they have completed their studies (URBACT, 2016). In 2017, the Prefecture of Nantes, in close cooperation with Audencia Business School, developed the initiative ‘Transition Talent’. The initiative’s aim is to bring together public and private players to support associations (of any kind) and jobseekers. From the point of view of the associations, the initiative helps them rethink their business model. From the point of view of young jobseekers, it offers opportunities for concrete professional experiences. Associations are accompanied on a transformation project for a period of 5 weeks while jobseekers also benefit from 2 weeks of preliminary training and from 2 weeks of support at the end of the 5-week period to aid in the job seeking experience.

Regarding the impact on jobseekers: *‘Some have redirected their research to the voluntary sector, others have realized that they need to complete their training’*. Ten young people holding a degree in the field of business (management, organisation, marketing, communication, etc.) benefitted from this training experience in the first year of implementation.

IMPACT

Sources: URBACT Gen-Y City (2016), *Developing, attracting & retaining Gen-Y ‘creative-tech’ talent in European cities – Baseline study*; Nantesmetropole.fr [website](#); Audencia Business School [website](#).

17_HU: URBACT CHANGE! Project

This initiative is described as a case study in Part 3.

18_IT: Brain Back Umbria

This initiative is described as a case study in Part 3.

19_IT: ‘Lombardia is research and innovation’

Authorities	Regional Authority of Lombardia.
Target groups	Young researchers operating in R&I centres.
Area type and objective	Type 2 – Prevention of brain drain; Creation of brain gain.
Period of implementation	2016-2020.

Providing the legal framework in order to enhance the cooperation between businesses working in R&I and the research community, thus preventing brain drain and allowing young researchers to remain in the region.

APPROACH

The Region of Lombardia gives high relevance to skilled human capital for its competitiveness. In the last ten years, it has contributed to the creation of 1,369 innovative start-ups and to the registration of 191,000 patents (Il Giornale [website](#)). Against this backdrop, in November 2016, the Regional Council adopted Regional Law ‘Lombardia is research and innovation’. This law aims to prevent young talents, particularly researchers, from leaving the region to settle abroad by facilitating their entry into employment (Regione Lombardia [website](#)). The law focuses on enhancing the cooperation between businesses which need innovation and the world of research which has the human capital necessary to foster regional economic growth. Among the measures and/or initiatives stemming from the law and regarding the prevention of brain drain are: i) the implementation of a three-year strategic programme 2018-2020 which serves as a reference for regional policies related to R&I and for the valorisation of young researchers. Among the foreseen investments to enhance the human capital working in research are the provision of competitive and favourable job opportunities as well as support for young researchers who have settled abroad to return (Regione Lombardia, 2016); ii) following an international public call, the establishment of a Regional Forum on Research and Innovation, formed by 10 experts of international standing; iii) the organisation of an annual international ‘Research Day’ where outstanding international researchers and/or businesses operating in life sciences are awarded a prize of EUR 1 million allocated by the Region (of which 30% is required to be allocated to research having a positive impact on regions other than Lombardia (including from outside Italy); iv) the signing of research and innovation agreements between the Region and other public and private stakeholders working in the development of R&I projects related to scientific fields (e.g. smart cities and communities, creative and cultural industries, aerospace, eco-industry, sustainable mobility) and the hiring of young researchers.

Preliminary results achieved after the adoption of the Regional Law include:

- Creation of the Regional Forum on Research and Innovation after having received 149 candidacies through an international public call.
- Establishment of 8 November as the ‘Research Day’. In 2017 the award, the so-called ‘Lombard Nobel’, and the EUR 1 million prize went to the director of the Department of Neurosciences of the University of Parma, in the Emilia Romagna Region.
- Funding, starting from June 2016 and up to now, of 32 projects from the ERDF 2014-2020, axis I ‘Enhancing research, technological development and innovation’, for a total amount of EUR 106.7 million, of which 50% allocated by the Region. Each project could ask for a maximum research grant of EUR 4.5 million and was required to include one university in the consortium, represented by a young highly skilled person as part of the research team.

Sources: Regione Lombardia [website](#); Regione Lombardia (2016), *Legge Regionale 23 novembre 2016, n. 29*; Ufficio Analisi Leggi e Politiche regionali (2018), *Monitoraggio prima attuazione l.r. 29/2016 - Lombardia è ricerca e innovazione*; Tecnica Ospedaliera [website](#); Il Giornale [website](#).

20_NL: Open Amsterdam! Amsterdam Strategy for International Talent

Authorities	Municipalities of the Amsterdam Metropolitan Area.
Target groups	International talents and their families.
Area type and objective	Type 2 – Reinforcement of brain gain.
Period of implementation	2016-ongoing.

Creating a partnership with local authorities to support matching the labour demand of local businesses with international talents and local highly skilled youngsters. The joint strategy is based on the provision of services facilitating careers/businesses and daily life.

Beginning in 2016, ‘Open Amsterdam! Amsterdam Strategy for International Talent’ is a joint initiative of representatives of the Amsterdam Metropolitan Area (i.e. the municipalities of Amsterdam, Amstelveen, Almere, Diemen, Haarlem, Hilversum, Haarlemmermeer and Velsen) together with the Immigration and Naturalisation Service and the Tax Office. Its goal is to enable local enterprises to attract more international talents and retain them by making the Metropolitan Area more competitive in the global war for talent. Among the strategy’s main objectives are: increasing the region’s appeal in terms of the quality of the higher education offer for international students; enhancing the cooperation between universities and enterprises in the region, also to improve the matching between regional demand for talent and the highly skilled workforce formed by the education system; facilitating talents’ transition from university to the labour market through career events and job fairs; providing international talents with services for easily finding information related to job opportunities as well as to aspects of daily life such as healthcare and accommodation (available in Dutch and English); and offering top-quality education at both Dutch and international schools for the children of international talents.

The strategy is ongoing but preliminary results include:

- Set up of an independent organisation (i.e. the International Community Advisory Panel) that is in charge of monitoring the strategy. This panel represents the international community's point of view on how to attract and retain international talents and provides feedback for improvement.
- Partnership with the 'Amsterdam Salon', an initiative of the one-stop-shop service 'IN Amsterdam' for international people arriving in the Amsterdam Metropolitan Area. This initiative is aimed at enhancing the participation of the city's international residents in regional cultural events.
- Expansion of the international higher education offering for international students.
- Cooperation with physicians and healthcare professionals to help international talents understand how the Dutch healthcare system works.
- Attraction of 120 new international businesses in the area each year.
- Improved information accessibility for international talents concerning the rental and accommodation opportunities available in the area (also available in English).

Sources: Open Amsterdam [website](#); City of Amsterdam [website](#); Expat Center Amsterdam (2016), *Open Amsterdam! Amsterdam Strategy for International Talent*.

21_NL: Brainport's strategy for talent attraction and retention

This initiative is described as a case study in Part 3.

22_RO: Young Researchers in Science and Engineering Prize

Authorities	Municipality of Cluj Napoca.
Target groups	Young people (< 35 years old).
Area type and objective	Type 1 – Mitigation of brain drain/Response to the negative effects of brain drain (+Creation of brain gain).
Period of implementation	2015-ongoing.

Rewarding talented young researchers with monetary grants and, indirectly, signalling their innovative potential to local businesses.

The Cluj-Napoca municipality, awarded with the title of European Youth Capital in 2015, is becoming increasingly attractive to jobseekers and is currently among the top Romanian cities preferred by youth. The municipality, aware of the problem of brain drain which is generally faced across the country (Boncea, 2015), in 2015 started implementing an initiative aimed at rewarding excellent young researchers (maximum 35 years old). The 'Young Researchers in Science and Engineering' prize is addressed to young researchers in the field of science and engineering who have demonstrated their excellence and made extraordinary contributions through their work.

In 2015, the first year of the initiative, 60 applications were received. The yearly prize awarded annually to the top three researchers has so far allowed 12 young researchers to benefit from USD 12,000 (1st place – USD 1,500, 2nd place – USD 1,000 and 3rd place – USD 500). Moreover, the initiative has generated the interaction of awarded researchers with the participating innovative business firms.

IMPACT

Sources: Municipality of Cluj-Napoca (2015), [Raport de activitate pentru anul 2015](#); Municipality of Cluj-Napoca [website](#); Cotidianul.ro [website](#); Ziarul Clujean [website](#); Monitorul Cluj.ro [website](#); Boacea I. (2015), [Brain drain or circular migration: the case of Romanian physicians](#); napocanews.ro [website](#).

23_RO: Benefitting from freedom of movement in the EU

Authorities	Harghita County Council.
Target groups	Young people.
Area type and objective	Type 1 – Mitigation of brain drain/Response to the negative effects of brain drain.
Period of implementation	2016-2017.

Identifying challenges and solutions related to youth unemployment through the participation in a EU co-funded project which allowed the local authority to establish a dialogue with citizens and to benefit from the multicultural perspective, practice and experience of the project's partners.

APPROACH

The Harghita County Council was one of the partners of the project 'Debate on the Four Freedoms of the European Union' (EU3doms). Co-funded by the Europe for Citizens Programme, the core activity of EU3doms was the implementation of debate events on the future of Europe with regards to its four freedoms (i.e. free movement of people, services, goods and capital). As a consequence of facing a high youth unemployment rate and related brain drain, the Harghita County Council decided to focus the debate on 'youth and entrepreneurship'. Discussion with various target groups and citizens was through online surveys as well as through exhibitions, competitions, flash mobs, living libraries, and a 'Day of the Four Freedoms'. In particular, this day was held in May 2017 in the city of Miercurea Ciuc. At the event, local young entrepreneurs presented their businesses and the advantages they had received from the free movement of people and services. These entrepreneurs, born in Harghita County, moved to different Western European countries to finish their education and then decided to return and set up their businesses in the IT sector, working essentially with foreign customers as 95% of their clients are from other EU countries.

At the end of the project, a SWOT analysis of the partners' regions was carried out on a comparative basis with respect to the realisation of the Four Freedoms of the EU. Among the strengths identified for Harghita County are job creation (capital, services), and opportunities to gather experiences from abroad, internship programmes for foreign students, and participation in international projects (persons). Among its weaknesses are a lack of profit reinvestment of foreign companies (capital, services), and migration of educated workforce and brain drain (persons). In terms of opportunities, Harghita County counts on attraction of foreign capital and investments (capital, services) as well as on learning abroad (e.g. Erasmus+) (persons). On the other hand, its main threat remains emigration (persons).

IMPACT

Sources: EU3doms [website](#); [Briefings prepared by the EU3doms project \(2017\)](#); EU3doms [leaflet](#); EU3doms [SWOT analysis](#).

24_SE: FILUR – Intensified actions for unemployed youth

Authorities	Municipality of Stockholm.
Target groups	Young people (16-24 years old).
Area type and objective	Type 2 – Prevention of brain drain.
Period of implementation	2010-2013.

Reinforcing the competitive advantage of the local labour market and fighting long-term youth unemployment with the support of a EU co-funded project.

APPROACH

Stockholm has a population of nearly one million people and has been experiencing a population boom, especially in the last decade. With over 30% of its residents having a foreign background, the city is attractive to migrants due to high quality of life and a dynamic economy which drives demand for highly skilled labour. Over the period 2010-2013, the City of Stockholm implemented the FILUR project, co-funded by the ESF. The project's objective was to reduce long-term youth unemployment being aware that *'Some feel that Stockholm's northern location hinders its competitiveness and others even suggested the city was at risk of a 'brain drain', with talented citizens lured away by better paid international opportunities'* (World Cities Culture Forum website). The project targeted unemployed young people aged 16-24 years with a 12-week training programme.

By October 2012, 245 young people (122 males and 123 females) had participated in the FILUR programme. Six months after participating in FILUR, 80.4% of the 25 young people who were first engaged in the project were either in employment or education.

IMPACT

Sources: EUROCIITIES (2011), [The active inclusion of young people: Cities supporting youth employment](#); Municipality of Stockholm [website](#); EUROCIITIES [website](#); World Cities Culture Forum [website](#); EUROCIITIES (2011), [FILUR – Intensified actions for unemployed youth](#).

25_SI: Entrepreneurially Into a Business World

This initiative is described as a case study in Part 3.

26_SK - The strategic role of culture for Košice

Authorities	City of Košice.
Target groups	Talented young people.
Area type and objective	Type 1 – Mitigation of brain drain/Response to the negative effects of brain drain (+Creation of brain gain).
Period of implementation	2013-ongoing.

Creating positive synergies among cultural and creative industries and information and communication technologies to mitigate brain drain and benefit local economic development.

APPROACH

The city of Košice hosts more than 35,000 students. The average age of its citizens is low –

about 35 years – (Košice municipality website) and brain drain is a problem as 38% of the city’s economically active population looks for jobs outside the region. Young people in particular move to Bratislava or to other border countries such as the Czech Republic and Austria. In recent years, the city has been considering the growth of Creative and Cultural Industries (CCIs) as a key element for its socio-economic development. Preliminary achievements in this domain were the city receiving the European Capital of Culture 2013 award and then the definition of the Košice 2020 Creative Economy Master Plan (2013-2015), a strategy for the development of creative industries and for making Košice a ‘creative city’. Further to the city’s participation in the URBACT Creative SpIN project, the city developed a Local Action Plan – LAP (2015) – to connect its CCIs with the development of the ICT sector in order to generate spillover effects on its local economy. In particular, the LAP aimed at retaining talents through a cross-sectorial approach, creating ICT businesses and skills on one hand and then inputting their services and competencies in the cultural domain on the other. Towards these targets, four strategic areas of action were foreseen in the LAP: cross-sectorial education and training; cross-sectorial interventions; urban game solutions; and cross-sectorial platform.

Among the current achievements of the Košice City in the CCIs domain are:

- Creation of a Creative Centre targeted to media arts professionals and artists that makes new technologies available for collaborative projects.
- Launch of an Urban Game Platform, a participatory tool based on digital technologies, gamification processes and virtual reality for Košice citizens (including disadvantaged and marginalised groups).
- Development of an Art Portal to gather artistic and creative content, and exchange best practices.
- Organisation of the International Media Award, Symposium and Exhibition.
- Designation as one of the UNESCO Creative Cities of Media Arts.

IMPACT

Sources: URBACT (2015), [Creative SpiN Košice Local Action Plan](#); Creative SpIN project [website](#); Košice municipality [website](#).

27_UK: Highlands and Islands Talent Attraction, Retention and Return Strategy and Action Plan

Authorities	Highlands and Islands Enterprise (HIE), the Scottish Government's economic and community development agency.
Target groups	Talents, especially young talents.
Area type and objective	Type 1 – Mitigation of brain drain/Response to the negative effects of brain drain (+Creation of brain gain).
Period of implementation	2017-ongoing.

Defining a strategy supported by a structured action plan that foresees cooperation and a joint effort by local and regional authorities to attract/retain talent.

APPROACH

In the Highland region, key issues are out-migration and an ageing population. Demographic change is expected to be characterised by a significant out-migration of 1,100 people aged 25-34 years old. This affects the workforce balance, as the Highlands have a high employment rate and the number of jobs is forecasted to increase (+ 4,500-7,500). Hence, there is a need to increase the active population (EKOS Limited, 2016). Towards this scope, a Talent Attraction

strategy was developed in late 2016, and in July 2017 it was accompanied by an Action Plan. The plan stresses the need for regional activity to be consistent with local intervention. It outlines the division of responsibility for the implementation of the strategy between regional and local authorities in terms of regional/local information collation, marketing and promotion, attraction, and retention activities. At the end of 2017, a decision on the identification of a structure for the responsibility and accountability for the Action Plan's implementation had not yet been made.

The Talent strategy is expected to: *'attract new talent into the area; re-attract those that left that are likely to return; and increase promotion of current and future employment, education and training opportunities for young people that would like to remain however are unsure of their options'* (Convention of the Highlands and Islands PAPER 10/17-X).

IMPACT

Sources: EKOS Limited (2016), *Highlands and Islands Talent Attraction, Retention and Return Strategy and Action Plan*, FINAL Report for Highlands and Islands Enterprise, November 2016; Highlands and Islands Enterprise (2017), *Highlands and Islands Talent Attraction Strategy – Revised Action Plan*; Convention of the Highlands and Islands PAPER 10/17-X, Highlands and Islands Post 2020, Paper and Presentation.

28_CROSS: Young People For The Development Of Local Economy, HU-HR

Authorities	Regional Development Agency Medjimurje – REDEA Ltd. (Croatian partner of the project). The agency was founded in 2004 by the Medjimurje County. Its aim is to support the process of sustainable development in Međimurje.
Target groups	Young graduates.
Area type and objective	Type 1 – Mitigation of brain drain/Response to the negative effects of brain drain.
Period of implementation	2012-2013.

Creating young professionals with competencies necessary for getting and managing EU funds for the socio-economic development of the involved areas.

APPROACH

The Young People For The Development Of Local Economy, or HU-HR Development Academy project, aimed at keeping *'the young, educated local people in their communities or attracting them back after their studies outside of their home towns'* (Keep.eu database). The project was designed in the framework of the Hungary-Croatia IPA Programme to address the problem of brain drain which was common to these two border areas. The project aimed at complementing the professional knowledge of a group of graduates with strategic and project planning capacities. 20 young people (10 young graduates from the city of Nagykanizsa, in Hungary, and 10 from Međimurje County, in Croatia) were offered a 10-month correspondence course in project planning and development. The project generated a number of project managers who were able to access funding across different private and public sources by developing project proposals and submitting them for financing. This resulted in retaining (in Nagykanizsa) or re-attracting (in Međimurje County) 15 of the trained graduates as well as in the awarding of four projects valued at approximately EUR 2.6 million.

Among the achievements of the HU-HR Development Academy project are:

- 15 highly qualified project managers able to elaborate international cooperation project proposals.
- Four of their project proposals were successful in being financed and received a total budget of over EUR 2.6 million.
- Benefits to the local communities and enhanced image of involved public authorities.

Sources: project's [description](#) in the Keep.eu database; Fehérvölgyi B. and Kaszás N. (2014), *Success Factors in the Cross-Border Region – Regional Project Against Brain Drain*, Human Capital without Borders: Knowledge and Learning for Quality of Life; Proceedings of the Management, Knowledge and Learning International Conference 2014, ToKnowPress.

29_CROSS: ORGANZA - Network of Medium Sized Creative Cities

Authorities	Municipality of Arnhem (lead partner) (NL), Bremeninvest (Bremen's economic development agency) (DE), Municipality of Iasi (RO), City of Presov (SK), European Business and Innovation Centre of Navarra (Government of Navarra) (ES).
Target groups	Creative talent.
Area type and objective	Type 1 – Mitigation of brain drain/Response to the negative effects of brain drain.
Period of implementation	2010-2012.

Evaluating and developing new policy instruments aimed at strengthening territorial economies in order to face the common challenge of brain drain of creative talent.

ORGANZA was a project co-funded by the ERDF through the Interreg IVC programme, with a total budget of EUR 1,959,881, of which EUR 1,493,066 contributed by the EU. The project's objective was *'to systematically collect and exchange policy experiences of local and regional authorities regarding creative industries. ORGANZA focuses on medium size regions and cities that lack critical mass and face brain drain of creative talent'* (Keep.eu database). The ultimate aim of the project was to improve policymaking in the field of creative industries and with respect to different policymaking stages (i.e. inception, development of instruments, or integration into a coherent framework); different models of policy development (e.g. with respect to the level of competence, available means); implementation structure (e.g. centralised by the implementer, delegated to other entities); and experience of the implementer (e.g. implementers with a long-term experience in creative industries, newcomers at the inception stage of policy design in the sector). Methodologically, the project first undertook a collection of best practices. After that, from this collection, a limited set of practices from the Netherlands, the UK, Belgium, Germany, Romania and Italy was selected for transfer to other regions. Transfer was by means of pilot actions which took place in 2012.

- The ORGANZA project created an online database including more than 70 practices. Among them, nine best practices were adapted and transferred to other regions.
- At the end of the project, involved partners and stakeholders understood how to leverage results from past, current and future ERDF-funded projects for creative industries.

Sources: Keep.eu database project's [description](#); Organza [website](#); Organza [practices database](#).

30_CROSS: WOMEN - Realising a Transnational Strategy against the brain-drain of well-educated young women

This initiative is described as a case study in Part 3.

Part 3: Case studies of local and regional strategies

This part looks in detail at ten of the 30 initiatives included in the inventory through the desk research-based development of case studies. The selected cases cover the use of different approaches for either fighting brain drain or retaining the capacity of a region or city to attract talents, ensure a representative range of EU countries, including in terms of devolving structure, and concern different types of implementing public entity (e.g. agencies, municipalities and regional authorities).

3.1 BEWARE (BEcome a Walloon REsearcher) Fellowships programme, Belgium (03_BE)

Authorities: *Service public de Wallonie - Direction générale opérationnelle de l'Economie, de l'Emploi, de la Formation & de la Recherche (DGO6).*

Target groups: highly qualified researchers.

Area type and objective: Type 2 – Creation of brain gain.

Period of implementation: 2014-2018.

Funding: regional and EU funds (COFUND programme/FP7 - Marie Curie Actions). BEWARE Industry: EUR 15,156,400 of which 6,062,560 contributed by the EU (CORDIS [website](#)). BEWARE Academia: EUR 21,148,313 of which EUR 8,459,325 contributed by the EU (H2020 [website](#)).

Framing the initiative

The Wallonia-Brussels Federation is one of the three constituent constitutional linguistic communities of Belgium and includes approximately 4.5 million people. In the Federation, the Walloon Region has a population of over 3.6 million people which is on an increasing trend. In 2017, the increase was +9,904 persons, slightly less than the increase registered in 2016 which was +12,257 persons (Belgium.be [website](#); StatBel [website](#)). International migration is a key determinant of this population growth but notwithstanding the population gain, attraction of research talent remains a problem. Although researchers in natural sciences and engineering & technology are the first two largest groups of doctorate holders in Belgium (Boosten *et al.*, 2014), there is a shortage of highly skilled researchers in the fields of physics, chemistry and IT. This highlights a mismatch between skill supply and demand (Kelchtermans and Zacharewicz, 2016).

Description and approach

To promote the mobility of highly qualified researchers, the Department of Research Programs of Wallonia DGO6 launched two funding schemes within the BEWARE Fellowships Programme in order to attract researchers to the Wallonia-Brussels Federation and in particular to Wallonia: 1) BEWARE Fellowships Industry and 2) BEWARE Fellowships Academia (COFUND programme/FP7 - Marie Curie Actions) (DGO6 [website](#)).

The BEWARE Fellowships Industry scheme is aimed at enabling Walloon SMEs or Accredited Research Centres in the Wallonia-Brussels Federation to benefit from the expertise of highly qualified researchers and, as a consequence, at encouraging an innovation process within the Walloon host. The programme lasts five years. Two calls per year were launched in Year 1, 2 and 3. The scheme provides individual researchers for a research period from 18 up to 36 months. Benefitting researchers must hold a PhD or a minimum of 4 years research experience; shall not have more than 10 years' experience from the date of obtaining the diploma giving access to their doctoral studies; and must be in a situation of transnational mobility (having spent less than 12 months in Belgium during the last 36 months). Promoters of the research can be SMEs with a head office in Wallonia or Accredited Research Centres in the Wallonia-Brussels Federation. The promoter's minimum co-funding is 30% for SMEs and 25% for research centres (DGO6, 2014a).

The BEWARE Fellowships Academia is a scheme focussed on technology transfer. It enables researchers to perform a research stay from 18 up to 36 months in a university of the Wallonia-Brussels Federation, with 25% of the time to be spent in a Walloon company. The programme runs over five years, has 4 calls and covers 100% of the eligible costs. In order to apply, researchers must hold a PhD or an equivalent research experience (minimum 4 years); must be able to '*demonstrate an innovative aspect to their research or an ability in technology transfer*' (H2020 [website](#)); and must be in a situation of transnational mobility (having spent less than 12 months in Belgium during the last 36 months) (DGO6, 2014b). In this funding scheme, the promoter is an academic unit of an institution of the Wallonia-Brussels Federation, with no legal personality (e.g. laboratory, team). The business partner can be a company with an establishment in Wallonia but it must have a clear business link to the research activities (DGO6, 2014c).

For both BEWARE Industry and BEWARE Academia, the eligibility of each fellowship application is first reviewed by DGO6. Each eligible project is then evaluated by two independent external experts based on an evaluation framework provided by DGO6.

Impact

According to the report on the closing event of the BEWARE programme (DGO6, 2018):

- 85 high-level researchers have been attracted to the Wallonia-Brussels Federation within the framework of the programme.
- Benefitting researchers have come from 34 countries, in particular Belgium, France, India, Spain, Algeria and Brazil.
- The overall research capacity of the region has improved. In particular, highly skilled researchers in the field of agro-food, aeronautics and space, engineering & new materials, transport & logistics, life sciences and environmental technologies have been attracted to the Federation.
- The link between regional academic research and business R&D has been enhanced.

Findings

- A ‘snowball effect’ (DGO6, 2018) has been achieved, with some researchers deciding to spend a few more years in their host institutions after the end of the fellowship.
- The programme attracted not only foreign researchers but also Belgian researchers who had moved abroad and then decided to return home.
- International researcher mobility has given Walloon SMEs access to foreign markets and international human resources.
- The additional work generated by the contributions of BEWARE researchers gave them prospects for long-term employment.

3.2 SOMOPRO – South Moravian Programme for Distinguished Researchers, Czech Republic (05_CZ)

Authorities: South Moravia Region and the South Moravian Centre for International Mobility (JCMM).

Target groups: skilled researchers.

Area type and objective: Type 1 – Creation of brain gain.

Period of implementation: SOMOPRO (2009-2013), SOMOPRO II (2012-2017) and SOMOPRO 3 (2015-2020).

Funding: regional and EU funds (FP7 People, Marie Curie Actions COFUND scheme). SOMOPRO: EUR 3.6 million of which EUR 1.4 million contributed by the EU (CORDIS [webpage](#)). SOMOPRO II: EUR 4.8 million of which EUR 1.9 million contributed by the EU (CORDIS [webpage](#)). SOMOPRO 3: EUR 3.7 million of which EUR 1.8 million contributed by the EU (CORDIS [webpage](#)).

Framing the initiative

South Moravia is located in Jihovýchod, in the south-eastern part of the Czech Republic. It can be distinguished into two main and very diverse areas: the Brno agglomeration (the second largest in the country and an important university centre) and the southern rural border area. Overall, the region has 1.2 million inhabitants and six universities with 86,000 students, 12,040 researchers and 3,833 publications (2014 data). In 2004, these amounts were 55,000, 6,043 and 1,241, respectively (Doležal, 2016). The region has focussed its development on the knowledge economy, formulating and continuing to amend a Regional Innovation Strategy (RIS) since 2001 (Doležal, 2016). The strategy focuses on increasing regional competitiveness, on supporting the innovation of businesses including their internationalisation, and on establishing research centres and linking them with business. However, it also pays attention to the development of human capital for science and innovation, providing support to talented students and attracting top scientists to improve the quality of research (Doležal, 2015). It is towards this last goal that SOMOPRO was considered and became part of the South Moravia RIS.

Description and approach

SOMOPRO is a grant scheme aimed at attracting skilled researchers from abroad and from the Czech Republic to the region. It is also aimed at supporting qualified researchers who previously worked in the region to re-establish there. The international programme provides financial assistance in the form of grants (fellowships) lasting from 1 to 3 years to top foreign scientists or to researchers who wish to go back to the region after having carried out research in another country. Candidates to the programme have to comply with the following eligibility criteria: hold a doctoral degree or have at least 4 years of research experience, and have spent a period outside the Czech Republic of at least 2 out of the last 3 years before the date of their application. The incoming or reintegration grants include living allowance (experience-based), mobility allowance, travel allowance, contributions to research costs and overheads (10% of the grant) (Doležal, 2015). Researchers are free to choose their area of investigation (with the exclusion of human and social sciences), are financially independent, may build up their own team, and benefit from the equipment of the host institutions. Host institutions are also required to provide researchers with training and career development opportunities. Grants to applying researchers are assigned through periodical calls. Selection of applicants is done by an international panel of experts.

Impact

- Skilled scientists were attracted to the region: 27 individuals were supported under SOMOPRO, 26 under SOMOPRO II and 18 under the third phase of the programme. The programme demonstrated also a good retention capacity as 13 out of the 27 fellows supported under SOMOPRO remained in the region.
- The programme funded 2,116 months of research, 71 researchers from 27 countries (35 from the Czech Republic, 24 from other Member States, and the remaining from extra-EU countries), and 237 publications (South Moravian Centre for International Mobility [website](#)). Overall, EUR 11 million were distributed through the host institutions.
- The programme evidently consolidated the talent attraction capacity of the region and generated an inflow of financial resources into the local economy.
- Leverage effects occurred through the development of publications and the awarding of research projects proposed/initiated by the fellows receiving the grants.

Findings

- A RIS facilitates the synergy of resources (i.e. funds) and activities towards a common target (i.e. the development of human capital). The EC acknowledges the successful approach of the region as *‘The SoMoPro project in the South Moravian Region (Czech Republic) combined MCA-co-funded fellowships with other programmes funded by structural funds in order to successfully develop a knowledge-based strategy for the region’* (EC, 2016).
- A relatively small number of individual fellowships become strategically important when they contribute to the regional ecosystem’s innovation capacity through knowledge leverage effects.
- The programme was designed for facilitating brain circulation. Czech researchers who have had sufficient research experience abroad (and hence were likely to have improved their scientific knowledge, joined formal and informal networks, and gained skills in accessing funding through projects or in participating in collaborative research) are the ones encouraged to return.

3.3 Ambitious talent strategy for the Copenhagen Region 2014-2017, Denmark (08_DK)

Authorities: Municipalities of Greater Copenhagen, through ‘Copenhagen Capacity’, the official organisation in charge of enhancing the development potential of the region.

Target groups: international talents.

Area type and objective: Type 2 – Reinforcement of brain gain.

Period of implementation: 2014-2017.

Funding: ESF and the Growth Forum Capital Region (i.e. the established partner of the Regional Council developing the regional development strategy and analysing regional growth).

Framing the initiative

The Copenhagen Region, formally called Greater Copenhagen (or Øresund Region), is a metropolitan area including 79 municipalities of Eastern Denmark and Southern Sweden. The area covers 20,868 km² and is divided into the seven statistical units (NUTS3) of Byen København, Københavns omegn, Nordsjælland, Bornholm, Østsjælland, Vest-og Sydsjælland - in Denmark – and Skåne län in Sweden. In 2014, it registered 3,877,513 inhabitants, of whom 660,230 (17%) were aged 18-30 (Øresund Region [website](#)). The region hosts 17 universities and colleges of higher education as well as 19 science parks and innovation incubators. Copenhagen is a relevant hub for the Scandinavian economy and one of the largest ICT European clusters. In 2014, the Danish part of the region, in particular, became home to 16,608 new enterprises. Furthermore, the local industry produced a turnover of EUR 899,492,056 with the involvement of 5,508 full-time employees (Statistics Denmark [website](#)). The Danish area and Greater Copenhagen have always been capable of attracting and retaining talented people. In 2014, only 2.7% of locals aged 18-30 left the region, and only 14% of people aged 16-29 were unemployed against the EU average youth unemployment rate of 22.2% (Eurostat statistics [online](#)). Against this backdrop, the region aims at keeping Greater Copenhagen competitive, attractive for the settlement of international investors and businesses, and at the forefront of the Scandinavian scene as the largest regional recruitment base of talent.

Description and approach

In 2014, Copenhagen Capacity launched the ‘Ambitious talent strategy for the Copenhagen Region 2014-2017’. The strategy, involving the participation of 12 group members (i.e. mayors of Greater Copenhagen, representatives of universities and enterprises settled in the region), is part of the Copenhagen Talent Bridge project funded by the ESF and the Growth Forum Capital Region.

It aims at keeping the region as a leading metropolis in northern Europe and at contributing to higher regional growth by attracting and retaining international young talents. It is built upon 10 initiatives, namely (Copenhagen Capacity, 2014a):

- (1) ‘We will guide you to job openings in Copenhagen’. This initiative provides international young talents with an open platform that gives daily updates on existing career opportunities in the region.
- (2) ‘We will empower your career in Copenhagen’. This initiative consists in running ‘Cluster Campaigns’ through the digital channel. These campaigns address passive foreign jobseekers who are potentially interested in settling down in the region. According to Greater Copenhagen’s analysis of the prospective budgetary impact of incoming international talents, each foreign worker is likely to bring EUR 96,000/year to the regional budget (EUR 295,000/year if the worker has a family) (Copenhagen Capacity [website](#)).
- (3) ‘Copenhagen will win you over’. Through this initiative, international talents living in the region tell about their experience. They are also asked to describe why Copenhagen is the best place on earth to move to.
- (4) ‘We will expand your opportunities in Copenhagen’. This initiative includes a SME Referral Programme aimed at supporting the internationalisation of regional SMEs and helping them connect with international talents.
- (5) ‘We will make it easy getting information on Copenhagen’. This initiative provides international talents with an ‘Information Fast Track package’, a guide to city life in Copenhagen.
- (6) ‘We will persuade you to return to Copenhagen’. This initiative provides international talents who previously lived in the region and then left with tailored services aimed at re-attracting them.
- (7) ‘We will provide you with resources’. This initiative is for the creation of the ‘Copenhagen Talent Charter’ where all the facilities and services dedicated to international talents and their families are reported.
- (8) ‘We will give you a key to our culture’. This initiative offers the ‘Copenhagen Seasonal Pass’ to international talents, which is a low-priced pass for joining regional sports clubs and cultural activities.

- (9) ‘We will make relocating to Copenhagen easy’. This initiative provides international talents and their families with an accommodation service run by Greater Copenhagen’s municipalities which is aimed at helping them find an affordable housing solution.
- (10) ‘We will make your voice heard’. This initiative includes the annual organisation of events dedicated to international talents (i.e. the Expat Panel and Copenhagen Talent Summit) where they can share their stories and address important remarks to the region about how public authorities can support them and improve working, study and living conditions.

Impact

According to the annual reports released by Copenhagen Capacity, the strategy has achieved the following results:

- As of 2014: creation of 1,310 jobs (this is an increase of 70 jobs compared with 2013); 354 international talents got jobs or started their own businesses in the region (+73 jobs compared with 2013); 139 companies used the Copenhagen Capacity’s talent service and attracted/retained 161 international talents (Copenhagen Capacity, 2014b).
- As of 2015: creation of 1,024 jobs that were expected to create 597 additional indirect jobs thanks to local businesses and collaborators; attraction of 150 international talents; 100% customer satisfaction for the services provided (Copenhagen Capacity, 2015).
- As for 2016: creation of 1,599 jobs that were expected to create 909 additional indirect jobs; attraction of 222 international talents (Copenhagen Capacity, 2016).
- As for 2017: creation of 1,459 jobs that were expected to create 830 additional indirect jobs; attraction and retention of 200 international talents (Copenhagen Capacity, 2017).

Findings

- Internationally competitive regions like Greater Copenhagen have to maintain their success over time. In addition, ranking high for regional attractiveness at international level does not necessarily mean ranking high in terms of regional performance. This is why the region wishes to

remain one step ahead of its ‘competitors’ by developing brand-new strategies aimed at providing international talents and their families with better and more services and facilities.

- Copenhagen Capacity turned out to be very useful in supporting the coordination and joint work of local and regional authorities, the private sector, and other territorial players.
- The organisation of annual events involving international talents living in the region turned out to provide very useful feedback to Greater Copenhagen on the type of support needed and appreciated by the attracted talents. A successful strategy must ensure that everyone’s voice is heard and that everyone feels part of the regional community.

3.4 Thessaloniki Creativity Platform, Greece (11_EL)

Authorities: Municipality of Thessaloniki.

Target groups: young professionals.

Area type and objective: Type 1 – Mitigation of brain drain/Response to the negative effects of brain drain.

Period of implementation: 2010-ongoing.

Funding: municipal budget, private funding, funds allocated on a project-basis.

Framing the initiative

Thessaloniki is located in the region of Central Macedonia. It is the second largest city in Greece with about 1 million inhabitants. The city has been suffering from the last financial crisis, experiencing very high youth unemployment rates (i.e. 43.8% for young people aged 18–29). Youth unemployment is considered a priority at both local and regional levels and an observatory for unemployment was established in 2014 to monitor the phenomenon (URBACT II Capitalisation, 2015). In terms of human capital, Thessaloniki has a relevant number of young professionals in the creative industries (e.g. architects and designers). In addition, Central Macedonia is the second region in Greece for the number of creative and cultural business, (i.e. 8,000) generating an annual turnover of EUR 655 million, equivalent to 0.8% of the regional GDP (ArtS – Skills for the Creative Economy, 2015).

Description and approach

The Creativity Platform (CP) was established as a no-profit organisation by a group of young citizens in partnership with the Municipality of Thessaloniki and other stakeholders. It was intended as a space connecting (in particular, young) people looking for work opportunities, and businesses (especially small ones) looking for competencies/services in the creative industries. Among the goals of the CP were: 1) to become a scientific and research observatory to map the ‘creative economy’ and to assess its dynamics and prospects; 2) to be a forum for dialogue to co-create an integrated strategy for the creative economy by activating all interested stakeholders; 3) to act as a networking platform to enhance the identity of the local creative community and to promote it at the international level; and 4) to develop tools to continuously inform and train the creative community on feasible work opportunities and their financial sustainability (CP [website](#)). The Municipality supported the CP by endorsing its establishment, by co-organising/hosting events, by ensuring its visibility and by taking it into account when designing local strategies (i.e. the Local Action Plan supported by the URBACT ‘My Generation at Work’ network). It did this while avoiding transforming the platform into an institutional instrument. Private contributions and micro-funding from the Municipality were integrated with specific funds for each activity. Among the activities carried out by the CP are the CREATIVITY FOR.TH initiative (2012-2013) with a conference, educational workshops and seminars and an ‘open-door week-end’ for creative spaces/business; Handpeak (created in 2014) with an online platform and guided walking tours/visits aimed at promoting the creative community of Thessaloniki (e.g. young designers); the Agrodesign project, developed at the end of 2013 with the aim of creating a proper labelling/packaging/branding for regional food producers; and ‘Crunch’ (i.e. Creative Brunch) events held at the Macedonian Museum of Contemporary Art with the dual scope of networking and fundraising. The operation of the CP is still ongoing on a project basis.

Impact

In 2013, the CP joined the URBACT ‘My Generation at Work’ network. Impact in terms of work opportunities is significant: 7 collaborators/interns of the CP found a job; 190 professionals promoted their work through the CP; 15 collaborations were created through the CP; 250 professionals benefitted from networking through the CP. Other results include:

- On the occasion of the ‘open-door week-end’ of the CREATIVITY FOR.TH initiative, 74 studios, ateliers, creative agencies and businesses in the city centre of Thessaloniki were visited by 4,000 people.

- Three ‘Crunch’ events were organised within the European Youth Capital 2014 year and each of them was participated in by more than 100 people.
- Especially at the beginning, the CP activities were concentrated in the ‘Valaoritou’ area in the Thessaloniki city centre where some old warehouses, manufacturing sites and shops were left empty after the financial crisis. A beneficial side effect of the platform’s establishment was the cultural valorisation of the area and its urban regeneration.

Findings

- Since there was no coherent regional or local strategy to support the creative sector, the encouragement of bottom-up initiatives turned out to be a successful approach for the municipal authority.
- In some cases, non-institutionalised initiatives may be more appropriate than framed policy measures. Plus, these initiatives are much less expensive.
- The endorsement of the CP by the municipality created conditions of trust among participants. This allowed young professionals to establish a no-profit organisation intended to create job opportunities for young creatives. Essentially, the organisation was created by them and for them.

3.5 The Talent House of San Sebastián, Spain (13_ES)

Authorities: Fomento de San Sebastián and Municipality of San Sebastián.

Target groups: international researchers.

Area type and objective: Type 2 – Creation of brain gain; Reinforcement of brain gain.

Period of implementation: 2011-ongoing.

Funding: not available.

Framing the initiative

San Sebastián is the capital of the Basque province of Guipúzcoa. It is a coastal city covering an area of 60.89 km². In 2011, it registered 182,026 inhabitants, of whom 64,570 were aged 16-34. The city hosts four universities, a wide range of industries and centres dealing with R&D&I (e.g. Biofisika - the Basque Centre for Biophysics, and the BCBL – the Basque Center on Cognition, Brain and Language), and is considered to be one of the highest quality R&D hubs at national and international levels. In line with this background, the investment of

the municipality in R&D is one of the highest in Europe. In 2011, it amounted to EUR 222,343,000, of which approximately 52% was allocated by the public administration and 38% by businesses. This investment represents 2.47% of the municipal GDP, against the 2.06% of the Basque region, the 1.32% of Spain and the 1.97% of the EU28 (Ayuntamiento de San Sebastián, 2015; Eustat, 2015). Overall, the city is very much committed to attracting highly skilled people and, once they are settled, it is committed to their valorisation. In 2010, the city employed 7,013 young people (16-34) with tertiary education (i.e. 87% of the youngsters of working age) (Instituto Vasco de Estadística [website](#)). As for the R&D sector, in 2011, the city counted 4,824 people, of which 3,224 were researchers (Ayuntamiento de San Sebastián, 2015).

Description and approach

The ‘Talent House of San Sebastián’ is a comprehensive knowledge hosting plan. This plan has been developed and implemented since March 2011 by the Department for the Economic Development of the Municipality of San Sebastián and ‘Fomento de San Sebastián’ (i.e. the local entity for the economic and social promotion of the city). It is based on the assumption that innovation and technical progress cannot exist without intellectual capital and that such a capital needs proper infrastructures and qualitative education systems for its growth. The plan aims at attracting and receiving international researchers and people working in the R&D sector and jointly with local R&D professionals; and at branding San Sebastián as an innovative, talented and smart city in which to live. It includes three services/facilities which address international as well as local highly skilled individuals (Fomento de San Sebastián [website](#)):

- 1) The ‘Talent House building’, a building owned by ‘Fomento de San Sebastián’ where talented researchers can rent one of the 80 apartments/locations for work or living at affordable prices. The provision of a tailored accommodation service aims at helping these individuals settle in the city. Apart from this, ‘Fomento de San Sebastián’ offers a facility rental at the building that makes it possible for any member of the local R&D community to rent, for example, conference/business rooms, or multipurpose rooms. This allows networking with other local stakeholders (e.g. businesses operating in the R&D sector, the local community) and disseminating or sharing technical and scientific knowledge.
- 2) The ‘Welcome service’ provides international researchers moving to San Sebastián with face-to-face guidance aimed at a better understanding /knowledge of the administrative procedures, and of the healthcare and

educational systems. It also aims to promote an understanding of the city itself, with its leisure activities, available facilities and services.

- 3) The job-seeking guidance service helps international researchers and partners to identify the most suitable job opportunities available in the city and to adapt their *curriculum vitae* to the local market needs. The service also includes an open platform, available on the [website](#), where people have free access to job vacancies.

Impact

- Since its launch in 2011, the plan allowed 1,325 incoming researchers to establish their business in the Talent House building and has provided the welcome service to 511 people.
- In 2014, the municipality's local R&D investment rose to EUR 194 million, or 2.67% of the GDP (Talent House [website](#)).
- 'Fomento de San Sebastián' started developing new policies aimed at attracting and retaining young talents, such as i) the 'San Sebastián connecting talent programme', providing 25 young researchers aged 18-30 with mobility grants amounting to EUR 1,358/month each in order to develop a research project abroad within an international organisation and then return and disseminate what they have learnt; and ii) the 'Residencias connecting talent, visiting professionals programme', offering talents the opportunity to move to the city for a minimum of 15 days to a maximum of two months. Talents and the local agencies who engage them are awarded a grant amounting to a maximum of EUR 750 each (Fomento San Sebastián, 2018).
- The local entity for the city's economic promotion has become the contact point of 'EURAXESS – Researchers in motion'. This is the pan-European initiative which supports researcher mobility in EU and extra-EU countries in order to promote brain circulation instead of brain drain.

Findings

- The success of this plan produced an increase in the investment of the municipal GDP in R&D. Basically, by attracting new researchers, the city can afford to spend more in R&D, as its GDP grows.
- The creation of infrastructures dedicated to accommodating R&D

activities such as the Talent House building provides the R&D community with a physical place where it can network with other local stakeholders and exchange research outputs.

- The development of indirect measures (e.g. a municipal accommodation service) is very useful for improving the city's reputation. By doing so, the city proves itself to be committed not only to innovation and talent, but also to the quality of life of its residents. International people who move to the city and are happy with their new lifestyle can be significant in promoting the city at international level.

3.6 URBACT CHANGE! Project, Hungary (17_HU)

Authorities: Nagykanizsa City Council.

Target groups: local young people.

Area type and objective: Type 1 – Mitigation of brain drain/Response to the negative effects of brain drain (+ Creation of brain gain).

Period of implementation: 2015-2018.

Funding: URBACT III Programme, co-financed by the ERDF (77.1%), national contributions (5.7%), and local contributions (17.2%).

Framing the initiative

Nagykanizsa is a medium-sized rural city covering an area of about 148 km² in South-West Hungary, in the county of Zala. The city is well-connected to five European capitals (Budapest, Vienna, Bratislava, Zagreb and Ljubljana) which are each about 200 km away (CHANGE!, 2018a). According to the city's socio-economic analysis included in its Future Development Strategy (2014), in 2011 there were 3,422 enterprises and one of the highest business densities in the country (i.e. 23 businesses/km²) (Nagykanizsa Megyei Jogú Város Önkormányzata, 2014). Nevertheless, in recent years the unemployment rate has continued to increase due to the economic crisis. As a consequence of the lack of job opportunities offered within the city, and because of the appeal of bigger and more competitive cities (e.g. Budapest, in Hungary), Nagykanizsa has suffered from a massive outflow of people and, consequently, from the brain drain phenomenon. As recent statistical analyses have confirmed, residents, and in particular young talents, tend to leave the city after completing their studies. This contributes to an acceleration of the decline of the population, which passed from 49,817 people in 2011 to 48,241 people in 2015 (a 3% decrease) (Detailed Gazetteer [website](#)). Acknowledging the negative effects caused by brain drain in recent years (e.g. loss of human capital and ageing of the

workforce), Hungary has begun to take note of this phenomenon and has implemented some changes in politics and the economy nationally. In 2015, among the programmes launched by the central government to fight brain drain is the ‘Gyere Haza, Fiatal!’ (Come home, young people!) addressed to young Hungarians living in the United Kingdom to convince them to come back to their country of origin through the provision of tailored assistance in finding a job (Valkó, 2016).

Description and approach

In line with the national approach, Hungarian cities have also begun to consider ways to halt brain drain locally. In 2015, Nagykanizsa City Council and the Urban Local Group (ULG), consisting of talented young people, NGOs and representatives of social institutions, joined CHANGE!, a 3-year URBACT project (2015-2018). This project was aimed at developing a local anti-brain drain policy and at retaining and/or regaining youth in the city. In the first stage of the project, the ULG designed a problem tree to map the main difficulties faced by the city in responding to its multifaceted and highly skilled local community needs. These difficulties turned out to be mostly related to the lack of communication between the municipal authorities and the youth, who felt they had not their voices heard or their opinions taken seriously. In a second stage, a SWOT analysis was carried out and periodical meetings and study visits with the project partners (i.e. Dún Laoghaire-Rathdown, Ireland; Amarante, Portugal; Forlì, Italy; Riga, Latvia; Gdańsk, Poland; Skane, Sweden; Aarhus, Denmark) were arranged with the purpose of sharing experiences, best practices and ideas to *‘create better communities and services for young people in order to mitigate the effects of the brain-drain’* (Nagykanizsa, 2018; CHANGE!, 2018b). Finally, an Integrated Action Plan which specifically focussed on young people was elaborated for implementation at municipal level. The plan foresees the creation of 1) the ‘Base-Youth Community’, where young people can develop initiatives and projects and make their ideas into a reality with the support of local enterprises which act as mentors; 2) the ‘Incubator Centre’, where local enterprises and representatives of the local government provide young people with funds, mentoring and consultancy services to facilitate their entry in the local entrepreneurial market, in order to counteract the young out-migration from town, promote young entrepreneurial spirit, and help youth acquire expertise locally; and 3) the ‘Benovative.com platform’, an online space serving as a local innovation hub where young talents are free to unleash their creativity and contribute to the design of the ‘Base-Youth Community’ and to the improvement of community and public services.

Impact

After the completion of the URBACT CHANGE! Project, which ended with the elaboration of the Integrated Action Plan, the municipality started creating the necessary conditions to make the three above-mentioned initiatives happen. In particular:

- It elaborated a mid-term youth policy (2018-2022), which is the very first municipal document specifically designed for, and tailored to, young people and their needs.
- It decided to mitigate the brain drain effects by providing young entrepreneurs with local tax allowances as incentives to open start-ups in town. This was done in order to foster entrepreneurship and economic growth locally, and to persuade them not to leave (Nagykanizsa Megyei Jogú Város Önkormányzatának, 2018).
- It changed its internal organisation and ‘modus operandi’, as it shifted from a vertical and hierarchical approach to a bottom-up and horizontal approach. This was evidenced by the creation of successful partnerships with local enterprises and other stakeholders for the development of a strategy designed to achieve common goals such as giving young locals the possibility of building their future in their native town.

Findings

- The URBACT CHANGE! project helped Nagykanizsa to quantify and be aware of the negative effects produced by the outflow of young people from the city. It also helped the city become familiar with the necessary measures for reversing brain drain. This was reflected in the development of an innovative mid-term strategy which was specifically tailored to the needs of young locals.
- The strategy was also designed to raise public awareness on how the young people and their talents are fundamental for the city’s social and economic welfare.
- The organisational and operational change of the municipality in dealing with problems also positively changed the citizens’ perception of the local authority.

3.7 Brain Back Umbria, Italy (18_IT)

Authorities: ‘Agenzia Umbria Ricerche’, the regional agency for socio-economic and territorial research created by the Regional Authority of Umbria in year 2000.

Target groups: citizens of the region who are residing abroad.

Area type and objective: Type 1 – Mitigation of brain drain/Response to the negative effects of brain drain (+Creation of brain gain).

Period of implementation: 2007-2013 (and renewed for 2014-2020).

Funding: ESF 2007-2013, axis V ‘Transnational and Interregional Actions’, EUR 200,000.

Framing the initiative

Umbria is a region of central Italy covering an area of 8,456 km². In 2007, it had 884,450 inhabitants, of which 226,697 were aged 20-39 (Tuttitalia [website](#)). Despite the fact that the economic situation of the region was not particularly dramatic before the onset of the 2008 economic crisis, the outflow of regional citizens abroad was already significant at that time, equalling 27,000 people (Redazione Centrale Rapporto Italiani nel Mondo, 2007). Focussing on youth, research conducted by the University of Perugia (i.e. one of the two universities located in the region), reported that 4,161 out of 14,163 graduated students residing in the region moved abroad during the 2007-2011 period for study and/or work reasons (Brain Back Umbria, 2011). According to this research, the main causes of this regional brain drain were the lack of career opportunities, meritocracy, transparency and confidence in the country; Italian red tape; and lower salaries compared with the average salaries earned abroad.

Description and approach

With the aim of reversing the regional brain drain trend into a ‘brain back’ trend (or brain regain), ‘Agenzia Umbria Ricerche’ started the project ‘Brain Back Umbria’ by collecting statistical data on labour migration indicators and other information from the Register of Italians Resident Abroad (AIRE) and the University of Perugia. However, the Umbrian emigrants’ sample turned out to be quite limited, given that people have the right to freely move in the Schengen area without being forced to be registered in the AIRE. Against this backdrop, the regional agency decided to develop a tailor-made qualitative and quantitative analysis of the region’s citizens who migrated because of the lack of job opportunities in the region. This analysis was carried out through the delivery, via the AIRE and social media, of the ‘Keep in touch’ survey to regional residents abroad. Through the survey, a sample of 1,400 regional citizens residing abroad was reached (only 46.7% of these citizens were registered in the AIRE), on the basis of which a typical profile of the migrants was outlined. Umbrian citizens residing abroad are for the majority men, aged 30-35, with a

tertiary education (one degree at least), and are highly skilled in marketing and communication. About 83.3% of the respondents turned out to be 23-40 years old. According to these results, the Umbria Regional Authority decided to implement a series of initiatives aimed at regaining its citizens. These initiatives were co-funded by the ESF 2007-2013, axis V ‘Transnational and Interregional Actions’ for a total amount of EUR 200,000 (Regione Umbria, 2007), and included:

- Provision of a maximum grant of EUR 20,000/person to potential entrepreneurs residing abroad for the creation of innovative start-ups within the region. This had the aim of attracting them and their business-making capacities back.
- Organisation of regional events dedicated to regional citizens who had migrated abroad and then returned to the region. These events provided the citizens with the opportunity to share their stories and raise people’s awareness that the region supports them and has much to offer. This was done in order to foster a shared sense of belonging to the territory and to invite other migrated people to emulate them and return to the region.
- Scholarships of EUR 5,000/person to highly skilled regional citizens working abroad in the research field, for participating in EU programmes (e.g. Erasmus+, Cosme, Horizon 2020) together with Umbrian enterprises, research centres, etc.
- ‘Business Visits’, with the purpose of enhancing the dialogue between Umbrian enterprises and relevant Umbrian professionals working abroad. Through these visits across the region, Umbrian professionals working abroad could share their experiences and start new business partnerships. This initiative aimed at fostering the internationalisation of Umbrian SMEs, their participation in EU projects and brain circulation from and to the region.

Impact

The first edition of ‘Brain Back Umbria’ implied (Agenzia Umbria Ricerche, 2015):

- Creation of a database of regional citizens who reside abroad and of a Brain Back Umbria community on LinkedIn (1,074 people mainly settled in the United Kingdom, Spain and USA).
- Creation of 16 start-ups.

- Awarding of research scholarships to two highly skilled Umbrian citizens working abroad.
- Organisation of three ‘Business Visits’ in the fields of food, fashion and tourism.
- Creation of an updated and easily accessible project website (83,207 website views during the period 2012-2015).
- Dissemination of the project on social media and via newsletter.
- Recognition of the project by regional and national press as an Italian regional best practice for fighting brain drain.

Given the positive results achieved by the first edition, the project has been renewed for the 2014-2020 period (Regione Umbria, 2014). A new regional law approved on 2 March 2018 (*‘Interventi a favore degli umbri all'estero e delle loro famiglie’* – Interventions for Umbrian citizens residing abroad and for their families) allocated EUR 175,000 on top of the existing funds to address Umbrian citizens abroad. Foreseen actions relate to employment support, financial support for business creation and start-up, and scholarships for university students. Municipalities within the region are also involved in this new intervention as they are called to provide a first-time allowance for returning Umbrian citizens.

Findings

- Social media turned out to be useful tools in creating a Brain Back Umbria community and collecting data regarding Umbrian citizens residing abroad and the reasons why they left the region. This allowed ‘Agenzia Umbria Ricerche’ to map the key features of the emigrated population.
- Qualitative data collected through the survey ‘Keep in touch’ have allowed ‘Agenzia Umbria Ricerche’ to have a deeper understanding of the reasons behind emigration and of actions the Region could take in order to re-attract emigrated citizens to Umbria.
- Even small territories like Umbria can deploy effective low-cost strategies for understanding and tackling brain drain effects. The first and foremost necessary step is to map the problem in order to develop a strategy for fighting the phenomenon which is tailored to the individuals to be retained or regained.

3.8 Brainport's strategy for talent attraction and retention, the Netherlands (21_NL)

Authorities: Brainport Development, the operational organisation for the economic development of the Brainport Foundation. The Foundation was established in 2005 and includes representatives of universities, industries and municipalities of the Eindhoven Region. It is chaired by the Mayor of Eindhoven.

Target groups: international highly skilled workers.

Area type and objective: Type 2 – Reinforcement of brain gain.

Period of implementation: 2005-ongoing.

Funding: not available.

Framing the initiative

Brainport, or Brainport Eindhoven, is the name of a region having no precise geographic boundaries but defined as an area of business innovation located in the South-East North Brabant of the Netherlands. The South-East North Brabant extends over 1,458 km² and counts 761,763 inhabitants (2017), of which 186,560 are aged 20-39 (Eurostat data [online](#)). Eindhoven is the main city of South-East North Brabant and is also the heart of the Brainport region as '*the majority of the technology companies and the research institutes are located within a 40-kilometre radius around Eindhoven*' (Brainport Avenue [website](#)). In 2005, through the Brainport Foundation, Eindhoven promoted the cooperation with 20 other municipalities, universities and companies in the region, an initiative that was at the origin of Brainport. Brainport is one of the three pillars of the Dutch economy and society together with the Airport of Amsterdam and the Seaport of Rotterdam. The region is an innovation leader in the country as well as in Europe and has a concentration of knowledge-intensive manufacturing (i.e. High-Tech Systems & Materials, Food, Automotive, Lifetec and Design). According to the Brainport Monitor 2017, the region hosts 4% of the Dutch inhabitants, 22% of the national private R&D, 46% of the country's patents, and 9% of the country's technology students. At the basis of the medium-term competitive strategy of Brainport, and in order to avoid having population ageing interrupt the innovative path followed by the region, there is the attraction and retention of international highly skilled workers and students (OECD, 2012).

Description and approach

Brainport's strategy is operationally implemented by Brainport Development, an organisation established in 2006 which receives guidance from the Brainport Foundation. In 2011, the Foundation adopted a new strategic plan 'Brainport 2020: Vision, strategies and implementation' which underlines '*...the*

importance of developing cooperation with other top regions, notably in the form of programmes for attracting and exchanging talent (students and workers)' (OECD, 2012). In 2011, a benchmarking study (Dialogic, 2011) was carried out to compare the attraction level of Brainport with those of other 15 high-innovation regions in Europe and worldwide (i.e. Bayern, Baden-Wurttemberg, Catalonia, South Finland, Rhone-Alpes, Lombardy, East England, Istanbul, Massachusetts, Ontario, California (Silicon Valley), Singapore, San Paulo, Bangalore, Shanghai). This study characterised South-East North Brabant as follows: a) having a share of 10-20% of international highly skilled workers in multinational firms; b) having a shortage of qualified workers (e.g. technical professions, natural sciences); c) recruiting international highly skilled workers mainly through Dutch universities (in terms of international students), followed by alumni networks and direct job searches of the largest firms on the international market; and d) having an increasing number of international highly skilled workers from countries with limited economic growth or with an insufficient job supply (i.e. from Southern and Eastern European countries). Challenges for attracting international highly skilled workers for the South-East North Brabant (compared to the other 15 regions analysed in the study) turned out to be i) the propensity of the international highly skilled workers to move and to value an existing level of quality of life (for example, in terms of housing, schools, culture); and ii) some structural hampering conditions of the region and in particular, language (i.e. Dutch); salary conditions at universities; and administrative burdens for non-EU workers (Dialogic, 2011). According to the study's findings, investment at the regional level was made with regards to the creation of appealing long-term career opportunities for highly skilled workers, and the improvement of quality of life dimensions (e.g. housing services, international schools, social networks). However, the regional strategy for talent attraction has evolved structurally over time (Andersson, 2017). Before the benchmarking study, during the period from 2007 to 2011, the strategy was publicly funded (at national, regional and local levels) and the industry was only asked to actively take part in activities (e.g. at international job fairs). After this pilot phase, over the period 2011-2013, the industry was asked to contribute financially to the development/scaling up of the activities set in the previous phase. In particular, companies were asked to pay an annual fee and strategically contribute with their highest levels (e.g. directors, for large companies) or in an operative manner. About 30 companies responded. The establishment of the Brainport Talent Centre in 2014 set up a mixed funding model: local public funding (i.e. from municipalities and the Province) was integrated by an annual private contribution guaranteed on the basis of a 3-year contract. The fee for each company was related to its size and ranged from EUR 1,000 to EUR 75,000. In 2017, the total annual budget (taking into account public funding and the contribution of 28 companies) was EUR 1-1.5 million (Andersson, 2017). In this last phase, one of the priorities expressed by the industry was on the

recruitment of high technology and IT competencies on international markets. The Brainport Talent programme and its Brainport talentBOX platform are the operational tools through which job opportunities in the region are proposed to international highly skilled professionals.

Impact

The strategy for talent attraction of Brainport has led to:

- An active interaction of territorial players. This is realised through the Brainport International Community, the network of reference for all the international highly skilled workers and organisations with international perspective in South-East North Brabant. Events in presence as well as blogs and social media are used for promoting interactions.
- Better job demand/supply matching. The Brainport Eindhoven ([website](#) accessed in July 2018) reported that matching between vacancies and job offers has led to 1,058 tech and IT jobs, while the Brainport Talent Box labour demand/supply matching resulted in 405 jobs ([website](#) accessed in July 2018).
- The region receiving the Intelligent Community of the Year 2011 in the world award by the Intelligent Community Forum.
- The allocation, according to the Dutch Government's plans (January 2018), of EUR 130 million to Brainport Eindhoven to improve the business climate of the area and as *'recognition of the region as a breeding ground for talent and as an international hotspot for innovation.'* This grant, according to Mayor John Jorritsma, chairman of the Brainport Foundation, *'...contributes significantly to attracting, training and retaining talent...'* (TUE [website](#)).

Findings

- An analysis of the socio-economic framing conditions of the region as well as of its attractiveness for highly skilled workers is at the basis of the undertaking of effective actions to attract and retain talent.
- Cooperation of the key players of the Triple Helix model may lead to territorial strategies which jointly address the players' needs (i.e. skills for industries, knowledge for universities, and socio-economic growth for local and regional governments).
- Industry has been in the forefront as talent attraction or 'first mover'.

3.9 Entrepreneurially Into a Business World, Slovenia (25_SI)

Authorities: Regional Development Agency of Zasavje and Municipality of Zagorje ob Savi.

Target groups: highly skilled people under 35 years.

Area type and objective: Type 1 – Mitigation of brain drain/Response to the negative effects of brain drain.

Period of implementation: 2009-ongoing (from 2013 the initiative was scaled up to national level).

Funding: Regional Development Agency Zasavje (57%), ERDF (28%) and the Municipality of Zagorje ob Savi (15%), for a total budget of EUR 604,900.

Framing the initiative

Zasavje region includes four municipalities (Hrastnik, Litija, Trbovlje, Zagorje ob Savi), has a population of 57,567 inhabitants (i.e. about 3% of Slovenia's population), and is the smallest region in the country in terms of area (485 km²) (Republic of Slovenia Statistical Office [website](#)). Previously a mining region, since 1993, with the progressive closure of mines, the region started tackling its restructuring. In its second regional development plan (2007-2013), there were several key challenges related to the labour market. These included: the decreasing number of jobs; the insufficient number of business entities (per 1,000 inhabitants); the limited capacity for attracting investments, which, together with the lack of business zones, business incubators and technology centres, is considered to also affect the development of entrepreneurship; the long-term unemployment (exceeding 45%); youth unemployment (exceeding 25%); and brain drain, determined by the preference of educated people to stay in cities which host universities since they offer more opportunities for their future (The Republic of Slovenia Government Office for Local Self-Government and Regional Policy, 2017). Although the gradual shutting down of mining activities over the last 25 years left room for the creation of innovative SMEs in the field of information technology, this is still not sufficient to stimulate regional growth. According to Zasavje 2017 region's factsheet (Republic of Slovenia Statistical Office, 2017), the region hosts approximately 3,900 enterprises and records the lowest per capita GDP (EUR 10,060), the highest share of interregional working migrants, and a negative net migration (–4.4 per 1,000 population) (Republic of Slovenia Statistical Office, 2017). A survey addressed to the young people living in the Zasavje region, and seeking their perspective, revealed that among the ten most frequently mentioned goals the region should reach in terms of development are: i) the creation of jobs for a young and educated workforce; and ii) support for the emerging businesses in the region (Marot, 2015).

Description and approach

The project ‘Entrepreneurially into the World of Business’ (‘Podjetno v svet podjetništva’), run by the Regional Development Agency of Zasavje and also supported by the municipality of Zagorje ob Savi was implemented as a pilot over the period 2009-2012. The project aimed at tackling the high unemployment among highly educated people under 35 years and with tertiary education. This was to be accomplished through the promotion of entrepreneurship culture and the creation of both entrepreneurial skills and high-quality jobs in the region. Through the project, successful applicants had the opportunity to receive mentoring and entrepreneurship training tailored to their needs. Four calls for applications were launched to select 10 individuals per call. Candidates for selection had to meet the following eligibility conditions (OECD, 2016):

- be registered as an unemployed jobseeker;
- be less than 35 years old;
- have a tertiary education level (e.g. college, higher education, master or doctoral degree);
- have an entrepreneurial idea;
- have a permanent place of residence in the region.

The project offered training and employment in the Regional Development Agency. Participants in the training programme (i.e. a total 40 individuals in the whole period of implementation) received tailored support for a 6-month period, and further support was also provided after the end of the training period. In addition, they were hired by the agency itself as public servants, hence receiving a monthly salary. The project also provided advisory support for those individuals setting up their start-ups, making a 1-year period of additional mentorship available after the completion of the training programme.

Basically, the project provided training and individual mentoring support for businesses. This created core skills and fostered the development and implementation of business ideas. The training programme covered a wide range spectrum of topics, namely introduction to entrepreneurship, business model generation, business plans, financing, commercial law, employment, accounting, marketing, sales, ICT, networking and social entrepreneurship, thus preparing the attendees to start their own businesses.

Impact

- 97 individuals applied for support through the project over the period 2009-2012.
- Each of the 40 selected individuals received the financial support of EUR 15,122.
- A success rate of 47% by considering that 10 new businesses were started and 10 people out of 40 found paid employment.
- The setting up by the Regional Development Agency of a flexible approach for entrepreneurship development.
- The consideration of the approach as a ‘good practice’ (OECD, 2016). Because of the positive results achieved in its pilot phase, beginning in 2013, the project was up-scaled from the regional to the national level. Over the period 2013-2014, five calls for applications addressed to highly educated people were launched country-wide.

Findings

- Developing youth entrepreneurship is an alternative way to create jobs and tackles the same target of offering employment opportunities to the youth, thus enabling them to remain in the region.
- The success of the project is not only due to the design of the intervention but also to the commitment demonstrated by the Regional Development Agency of Zasavje and the municipality of Zagorje ob Savi, which had an active as well as a financial role in the initiative.
- Upon the evidence of an initiative’s success, it is possible to scale up projects developed at lower administrative levels. This can be done provided that the national level is able to assess locally implemented initiatives and is willing to follow a bottom-up approach.

3.10 WOMEN - Realising a Transnational Strategy against the brain-drain of well-educated young women (30_CROSS)

Authorities: Ministry of Regional Development and Transport of Federal Land Saxony-Anhalt (DE), South Transdanubian Regional Development Agency (HU), Innovation Region Styria GmbH (AT), ZAM Styria GmbH - Regional Contact Office for Women (AT), Podlaska Regional Development Foundation (PL), Rzeszow Regional Development Agency (PL).

Target groups: highly skilled young (16-35 years) women.

Area type and objective: Type 1 – Mitigation of brain drain/Response to the negative effects of brain drain (+ Creation of brain gain).

Period of implementation: 2012-2014.

Funding: EUR 2,201,474 (ERDF contribution of EUR 1,756,041).

Framing the initiative

In recent years Central European rural areas have been facing a massive out-flow of young highly skilled women mainly determined by the lack of job and career opportunities. This out-migration sharpened the impact on negative demographic trends (i.e. depopulation, decrease of births, ageing) and on the sex-ratio imbalance registered in these areas. Furthermore, it also affected regional economic growth and competitiveness (e.g. shortage of skills). ‘WOMEN - Realising a Transnational Strategy against the brain-drain of well-educated young women’ was initiated in 2012 as a transnational cooperation project under the Operational Programme CENTRAL EUROPE. The project was participated in by institutional and non-institutional partners from six rural regions located in five countries, namely: Saxony-Anhalt – Germany; Pomurje – Slovenia; Styria – Austria; Podlaskie and Podkarpackie – Poland; and Southern Transdanubia – Hungary.

Description and approach

The aim of the project was to first analyse the reasons causing out-migration and then to draft sustainable solutions and actions able to reverse brain drain into brain retain and brain gain. According to an in-depth qualitative and quantitative analysis of the brain drain phenomenon of women in each of the concerned regions, the following causes were outlined, by region (WOMEN partners, 2014; Wiest *et al.* (Eds.), 2014).

- Saxony-Anhalt (DE): unattractive living conditions because of a lack of job opportunities and leisure facilities; lack of a regional identity.
- Pomurje (SI): poor transport connections; lack of a diversified economic structure, which is the cause of the presence of many male-oriented jobs.
- Styria (AU): mismatch between education and career opportunities.
- Podlaskie Voivodeship (PL): remoteness; unfavourable living conditions; discrimination on the labour market (traditional male role models).
- Podkarpackie Voivodeship (PL): low level of urbanisation; conservative labour market; difficulties in re-entering jobs after maternity leaves; traditional male role models; difficulties for women to reach managerial positions (i.e. ‘glass ceiling’).

- Southern Transdanubia (HU): lack of innovation in the economy; poor transport connections; high travel costs; discrimination on the labour market.

Overall, the main causes relevant to all regions were summarised into the following: i) lack of diversification in the regional economic structure, which resulted in the lack of favourable job and career opportunities for young women with tertiary education; ii) lack of social and technical infrastructures (e.g. leisure facilities, transport connections); iii) a negative image of the region, also given by its inhabitants and their explicit dissatisfaction with the quality of life as well as the facilities and services at their disposal.

Pilot actions, tailored to each region's demographic and socio-economic structure represented the core of the project. All pilots included four initiatives (WOMEN partners, 2014; Wiest et al. (Eds.), 2014):

- 1) The 'Women are future – award'. The award was aimed at raising public awareness on the importance of retaining young well-educated women. It also aimed at honouring outstanding women who run enterprises or put forward innovative ideas, who could then inspire other women to live in the region and follow their lead. The competition was divided into three categories: 'key women', 'female friendly business' and 'best female start-up'.
- 2) The 'Awareness Raising Campaign'. Each region produced a campaign aimed at disseminating a positive image of the region as well as available career opportunities for women in order to incentivise their stay.
- 3) The 'demography coaching'. This initiative implied the training of personnel managers working within regional companies to better understand the needs of female employees and cope with related challenges (e.g. 'glass ceiling').
- 4) 'Social networks'. These networks were used as open platforms where women were free to share their business experiences and ideas. The aim was to create regional female communities who shared an attachment to the region of origin as well as the desire to contribute innovation to the regional economy, thus becoming inspiring examples for other women.

Impact

- The ‘Women are future – award’ (180 nominees) raised awareness on the problem of brain drain of well-educated females. Furthermore, the winners of this competition became ‘models’ of the regional efforts made to prevent female brain drain.
- 6 image campaigns were run.
- Demography coaches were established in each partner region with the scope of influencing the participation of women in companies’ knowledge management processes.
- Established social networks of successful female entrepreneurs had the effect of increasing the social attachment of women to their regions.
- The conclusions drawn from the project led to the elaboration of the ‘Joint Transnational Strategy’ and the ‘Joint Action Plan’ through which WOMEN partner regions confirmed their commitment to counteracting women out-migration.
- The project’s approach was enhanced to be more sustainable, produce long-lasting structural and mental changes, and adapt to other rural areas of Central Europe facing similar problems. This implied, for example, the involvement of additional players such as regional, national and European policymakers as well as stakeholders operating in the regional labour market.

Findings

- The project highlighted the interconnection between women’s brain drain and the demographic changes affecting Central European rural areas.
- The strategy developed within the framework of the project to counteract women’s brain drain turned out to be replicable in other areas which face the same problem and have comparable socio-economic characteristics and demographic patterns. However, the need for each rural region to adjust the strategy to its brain drain characteristics was evident. For example, the out-migration of women aged 20-24 is more likely to be driven by the lack of higher education infrastructures, whereas women aged 30-34 may decide to migrate because of the lack of pro-family initiatives or facilities.
- A complex and comprehensive approach is required to counteract women’s brain drain. This approach has to be bottom-up and requires the active involvement of regional stakeholders and policymakers in order to produce a structural and mental change in favour of women and of their remaining in rural areas.

- In order to keep and/or make highly skilled women return, rural regions have to embrace a ‘culture of welcome’ aimed at providing them with more favourable living conditions and a more innovative economic structure. Furthermore, rural societies need to join this culture by showing more openness and inclusion of newcomers.

Part 4: Recommendations

This study compiled details of successful initiatives related to brain drain implemented by LRAs and/or their agencies. The aim was to draw on the evidence gathered in order to provide LRAs with guidance on suitable approaches for addressing the brain drain phenomenon at local and regional levels. Twenty of these initiatives are described in Part 2. The other ten initiatives are more thoroughly presented as case studies in Part 3. These initiatives concern both sending and receiving regions. The experience of sending regions (Type 1) explains how measures and policies are implemented **to cope with the brain drain phenomenon, to reduce its negative effects, and to retain talent** (i.e. prevention of brain drain, mitigation of brain drain and response to the negative effects of brain drain). In contrast, the experience of receiving regions (Type 2) **describes how to attract talent** (creation of brain gain and reinforcement of brain gain).

The recommendations below are addressed to sending regions. They are drawn from the approaches implemented in the 30 identified initiatives as well as from the findings derived from the case studies. **By necessity, suggestions are broad in nature** as the transferability of a measure or policy depends on many factors. These factors range from a region's policy development model (e.g. competencies of public authorities) to the region's contextual conditions (e.g. labour policy and regulatory frameworks, economic development, education system and demographic trends).

R01. Investigate and understand the needs of talent

Effective measures/policies should be designed around a robust knowledge base. That is why investigations by LRAs with regards to the needs of the talent they want to attract are essential to addressing the brain drain phenomenon. This process involves stages that include awareness of the situation, defining target groups and understanding their expectations. To that end LRAs should set up appropriate intelligence tools and instruments that will fill the information gap. The first step is to **become aware of the brain drain phenomenon and its characteristics** (e.g. existing or potential talent, the mismatch of skills between supply and demand, which sectors are driving the economy and the capacity of higher education institutes to create competencies). Evidence has shown that there are instances where policymakers were not fully informed on the occurrence of brain drain and/or its negative effects on society (e.g. the case of highly qualified women leaving rural areas in Case 10). Secondly, it is important to get to **know the target groups** to be addressed by any policy or measure.

This means ‘profiling’ the kind of talent LRAs want to attract or retain. Profiles can only be drawn on the basis of the needs of the labour market (e.g. the sectorial skill gaps to be matched) or by the LRAs’ desire for the return of highly qualified citizens originally born in the region. Finally, it is necessary to **identify and meet the expectations of the talent to be targeted** in terms of conditions that affect their decisions to stay or return. The evidence gathered suggests recommending that LRAs should:

- ***Undertake a comprehensive analysis of the status of the talent to be targeted.*** In the URBACT CHANGE! Project, **the City of Nagykanizsa** (Case 6) mapped the needs of its multifaceted and highly skilled local community. That was followed by a SWOT analysis and the drawing up of an integrated action plan that specifically addressed young talent. The preliminary activities of **Brain Back Umbria** (Case 7) focussed on creating a profile of the ‘talented migrant’ through a qualitative and quantitative analysis. An additional investigation of the reasons behind the migration of regional talent allowed the Regional Authority to tackle the conditions facilitating/incentivising the return of highly skilled individuals. The Brainport strategy to attract talent to **South-East North Brabant** (Case 8) was set up after an in-depth analysis of the socio-economic framework of the region that also took into account other places worldwide competing for the same talent. The Uusimaa Regional Council (14_FI) investigated European best practices that had succeeded in minimising the difficulties encountered by international talent when settling down abroad. Harghita County Council (23_RO) carried out a SWOT analysis of its region that took into account the EU’s four freedoms of movement and was aimed at identifying measures that would address youth unemployment and brain drain.
- ***Create mechanisms that provide the means for talent to voice requirements and express levels of satisfaction.*** The Ambitious Talent Strategy of **Greater Copenhagen** (Case 3) envisions annual events that will provide regular feedback from international talent as to needs and any appreciation of the integration/support services provided. The Uusimaa Regional Council (14_FI) used questionnaires addressed to settled international professionals and students to collect comments on perceived quality of life and expectations.

- *Establish a dialogue with young resident talent.* In the Pinzgau-Pongau-Lungau Salzburg Model Region (02_AT), authorities decided on a more participatory development process within the region that would also reflect the expectations of young people. The municipality of Varna (04_BG) strengthened its dialogue with ‘talented’ students by involving them in its operational activities.

R02. Coordinate players and synergise resources for talent-based growth

Coordinated and shared interventions lead to better results as different stakeholders’ interests converge. LRAs can exploit talent-oriented strategies for socio-economic growth. This requires LRAs to become the architects and implementers of initiatives aimed at local/international talent (especially in the younger age bracket). To this end, it is essential to have a **concertation process/mechanism** in place amongst the players creating competencies (e.g. universities) and the players demanding skills (e.g. businesses). The **South Moravian Programme** for Distinguished Researchers (Case 2), a three-year programme aimed at attracting international researchers, was designed to contribute to the Regional Innovation Strategy. The coordination of players, as well as the synergization of their resources is tackled in various ways, from formal joint strategies to operational collaborations. The evidence gathered suggests recommending that LRAs should:

- *Design strategies to frame cooperation.* The Brainport strategy to attract talent to **South-East North Brabant** (Case 8) is explicitly based on adopting a Triple Helix approach in which the prime player is industry. Daily collaboration among the different players is organised in virtual spaces (e.g. the Brainport talentBOX). There are several other examples of strategies fostering cooperation between different players to achieve common goals: the Ambitious Talent Strategy of **Greater Copenhagen** (Case 3) involving public authorities, universities and enterprises, the ‘Open Amsterdam! Amsterdam Strategy for International Talent’ of the Municipalities of the Amsterdam Metropolitan Area (20_NL), and the Highlands and Islands Talent Attraction, Retention and Return Strategy and Action Plan (27_UK) which fosters cooperation between regional and local authorities.
- *Create opportunities for broad scope interaction between players.* The Talent House of the **City of San Sebastian** (Case 5) has created physical spaces for networking and competency exchanges amongst different types

of players. Similar spaces have also been created in the City of Varna (04_BG) and in Tallinn (09_EE). Other types of interactions occur through ‘soft infrastructures’: the Creativity Platform supported by **the City of Thessaloniki** (Case 4) is an informal group of territorial stakeholders based on the Quadruple Helix approach in which civil society takes the lead.

- ***Strengthen the supply of talent.*** Nurturing talent locally or regionally can be combined with talent attracted from elsewhere. Coordinating with players in charge of higher education or of skills creation can be an effective approach to preventing brain drain. Examples in this sense are the Business Academy in the Region of Styria (01_AT), the strategy for cooperation with higher institutions in the municipality of Varna (04_BG) and the empowerment of industrial PhD graduates in Madrid (12_ES).
- ***Facilitate matching the demand and supply of talent.*** Brain drain may simply be the result of skill mismatch between talent and market needs. LRAs can take on the role of coordinator in this area as well. Soft infrastructures are commonly used to increase the visibility of local/regional job market opportunities. Examples include the online job platform launched in Chemnitz (07_DE), the Learning Partnership in the Region of Styria (01_AT), the TRIGGER tool-box in the ‘Transnational Initiative for guidance of graduated and entrepreneurship’ in Macedonia-Thrace (10_EL), and ‘transformation projects’ in the city of Nantes (16_FR).

R03. Identify and support key driving sectors for retaining/attracting talent

When the aim of LRAs is the socio-economic growth of their regions, they should focus on **sectors they are actually investing in from a strategic point of view** (e.g. through Smart Specialisation Strategies), but they can also take the opportunity to support **new fields that show promise**. With regards to young talent, investing in order to favour knowledge creation and exploit specific sectors/skills is particularly important and may well be the best approach. The support given to those sectors/fields expected to be the driving force behind attracting or retaining talent involves the reduction of push factors in general as well as the creation of specific pull factors in the region. The evidence gathered suggests recommending that LRAs should:

- ***Define sector-specific strategies in which to invest in the mid-term.*** The Brainport strategy for talent attraction in **South-East North Brabant** (Case

8) considered the productive specialisation of the region (strongly characterised by knowledge-oriented manufacturing) as the starting point to defining the high-level of expertise needed, especially internationally. Other examples are the orientation of the local economy towards a ‘knowledge economy’ in the municipal strategy adopted by Varna (04_BG), and Tallinn’s manifesto, strategy and plan for CCIs to boost the city’s economy (09_EE).

- ***Build on job opportunities generated by industries that are human capital-intensive.*** Cultural and creative industries were seen to be the target sector of several of the initiatives. In **the City of Thessaloniki** (Case 4) the creative sector was inherently deemed to be ‘promising’ thanks to civil society’s contribution. CCIs are also leading socio-economic growth in Tallinn (09_EE), in Kosice (25_SI) and in the medium-sized creative cities of the ‘Organza’ project (29_CROSS).
- ***Invest in the spillover effects of knowledge.*** In the Community of Madrid’s Regional Plan for Scientific Research and Technological Innovation 2016-2020 (12_ES) one way to promote R&I structurally is to attract and retain young, highly skilled people working in R&D, and PhD graduates in particular. The three-year strategic programme 2018-2020 created by the Lombardy Region (19_IT) serves as a reference document on R&I related policies and enhancing appreciation for young researchers. One way the municipality of Varna (04_BG) is tackling the transformation of the local economy into a knowledge economy is by retaining talented students.
- ***Support business culture and competencies.*** Examples range from the creation of physical infrastructures such as business incubators (09_EE) to the transfer of soft skills as seen in the mentoring programmes of the Tampere Region (15_FI), or the development of project management skills of young Croatian and Hungarian graduates (28_CROSS).

R04. Stimulate the absorption of outside talent

LRAs may seek out outside talent. Additional R&I capacity allows regions to become more competitive and may create important multiplier effects. For example, talent may generate new employment opportunities in the short and medium term. In general, there are three main options for LRAs to absorb talent: 1) **by attracting ‘brand new’ talent** from other regions (i.e. brain gain); 2) **by stimulating the return of highly skilled workers who left in the past** and are now endowed with new competencies acquired abroad (i.e. brain regain). This approach also has the advantage of targeting talent that is acquainted with the

language and social/cultural conditions of the receiving LRA; 3) by combining the two previous approaches. The evidence gathered suggests recommending that LRAs should:

- ***Set up projects that address how to recruit outside talent.*** Examples include The South Moravian Programme for Distinguished Researchers of the **South Moravian Region** (Case 2), and the Become a Walloon Researcher programme implemented in the **Wallonia Region** (Case 1). In these projects, recruitment opportunities were also offered to regional researchers who had previously emigrated.
- ***Set up medium-term strategies focussed on the attraction and retention of international talent.*** An example of this is The Ambitious Talent Strategy of **Greater Copenhagen** (Case 3). The knowledge hosting plan of the Talent House of San Sebastián (Case 5) led to **the City of San Sebastian** benefitting from an increase in its GDP as a consequence of innovative activities set up by the talent it attracted. This in turn has allowed the municipality to increase its investment in R&D and attract more researchers.
- ***Publicise opportunities for talent and ‘brand’ the territory.*** Information and marketing tools regarding staff vacancies are essential to letting talents know about individual job opportunities. Examples include the open platform ‘We will guide you to job openings in **Copenhagen**’ (Case 3), the **Brainport** talentBOX platform (Case 8) and the city of Chemnitz’ online job platform (07_DE). A more wide-scale promotion of the job potential of a region may increase its appeal to talent. Creating a reputation and an image as an ‘international university city’ is the approach used by Varna (04_BG). Madrid branded the region as a ‘leading world player’ in R&D (12_ES) and Košice qualified itself as a ‘creative city’ (26_SK). In some initiatives, events were used to showcase the authorities’ interest in young talent (e.g. the annual FUNCITY festival in 04_BG, career events and job fairs in 20_NL).
- ***Reward talents.*** Monetary rewards may increase the appeal of a region to talent. Among the examples are the prizes given to outstanding young PhD graduates in 12_ES, to researchers in life sciences in 19_IT and to young science and engineering researchers in 22_RO.

R05. Mitigate/remove structural impediments/barriers to attracting international talents

Notwithstanding the regulatory framework on the free movement of workers within the EU, LRAs have to pragmatically address the structural impediments/barriers that may prevent the immigration of talent, especially from other EU countries. Language barriers, cultural differences, and the lack of practical information about essential services related to individual/family needs are factors that may discourage talent from moving. LRAs can play a role in providing accessible information as well as in implementing support services aimed at foreign workers and their families. The evidence gathered suggests recommending that LRAs should:

- ***Provide accessible information and/or tailored support outside of the job sphere.*** The Ambitious Talent Strategy of **Greater Copenhagen** (Case 3) is based on the delivery of services dedicated to international talent and their families. The Welcome service of the Talent House of the **City of San Sebastian** (Case 5) aims at providing face-to-face guidance on available facilities and services. The collaboration of Open Amsterdam (20_NL) with existing mechanisms (e.g. ‘Amsterdam Salon’) helps international talents get acquainted with life in the city. The Welcome-Service-Pinzgau (02_AT) offers child care and housing search services to incentivise the return of highly skilled individuals.
- ***Improve/create infrastructures.*** The presence of hard infrastructure improves the quality of life and is therefore an important element in the decision of talent to move. Public authorities who wish to attract talent should demonstrate their capacity to address specific requirements (e.g. providing the children of international talent with top-quality education at both Dutch and international schools in 20_NL), or combine the needs of immigrant talent with those of their citizens (e.g. housing in 02_AT).
- ***Improve mentality.*** Cultural differences or the presence of gender-biased attitudes may represent strong barriers to talent considering moving to a region. **Territories in rural areas** (Case 10) identified the need for a ‘culture of welcome’ based on greater openness and inclusion particularly for highly skilled immigrant or returning women.

R06. Cooperate with other authorities facing the same challenges with regards to highly skilled workers

As one region's gain of talent implies the loss of competencies somewhere else, measures and/or policies to attract talent may lead to competitive behaviour. While this usually occurs in regions that rely on structural pull factors, LRAs in sending regions may benefit from cooperating with authorities facing similar challenges. A shortage of resources could limit the action LRAs in sending regions can take, and cross-cooperation may generate a sufficient increase in available resources for effective interventions to take place. Concerned authorities may be located in adjacent territories or simply share a common challenge with regards to a talent shortfall. The evidence gathered suggests recommending that LRAs should:

- ***Share objectives and results.*** The **Zasavje region** and the **City of Zagorje ob Savi** (Case 9) cooperated and actively participated in the implementation of the successful 'Entrepreneurially Into a Business World' initiative. Other examples include cooperation among the cross border regions of Greece and Bulgaria (10_EL) and of Hungary and Croatia (28_CROSS), the municipalities and towns of the Tampere region (15_FI), various municipalities and national institutions in Open Amsterdam! (20_NL), and among different countries in the EU3doms project (23_RO) and the ORGANZA project (29_CROSS).
- ***Participate in EU financially-supported projects involving LRAs from different Member States.*** Apart from benefitting from an increase of funds/resources, participation in international projects enables the sharing of experiences and the acquisition of multi-cultural perspectives. The significant number of examples in the inventory of projects supported financially by the EU can be explained by the fact that EU funding requires and automatically gives visibility to recipients. Co-funding of the initiatives is frequently through the ERDF, and also through participation in URBACT (e.g. 04_BG, 06_CY) and Interreg (e.g. 14_FI, 29_CROSS). Other initiatives show that cooperation among authorities can also be financially supported by specific programmes such as the Europe for Citizen Programme (23_RO) and the Alpine Space Programme (02_AT).

In conclusion, LRAs in sending regions may play an important role in addressing the brain drain phenomenon. Although demand for talent and brain drain are both driven by job markets, by adopting a proactive approach LRAs can stimulate intra-EU mobility opportunities. Evidence shows that ad-hoc policies/measures implemented locally/regionally may increase a region's

visibility and/or create job opportunities for highly skilled workers, and/or directly improve a regions' attractiveness to talent.

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