GROSEE
Growth Poles in South East Europe

Targeted Analysis 2013/2/19

Final Report | Version 28/02/2014

EUROPEAN UNION
Part-financed by the European Regional Development Fund
INVESTING IN YOUR FUTURE

This report presents the final results a Targeted Analysis conducted within the framework of the ESPON 2013 Programme, partly financed by the European Regional Development Fund.

The partnership behind the ESPON Programme consists of the EU Commission and the Member States of the EU27, plus Iceland, Liechtenstein, Norway and Switzerland. Each partner is represented in the ESPON Monitoring Committee.

This report does not necessarily reflect the opinion of the members of the Monitoring Committee.

Information on the ESPON Programme and projects can be found on www.espon.eu

The web site provides the possibility to download and examine the most recent documents produced by finalised and ongoing ESPON projects.

This basic report exists only in an electronic version.

ISBN 978-2-919777-41-9

List of authors

University of Bucharest, Bucharest, Romania

The Interdisciplinary Centre for Advanced Research on Territorial Dynamics

Ioan **IANOȘ**, Daniela **STOIAN**, Irina **SAGHIN**, Andrei **SCHVAB**, Natașa **VĂIDIANU**, Cristina **MERCIU**, Gabriel **PASCARIU**, Cristian **IOJĂ**, Cristian **DRĂGHICI**, Daniel **PEPTENATU**, Radu **PINTILII**, Loreta **CERCLEUX**, Cristian **TĂLÂNGĂ,** Cristian **BRAGHINĂ**, Daniela **ZAMFIR**, Valentina **STOICA**

National Technical University of Athens, Athens, Greece

Minas **ANGELIDIS**, Epameinontas **TSIGKAS**, Maria **KOTRONAKI**, Antonia – Aspasia **KOUTSOPOULOU,** Theodore **CHATZIIOANNOU**, Marianna **PATELIDA**

Union of Architects in Bulgaria, Sofia, Bulgaria

Atanas **KOVACHEV**, Mintcho **NENTCHEV**, Neno **DIMOV**, Tania **PETROVA**, Kostadin **POPOV**, Stefan **ASPARUHOV**, Marya **SABCHEVA**, Dimitar **DZHODZHEV**, Ivo **ANEV**, Verzhiniya **LAZAROVA**

University "Al. I. Cuza" of Iași, Iași, Romania

Cornel **IAȚU**, Roxana **CERNESCU**, Mihai **BULAI**

TABLE OF CONTENTS

Figures

Tables

Maps

A Executive Summary

GROSEE project analyses the role of the three South-Eastern European countries capital cities (Athens, Bucharest and Sofia) as part of the European urban system and identifies the necessary actions to improve the cooperation among them. The project also performs an analysis of local and regional resources, social and economic structures, and an evaluation of the physical infrastructure. The GROSEE project also makes recommendations regarding the restructuring of the relations between the core city (CC) and their Metropolitan Regions (MR) and also evaluates the potential for regional cooperation. The utility of this study resides from the need to understand and identify the modalities through which the three capital cities can act as drivers of competitiveness and innovation and European growth poles and thus support the emergence of a new European integrated area of concentrated economic growth. This report presents in a synthetic way the differences and complementarities between Athens, Sofia and Bucharest metropolitan regions and define in this respect sectoral and integrated policy recommendations to foster development and reduce the economic development gap between South East of Europe and the European Core.

1. Synthesis on GROSEE findings, supporting coherent policies for the South East of Europe

The report studies the present connections between the capital cities of Bucharest, Sofia and Athens and their respective metropolitan regions, the potential for cooperation between the three capitals and the social and economic discrepancies between these regions. The report also proposes a set of policy recommendations in order to capitalize the development potential through cooperation.

a. Detailed knowledge of the relationship between each capital city and their metropolitan regions

The study offers updated information about the three capitals and analyses the complementarities between each city and its metropolitan region. Elements of cooperative development potential are considered in detail, as well as existent distortions in terms of urban governance. The dynamics of metropolitan spaces have become increasingly complex; the urban spaces in Athens continue to change, while the suburban areas of Bucharest and Sofia have experienced a chaotic expansion of built areas.

b. Estimating the potential for cooperation between the three capitals

Abrupt and drastic deindustrialization immediately after the fall of Communism at the start of the 1990's in both Sofia and Bucharest has had far reaching consequences for industrial cooperation between Bulgaria and Romania. Rapid development of tertiary sector of these two capitals has benefited from the important economic potential of Athens that was conversely affected positively, especially in the financial and telecommunications sectors. The recent socio-economic crisis has affected the cooperation between these three capitals, but has also created new opportunities in the tourism and transport markets.

c. Assessment of the intra-regional gap, given the different levels of development of the three countries and capitals

The analyses reveal a gap between the development levels of the three capitals that is being transferred at national level. Greece has a higher GDP per capita compared to Bulgaria and Romania, but the discrepancy is even more severe at regional level, as the regions of Athens and Bucharest have a much higher GDP than Sofia region. Current trends focus on balancing the development levels, with a commensurate increase of connectivity and accessibility between them and with the European core, with attendant social and physical infrastructure improvements, thus resuming stable economic growth.

d. Develop a set of policy recommendations

The policy recommendations were based on the following main sources:

- main findings of the quantitative and qualitative research done in the frame of GROSEE project

- interviews with a total of 30 stakeholders (policy makers, experts and practitioners) from the three countries,

- results from three workshops held in Athens, Sofia and Bucharest with the participation of stakeholders from different national, regional and city institutions, who made recommendations for defining pathways and specific policies related to a better insertion of each metropolis in the national urban network and to the valorisation of opportunities arising from the geographical position in SEE,

- inputs and recommendations received following the publication of a set of brochures which included analyses of each of the three capital cities in the SEE context. These brochures were designed separately for Bucharest, Sofia and Athens, including only findings relevant to each city, and were published in two languages: the national language and English. The public distribution of these materials generated written comments from some researchers and stakeholders who restated the idea of further research on the relations between these cities in the SEE area. On the basis of the inputs received, some recommendations have been made in fields such as land use, housing, infrastructure and environment.

The set of policy recommendations resulted of all the inputs above includes:

- Strengthening the Bucharest- Sofia-Athens axis, through the development of other poles along it (Giurgiu, Ruse, Veliko Târnovo, Plovdiv, Thessaloniki, Larisa), on the basis of transnational and regional cooperation;
- The creation of cross-border cultural centres to promote national cultures and the exchange of values between the three countries;
- The creation of network platform for the SMEs, especially in tourism and IT, by involving institutes and universities;
- Introduction of a BONUS programme (research and development programme applied in the Baltic Sea Macro region), that promotes cooperation in the research and territorial planning field;
- Using the INTERACT programme for the dissemination of good practices linked to transnational cooperation, integrated territorial investments and European territorial cooperation groups;
- The establishment of at least three interregional centres for technology transfer to intensify the relationships between the academic and the private sector;
- Supporting coordination of initiatives for cooperation between the three metropolises-establishing regular meetings between the mayors of the three metropolises to create guiding lines for cooperation (the Mayor of Bucharest expressed the interest to organise a first meeting at the beginning of 2015);
- Creating the implementation core for trans-Balkans cooperation, initially with the representatives of the three metropolises and with a restrained administration;
- Mixing the concerns of tourism with the sustainable development of coastal and mountainous areas;
- A better use of the results of INTERREG and other European associated programs;
- Valorising the existing opportunities at macroregional level, (Strategies concerning the Danube and the Adriatic - Ionic Sea regions), through projects that would lead to an enhancement of cross-border cooperation;
- Similarly with NORDREGIO, for a better coordination of the research in this part of Europe, a Centre for Research on the Development of the SEE could be founded, gathering data and conducting common research on at least three main themes: environmental protection, development of road and railway networks, sustainable development of urban systems

These recommendations will encourage support policies in order to revive the relationship city - functional urban area (FUA) and metropolitan region (MR). To encourage cooperation between Bucharest, Sofia and Athens, a number of key cooperative directions have been individualized: research and development, telecommunications, major physical infrastructure, tourism, higher education, maritime and fluvial transport and culture.

e. ESPON database update for the three capitals and states

The study has updated the ESPON database with local (NUTS 2 and NUTS 3) and national data for the three capitals, mainly indicators referring to demography, household endowments, education, unemployment, research expenditure, GDP per capita.

2. A possible emergence of a new European growth area outside the European Core?

The study shows that, at present, the three capital cities are growth engines for their countries, but they do not have enough power to decisively contribute to the creation of a new European integrated area of concentrated economic growth in this part of the EU. Their metropolitan regions could become development engines at national level, where legislation on cooperation in such areas will be regulated and encouraged.

This study has been conducted at a time when EU trends in spatial development (affected by the current financial and economic crisis) express the increasing discrepancies between the wealth and stability of the European core as against peripheral regions. Despite efforts for the diffusion of prosperity throughout the EU regions, the economic gains for the peripheral areas of Europe have been delayed.

EU 2020 Strategy and the Territorial Agenda 2020 emphasize the importance of territorial integration at the level of macro-regions such as the Baltic Sea region, the Danube basin, and encourage other ways to enhance territorial development such as stimulating the development of an area like Athens - Sofia - Bucharest axis. The implementation of the EU Danube Region Strategy can accelerate the development of this axis and can foster cooperation between the three capital cities.

The European Integration of Romania and Bulgaria, ensuring a terrestrial connection of Greece with the European core area, was a crucial factor of growth in the South-Eastern Europe. Thus, regional resources were better valorised and the area was better integrated functionally. **The urbanization processes show that big cities are the main promoters of spatial development** and in the case of SEE there are three metropolises which could have this role: Bucharest, Sofia and Athens.

The study shows that the development of SEE area relies heavily on the three studied capitals, their weight in economic development being significant, but there is a need for enhanced cooperation and better connectivity between these metropolises in order to valorise the potential for a new area of concentrated growth in the South East of Europe.

a. The Bucharest – Sofia - Athens Triangle, a Main Driver for Economic Growth in South-Eastern Europe

The target to reduce the gap between the SEE and the European core should be reached through accelerated economic growth, and high concentration of population and of economic activities play an essential role in this regard. The economy of the three capitals, its associated activities, the performance in research, innovation and attraction of foreign investments stand as key elements in supporting their transformation into growth engines. This area is heavily affected not only by the contemporary crisis, but also by the initial low levels of development (considering that Romania and Bulgaria have been integrated into EU structures only in 2007, with the lowest GDP/capita within the EU).

Each of the three capitals has a large population, particularly Athens, with nearly 4 million inhabitants (35% of the country's population). Bucharest and Sofia have 1.94 and 1.1 million inhabitants, representing 9.05% and, respectively 15.2% of the population of Romania and Bulgaria.

In addition, the contribution of these capitals to the national GDP, greatly exceeds the demographic weight. Athens contributes to 48.1% of its national GDP, while Bucharest's GDP contribution to the national GDP is 22.2% and Sofia's is 39.6%.

These cities can leverage to act as engines of economic growth through the cooperation at three territorial levels: metropolitan areas, national urban systems and European urban systems. These structures provide different types of resources to the three cities (including best practices, too). At their turn, the metropolises offer services, goods, a highly skilled labour force, as well as good practices in urban planning. Accessibility, human capital, innovative capacity, creativity and institutional effectiveness are to be found at the foundation of growth potential. For the South-Eastern Europe, the three capitals represent the main driving force that through cooperation with the European core and between them can develop into a regional growth area.

b. The roots of cooperation potential between the three cities

Despite some difficulties related to their historic development and recent geopolitical conditions, relatively big distances between the capital cities and language barriers, there is a high potential of cooperation that can be valorised. This cooperation potential is based on the common historic background, similar regional culture, upon the countries vicinity, the high level of concentration in terms of economic activities presence of qualified working force, potential for development of tourism.

The gap in development compared to the European core and western regions can encourage vicinity cooperation, while the cooperation at European level can foster competitiveness and innovation.

The potential for cooperation is significant as Bucharest and Sofia have recorded a GDP structure in which services continue to demonstrate considerable potential for growth, while Athens's experience of an economy based on services can provide numerous examples of good practice in the communications industry (investments and management of telecommunications companies), financial services (administration of banks and insurance companies) and urban planning (e.g. solving issues linked to the construction of multimodal points, diminishing pollution, protecting green areas). Related to the last issue, the Strategic Plan for Attiki 2021 which came into force recently (2014), could be a good example. Priority is given to urban sprawl, to further developing the network of public transport and promoting big and smaller operations of urban regeneration. At the same time, in the central area of Athens a major plan of integration of archaeological sites through a network of large pedestrian roads and open spaces was implemented with great success in the 2000s. Other example for Bucharest and Sofia is The Urban Control Zone (UCZ) of Eastern Attica, which was established in the 2000s, and which restricts the development of housing and other urban land uses outside the City Plans.

Foreign investments are mainly localized in the capitals, especially in the case of Bucharest and Sofia, which would suggest considerable potential for cooperation through joint economic policies. The strong investments from Greek companies in Bulgaria and Romania and the cooperation in tourism have demonstrated this potential

An important potential for cooperation resides in a strong academic relation between Greek, Romanian and Bulgarian universities. The increasing number of research projects, student exchanges and EU funded projects are significant elements in boosting cooperation.

c. Three South-east European metropolises with three specific hinterlands

The physical and geographical diversity of the three capitals make their hinterlands totally different. Bucharest and Sofia are situated within the mainland, while Athens is situated in an area with direct access to the Mediterranean Sea. Thus the differences in morphology between the three metropolitan regions are determined by the interactions of different natural factors. As a result, the hinterland is much closer to the Athens conurbation due to the interpenetration between sea and land; the hinterland in Sofia is defined by the topographic specificities (natural barriers - mountains), which led to a spatially uneven expansion of the city, while that of Bucharest is characterized by a relatively concentrated development around the city centre. The symbiotic relationship between Athens and Piraeus highlights the Athenian hinterland through its complex functions with a clear influence in terms of contact with the sea. Bucharest and Sofia are characterized by a hinterland that is structured according to a decreasing influence of the

metropolises from the centre to the periphery. Recently, there has been a tendency for the development of new intra-metropolitan growth areas that fragment the classic city-region models, but put greater value on the development potential of metropolitan region as a whole.

d. Financial and economic crisis sets new policies for regional development?

The most recent financial and economic crisis has strongly affected the SEE area, and this is reflected by an increase in unemployment, both for rural and metropolitan regions. All three countries have become more or less dependent on international funding sources from the IMF, the World Bank and the EU. However, reduced investments allocated to development, the shift to austerity budgets, rising social costs have all driven the respective states in the region to reflect more on endogenous development policies, by exploiting national potentials and strengths.

At the same time, one should expect a move towards the development of cooperation between neighbouring states, on the one hand, and to define strategic objectives of regional cooperation with the European core states, on the other hand. A common strategy could be focused on the genesis of an area of concentrated economic growth which can mitigate the effects of the current crisis.

3. Social, economic and cultural detachment of the three national capitals inside their countries

Within the three countries, capitals have the tendency to increase their share in the national economy, through uninterrupted concentration of economic activities related to the services sector. This continuous process that is not complemented by a real decentralization process can be defined as similar to a territorial detachment of the three capitals.

a. Detachment trends in the national urban systems and metropolitan areas

The three capital cities concentrate much larger number of inhabitants, in comparison to the second tier cities in each national urban system: Bucharest's population is six times larger than the next major city in Romania; Sofia is five times larger than the second city in Bulgaria and Athens three times larger than the second city in Greece. The same discrepancy can be noticed in terms of economic development.

Another issue is that Bucharest and Sofia, unlike Athens, stand as real threats to their surrounding regions, because they attract the most resources from these areas and effectively create a paucity of development in their vicinity. Especially in the southern part of the potential Bucharest metropolitan area, which has not been attractive for Bucharest population, there are poor communities that do not benefit of the proximity to the capital city. This situation where the capitals are detached from their territory needs to be addressed.

b. Individual functional restructuring as a first step

Athens has developed without significant disruption of its tertiary sector, while the development of Bucharest and Sofia was characterized by an abrupt end of extensive industrialization and a dramatic switch to the service sector. The services were initially targeted to cover the deficit in the metropolis: banking and financial services, business services, education (especially private), trade (large companies locating commercial basis), medical services. Industrial enterprises inherited from the totalitarian regimes were closed or privatized, and their place was taken by the above mentioned activities or by new housing areas.

c. High valorisation of the creative potential of the labour force

The significantly increasing dynamics of the number of students in the last 10 years, (especially in Romania and Bulgaria) led to a higher share of better educated people in the total population of all three metropolises. All three capitals hold more than 50% of the national expenditure for research and development and of innovative businesses, and have considerable potential in terms of quality of human resources.

d. Urban sprawl and the destruction of the local identity of settlements

All three cities have witnessed increased urban sprawl during the past two decades. This has been more moderate in the case of Athens, but pronounced for Bucharest and Sofia. In the case of Athens it has consistently been governed in accordance with strategic regional plans. In contrast, in Sofia, and especially in Bucharest, the suburban and exurban development has been chaotic, creating numerous problems such as: lack of urban facilities, poor access to services, and a degraded environment. This process has advanced more quickly than the pace of regulation, more so in the insufficient collaboration between local authorities and the absence of long-term plans. The influence of the metropolises on the nearby urban and rural areas was so strong that in some cases it led to a complete loss of the adjacent areas' identity. Thus, two different communities have come to coexist: a traditional rural community, and urban commuters, which exploit the rural area simply for accommodation, changing the initial function of the territory surrounding the capitals.

e. Good practices in urban planning

The urban development of Athens, the regulation of relations between the metropolis and other towns in the metropolitan region can be an example of best practices that could be followed by the other two capitals. For a better knowledge in urban planning it is necessary to establish direct connections between the three municipalities, at both the level of decision-makers and of professionals. The diffusion of good practices in urban planning (such as multimodal nodes, integrated transport system) substantiates actions targeting urban restructuring, thus mitigating the impacts caused by urban sprawl. An exchange of good practice diminishes the risk of repeating the same mistakes regarding urban planning and creates the basis for establishing future collaboration in other fields.

4. Are the three capitals the main drivers for competitiveness in the region?

The three capitals are the main engines of development and are for the national economies and for the whole SEE area in this part of Europe. Their role in enhancing regional competitiveness, in the diffusion of best practices related to the proper management of resources and the use of opportunities offered by the EU integration is crucial. Therefore, increasing the capacity of these cities to better use their space, supported upon both material and human resources, is the best method of promoting smart, sustainable and inclusive development in SEE.

a. The three capitals as islands of competitiveness at the national levels

For each of the three countries, the studied capitals are islands of competitiveness, because most foreign investments are concentrated there and the financial sector is highly developed in relation to other regional urban centres. The three capitals have become strategic competitive centres in research, higher education, information and communication technologies. All these have ensured a rapid increase in GDP per capita, which exceeds by several times the value recorded in the second tier cities, except for Thessaloniki.

b. An important human capital

The three capitals have sufficient human capital and are witnessing an increase in its quantity and quality. The employment rate is relatively high and the age structure shows a growing demographic potential. Other demographic and social characteristics reveal that the workforce is well educated and significant reserves exist, taking into account an under-utilization of women and young people of working age. With such human capital, all three cities are likely to maintain and enhance their role as drivers of competitiveness in SEE.

c. Each capital is the most creative city in their country

There are substantial discrepancies between the three countries and capitals in terms of harnessing creative potential. Romania and Bulgaria have demonstrated a growth rate in creative industry considerably lower than Greece. Capitals play a central role as promoters of innovation and new technology at national level. Levels of employment in the field of research are around the European wide average, however the levels of the expenditure in research, as well as the long

term investment, are much lower in the three capitals than in other comparable western and northern European cities.

d. The three capitals as the core of sub-regional urban networks

The SEE urban network functions like a multipolar urban system in which each capital is "core" of their national urban system. Therefore, the three capitals possess functions that dominate more or less their national urban networks. In Bulgarian and Romanian urban systems, there are no clear signs of an accelerated development of any of the second tier cities which would diminish the influence of the capital cities. In the Greek urban system, the city of Thessaloniki is emerging as a strong urban centre in northern Greece and even at the level of the larger Central-Southern Balkans area.

e. How did the crisis affect the competitiveness of the three capitals?

The study shows that the recent economic and financial crisis has most directly affected the competitiveness of the three capitals. Bucharest and Sofia had very positive dynamics of indicators of competitiveness of before the crisis. In the case of Athens, the competitiveness was much affected after the crisis commenced, with negative trends of the main indicators of competitiveness: GDP per capita, foreign investments per capita, expenditure on R&D, productivity, employment.

f. A limited influence of the three capitals on the region's competitiveness

The rates of labour productivity and of employment are the highest in the capital cities, thus creating the lowest rate of unemployment, which is in stark contrast to the situation at regional level. In areas with good connections to these cities (areas adjacent to the capitals, areas connected to the capitals by main development axes and transport corridors), as well as the areas and sites which offer attractive recreational facilities, the influence of the capital cities is stronger. Although the three capitals have become increasingly competitive, there are still areas where the local communities are on the brink of poverty, in addition to those which have suffered due to the decline in the construction and industry sectors.

g. Is there a relationship between the patterns of land use and regional competitiveness?

The population relocation in suburban areas and the intensity of reverse migration from urban to rural locations, aggravated by the decrease of industrial activities have visibly affected land use within the capitals and around them. The existence of many abandoned lots and brownfield sites due to the closure of factories and manufacturing complexes lessens the potential for competitiveness of the capital cities and regions in the immediate future. This accelerates the reduction of available green areas, slows the restitution of land and buildings and encourages a sluggish property market in general.

A different model of growth of built areas outside the cities, by respecting the urban planning regulations, and ensuring the preservation of forests and lakes, would attract more investors and would increase regional competitiveness. Despite the high fragmentation of land use in contrast to intensive and chaotic urbanization allied to reduced accessibility to urban utilities, the study concludes that the decline in agriculture in favour of built space has led to an increase in terms of the competitiveness of these capitals and their immediate vicinity.

5. Improving the role of the three metropolises in the European polycentric network - the interaction between them.

The European economy is based on the strength of national urban systems, and on the ability of large metropolitan areas and urban clusters to provide services and disseminate development.

a. Restructuring the relationships between the core city and surroundings of each capital

It is necessary to restructure the relationship between the city itself and its surroundings, as a key element to a better position in the European polycentric network. Inside the capital, the connection

between the central, industrial and residential areas is outlined on satisfactory terms. Regarding relations with the Functional Metropolitan Area (FMA), the accessibility for Athens is much better than for the other two capitals. Current connections of Bucharest and Sofia with their metropolitan regions are made through separate transport systems, depriving them of multimodal centres as connection points.

Restructuring these relations must take into consideration the intensity and structure of flows, so that the capitals can encourage investors to develop activities in metropolitan regions: location of new large shopping centres, of logistics centres, sports facilities or new industries are becoming more common in peripheral areas. The new relationship between the core city and surroundings is also based on commuting to and from jobs.

The existence inside of metropolitan regions of new economic emerging areas is likely to emphasize the urban de-concentration and decentralization of activities. These local development poles, especially in poorer areas, such as in the southern part of the metropolitan area of Bucharest, improve local living standards and create prerequisites for future clusters focused on recreational activities or high-tech industry.

b. Could the TEN-T network be improved in order to facilitate the connection of the three capitals between them and to the European Core area?

The major European transport network partially connects each of the three cities to the European Core area, but we can conclude that the Bucharest-Sofia-Athens axis is not favoured by the current network, because it is concentrated on the individual connection of each of the three capitals with Central and Western Europe. There is a lack of a north-south corridor in the area, which would link the three capitals with other cities in Eastern Europe, and with the Baltic Sea and centres such as Helsinki. Such a corridor would connect Athens to Bucharest and is essential for the entire SEE area.

Road transport infrastructure (motorways), that would facilitate more rapid connections, is not yet completed. This network would also undoubtedly be improved by doubling the capacity of the main highway corridors with the use of high-speed trains, particularly for the transport of passengers.

Similarly, the Danube corridor might be of considerable importance, should the project linking Bucharest to the Danube through a navigable channel be finalised. Otherwise, this corridor would only have a secondary importance for Bucharest and a reduced one for the other two capitals.

c. Estimating the „hub" role of the three capitals inside of SEE urban network

Given the fact that the three cities function as both capital and economic centres, they act as key nodes in urban networks, as national main centres that can extrapolate growth in the whole SEE area. The operation of trans-European transport corridors, including links with the three capitals, will emphasize the central role of the SEE capitals, particularly of Sofia and Bucharest. Thus, their capacity to ensure a regional economic growth may extend to an urban network that surpasses national boundaries. Strengthening the EU's eastern periphery and its functionality implies the development of a north-south trans-European corridor that will stand as a 'backbone' including the SEE area (see PolyMetrexplus RINA North-South Interface project). This corridor could increase the role of the three capitals and other urban centres such as Thessaloniki (Greece), Varna (Bulgaria), Cluj-Napoca, Timișoara and Iași (Romania).

6. Building a new development policy to support an emergence of a competitive area concentrated on Bucharest-Sofia-Athens

The genesis of an emerging SEE growth area is a target that depends on the increasing competitiveness of these engines of development. Based on the project findings and on the interactions with various decision makers, experts and practitioners, during interviews, workshops and as feedbacks to project publications, resulted a set of recommendations which would support this process.

a. Restructuring the relationships between city core and metropolitan areas in order to increase competitiveness

One of the key questions that were asked is how relations between the city and metropolitan region can be restructured in order to increase competitiveness in both territorial entities. The most important item is to diversify economy by valorising the local human capital in order to drive an innovative and creative urban economy. The second step is to provide an infrastructure capable to support fluent exchanges between the city core and the metropolitan regions, to encourage a better mobility of population and to attract investors in both areas. Also, networking between universities, research institutes and companies is essential in creating dynamic clusters that promote competitiveness and attract investment capital to develop the metropolitan area.

b. Promoting cooperation between the three capitals

The cooperation between the three capitals could be much improved. A regional strategy focusing primarily on opening to a mutual understanding of the decision-makers at the national level and in the three capitals could be promoted and would also ensure raising the awareness of the relevant stakeholders on the potential of South East of Europe to become an economic co-operative area.

c. Using the national networks to promote cooperation between the capital cities and increase competitiveness

In principle, capitals could support cooperation between cities from bordering regions, and later use them as a bridge for cooperation with other neighbouring capital cities in the SEE. Similarly, the relations with other major cities within the national networks can help overcome the long distances and gaps between the three capital cities (e.g. Thessaloniki in Greece, Pleven in Bulgaria).

It is also possible to encourage tourism development, including cooperation between the Romanian, Bulgarian and Greek resorts and cities, thus opening relations between the three countries. Greece and Bulgaria are a common tourist destination for Romanians (particularly for cultural and seacoast tourism), while Romanian and Bulgarian mountain resorts could be attractive for Greek tourists during winter, especially for sports. Economic specialization of certain cities could then be useful in the trans-Balkan cooperation process.

d. Developing the transport network connecting the three capitals

Romania has had the biggest problems to attract, distribute and finance European priorities in transport, even though a dedicated funding program (Transport Operational Programme) has been available for the 2007-2013 period. In the case of Bulgaria, the results are more visible, while Greece has a better transportation network that meets the requirements of a sufficient ground connection to the European core area.

Fragmentation of TEN-T network, together with the lack of financial resources, restricts connections with Western Europe and also the possibility of linking the three capitals to these corridors. The study concludes that there was a lack of an overarching long term vision and awareness of the importance of these corridors to hasten the development of the SEE transport network.

e. Defining the needs of the South East of Europe area and promoting opportunities of metropolitan regions for a transnational and cross-border cooperation

There is a clear mutual interest of policy-makers and practitioners for cooperation between the three capitals. The relevant actors find it difficult to link, for example, the needs of Bucharest in order to cooperate effectively with Sofia and Athens and vice versa.

Sofia and Bucharest cities have almost identical needs and yet the actors do not foresee their fulfilment through cooperation between the two capitals. It is not very clear to the interviewed actors in what way metropolitan regions can help the cooperation between the capitals, which is made more difficult by the fact that Bucharest and Sofia do not have legally defined metropolitan regions.

f. Using cooperation instruments - the role of the new INTERREG in the future programming period

There were limited effects of previous INTERREG programmes; however the territorial actors emphasized the importance of "cooperation proximity", which means lower costs, mutual benefits and increase of regional competitiveness. INTERREG could accordingly support projects of direct cooperation between the three capitals or coastal cooperation in the Black Sea and Aegean Sea regions.

g. Key policies to enhance the accessibility to European core urban network

A large distortion in the accessibility to European urban core network is caused by the fact that the Western Balkans region is not yet fully integrated into the EU. Thus, key policies focus upon increased accessibility along certain corridors, which are not always the most direct ones. Some of the key policies in this regard could concern:

- Finalizing TEN-T network connecting Romania and Bulgaria to the European network of motorways and high-speed railways. The completion of the Calafat-Vidin Bridge is a first step in this direction;
- Increasing the functionality of the Danube corridor, by resuming work on the Bucharest-Danube water channel;
- Upgrading and expanding the airports of the SEE capitals, as well as of the second tier cities of the three countries (e.g. Thessaloniki, Constanta, Varna);
- Long-term policies must lead to the creation of a Balkan corridor, which should connect the Danube corridor to the Aegean and the Mediterranean Sea. Branching from the Danube-Mediterranean corridor connections can be made with Central and Southern Italy, the Adriatic and Western Balkans, Central and Western Europe, and the Near and Middle East (e.g. through connections with Istanbul) and other countries in North-Eastern and Eastern Europe.

7. Need for further research

This study focuses on identifying appropriate methods of evolving of a fragmented and less developed space into one that should foster growth. This area, characterised by a relatively large distance between the three capitals and insufficient infrastructure between them, plus a non-linear historical development and differences in culture, must have common goals. Mutual knowledge of the development potential and of ways, in which it can be increased, through joint projects, can also increase the capacity of interaction with the European core.

a. Arguments for continuing territorial research in SEE

Despite achievements in the short time since the accession of Romania and Bulgaria to the EU, the SEE space remains highly fragmented and far from being a unitary space, targeting joint development. Briefly, the arguments for further research within this area are:

- SEE area is one of the most diverse areas in terms of history, ethno-linguistic structure, level of economic development and living standards. A future EU enlargement, especially in the Western Balkans, will further complicate this structure. Research on finding solutions to capitalise on this diversity through sustainable development of the whole area is welcome. Starting this research by focusing on three countries and highlighting the importance of urban systems, serves as an asset for expanding research on the extent of EU enlargement.
- The SEE region serves as a connection between the European Union and Asia and Africa, and a strong and successful territorial cooperation framework should strengthen this function. Further research on the SEE urban system would be more useful for a proper assessment of regional disparities and to demonstrate how polycentric development can be helpful in reducing them.

- There is a potential for additional research from the perspective of sustainable development and good practices in the management of the coastal regions of the Black Sea, the Aegean and the Ionian Seas, especially in view of global climate change**;**
- The major urban agglomerations of SEE deserve special attention for effective management and increase their interactions with European core;

b. Further research

Research could be focused on three main areas:

- Awareness of the importance of territorial cooperation between partners in this region;
- Knowledge of the potential for cooperation between countries, capitals and cities within the region;
- Detecting items of common interest and of strategic interest for the EU.

An important role in defining research programs would be proposed by a possible foundation of a research centre in the field. Thus, similarly with NORDREGIO, a Centre for Research on the Development of the SEE could be founded. It could start with research on themes proposed by the interviewed stakeholders such as environmental protection, transports or sustainable urban development in SEE.

B MAIN REPORT

1. Introduction

This study is conducted at a time when EU trends in spatial development, affected by the financial crisis and economic growth, express increased discrepancies between the European core and peripheral areas such as the South-Eastern Europe (SEE). In this context, the main goals of the project are: (1) to analyse the role of the Capital Regions in SEE in the European urban network, (2) to identify what type of actions are needed in order to improve the relations between these Capital Regions and the European core economic development area, and (3) to make policy recommendations regarding the economic and territorial development of these metropolitan areas.

The new economic tendencies have had an important role in diminishing the management role of the State through deregulations and privatizations (Moulaert et al., 2001), by sustaining entrepreneurial initiatives, by attracting domestic and foreign capital, and by sustaining public-private partnerships. Within this framework, Bucharest and Sofia have to continue the consolidation of the institutions capable of intensifying such development directions and strengthen their urban national systems in the SEE. Therefore, the construction of their metropolitan institutions becomes the key element to promote interconnectivity (by cooperation between settlements) (Brenner, 2003).

The three metropolitan areas function as a type of “island of high technology and innovation” within their respective countries. In other words, they do not redistribute enough innovation and technological readiness to their regions. However, they also have a good position in comparison with other EU metropolises and their potential to compete satisfactorily at EU level, if they succeed in increasing their expenditure in R&D.

Regarding the accessibility of these cities, transportation improvement methods and the efficiency of the European transport corridors for the SEE area, the project offers a detailed analysis of the connectivity and accessibility within metropolitan regions, as well as at a national and European level. The accessibility at an intra-metropolitan level demonstrates that the challenge for Athens is to develop public transport, while Bucharest and Sofia should respond to the growing demand for more extensive and interconnected urban transportation.

Accessibility and connectivity are essential for a sustainable development of any region. These reinforce the central position of the capital cities (e.g. Bucharest, Sofia, Budapest, Vienna, Zagreb, Ljubljana) and ensure the most important networking needs – for example linkages from Sofia to Black Sea, Bucharest to Black Sea and to the west, Athens - Thessaloniki or via Egnatia (the east-west corridor). The achievement of an efficient Trans-European Network plays a crucial role in attaining the goals of the Europe 2020 strategy in terms of building missing links and removing bottlenecks along branches of the European infrastructure and thus providing the physical support for smart, sustainable and inclusive growth.

Stakeholders from different central, regional and municipal institutions participated in three workshops organised in Bucharest, Sofia and Athens and made recommendations for defining pathways and specific policies related to a better insertion of each metropolis in the national human settlements system, but also to the valorisation of the opportunities arising from the geographical position in this region of Europe. The publication of three brochures (in Romanian, Bulgarian and Greek, each focusing on the findings related to the national capital) and its subsequent diffusion generated written comments from some researchers and stakeholders who restated the idea of further research on the role of these cities in the SEE area.

The results obtained in the three workshops, together with the synthesis of the 30 interviews conducted within the project with stakeholders from the three case studies, as well as the feed-back received following the diffusion of the brochures, were used to improve the initial policy recommendations derived from the preliminary project findings and to formulate new ones. These policy recommendations form a compact chapter in the final part of the study.

Besides the direct results, convergent with the project goals, GROSEE provides input for other European projects, such as Horizon 2020, with its domain Better Society, especially the axes "Health, demographic change and wellbeing" and "Inclusive, innovative and secure societies".

2. General Methodological Approach

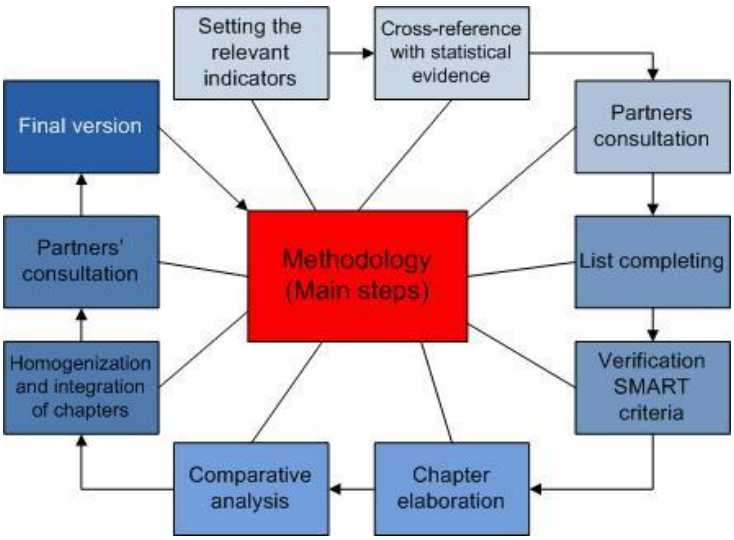
Despite the location within the same geographic space, the physical, ideological, linguistic and historical barriers caused a weak cooperation between Romania, Bulgaria and Greece until the fall of communism in 1990. The situation has since improved, however cooperation has not yet reached a sufficient level. The main hypothesis on which this research was founded is as follows: the three capitals have the potential to become the engines of a systematic cooperation between the three countries, and the European core, thus resulting an improved integration in the European urban system.

To test this hypothesis, we have conducted a first set of analyses, aimed at finding the relationship between the structure and dynamics of each capital and its metropolitan area, while we have aimed a second set of analyses at identifying the key competitiveness elements that would facilitate cooperation between the three metropolises. A third set of analyses further assessed the possibility of deeper/more complex/more established cooperation between the European core and the SEE through the network of regional urban poles (see Annex II, Figure I).

The main sources of statistical data were the Statistical Yearbooks of the three countries and, in some cases, regional statistics or data at the city level. For comparative analyses, we also used data provided by EUROSTAT, by other ESPON projects or by other relevant European documents. The interpretation of these datasets took into consideration the demographic, economic and connectivity potential, the environmental conditions, in order to establish the regional role of each metropolis (see Annex III).

The general methodology for the report followed several stages, applicable for the entire project (Figure 1): establishing the relevant indicators, set against the list of statistical evidence, exchanging indicators to complete them after consulting the partners, completion with other indicators (where applicable), checking if the indicators respect the SMART criteria (Doran, 1981; Meyer, 2003), developing each chapter, making comparative analysis by the activity and sub-activity responsible, finalising the material, consulting partners concerning the final form of the report.

Figure 1. The general methodological chain



In accordance with the general methodological scheme of the project, the indicators have been analysed at different territorial levels. The main methods to achieve the project's objectives and to test the working hypothesis are represented by: secondary data acquisition, including the study of literature in the field and various projects developed in ESPON and INTERREG programmes, the analysis of statistical data and their cartographic representation through the use of software such as ARCGIS 9.3, SPSS, specific cartographic database for the ESPON programme, SWOT analyses and comparative analyses of the three metropolitan areas. For the elaboration of the Draft Final Report, questionnaires and interviews with various categories of experts and decision-makers have been applied.

Taking into account numerous aspects of the different issues studied in the project, the entire list of indicators is comprehensive/substantial (please see Annex III). The TPG has also produced a list of headline indicators, which is mainly composed of indicators included in the respective lists of Europe 2020 (2010), EC 5th Cohesion Report (2010) and ESPON INTERCO (2012). Included with the headline indicators are those indicators corresponding to the more central policy orientations of EU policy documents. Specifically, all the Europe 2020 indicators associated with quantitative "2020 targets" are included in the GROSEE list of headline indicators.

In this and previous reports, indicators have been used for which there are Eurostat data or at least Urban Audit data at Large Urban Zone (LUZ) level. Data at LAU level have also been used to a limited extent. The objective of the TPG was the data collection for the different territorial levels of the three Metropolitan Regions. As core cities (CC), Functional Metropolitan Areas (FMA) and Metropolitan Regions (MR) of the three capitals were approximated with their NUTS2 and NUTS3 units, the TPG has collected data at this level for all indicators that were used.

The information obtained in the debates during the three workshops, which took place in Bucharest, Sofia and Athens, as well as from the 30 interviews made with policy makers, experts and practitioners were useful in improving the initial policy recommendations. At the same time, the publications elaborated for each of the three capitals and presented to the stakeholders in different contexts, have led to comments and different points of view that were taken into account in refining the final policy recommendations. The inputs received from the stakeholders allowed the selection of proposals stemming from the research undertaken and the individualisation of some projects for future research and actions.

3. Main Results

3.1 What is the role of Bucharest, Sofia and Athens in the European polycentric network?

According to one definition of polycentric development, it is "the tendency of the population and economic activities to be assembled in urban cores that have the ability to exercise influence over the whole urban structure and spaces around them" (Trullén and Boix 2003, quoted by Peptenatu et al., 2009). According to Hallgeir (2004) and Haindls and Hirschler (2008), polycentrism is seen as a way of transmitting territorial development in an effective and balanced way.

With this in mind, polycentrism is considered as a method of extending territorial development, with the aim of bringing the EU's peripheral areas to a level as close to that of the EU core as possible. Polycentric development is thus one of the major objectives of the European Union, which is focused on creating highly competitive economic areas whose spatial distribution is balanced at the local level, with little discrepancy between central and peripheral zones. In fact, the central objective of the Territorial Agenda of the European Union's territorial cohesion represents the model of economic development that would serve to make the European Union a globally competitive economy.

By this strategy, the capital cities play an essential role, acting as true relays of development across the continent, expressing nationally the full political, economic, cultural power and administrative authority, with their national role further defined by the location of the highest public

institutions and the governing headquarters in the heart of the urban centres. Thus a new polycentric area, in the larger region of SEE, focusing on the three capitals may be created: Bucharest, Sofia and Athens. However, this same region suffers from considerable physical distances, insufficient political and economic cooperation, historical cultural differences, and an abiding prejudice in favour of direct cooperation with the most developed countries of European Union.

3.1.1 Role of Bucharest, Sofia and Athens in the European polycentric network as reflected in other European Projects

The role of the three European capitals within the polycentric network has been studied in the project: ESPON 1.1.1 Potential for polycentric development in Europe.

The role of the capitals in this project has been considered in terms of functional specialization according to the typology of Functional Urban Areas (FUAs). The project analysed all European FUAs, based on four indicators:

- Critical mass, measured by economic size and population;
- Competitiveness, measured by GDP/capita;
- Connectivity, measured by the number of airports and transportation hubs,
- Basic knowledge, measured by the percentage of the population with higher education and the share of employees in research / development,

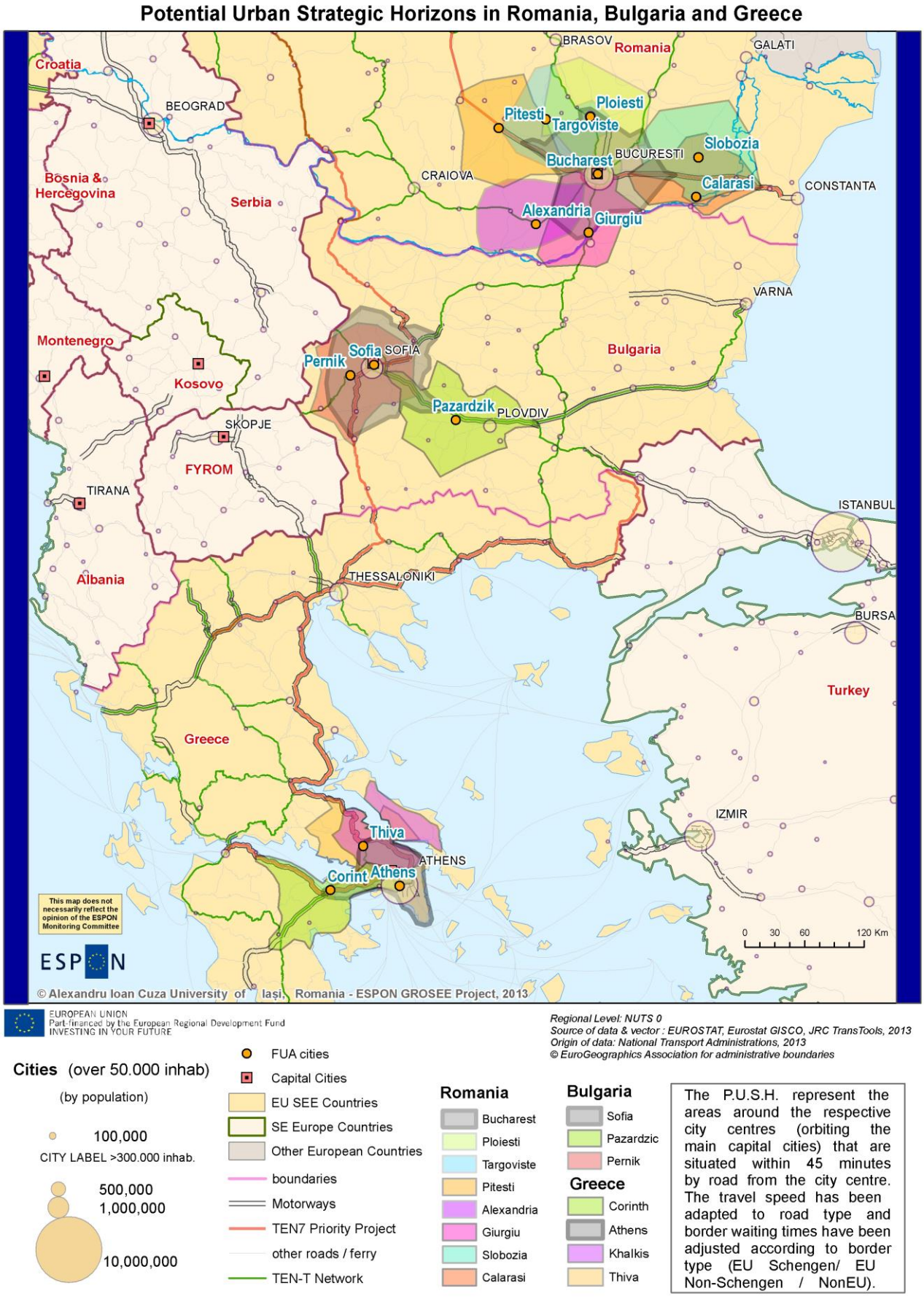
and developed a hierarchical classification. As a result, the best scoring European FUAs were classified as Metropolitan European Growth Areas (MEGAs). Bucharest, Sofia and Athens are all defined as MEGAs, together with 73 other European FUAs, however their importance at European level differed. Thus, Athens was clearly more developed than Bucharest and Sofia, as it was included in a superior category (MEGA 2). This meant that, while not as developed as the major European growth poles, Athens could be defined as a relatively large and competitive city, possessing strong human capital. As one of the only two cities of this importance situated east of Vienna (the other being Helsinki), Athens is the most developed city in the SEE area and is one of the main counterweights for the Pentagon in this European peripheral area.

As for Sofia and Bucharest, they were included in the category of the least developed MEGAs (MEGA 4), with 21 other cities mostly located in the new EU member states. The two capitals have recorded lower values for all four indicators, which mean lower human capital, reduced competitiveness, and a more peripheral position (Synthesis Reports I of ESPON 2006). They were considered nodes of the European urban system; but their role was seen as vital for the transfer of a balanced development at the national and intra-national levels.

This distinction between the three capitals is due to the peripheral position of the three states, whose capitals provide specific functionalities to their national urban systems coming from historical and socio-economic developments that took shape over many centuries. Expanding the functions through cooperation from national to regional level would give consistency to future polycentric structures in this part of the European continent; the three capitals would have a greater role as hubs within regional urban network.

Within the same project, the concept of Potential Urban Strategic Horizons (PUSH) was defined, based on 45-minutes isochrones around the FUA centres, showing the potential for expanding the influence in the surrounding territory (Map 1).

Map 1. Potential Urban Strategic Horizons for Bucharest, Sofia and Athens



In conclusion, the three cities are the main growth poles in South East of Europe, the only areas that can act as regional attractive economic poles, compensating for the imbalance introduced by the accelerated development of the European Pentagon. The growth of SEE economic competitiveness can only be achieved through the contribution of the three capitals.

The INTERREG IIIC project PolyMetrexplus included a Representative Interregional Networking Activity (RINA) entitled North-South Interface which followed an itinerary from Helsinki to Warsaw and then to the SEE area (Bucharest – Sofia - Thessaloniki – Athens). The report indicates that there is a clear potential for development of the North-South axis, and that this would provide better balance at European level. The project also promoted cooperation between the urban nodes, as key for the vision of the North-South axis, one of the potential areas of closer cooperation being the southern one, which included Bucharest, Sofia, Athens together with Thessaloniki and Belgrade.

3.1.2 Analysis of the three capitals Bucharest-Sofia-Athens

Aspects concerning the evolution and structure of the three south-eastern European capitals (Bucharest, Sofia, Athens) are little known in international literature. Specialized studies refer to the fact that except for some studies on Greece (Petrakos et al., 2005), information on urban systems of the three countries is limited to a few national papers (Pavleas and Petrakos, 2005; Ianoș, 2002). This, for the most part, is due not only to a lack of scientific cooperation between the researchers of the countries concerned and those from the western states, but also due to the inconsistency of and insufficient access to relevant statistical data. Practice has proved that statistical institutions of the SEE countries rarely attempt to collaborate to individualize/adapt indicators which reflect the particularities of socio-economic development of these countries and especially create comparable information sets.

As a supra-national urban system, the three European capitals could represent a network of development poles, each with its key role in the national rankings. This is suggested by their current political-administrative importance. Within their respective countries, Bucharest, Sofia and Athens, each represents the centre of coordination of the national urban systems. Their importance is justified in part by the historical context in which they evolved.

A more detailed analysis of the entire system of Romanian settlements highlights Bucharest city as the first in the national hierarchy. Positioned at an important crossroad in Europe and only 65 km away from the Danube River, it has emerged as a true metropolis, playing a major role from an economic, political, educational and cultural perspective. Its evolution over time, especially during the centralized politic and economic system, as well as the advantages of its administrative power, have placed Bucharest at the top of the Romanian settlement system, accounting for nearly a quarter of national GDP and accounting for almost 10% of the country's total population).

The dramatic socio-economic changes that occurred after 1990 have led to pronounced urban dynamics, restructuring and modernization after 2000, resulting in a pronounced influence on the suburbs. This would explain the rapid economic development of the outlying communities located along the ring road, as well as changes in social structure and their function. Today the ring road has turned into a structural axis where are located many activities such as logistics parks, storage areas, manufacturing, commercial and residential areas that have generated new land use patterns. This dynamic has resulted in the development of seven new towns which were formely rural settlements: Voluntari, Popeşti Leordeni, Otopeni, Magurele, Bragadiru, Pantelimon and Chitila.

However, the lack of long term urban planning caused a chaotic development of these villages and towns, with a negative impact on the connectivity between the capital and the emerging new structures. However, the ambiguity of rules in managing development processes has caused certain conflicts regarding land use (Ianoș et al., 2012), and between local authorities. In certain extreme cases, there has been temporary suspension of public transport between the capital and surrounding towns due to a very limited cooperation between them.

The connection with the other two capitals (Sofia and Athens) is indirect, as the main European corridors do not intersect all three capitals – it can be also be attributed to the low level of development of the roads and highways network. Both Romania and Bulgaria have been more concerned with the connection between the capital and coastal areas and less on infrastructure development, which would subsequently foster cooperation between Bucharest and Sofia.

The Danube River holds the potential to affirm the role of Bucharest within the European polycentric network, playing the role of a strategic axis of development at regional and continental level. Bucharest would have a more significant role if the final branch of the canal connecting it with the Danube is completed. For the other two capitals however, the existence of this corridor has little or indirect significance.

The wider Romanian urban system is composed of 6 cities of over 300,000 inhabitants, with the largest being Timisoara, Constanta, Iasi and Cluj-Napoca. Further 20 cities are located at the next level, with over 100,000 inhabitants, representing the main development poles in the wider national hierarchy of settlements.

Recent Government decisions have supported polycentric development policies, setting for each development region a national growth pole (except Bucharest-Ilfov), respectively seven growth poles, which have been allocated resources for development of projects out of national and European funding.

In Bulgaria, the structure of the urban system is the result of its historical and contemporary evolution. Regarding the spatial, temporal and functional evolution of Sofia, we find a similar political context to that of Bucharest. As in Romania's case, there has been explosive development during the communist regime, followed by comparable deep restructuring after 1989, in the abrupt transition towards a market economy.

The structure of street planning in Sofia is relatively concentric, with a radial street network, similar to that in Bucharest. A ring of suburban towns has formed near the city, along the ring road. The most prominent issue is that related to the flow of city traffic, especially in the central part of the monocentric structure. There is also a contrast between the north and the south of the city, the latter being more attractive for investment. The situation is reversed in the case of Bucharest, where development is also asymmetrical, but it occurs more evidently in the northern part (North - South Interface RINA, 2010). Sofia benefits from specific advantages by comparison to Bucharest at a national level, being the most important administrative and economic centre of Bulgaria, as well as attracting the majority of investment projects. The situation is similar at the regional level with benefits arising from the position at the crossroad of three European corridors. For Sofia, the existence of these transport corridors is an opportunity for future development and for strengthening its position within the national and European polycentric network. As in the case of Bucharest, Sofia must develop multimodal centres, facilitating a far more efficient connection between the core city and its immediate metropolitan region.

The National Development Strategy of the Republic of Bulgaria for the period 2005-2015 emphasizes that Sofia plays a major role in the national economy and in long-term policy making concerns regional and national development policies. Two further major objectives imply diminishing intra- and inter-regional disparities and the development of European cooperation for the implementation of cohesion policy at the continental level.

Specialized studies undertaken on the Bulgarian urban system show that in the coming years, Sofia will continue to dominate every other city of Bulgaria, in the fields of demographic growth and functional restructuring, diversification of economic, social and cultural activities.

Examining the population of Sofia compared to the other Bulgarian cities, one observes a significant difference between the capital, with over one million inhabitants, and smaller cities situated at the next level of the hierarchy: two at more than 300,000 inhabitants (Plovdiv and Varna), Burgas with less than 200,000 inhabitants and 15 cities between 50,000 and 100,000 inhabitants (Ilieva and Iliev, 2010). For the development of a coherent urban national system and for a better integration in the European polycentric urban structure, Bulgaria must continue

promoting regional and trans-border cooperation in addition to building partnerships on joint development projects with the neighbouring countries.

Urban growth in Greece in post-war period, until roughly 1990, was concentrated in the Metropolitan Regions (MR) of Athens and Thessalonica and in the S-shaped corridor of Patras - Athens - Thessalonica - Kavala (Angelidis 2005). However, starting from the '90s until today, the Greek urban system has been de-concentrated to some extent. At present, the MR of Athens maintains its primacy, even though its administrative domination (Economou et al 2005) was gradually limited through the transfer of responsibilities to regional and local authorities.

The population of the agglomeration of Athens as initially defined, i.e. the so-called Basin of Athens (CC), has roughly stabilized during the last decade (the population of its central part has decreased), but the metropolitan region now extends to include all Attiki and maintained high rates of economic and demographic growth until before the crisis (2008). The MR of Thessalonica has expanded as well, along with its influence over Northern Greece.

Inside the Athens basin, the primacy of the twin centres of Athens and Piraeus has been gradually limited with the creation of new peripheral centres, in concordance with the extension of the urban fabric towards the peripheral areas of the basin. The city has been further expanded outside the basin, at the east and the west parts of Attiki, with small centres and dispersed built-up areas. The influence of Attiki further extends up to the neighbouring regional units of Viotia, Evia, Fthiotida, Korinthia and Argolida.

The MR of Athens includes 36% of the Greek population (2011) and 48% of the national GDP (2011). It also includes the most important financial and R&D activities of the country together with considerable part of services, trade, industry and real estate. Tourism was also well developed, based on the very important city's heritage and cultural potential as well as on the existence of a long and high quality coastal area. During the crisis period, GDP of Attiki decreased significantly and, what is more important, unemployment rate increased more than the other regions of the country. In this context, exploiting all the development potentials related to the international and national role of the MR becomes more important.

Greece has roughly 35 FUAs (as defined in ESPON) most of them being small and medium sized centres. Only eight FUAs have a population of 100.000-250.000 inhabitants and play a rather ineffective role of regional centre

Territorial policy in Greece aimed repeatedly to foster the role of big regional centres and even more for those located outside the S shaped development axis i.e. of those located in the Northern and the western parts of the country. Considerable progress towards this direction has been made with the construction of Egnatia motorway in Northern Greece relating the gate of the country from Ionian / Adriatic with that from Turkey.

Overcome the crisis of the Greek capital requires competitiveness improvement as well as strong effort to maintain social cohesion and preserve and further upgrade the natural and built environment together with the exploitation of all the development potentials stemming from its European and international role.

In this frame, both the Strategic Plan for Attiki 2021 which came into force recently (2014) and the Regional Operational Program (ROP) of Attiki 2014-2020 (2014) emphasize the improvement of its role as International Business Centre specifically with regard of the Balkan area, the Mediterranean and Middle East. Also, in the relatively recent Greek Spatial Plan as well as the Spatial Plans and Programmes for Tourism, Industry, Renewable Sources of Energy and Transport infrastructure, the role of Athens is crucial, mainly as node of redistribution and diffusion of the development at national and transnational level. Specifically, these plans give emphasis to the links of the national networks of transport and energy with the respective TENs through the SE Europe area.

From this perspective, in accordance with GROSEE research results, the empowerment of the axis Athens – Sofia – Bucharest would have a positive impact. Athens should also reinforce its redistributive role to the rest of the national urban system with regard to the development of R&D

and dynamic economic branches. With regard to the MR itself, the project results converge with the MR plans as for the priority to be given to further develop the network of public transport, contain the urban sprawl and promote big and smaller operations of urban regeneration which would improve the international role of the city and the quality of life inside the MR.

3.1.3 From an individual cooperation with European core to a complex integration by the SEE polycentric network.

The three cities under study display many common features in terms of evolution and development: they share related geographic positions, have had inter-connected histories and display inter-related economic complementarities. Though they are main centres in a continental polycentric network, developing transnational polycentric networks requires cooperation between municipalities, which is twofold: between the three capitals, and between each of the three cities and the other municipalities within their national urban networks.

Hence, in order to enhance the role of the three European capitals in the polycentric network, it is necessary to restructure the relationships between the city itself and its surroundings. Developing a strategy based on polycentrism within the SEE space requires decentralisation within the decision-making processes, which would enable a more efficient functioning of territorial structures. A balanced development is the ultimate objective of regional development and territorial cohesion policy and its implementation requires an optimal decentralization by transferring responsibilities from central to lower levels.

There remain obvious differences regarding relations of the three capitals with the surrounding area, as the city of Athens has better accessibility than Bucharest and Sofia. In the case of Bucharest and Sofia, the lack of multimodal centres, which should provide a better connection between the city core and the immediate vicinity, as well as the strong fragmentation of the metropolitan area aggravate the traffic problems and the boundary effect which occurs between the city and its metropolitan area, especially within public transport. The decentralization process of economic activities in the metropolitan areas will create numerous new local development structures, acting as the basis for local policy development, in turn influencing growth in the life standard of local communities and creating premises for future developments based on R&D and tourism.

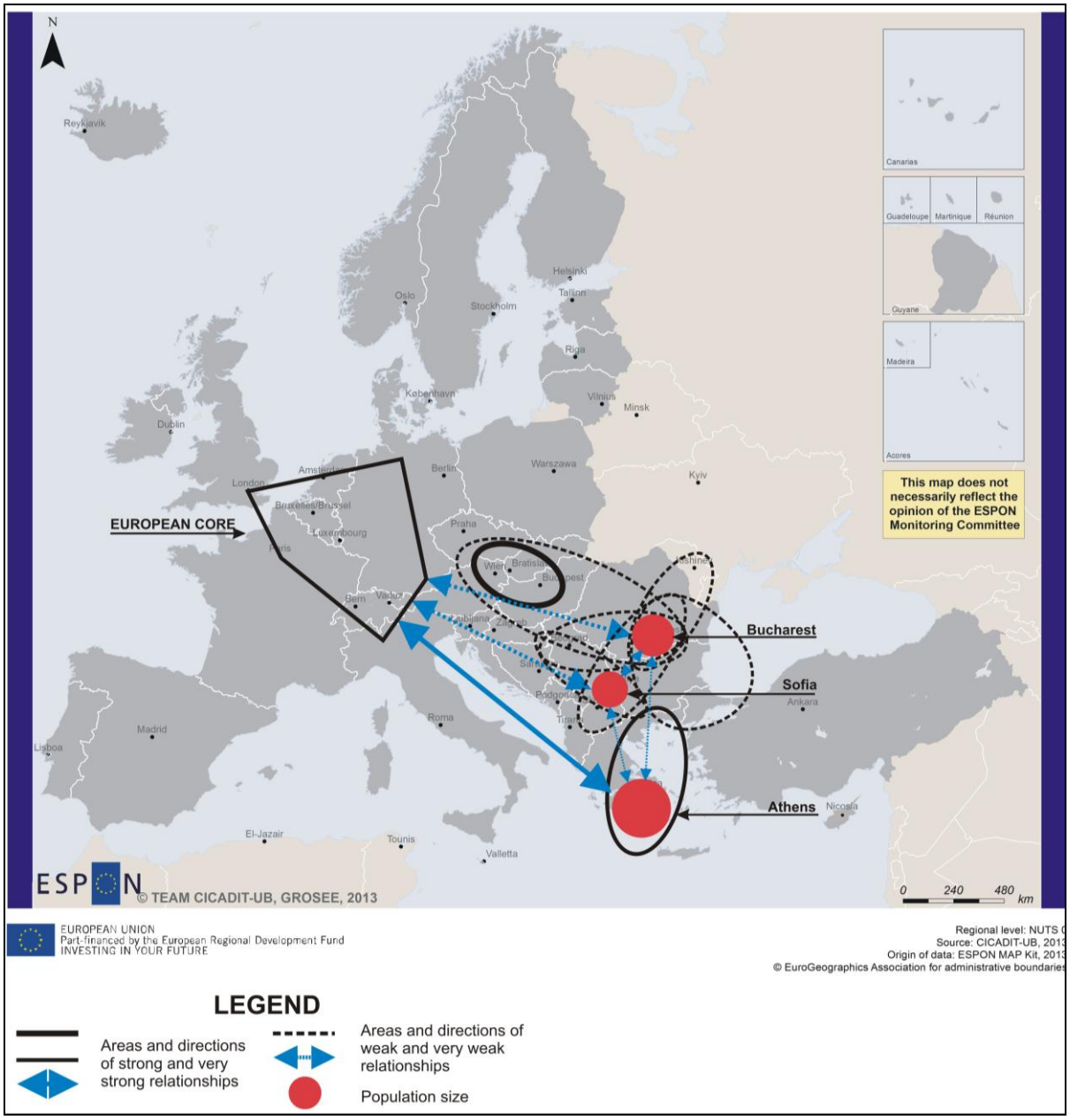
Due to the strong presence of Attiki financial institutions and commercial interests in Bucharest and Sofia and more generally in Romania and Bulgaria, the relocation of Greek businesses to the last two countries has been considerable. The result is an intensification of cooperation between them, having Athens as the main engine. In this way functional integration between the three capitals and inside SEE is crucial for building a strong polycentric system in this part of Europe.

The two maps below describe the current position and relations that have been established between the three capitals and the European Union as a whole (Map 2)[1], as well as the position and the desired relations between them (Map 3)[2]. The first map presupposes connections at both the level of each capital connected to the rest of Europe as well as between them, but stresses their self-contained entity. The second map considers the three capitals as a system and takes into account the SEE level as well as the European level.

[1] The map was made by taking into consideration the number of pair flights as well as the number of operating airline companies on airports. These results were then generalized in lines with different thickness and texture. The result of the map is that Greece was strong relations within the country, but also strong relations with the European Core, which is not the case of Sofia and Bucharest.

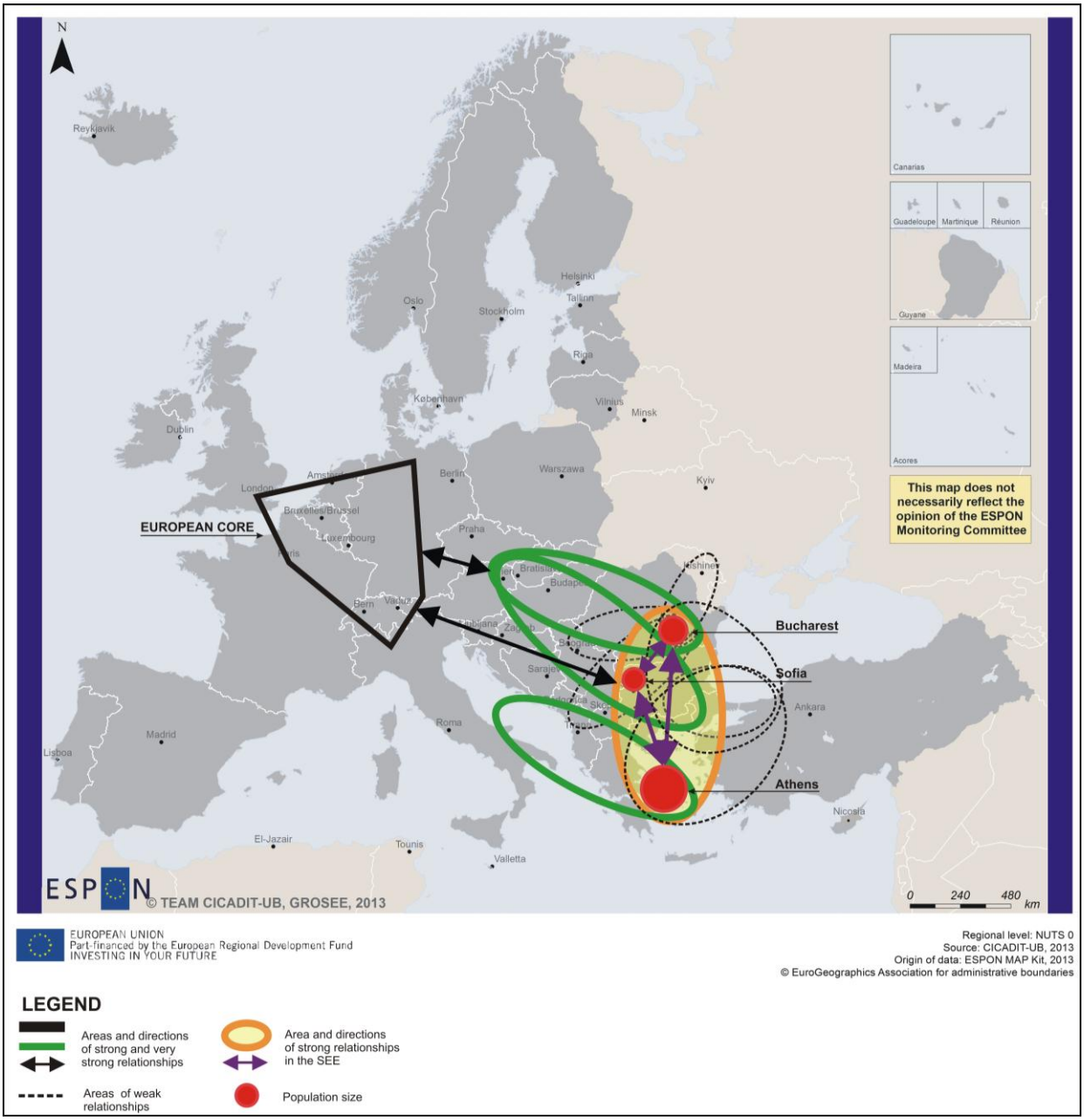
[2] Map 3 is the result of the interviews with the stakeholders. It reflects their desire to develop a strong polycentric network in South-East of Europe with its backbone made of Athens, Sofia and Bucharest. Athens is the main hub to Asia, Middle East and other Mediterranean areas. Map 3 also reflects the desire of the stakeholders from Sofia and Bucharest to also have strong connections to the European Core.

Map 2. Position and current relations between the three capitals



The analysis of the main European transport corridors that serve the region shows that a direct connection between them is lacking at present. A number of the corridors could contribute to the development of Bucharest - Sofia – Athens with a major role in the regional polycentric network. A solution might involve expanding and developing existing transport corridors, in order to improve the communication links between the three capitals. Another solution would be to increase corridor capacity by building high-speed railway links, especially for the transport of passengers. In addition, a corridor linking the three capitals in the North-South direction could be constructed, which would fit into a larger project creating a corridor between Helsinki and Athens on the EU's eastern extremity (North - South Interface RINA, 2010).

Map 3. Position and consistency of the foreseen relations between the three capitals



Due to their administrative, economic and cultural features, Bucharest, Sofia and Athens are operating as main functional nodes in the national urban networks and as integrating elements of space within South-eastern Europe. Trans-European corridors and the connections between the three capitals offer them the role as relays for the diffusion of development due to the direct relationship with the European Core. In such a context, the attractiveness of these cities should exceed national borders, by economic, cultural and institutional diversification, which will ensure a multiplicity of relations with other important administrative and economic centres of the region. The increase of the role of the three capitals can be achieved by creating a trans-European corridor in the north-south direction, which might practically form a territorial axis for the three states and the entire Southeast European region. Also, this corridor could increase the role of other SEE urban centres (Thessaloniki, Varna, Cluj-Napoca, Timisoara, Craiova, Brasov and Iasi) that would meet the completion of a comprehensive polycentric network in this region. By establishing a functional inter-metropolitan triangle in south-eastern Europe connections would be facilitated and developed

with other European cities, especially with those in the West, but also with those outside the European Union, including the Balkan cities and Istanbul.

In conclusion, the following elements resulted from the research done, concerning the role of the three cities in European polycentric network:

- While the three studied capitals do not have the same level of development as the major European metropolises, they are clearly the **main growth poles in the SEE area**, they coordinate their national urban systems, and are among the few areas of growth in the eastern part of Europe;

- Athens is the main engine of development in the area, and has initiated the most relations with the other two capitals, but was hit by significant problems following the economic crisis;

- There is a **potential for a stronger cooperation between Athens, Sofia and Bucharest** which would improve their performance as a whole, and can be complemented by other relations with the neighboring metropolises;

- The SEE area can act as the link between a very developed area (EU core development area) and the EU neighborhood, and the three capitals, as growth poles at national level, are best placed to take advantage of this relationship. They have some important competitive advantages which allow them to be part of linkages between EU and its neighborhood, thanks to the geographic position and their historical and cultural backgrounds;

3.2 What is the accessibility of these cities and can it be improved? What is the efficiency of European transport corridors?

3.2.1. Evaluation of accessibility of the three capitals

Accessibility has become a key term in development policies and strategies at local, regional, national and EU-wide levels, however its improper or inappropriate use can reduce its significance or distort its fundamental purpose. The level of accessibility is frequently a two-way/bi-directional/mutual factor in the development of geographic locations which should not however be an end in itself, but should have a role in encouraging/developing/extending competitiveness.

As noted by Rodrigue et al. (2006) accessibility is the measure of the capacity of a location to access other such locations and simultaneously be accessible, thus individualizing two visions of accessibility. This demonstrates its capacity to receive impulses or flows from outside and to control its surrounding regions. To measure accessibility requires the analysis of the location's position within the region (especially within transport networks) added to the architecture of networks which flow towards the location in question (in terms of morphology, density, connectivity and connexity). This connectivity reflects the potential efficiency of the network as a whole, linking out to a certain geographical point whereas connexity represents the minimal measure of the coherence of a transport network, both referring to the number of nodes and links in total.

These urban corridors of transport (and general connectivity) have been widely targeted in previous ESPON projects, some of which included the larger SEE area in their analysis. In particular it is worth mentioning "ESPON 1.2.1.Transport Trends", which provides a significant methodological base which can be utilised for the analysis of accessibility and connectivity at varying spatial levels, in addition to an overview of the situation of accessibility throughout Europe, including the SEE zone. More recently, the ESPON Project "TRACC - Transport accessibility at regional/local scale and patterns in Europe" includes analysis at European level but does not focus on case studies from SEE. The "ESPON 2.4.2 "Integrated analysis of transnational and national territories" has provided a solid analysis of the situation of the three countries that GROSEE focuses on, added to connections within the entire European space.

This study's approach on current accessibility and the manner and methods by which it can be improved relies firstly upon an analysis of the three capitals position within national, SEE and European networks and secondly on the measurement of connectivity and connexity of transport networks of three distinct modes: air, rail and road-ferry.

Our methodology includes a qualitative approach supported by rich quantitative analysis. The results of the latter, supported by their geographic representations, have the objective of reflecting the network properties, flows towards the three capitals and the actual pressure on them (where data on such flows is readily available). Vector data from previous ESPON projects, Eurostat Gisco or JRC Trans Tools have offered us the possibility, through GIS spatial join procedures, to represent relevant statistics by arranging and geocoding them.

a) Air Transport

The morphology of the urban system of Romania, Bulgaria and Greece plays a crucial role in the importance of their capitals within the national air transport networks (Map 4).

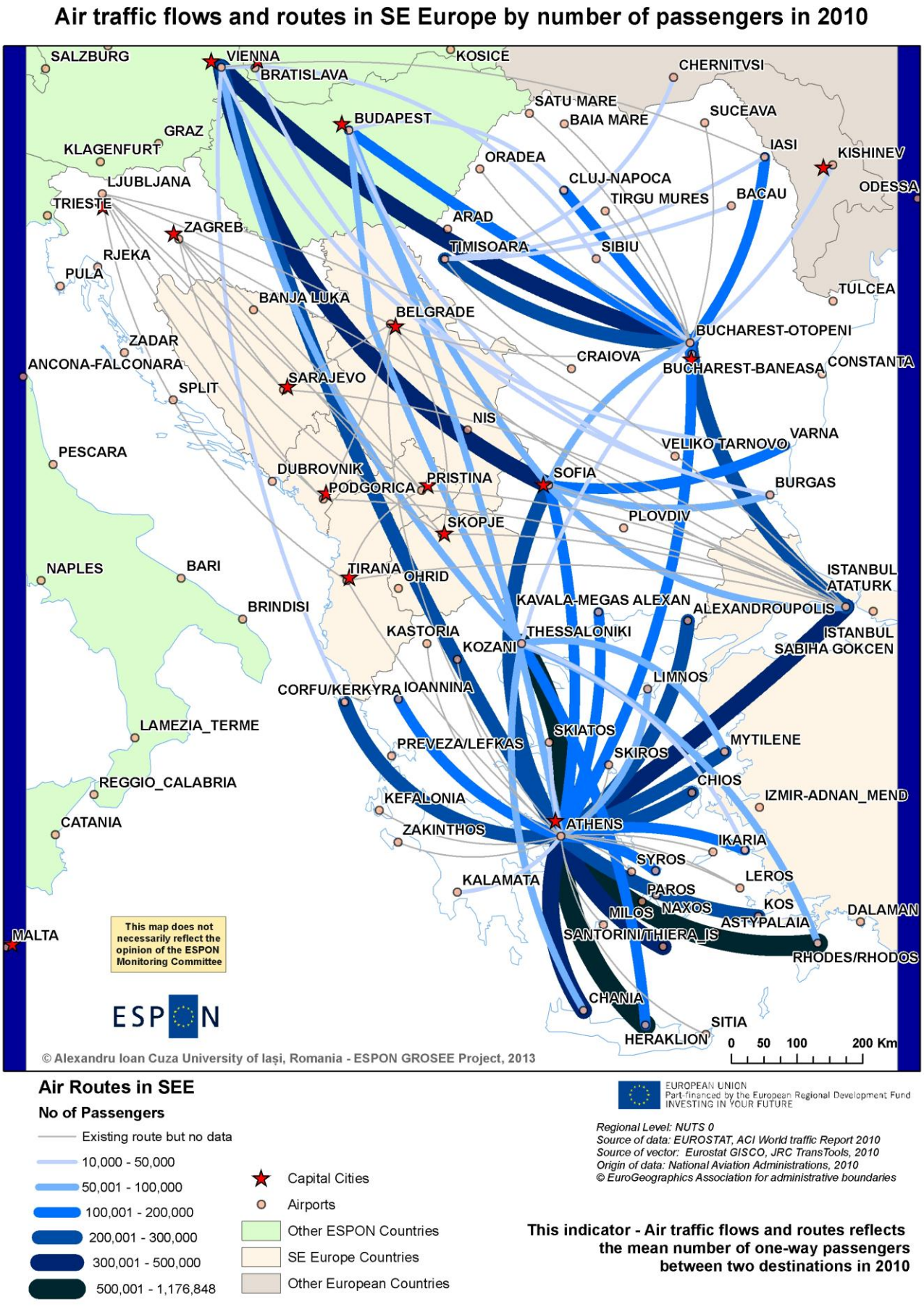
Romania and Bulgaria have similarities in this respect, having into regard the peripheral geographical position of the capital as related to the other two major cities (Cluj and Timișoara in Romania and Varna and Burgas in Bulgaria, situated at 400-500 km distance from the respective capitals). Also situated at the top of the urban hierarchy, Iași (RO) and Plovdiv (BG) struggle to augment their traffic flow due to the considerable circulatory migration but they are either within reach of a highly competitive airport system (Iași is at less than 150km from 2 other airports) or situated too closely to the most competitive airport in the local region (Plovdiv is less than 150km from Sofia).

The demographic and economic position of Bucharest within the Romanian urban hierarchy, as compared to the other urban nodes, is also reflected in the significant discrepancy between the air traffic of Bucharest and the next largest urban centres. The position of Athens in the national air transport system is clearly central (Map 4). This emphasizes the crucial interface role of Athens, linking the Greek mainland to its numerous islands served by a well-developed air network. Tourist island destinations bypass Athens by air served by low-cost companies specifically during the peak tourist season.

In 2009, within the SEE zone, air traffic and numbers of passengers highlighted the pronounced dominance of the capitals in all countries (except for Turkey), and the key role played by tourist destinations which succeed in creating equilibrium to the economic activity of the entire territory. This is especially true in the case of Greece, with its numerous Aegean islands, but equally so for the Adriatic and the Bulgarian Black Sea coastlines.

As regards freight and passenger air transport, the statistical data on Eurostat is available for NUTS 2 level. Unfortunately, this does not cover all regions, nor is it correlated to the same years. However, the available data for 2009 allows us to observe that for every country, the highest quantity of freight is exchanged in the NUTS 2 region where the capital city is situated, confirming once again each capital's dominance and the corresponding economic imbalance in the territory. The situation for passenger air transport differs mainly due to the tourist regions that attract a significant numbers of seasonal visitors.

Map 4. Air traffic flows and routes in SEE by number of passengers in 2010



The analysis of air traffic flows reiterates the dominance of the capitals as main actors in the territory, beyond international and national flight statistics/data sets. The capitals are thus the main recipient for international flights and then the main link to the rest of their territory. In the case of Greece and Romania, the cities of Thessaloniki and Timisoara attempt to maintain the secondary position as traffic hub, whilst Bulgaria does not have such a territorial competitor to Sofia. The flows show an intense traffic flow between Athens and Istanbul, followed by Athens-Sofia, Bucharest-Istanbul and then Bucharest-Athens. Air traffic between Bucharest and Sofia is considerably lower due to the shorter distance, approximately 400km as compared to 800 km from Athens to Sofia, which makes the former more suitable for road transport.

The number of regular weekly flights between capitals shows the considerable influence of Istanbul in this area, being the only city connected to all the neighbouring capitals, although with varying frequency of flights. A prominent connection can be observed between Bucharest – Istanbul, Bucharest – Athens and Athens-Istanbul. Sofia is better connected to Athens than Bucharest or Istanbul. Similarly, it is relevant that Ljubljana, Belgrade, Sarajevo and Zagreb are far better connected with each other than to the three capitals (see also Annex IV, Maps 1 to 4).

In order to identify the potential for cooperation based on distance and time of travel, indispensable to polycentric development, the one day trip indicator was used to establish the degree of contactibility between the three capitals and Istanbul/Belgrade, two of the main poles in South East Europe. As employed in previous projects, the indicator should take into account the train and air connections, although since there are no train connections between all capitals and those existing do not fit into the time frame set (6.00-22.00, with 6 hours spent at the destination), it was only feasible to consider air connections. As per the 2012-2013 winter airport schedules, the only two capitals which cannot facilitate a day trip is Sofia-Belgrade due to a lack of direct flights between them, preventing a stopover within the set time frame. The remaining city pairs offer more favourable connections for one day business/study trips, with more frequent daily flights in some cases (e.g. Athens-Istanbul, Athens-Sofia) providing even more than one possibility to return within the established time frame.

b) Rail transport

By analysing the railway networks of the same three countries and of the whole SEE, the northern Balkans benefit from a more extensive coverage due to the proximity of the urban centres to each other, lower cost investments as part of the industrialisation of the Austrian-Hungarian Empire during the second part of the 19th century.

Significant territories in the south-western Balkans (from Bosnia to West Greece) are poorly or insufficiently connected to neighbouring countries.

In Romania's case, it has the most extensive coverage of railway networks although it suffers from a poor connectivity index caused by the Carpathian mountain range which represents a real obstacle. There is also a high sinuosity because railways have commonly followed a minimum-investment policy, using very few tunnels or viaducts that would otherwise reduce travel time. The Balkan and Pirin Mountains in Bulgaria also constitute important barriers to communication, being exacerbated in Western Greece, which is deprived of such means of transport.

When considering the rail connections between Romania, Bulgaria and Greece and the connections with their neighbouring countries, a low transnational connectivity and high level of vulnerability and variability is evident. The borders are characterized by natural barriers: the Rhodopes Mountains between Greece and Bulgaria (1500-2000 m) and the Danube River between Romania and Bulgaria. This is aggravated by few transportation connections, only one for each country presently employed for passenger transportation: Giurgiu - Ruse (RO-BG) and Kulata - Promachon (BG-GR). The Bucharest railway line leading south to Giurgiu has been disconnected since the flooding of the river Argeș in 2005. Adverse weather conditions, the unreliability of the rail network and short sighted policy decisions have meant a lack of regular availability of rolling stock and an inconsistent service over the past 23 years. For example, the train route from Sofia to Bucharest (continuing to Kiev and Moscow) has had various interruptions over the years, and from

February 2011, the Greek National Railways have suspended their direct international train links from Thessaloniki to Sofia and onwards to Bucharest, creating severe disruption to international rail links, as with the city pairs Bucharest – Sofia and Sofia – Thessaloniki. The distance between them (300-400km) is insufficient to benefit from cost-effective flights or to profit from private means of transportation. Improving the Bucharest – Sofia – Thessaloniki – Athens axis with state of the art medium to high-speed railway systems, would be the first step in a strategy to ensure effective passenger transportation and to increase economic and financial exchanges. Present passenger train links from Sofia to Bucharest achieve approximately 400 km in 10 hours, which makes it uncompetitive compared to other means of transport. Alternative networks and links may lead to a decrease in network vulnerability as a whole due to natural risks. The newly completed Calafat–Vidin bridge rail and road link, which was fully operational from June 14th 2013, represents a significant opportunity to ameliorate current connections between Bulgaria and Greece and to Central Europe, although the rail sinuosity of this link *(HU – RO – Nădlac – Arad – Timișoara – Drobeta – Craiova – Calafat RO-BG Vidin – Sofia – Kulata BG-GR)* has extremely high operating costs. A reconfiguration of this corridor is urgently needed, in terms of increasing both travel time by constructing shortcuts. Unfortunately, as from September 2013, none of the rail carriers has expressed an interest in using the bridge due to the asymmetrical conditions in the national rail infrastructure, the Romanian Calafat link is yet to be electrified in contrast to Sofia). This is further exacerbated by the Vidin branch having speed restrictions as low as 30 km/h at certain segments.

c) Road networks

Road and rail networks in the three countries generally follow an internal logic, based upon historically opposing political blocs, further exacerbated by naturally occurring borders that act as delimitations rather than interfaces. The logic of the Greek road system, for example, differs from the other two neighbouring countries. The Aegean north-south motorway system Athens – Thessaloniki connects almost half of the urban population of Greece, almost 6 million people being concentrated on this apparently marginal but central axis taking into consideration the highly developed ferry connections throughout the Aegean islands. Bulgaria has a similar double west-east axis Sofia – Veliko Târnovo – Shumen – Varna and Sofia – Plovdiv – Stara Zagora – Sliven – Burgas, which together, concentrate almost two thirds of the Bulgarian urban population. In contrast, Romania has a larger territory, with a road system following multiple logics, related to the hydrography and to historic context (internal political needs of the medieval states that were united in the current Romania): the north-south axis of Moldova, corresponding to west-east in Wallachia and northwest-southeast in Transylvania. Bucharest stands as the main national road hub but was never conceived as a major exchange axis due to Ceausescu's wish to create a 'harmonious' crystallerian urban system of 7 cities of exactly same size (around 300.000 inhab.) each modelled as its own regional capital. Lately, the Romanian government has begun the consolidation of two main road axis – Bucharest – Brasov – Cluj – Oradea (Transylvania Motorway) and Bucharest – Pitesti – Sibiu – Timisoara – Arad (actually the TEN-T 7 project), both oriented from northwest to southeast corresponding to European functional integration needs.

The analysis of the road networks encounters difficulties in the sense of providing comparable data between countries, as each nation has its own system of standardizing national roads. In order to understand the road networks morphology at intra-national level, data links and nodes has been appended to NUTS2 regional level. Our analysis on connexity and connectivity through the three indices displays significant discrepancies between regions. Southern Romania and Western Bulgaria show high values of development index due to intensive investments in the capital city regions; the high development index in Northern Greece is due to the interface role of the Thessaloniki region within the rest of Europe. Although the Bulgarian national road network (with a hierarchy of 3 levels) has not constructed road links of the highest standard, it does offer an excellent overall connectivity compared to Romania. Some lower values in the Greece regions are due to a very fragmented territory and to numerous island ferry connections which have not been taken into account. However, it is worth pointing out substantially low levels of connection in the Adriatic regions and in Northern half of Romania. The higher values in Bulgaria, Greece, Hungary, Slovenia or Austria are also due to a development of the city-outer-rings that effectively reduces

traffic bottlenecks and leads to improved connectivity as a whole. However, it remains to be seen what necessary infrastructure improvements Romania and the western Balkans will successfully realise in the next decade.

3.2.2 Main answers on the accessibility

The analysis on accessibility has provided a series of key findings that may be structured on national, internal SEE and European level.

In the regional air accessibility map, Athens registers the highest values in terms of airport traffic, due to a larger population and a stronger economy (the large number of tourists also contributes significantly). In a strongly centralised urban system in a larger country, Bucharest plays its role as a dominant air hub (with no other important airport closer than 250 km) but faces stronger competition from the cities of the next hierarchical level. Sofia has lower traffic, due to the geographical position, which is somewhat similar to Thessaloniki, but at national level there are other two coastal airports that ensure a territorial complementarity. This hierarchy is also reflected in the traffic flows from Istanbul intercontinental air hub to the three capitals, given that Istanbul is situated roughly at the same distance from the three capitals. Instead, the air traffic flow with central Europe (understood as Vienna and Budapest) does not evince such disparities. Accordingly, Romania would be well advised to invest in the development of three sub-hubs, considering its population size, situated in Cluj-Napoca and Iași along with the existing hub of Timisoara. Bulgaria could support the development of its central region by investing either in the hub of Gorna Oryahovitsa, in the vicinity of Veliko Târnovo, or in Plovdiv, which has established low-cost weekly flights and a significant number of charter flights to meet the current demands of tourism.

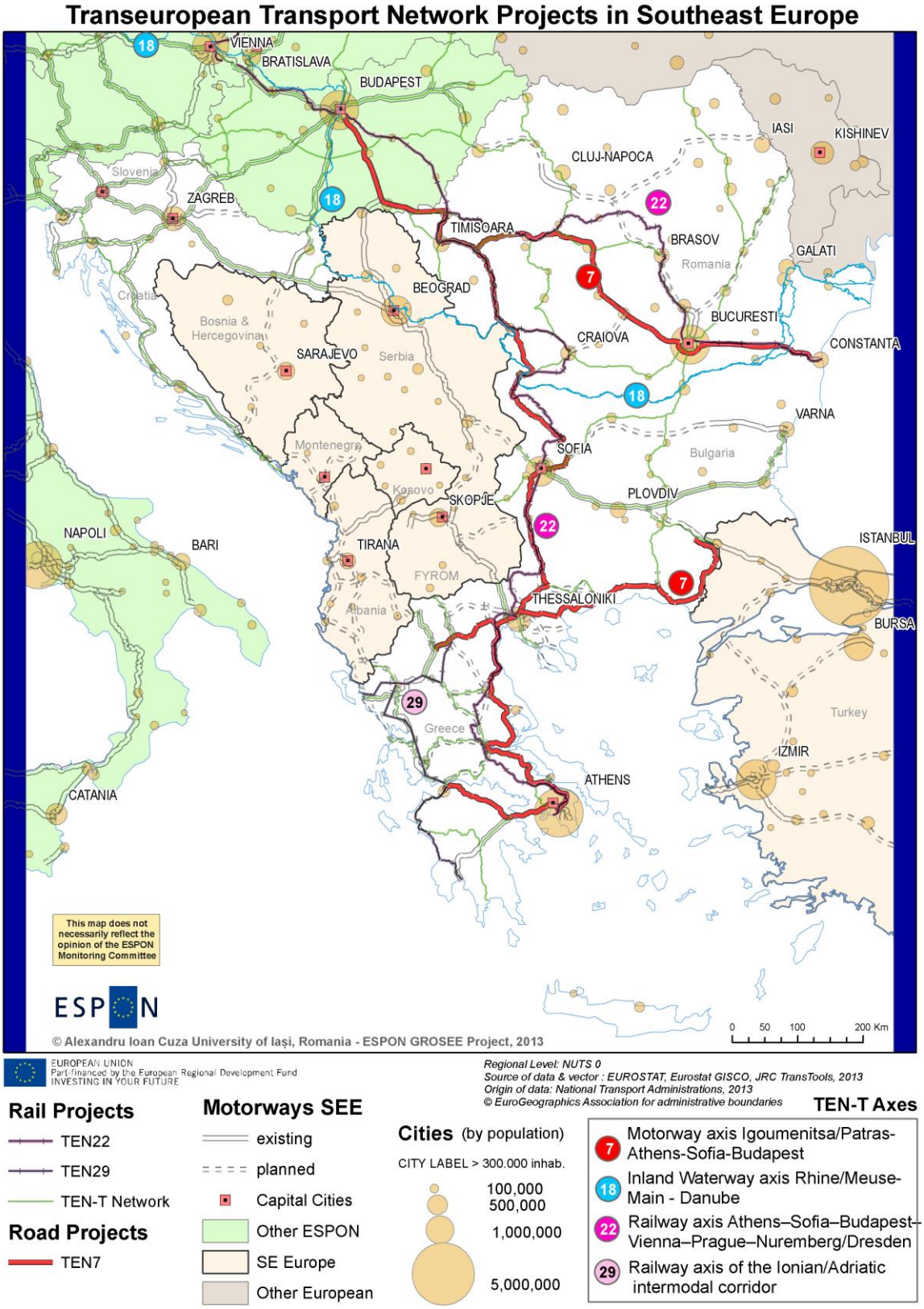
Although highly fragmented, rail networks have a stronger tradition in Romania and Bulgaria, closer to that of inner Europe, although natural barriers continue to play an exaggerated role in disconnecting large inner territories in all three countries and thus determining a very low connectivity (Map 5). Future projects for medium to high-speed train links must make use of existing tunnels and viaducts in order to cut travel time between both sides of the Carpathians, the Balkans at large, and the Pirin or Pindus Mountains.

Natural barriers between the three countries must no longer be seen as a separation between political blocs, as was formerly the case 24 years ago. Thus, supporting the viability of the new rail-road bridge Calafat RO - Vidin BG is crucial for the creation of a real alternative corridor between Central Europe and SEE area. Linking Bulgaria to FYROM (Gjueshevo BG to Beljakovce MK) or to northern Greece through Rhodopes (Kardzali BG to Komotini GR) would greatly increase connectivity and further economic and cultural exchanges. Until then, Greece needs to revise its policy of suspending trains to Bulgaria, which has been the case since 2011, through the customs border of Promachon – Kulata and Orestiada – Svilengrad. Greece also needs to draw up a medium-term strategy for linking Athens by train to north Ionia, by building a railway between Kalambaka and Igoumenitsa. Along with the existing highway works to Igoumenitsa, this, would set the foundations for a true multimodal Ionian harbour and create the future basis for an uninterrupted Ionian - Adriatic railway and highway as far as Albania.

The main national axes in the three countries connect the major nodes of urban networks. These axes do not entirely correspond yet to European current and future needs. All three countries urgently need to adjust national road construction policy to European policies, while European strategies must simultaneously take into account that the larger role to be played by the three countries concerned in ensuring the connection with the European neighbourhood. Thus, there is a necessity for the western part of the TEN-T network (Arad – Timisoara – Drobeta – Calafat) and Bulgaria needs to make stronger investments in its own central (north-south) axis Ruse – Stara Zagora. The former will create an alternative route from the European core to Athens, while the latter will facilitate the connection from the Baltic, and Ukraine to Istanbul via Bucharest. Compared to the other two countries, Greece's evident advanced motorway works and planned works on the

Ionian highways as well as future connections with Albania, FYROM or the Croatian highway are designed to better correspond to national and transnational needs.

Map 5. Trans European Transport Network Projects in Southeast Europe



3.2.3 Analysis of the efficiency of European transport corridors. Overview of existing corridors and TEN-T Networks

In southeast Europe, TEN-T Networks have been drawn up to insure the north/south or northwest-southeast connectivity; Central Europe - Vienna and Budapest towards Athens and Istanbul. Thus these networks are responding to major European needs. They reinforce, once more, the essential position of the EU capital cities of this region (Bucharest, Sofia, Budapest, Vienna, Bratislava, Ljubljana) and partially cover the most important internal needs – Bucharest's connection to the Black Sea and to Transylvania or the Athens –Thessaloniki - Promachon highway. The Via Egnatia segment (east-west - Greece), represents a prescient example of reducing territorial disparities, by linking poorly connected regions. The Bulgarian segment of TEN-T (Vidin – Sofia – Kulata) falls short of national motorway strategy (the two axes from Sofia to Black Sea) but was immediately perceived as a means to maintain current European flows through Sofia.

The Western Balkans also lack coherence in building a strong international road network because of long standing fragmentation and instability over the course of the past 15 years. The EU should plan for future integration of this territory, thus easing synergies and solutions for an increasingly coherent road network.

Turning our attention to the Danube, it has become a priority project as water transport is seen by the EU as an efficient and viable alternative to land transport in certain circumstances. The Danube Strategy initiated by Romania and Austria in June 2011 shows great interest in this sector and will give both parties a key role in managing future projects. The axis Rhine/Meuse –Main – Danube inland waterways are supposed to increase navigability and the transfer of freight traffic through multimodal nodes. It will favour the transport of goods mainly from West to East, but also on an East-West axis if we consider the growing importance of the harbour of Constanta (RO) regarding the import of goods from China. This axis is a cleaner and a more sustainable alternative to the land transport corridors. The 3 billion Euros estimated costs overall represent substantial investments that will certainly favour passenger transport and leisure traffic on the Danube. In the long-term, this must be accompanied by national policies in support of cargo traffic on waterways, through subsidies, increased taxation for lorry freight, simplified water-border procedures and an increased involvement of the Republic of Serbia in the process. Otherwise, the great risk for the EU is to invest in infrastructures that will serve local or much variable traffic needs. However, these investments need for a better connection with the maritime transports in the Black Sea and the Mediterranean Sea and a link to worldwide markets, making it more economically efficient, because the efficiency of the Danube transport is closely linked to the development of maritime transport in the Black Sea.

One of the major EU preoccupations in road transportation is to create a fluid traffic system/flow from NW to SE between Central Europe (with Wien and Budapest as major nodes) on one side and Greece as one of the older EU member States and Turkey as an important commercial partner of EU and a future candidate for EU membership, along the European corridor no. IV. Other preoccupations envisage an improved connection between the Western and Eastern Balkans. TEN-T Priority Project no. 7 covers these major objectives by attempting to link the ports of Patras, Igoumenitsa and Athens, and Thessaloniki and Constanta to the heart of the enlarged EU by an uninterrupted motorway network. The Greek and Hungarian sectors of this project of infrastructure are more than 90% completed, while it is less than 20% complete in the remainder of the project covering Romania and Bulgaria. Its finalisation would have a big influence on the increase of cooperation between SEE city capitals.

3.2.4 Impact of completion of TEN-T7 project on accessibility

In order to better understand the reduction of travel time of the TEN-T 7 corridor, the JRC Trans Tools vector network has been employed for simulation inquiries. Travel restrictions have been set in terms of cross-border sections or of ferry-boat passages. There are additional restrictions in terms of sinuosity or altitude gain, but the larger extent of the network and the considerable amount of data has demanded the formation of a model in terms of travel speed.

The next comparative table shows travel cost gains between the main city pairs that the TEN-T no. 7 Project is likely to influence, in terms of travel time. The methodology includes setting up travel speeds on each individual road segment according to Trans-Tools data (revised according to up-to-date modifications) as well as estimated cross-border waiting times, set to 90' non-Schengen entering Schengen/EU countries, 60' between non-EU countries, 20' from EU to EU countries, 0' from Schengen to Schengen or ferryboat access across the Danube (at 40') or across the Aegean Sea (at 35 km/h).

According to simulations, the completion of the TEN-T no. 7 in the case of motorway access at 130 km/h significant improvements will accrue along the European corridor no. 4. At present, the Pan-European corridor no. 10 via Belgrade is the shortest passage from the north to the south of the Balkans, in terms of distance as well as travel time, although it is subject to high impediments due to non-EU cross-border sections (Table 1). The completion of the TEN-T no 7 Project via motorway access will create a time differential of over 150 minutes (2,5 h) at a regular crossing from Vienna-Budapest in the direction of Istanbul and the rest of Turkey. In the event of Romania and Bulgaria entering the Schengen area, travel time may be further reduced by as much as 60 minutes. The crossing through the other branch of TENT-7 (Arad-Bucharest) and then through a section of the Pan-European corridor no. 9 (via Ruse – Stara Zagora) will constitute an advantageous alternative after the improvements to the Romanian branch of Timisoara-Constanta.

When considering the passage from Central Europe to the Aegean harbours of Greece, the corridor no. 10 is still the shortest option (either via Zagreb or Budapest). The TEN-T no. 7 Project (corridor no. 4) will become the first option after the completion of all sectors. Finally, the completion of corridor no. 4, linking Budapest and the Black Sea at Constanta, will bring significant improvements of one hour travel time via the Timisoara - Craiova branch and over two hours via a completed motorway on the direction Arad - Sibiu.

The completion of the motorway will afford considerable time travel gains as sinuosity and slopes constitute fewer impediments to motorway sectors; this will necessitate an increase in toll costs, favouring road freight transport over private transport. Improvements are expected via Ignatia in term of linking the West Balkans (Epirus, Albania and FYROM) to Istanbul and the East Balkans in general, but this sector is already completed.

Table 1 Travel time gains after the completion of TEN-T no 7 Project

Itinerary	Via	Distance (km)	Travel time (min) 2013	Time (min) 2020 (completion of TEN-T no7)	Time gain (compared to the shortest)
Vienna – Istanbul	(RS) Subotica - Belgrade – Kalotina (BG) - Plovdiv corridor no 10.	1556	**1010'**		
	Arad – Bucharest (RO) partial TEN-T 7– Stara Zagora (BG) (corridor no 9)	1677	1074'	990'	20 min
	(RO) Timisoara – Calafat – Botevgrad – Kulata (BG) TEN-T7 (corridor no 4)	1620	1080'	**867'**	143 min
Vienna – Athens	Budapest (HU) -Subotica - Belgrade (RS) – Bogorodica (MK) corridor no 10	1705	**1045'**		
	Zagreb (HR) – Belgrade (RS) – Bogorodica (MK) corridor no 10	1846	1054'		
	(RO) Timisoara – Calafat – Botevgrad – Kulata (BG) TEN-T7 corridor no 4	1874	1117'	**905'**	140 min.
Budapest - Constanta	Debrecen (HU) – Brasov – Ploiesti – Harsova E60 corridor (RO)	1074	674'		
	Szeged (HU) – Craiova (RO) partial TEN-T7 corridor no 4	1057	**624'**	561'	63 min.

	Szeged (HU) – Sibiu – Bucharest (RO) TEN-T7 corridor no 4.	1008	590’	**507’**	117 min.

3.2.5 Conclusions on efficiency of transport corridors

The horizon 2020 for the completion of the TEN-T-7 Project may be not attainable if Romania and Bulgaria do not adjust their national strategies according to the wider interests of the EU. The recent inclusion in April 2012 of the Romanian planned motorway Târgu-Mureș – Iași in TEN-T corridors shows that European interests are indeed able to adjust to national strategies in order to tackle major internal disparities At the same time, there has to be greater collaboration between the Romanian and Bulgarian governments to meet European interests in the region. As shown, the TEN-T 7 Axis will provide major travel time improvements and will constitute a great opportunity to create a more connected road network, at least for the sector Timișoara – Calafat – Vidin – Sofia, in order to tackle traffic jams, network vulnerability to unforeseen forces, or even political and social shifts.

Together with the transport infrastructure, another priority of the European policy is to optimise the energy networks (TEN-E), aiming to achieve the targets of the Europe 2020 Agenda (a 20% reduction of greenhouse gas emissions, a 20% increase in energy efficiency and 20% of renewable energy in final energy consumption), simultaneously ensuring security of supply and increasing solidarity among states. In order to reach these targets, within the framework of the Energy Infrastructure Package 12, high priority corridors and electricity, gas and oil supplies have been identified and need to be consolidated. The most essential being the north-south electricity interconnections in central eastern and south-eastern Europe, the north-south gas interconnections in central eastern and south-eastern Europe and the southern Gas Corridor, as well as the Smart Grids for Electricity involve all 3 countries, thus increasing their role in the area, as well as their vital connection with western countries.

Our analysis shows that in terms of numbers and spatial distribution, airports are relatively evenly distributed in the SEE territory, with varying degrees of influence that they exert. The three capitals and Istanbul are clearly the dominant poles in the area in respect of air transport, being well connected to each other, although this connectivity inside the SEE area needs to be dramatically improved in order to facilitate a better cooperation among all the cities and a more balanced access to the services they provide. The rail infrastructure and connections do not currently support a sufficient level of accessibility or connectivity either inside the SEE area, or with the rest of the European territory. The road network also shows discrepancies and dysfunctions in terms of connectivity. The main impact of the TEN-T corridors crossing the area will therefore be to provide major travel time improvements and ameliorated connections within the area under analysis, as well as with Central Europe and Turkey, supporting and emphasizing the role of the three capitals as growth poles. The general low absorption of the EU 2006-2013 funds – a mere 26% in Romania and 40% in Bulgaria - has been of critical influence on the Transport sector, with less than 10% payments of EC to transport projects in Romania, which will necessarily delay the realization of a continuous transport corridor through the three SEE countries.

3.3 What are the main drivers for competitiveness in the three capitals? Do metropolitan areas play an important role as drivers for competitiveness in the region?

This section provides an in depth evaluation of drivers of competitiveness for the three capitals in relation to their role and the existing and potential synergies and complementarities within the emerging axis Attiki - Sofia - Bucharest and the potential role of the latter in the entire SEE and the EU core. Starting with the factors of competitiveness of the three capitals and SEE - the historical and physic-geographical context, their economic structure, human potential and technological potential - the scope of the analysis has been enlarged to incorporate the impact of a consolidated and interconnected urban network in this area. In addition, there are other factors with an important role in strengthening competitiveness, such as social structure, internal connectivity,

environment, territorial and urban structures, added to governmental structures,. Following on from this, the comparative strengths and weaknesses of competitiveness in each case are identified.

This is achieved by highlighting the three capitals' competitiveness through a comparison with that of the more developed metropolitan regions in Europe, focusing on the "competitiveness distance" of the first as against the latter.

Finally, the drivers of competitiveness of the three capitals in the metropolitan context are examined, considering their impact on the "Outer Metropolitan Ring" and the contexts of their countries, SEE and the wider Balkan area, Europe and the world.

3.3.1 Drivers of competitiveness of the three capitals and SEE

a) Impact of history and geography

Historical factors had considerable impact on different aspects of competitiveness, made starkly evident in the case of both Romania and Bulgaria, after 40 years of a communist regime whose centralised economic model had long term influences on the economic development of the two countries. During that period, the focus was heavily on a strictly planned economy with intensive industrialisation, made evident in a landscape of factory complexes both in urban and rural settings. The effect of this cannot be underestimated and has greatly restricted the ability of the two countries to develop competitive economic structures. A second factor which affected the path towards a state of mature competitiveness at local, regional or national level can be found in the slow transition to a market economy.

The early accession of Greece to the EU increased the competitiveness of selected branches, but also the excessive growth of local markets with poor outward orientation. The economic development of Greece has been closely related since 1981 to the EU economic unification process. This has led to restructuring of both agriculture and industry and increased their competitiveness at the European and world level although it has been also associated with important losses in overall production and jobs. The adhesion of the country in 1999 to the Eurozone (which offered monetary stability) has contributed to the increase in competitiveness of the finance sector and to gains in a number of service branches, but has also accelerated the development of sectors such as construction, health and education.

The peripheral position of the three capitals in the EU is certainly a negative factor, but this can be transformed into an opportunity to exploit their position at a crossroads of the Danube and Mediterranean. In terms of geography, it is no doubt clear that the peripheral position of the three countries and capitals within the EU has a considerable impact on their overall competitiveness at the EU level. An asset for the Romanian and Bulgarian regional competitiveness is certainly the Danube corridor, which facilitates the movement of goods at European and global level. The advantageous position of Greece and Attiki in particular at the crossroads of the Mediterranean, the Middle East and Northern Africa represents a considerable potential for raising their spatial economic profile. Because of its coastline along the Black Sea, Bulgaria, and, as a consequence, Sofia, have a key location in the Balkan Peninsula.

b) Economic performance, economic structures

The SEE countries have experienced an impressive increase in economic performance, with their capitals benefiting most, followed by a rapid decline during the crisis which affected the capitals in the same way or even more so than the countries themselves. During the pre-crisis years of 2000-2008, GDP in PPS per capita in Attiki approached the EU27 average, but in the following years, there was a significant decline. Bucharest and Sofia showed a remarkable increase in GDP per capita before the crisis, while the decrease during the crisis period was lower in comparison to that of Attiki.

In this context, not only has there been a slowdown of economic activity during the crisis, but also an important more general decrease of investment which is essential for competitiveness.

Economic activity and investment have been adversely affected during the crisis in the three countries and capitals after a previous increase in growth. Changes in these aspects of competitiveness of the three capitals exhibit several similarities and dissimilarities which are analysed below.

Regarding GVA, as a reflection of the volume of economic activity, as against the EU27 average, Attiki presented higher scores during the last decade in comparison with Bucharest and Sofia, which approached the EU average faster than other EU countries and regions.

With regard to Foreign Direct Investment (FDI) that constitutes a very important component of competitiveness, and to the equally important Gross Fixed Capital formation per capita (GFC), Sofia and Bulgaria in first place and Attiki (and Greece) in second place, presented a deficiency compared to other more developed countries and regions. While there is a shortage of investment throughout Romania, Bucharest experienced a higher rate of investment per capita.

Consequently, the crisis resulted in a general decrease of disposable household income, which was comparatively higher in Attiki. Disposable household income during 2000-2008 was marked by a significant increase in Bucharest and Sofia, while the respective change was less intense in Attiki. Hence, the growth rates of the above economic indicators in the three capitals had a similar impact on ~~in~~ household incomes. According to data which are not fully comparable and grey literature, disposable household income during recent years has substantially decreased in Attiki, aggravating the crisis, while the decrease was clearly lower in Bucharest and Sofia.

From another perspective, the composition of the economy by sector~~s~~ in all capitals and countries of SEE has suffered a negative impact on their competitiveness. Nevertheless, important differences between the capitals and their countries can be perceived. In the capitals, the service sector shows higher shares than in the remainder of the respective countries. Moreover, the capitals have an even higher share than that of the countries when it comes relating to their financial services, which have strategic importance for competitiveness (see Annex IV, Table 1a and Figure 1). The financial sector of Attiki is the most important of the three cities in total volume of GVA (Euros / absolute values – see Annex IV, Table 1b) as well as the most competitive, despite the fact that its share in the overall breakdown of sectors does not differ much from that of the two other capitals. Attiki also has a far more powerful communication sector (see the respective volumes of GVA – in Euros / absolute values – Annex IV, Table 1b) together with a higher technological level than Bucharest and Sofia. The most important conclusion is that strategic industrial and financial branches are weak in the three capitals. Because this issue is of the utmost importance, it is reviewed in comparison to the SEE capitals with metros of the EU core (section 3.3.2 of this report).

c) Human capital

Another aspect that must be noted is that the three capital regions perform sufficiently well in terms of quantity and skills of human potential, but exhibit low labour productivity rates. These capitals possess a sufficient volume of human capital because their employment rate is comparatively high. The population composition per age group as well as other demographic and social characteristics of the three capitals does not reveal major problems regarding the sufficiency in quantity of available labour as well as the adequacy skills of labour force. However, there is high unemployment among women and young people, especially in Attiki, which limits their participation in the production process. What is significant is that the labour force in the three metropolitan centres is comparatively well educated. Finally, the labour productivity index regarding the entire economy is low in Romania and Bulgaria while it is relatively higher in Greece and Attiki, as well as in Bucharest, if viewed in isolation.

d) Technological and innovation readiness

Additionally, these cities have considerable available human potential, but low investment~~s~~ in the R&D sector. Regarding ~~the~~ technological and innovation readiness as well as specialization in strategically important services, such as the Advanced Producer Services which constitute key

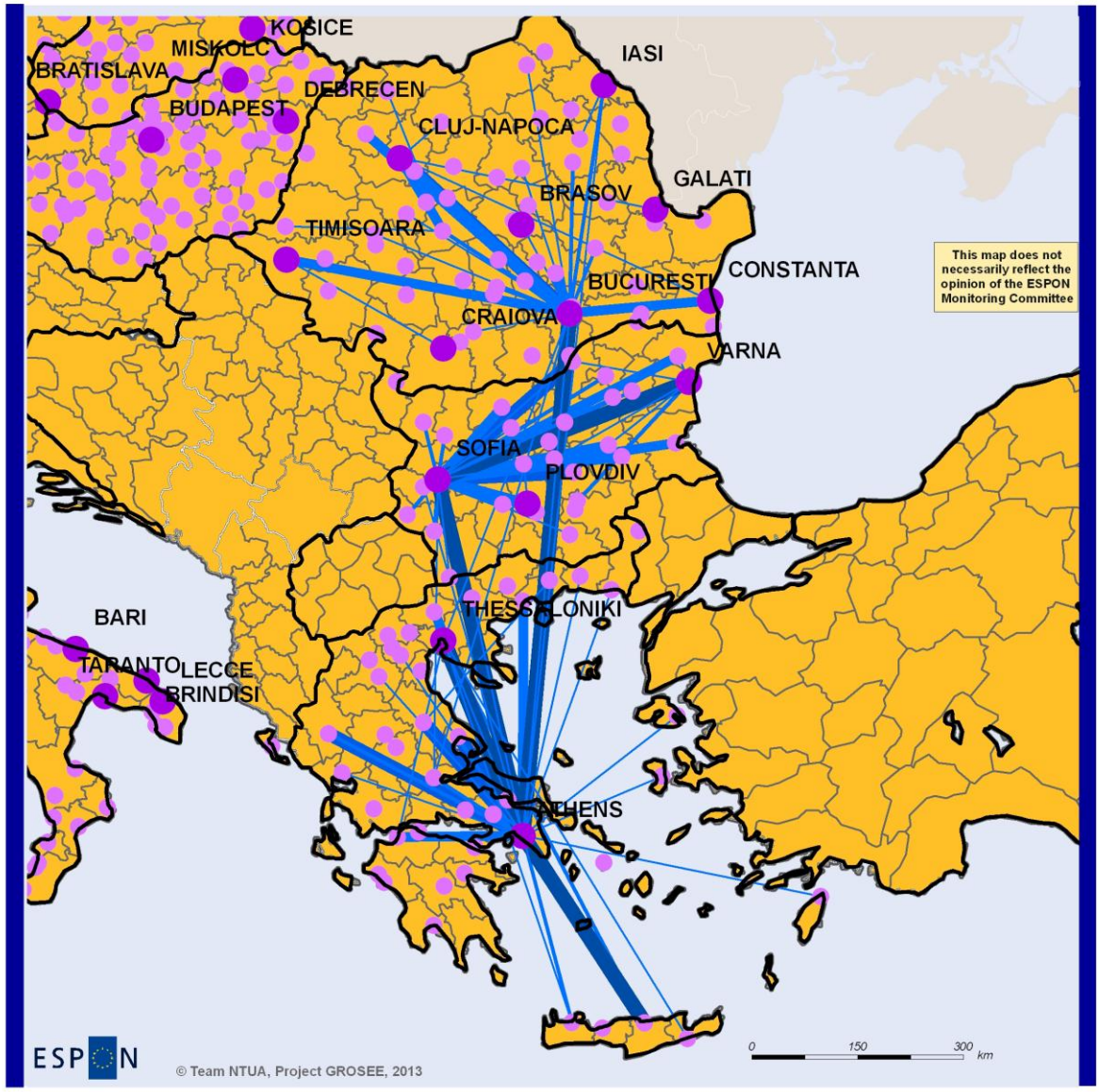
drivers of competitiveness, the three countries demonstrate poor performance, especially Bulgaria and Romania; with the three capitals performing much better than the countries as a whole, but worse than the regions of the European “west” and “north”. The three countries, even more so the three capitals hold considerable human potential in R&D, the share of which is growing as a share of total employment and differs marginally from the EU27 average. The weakness of the three countries and capitals in this respect lies in the low level of expenditure as well as long-term investment in R&D. It should be stressed that Attiki outperforms the two other capitals.

e) Economic and urban networking and clustering

In addition, Attiki benefits from considerable cooperation among research groups, located in the three capitals with Attiki as a leader. In the current climate, there is weak networking and clustering and low diffusion of effects on innovation inside SEE. Research links between cities have been studied by several research projects. ESPON FOCI (2011) has analysed data for research projects funded by the EU included in the CORDIS database focusing on the linkages among the research groups located in FUAs of the SEE for two branches of high technology: “Information processing, information systems” and “Biotechnology”. GROSEE has updated this analysis, for projects in 2012, the coordinator of which is located in SEE and at least one participant is also located in SEE. The total of research cooperation branches inside SEE has also been studied as among SEE and the rest of the EU27.

From the first analysis, it has been concluded that most of the coordinators, in fact more than 90% of the total, are located in Greece. A mere 8,5% of the total number of projects concern cooperation among Greek / Romanian, Greek / Bulgarian or Romanian / Bulgarian cities. To a larger extent, the three capitals and Thessaloniki participate in collaborations inside SEE, while Attiki has a much higher share than the other cities. Regarding linkages at the national and regional level, the shares of the three capitals in R&D are impressively high, more so than in other types of economic activities. Most links originate in Attiki and are largely directed to Bucharest and Sofia (Map 6).

Map 6. Intensity of links between the firms' subsidiaries (of ORBIS database) in 2008 inside SEE



At the same time however, a much higher presence of firms' subsidiaries in "western" and "northern" EU cities shows a correspondingly higher internationalization of their economy compared to the "southern" and "eastern" cities. Regarding the firms links between , ESPON FOCI has examined such links among subsidiaries (of ORBIS database firms) located in FUAs in SEE or between subsidiaries located in SEE, with others located in FUAs in the rest of the EU (see Angelidis et. al., 2011). In the following paragraphs, we refer to FOCI's main conclusions of this analysis, which explain, to a large extent, the present situation, according to our own study of a wide range of relevant grey literature (mostly for larger firms).

The cities (FUAs) of the EU "west", including the extended Pentagon area, prevail by far regarding the number of the firms' subsidiaries weighted by city population; northern Europe leads by a considerable distance, while southern and eastern European cities follow with much lower economic figures. Secondly, the economic flows originating from cities of the more developed parts of western, central and northern Europe (mainly the "Pentagon") and directed towards cities of the SEE are much more intensive than the other way around. The links of SEE cities with the rest of southern and eastern Europe are clearly less intensive. Attiki and a few other Greek cities have far more intensively developed links with the rest of Europe, than have the Bulgarian and Romanian cities, of which Sofia and Bucharest rank the highest. In the case of Greece, the higher dependence links originate in Paris and London while for Bulgaria and Romania they originate in Vienna, Paris and Amsterdam. The firms located in Bucharest and Sofia have the most numerous links with Austria and mainly with Vienna.

Turning to SEE (Map 6), the headquarters located in Attiki control the larger part of the subsidiaries which are located in Attiki (in turn representing 85% of the total subsidiaries in Greece) and very few subsidiaries are located in other Greek cities. The respective economic shares for Bucharest and Sofia are slightly smaller, with Thessaloniki, Varna and Cluj-Napoca following. Links originated in Attiki are directed to Bulgaria and Romania and especially to Bucharest and Sofia.

The examined linkages among firms or research centres are of considerable importance because both research centres and subsidiaries included in the ORBIS database constitute relatively more competitive, internationalised and modernized parts of the economy of the three capitals and countries. The enterprises not included in the ORBIS database are medium sized, small or very small. Although this research covers only a part of those linkages, it can be concluded that in certain cases, the three capitals and SEE are involved in dynamic clusters of research or economic branches, the leading role being assumed by cities outside the SEE zone. Such networking and clustering inside the SEE is undoubtedly weak. Also, the units of the most competitive branches in the national territories are strongly monopolized by the three capitals. The result is that cities other than the capitals do not profit sufficiently from the potentially positive effects of clustering and networking at national and regional level. In other words, the three capitals do not support, encourage and diffuse innovation to a sufficient extent. By failing to do so, they prevent the spread of competitiveness to ~~in~~ the rest of their countries. This failure is more evident in the case of Attiki and less so in the case of Bucharest and Sofia.

f) Accessibility

Accessibility and connectivity inside the three capitals as well as at different territorial levels (countries, SEE, Europe) have different patterns, dependent upon the attraction they hold for investments, the level of accessibility from inside the city to its transport gates (airports, ports, major external highways) as well as accessibility to basic services and to industrial and business zones of the city counties. The degree of accessibility for each specific type is moderate.

g) Governance structures

According to our analysis, there is insufficient support by government services and units to moves towards higher competitiveness in the three metropolitan regions, although the situation improving. ~~.~~ The FMA of Attiki includes three basic levels of governing structures, one appointed by the central government ("Decentralized administration") and two elected ("Region" and municipalities),

while the Metropolitan Region of Bucharest includes two levels of governmental structures (the county - judeţ) and the local level of towns and communes, both of which are elected bodies. Sofia is organized in city regions, subject to the decisions of the city council of Sofia municipality. In all three capitals, the higher level authorities have powers in spatial development planning, while the lower level authorities have competencies in the provision of environmental public services and are involved in specific spatial development and local urban planning.

In general terms, in all three cases, despite successive reforms of the administrative structures, spatial and urban development competencies are not clearly divided according to administrative levels, Horizontal and vertical partnerships are not well developed and implementation of territorial development to contribute significantly to the improvement of competitiveness.

Conclusions

To conclude this sub-chapter, the impact of the recent crisis on the three capitals and SEE should be emphasized. This is undoubtedly a crisis of the entire EU that had a more intense impact on countries of the "South" such as Greece but also to some extent of the countries of the "East" such as Romania and Bulgaria and their capitals.

Apart from other considerations, the crisis demonstrated that the development policies adopted by the three countries and capitals (notwithstanding the declarations of intentions of the development plans) were not sufficiently resilient in the recent economic crisis.

3.3.2. Comparison of the SEE capitals with other European metros

a) Comparison with EU capitals and second tier metros with emphasis on case studies

In order to better approach the competitiveness strengths and weaknesses of the SEE capitals, it is useful to compare them with EU metropolitan regions which have populations of a similar size as well as similar national or regional role. Thus the results of the comparison would facilitate the preparation of policy options.

In ESPON, the majority of metropolitan regions are characterised as MEGAs. Because there are not recent data for the ESPON MEGAs, we have used the definition and respective data provided by Eurostat in cooperation with DG Regio under the heading "Metropolitan Regions" (Eurostat 2013). 253 cities of EU27, Croatia, Norway and Switzerland were characterised as Metropolitan Regions (MR, metros) according to the population criteria. Starting from the respective Urban Audit LUZs, Eurostat has approximated the area of the MR with NUTS3 units (see Annex IV, Map 5).

Eurostat (2013) has divided EU metros into (a) capital city regions, (b) "second tier metro regions", and (c) "smaller metro regions" (see Annex IV, Map 5). It is obviously more appropriate to compare the SEE capitals with capital city regions and second tier metros. Unfortunately, the specific Eurostat database for the metros contains data for only a few indicators, meaning that the comparison of the SEE capitals with other European metros cannot include a number of important aspects of competitiveness. To tackle this problem, data has been gathered corresponding to additional indicators by aggregating other Eurostat data available for NUTS2 or 3 units. See in Table 2 of Annex IV the indicators, used for the case study metros per NUTS level of approximation. Because this work could be done only for a small number of European metros, we have selected eight cases studies of EU capitals and second tier metros to compare with the SEE capitals. Five case studies have been selected from "north" countries, two from "south" countries and one from an "east' country.

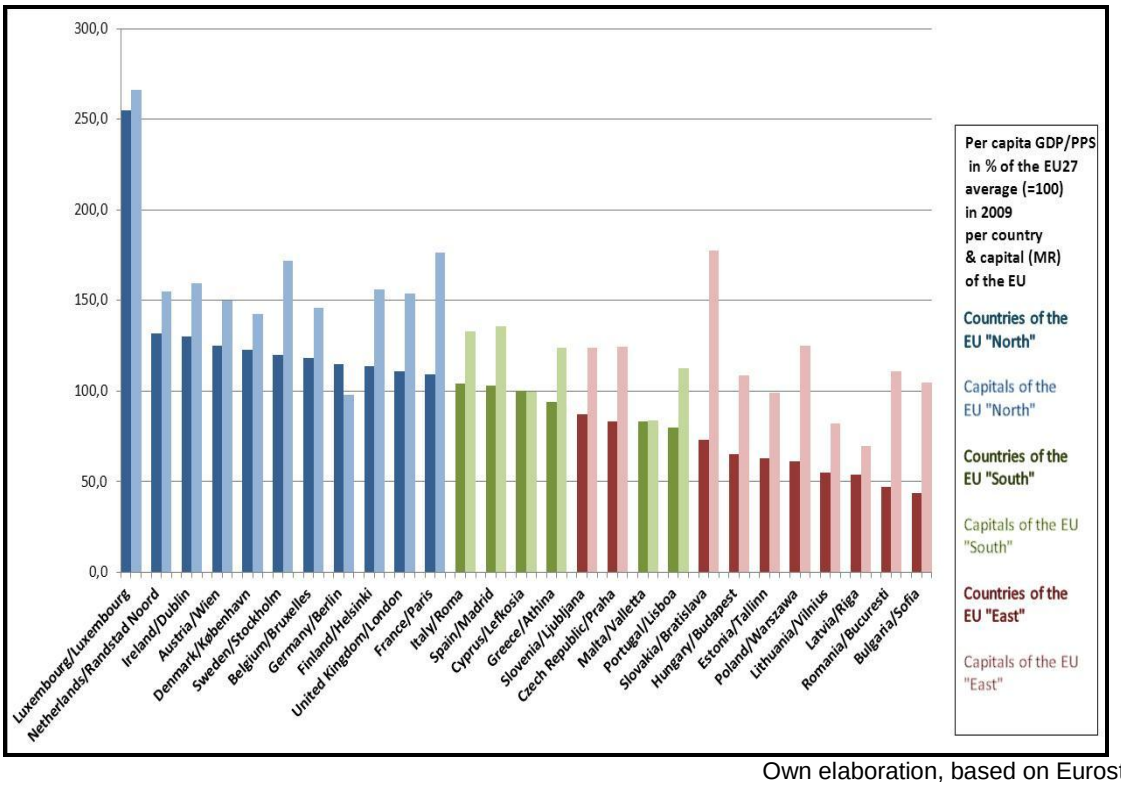
- Stockholm and Amsterdam, the capitals of EU "north" countries, Rome and Lisbon, the capitals of EU "south" countries and Prague, the capital of an EU "east" country; the population of Amsterdam and Rome is comparable to that of Attiki and the one of Stockholm, Lisbon and Prague with that of Bucharest and Sofia.

- Munich, Lyon and Manchester, which are second tier metros of the EU “north”, with population comparable to that of Bucharest and Sofia.

b) The results of the comparison

Before the crisis, SEE capitals experienced a rapid growth far greater than their countries and approached GDP per capita of the “north” metros. In 2009 (the year closest to the start of the crisis), the three SEE capital city regions concerned had GDP PPS per capita higher than the EU27 average (Annex IV, Map 6).

Figure 2. Per capita GDP PPS in % of the EU27 average (=100) in 2009 per capital city metro and country of the EU27



Own elaboration, based on Eurostat data

The highest values of EU capital city metros correspond to those of the “Pentagon”, the core of the EU “north” (Figure 2). Amsterdam (belonging to the “Pentagon”) and Stockholm, as „north” capital city metros, clearly provide higher values than the SEE capitals, while Rome, a “south” capital city metro, has a higher value than Attiki. However, the value for Lisbon (“south”) is closer to Bucharest and Sofia and lower than Athens, while Prague (“east”) is on a par with Attiki and higher than the two other SEE capitals.

During 2001-2008, before the crisis, the EU metros economies developed faster than their respective countries. Especially the EU “East” capitals have grown even faster than their countries; their gains regarding GDP in PPS measured as a percentage of the EU27 average (=100) were very high (Annex IV, Map 7). Bucharest has gained the most among all EU metros, closely followed by Sofia and Attiki. In other words, all three SEE capitals have progressed at a rate exceeding by far that of the majority of the other EU metros.

In 2009, the year closest to the start of the crisis, the EU metros performed better than the respective countries but the difference of the three SEE capitals from their countries was even more considerable. Especially Sofia and Bucharest performed impressively better than their countries.

During the crisis years 2008-2010 Attiki and Bucharest “lost” considerable ground, while Sofia “gained” (Annex IV, Figure 2). The “north” metros remained roughly “stable”, except for Munich, which “gained” substantially. The “south” capitals, Rome and Lisbon, remained roughly “stable”.

The composition by sector of the economies of the SEE capitals shows that their development was much less competitive and resilient to the actual crisis impact in comparison to the metros of the EU core (Table 3).

Table 2. SEE capitals and case studies metros: GDP PPS per capita as % of EU27 average (=100) 2008, 2010, 2008-2010 change in percentage points

Types of metros	Metros	2008	2010	2008-2010 change in percent. points
SEE capitals	Sofia	100	105	5
	Attiki	121	115	-6
	Bucharest	117	110	-7
Capitals of the EU north	Amsterdam	154	154	0
	Stockholm	169	168	-1
Second tier metros of the EU north	Munich	180	184	5
	Lyon	140	140	0
	Manchester	97	96	-1
Capitals of the EU south	Rome	120	117	-3
	Lisbon	109	112	3
Capitals of the EU East	Prague	125	121	-4

* Approximation NUTS3 of the metros (Eurostat), Rome: approximation NUTS2. Own elaboration, based on Eurostat data

Attiki represents a more important volume of GVA (in millions of Euros/absolute values - Table 1a in Annex IV) in 2009 in comparison with the two other capitals), both in total and especially with regard to financial activities as well as information and communication branches, which are of strategic importance for competitiveness.

All three capitals present higher shares in trade, hotels and restaurants as well as in residential building and real estate sales, which all are activities oriented mostly to the domestic national market. Bucharest and Sofia record elevated shares in industry and construction, while Attiki has higher share in public administration, defence, education and health (Annex IV, Figure 2).

If we compare the eight EU case study metros with the SEE capitals, the conclusion is that the sectors which are more crucial for competitiveness, such as financial activities, information and scientific and technological services have the highest total volume of GVA (in millions of Euros / absolute values (Annex IV, Table 3) in capital city metros and second tier metros of the EU North; this share is lower in “south” capitals and Prague (“east” capitals). Attiki is closer to the “South” model while Bucharest and Sofia have clearly lower specialisation in these sectors.

In contrast, as already stressed, all SEE capitals have higher shares in construction of buildings and larger infrastructure projects and real estate as well as in trade and restaurants (sectors which are comparatively less important for competitiveness) in comparison with the “north” metros.

A «bubble» in construction, real estate and other branches oriented to the domestic market contributed to the emergence of the crisis in the SEE capitals. In this context, the abrupt slowdown in these branches during the crisis made for greater difficulty in recovery from the crisis. Before the economic turndown, the construction and real estate sector was developing apace in the SEE capitals, as was the case in the south capital city metros, resulting in a «bubble» in construction with negative impact on the overall economy.

In Attiki and Bucharest, after the crisis, this sector decreased to almost 50% of its former level before 2008 (Table 3), although. It still has an important share regarding GVA. Significant decrease has also been observed in trade, restaurants and personal services, introvert branches related to internal consumption for all three capitals, as well as in public administration, education and health.

Table 3. SEE capitals and case studies metros: Gross value added per economic sector in % of total GVA at basic prices in 2009

Types of metros	SEE capitals			Capitals of EU North		Second tier metros of EU north		Capitals of EU South		Cap. of EU East
	Sofia	Attiki	Bucharest	Amsterdam	Stockholm	Munich	Manchester	Rome	Lisbon	Prague
Agriculture etc	1	0	0	1	0	1	2	1	0	1
Industry (exc. construction)	17	9	20	10	13	21	16	9	10	20
Construction	9	4	13	5	4	4	7	6	6	6
Trade, transport	21	22	23	20	19	21	23	20	23	21
Information and communication	10	8	12	7	9		11	8	7	9
Finance & insurance	11	6	6	12	9	35	13	7	12	9
Real estate activities	7	17	4	7	11		7	14	6	8
Prof., tech. & support serv.	8	8	9	14	12		8	10	10	10
Public administration, education, health	11	19	10	20	18	19	11	19	22	13
Arts, activities of households	3	5	4	3	4		3	5	3	3

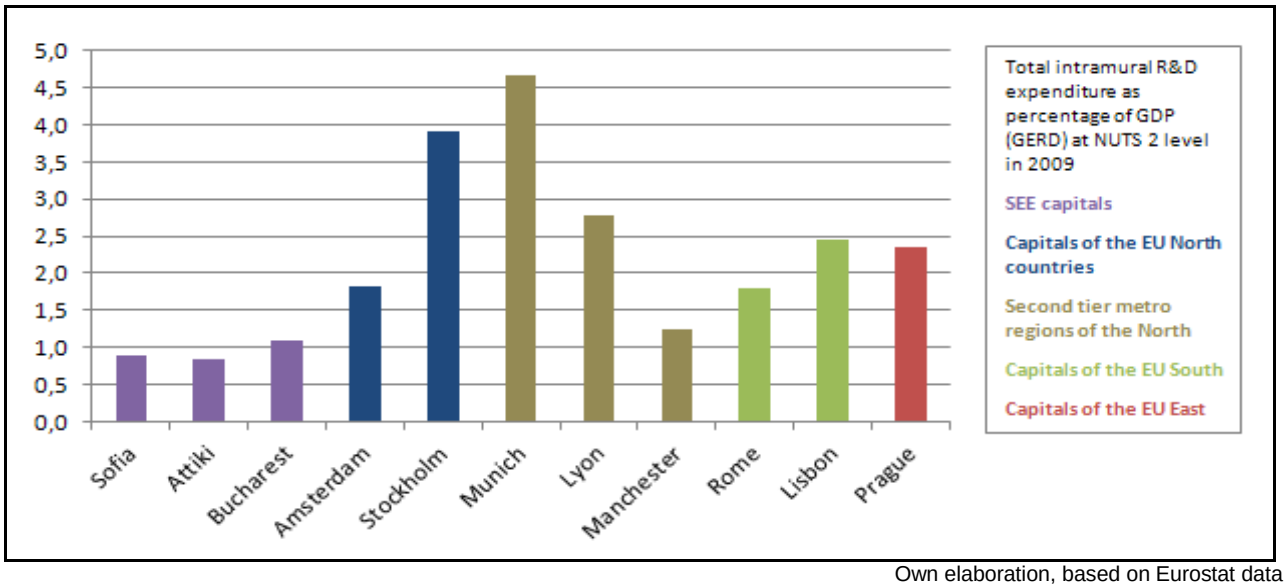
* Approximation NUTS2 of the metros (Eurostat). Own elaboration, based on Eurostat data

The economic crisis is to a great extent responsible for the decrease of the GVA in the above sectors (especially in construction) and for the actual reorientation of the national economies inside SEE. The former pre-crisis sector breakdown of the SEE capitals constitutes a major factor for the low resilience of their economies especially in the case of Attiki.

The highest “competitiveness distance” of the SEE capitals from the EU core metros regards technological and innovation preparedness. The percentage of the R&D expenditures as for in the SEE capitals remains markedly lower than the EU27 average (Figure 3). It is even lower compared to capital city metros (Stockholm) and to second tier metros (Munich) of the “north” and their performance remains considerably lower when compared to the capitals of “south” (Lisbon) and “east” (Prague).

As for patent applications to the EPO per million of inhabitants, in 2008, the differences of the SEE capitals (i.e. the value of the index for Sofia amounts to 8) from “north” capitals and second tier metros (i.e. Stockholm 478 and Munich 637) are extremely large, with Attiki scoring better than the other two. The South case study, Lisbon, also presents a very low value close to that of SEE. During 2008-2009, values of the above patent index were similarly reduced for all case studies, narrowing the gap from the SEE capitals.

Figure 3. Total intramural R&D expenditure as % of the GDP (GERD) at NUTS2 regions in 2009: SEE capitals and case study metros



Own elaboration, based on Eurostat data

In the case of households with broadband access in 2011, all SEE capitals are far behind the "north" case studies (Table 4). They are closer to the equivalent rates of capitals of "south" and "east". During 2008-2011, the rates of the SEE capitals increased significantly in percentage points (Bucharest gained 50 points).

Table 4. SEE capitals and case studies metros: Broadband penetration as % of households 2008, 2011, 2008-2011 change in percentage points

Types of metros	Metros	2008	2011	2008-2011 change in
SEE capitals	Sofia	31	54	23
	Attiki	34	53	19
	Bucharest	21	54	33
Capitals of the EU North	Amsterdam	77	86	9
	Stockholm	84*	91	7
Second tier metros of the EU north	Manchester	52	68*	16
Capitals of the EU South	Rome	38	55	17
	Lisbon	50	67	17
Capitals of the EU East	Prague	45	67	22

Approximation NUTS2 of the metros (Eurostat), *Last available data from 2009, Munich and Lyon are not included in the Table, because the data for Germany and France refer only to NUTS1. Own elaboration, based on Eurostat data

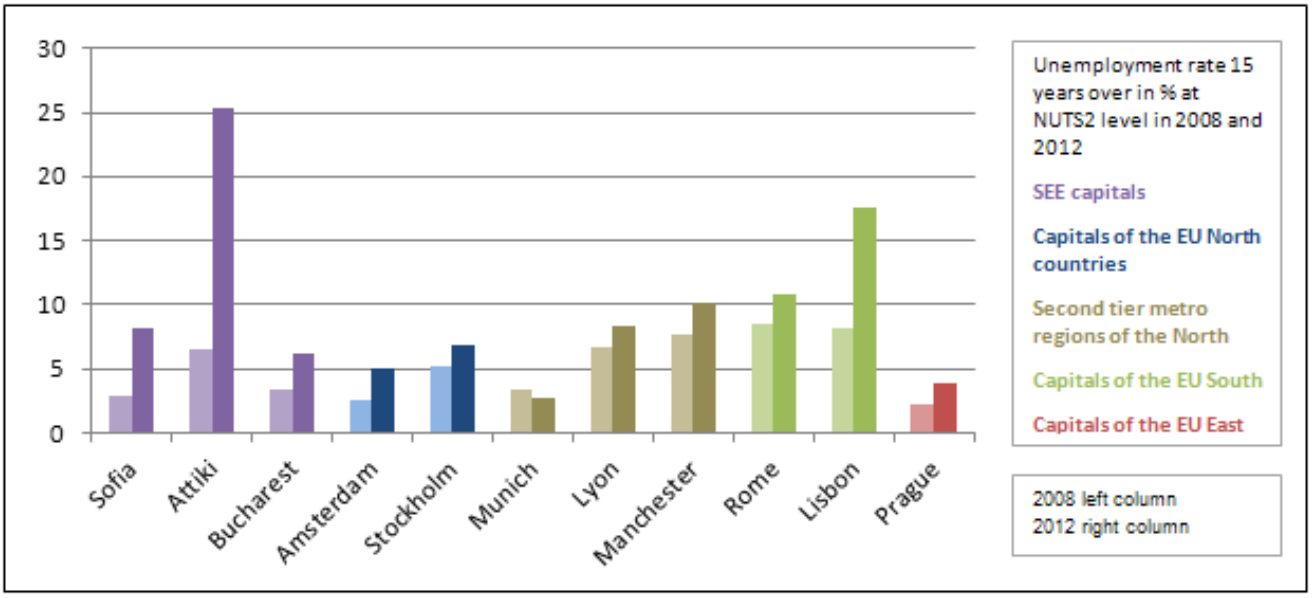
Labour force and human potential: lower competitiveness distance of the SEE capitals from the EU core metros in comparison with innovation

Specifically for labour productivity[3] in 2010 (see Annex IV, Table 3), major differences were found within the SEE, with Attiki exceeding the other two and being closer to "north" capital city and second tier metros. Sofia and Bucharest are closer with regard to this index, to capitals of "south" and "east".

[3]Labour productivity was calculated as the ratio of the regional GDP in millions of PPS per 1000 employees

During the crisis, the employment rates for all SEE capitals decreased substantially except for Bucharest (Attiki: -12 percentage points). These rates are considerably behind those of the “north” case studies of capital city metros and second tier metros and are closer to the case studies of “south”. Unemployment rates (aged 15 over) for the SEE capitals increased significantly in 2012 with Attiki (+19 percentage points) exceeding all case studies and being closer to Lisbon, case study of “south” (Figure 4). The rates of Sofia and Bucharest are similar to those of the “north” capital metro of Stockholm and to the average rate of the “north” second tier metros.

Figure 4. Unemployment rates (15 years over) in % at NUTS2 regions in 2008 and 2012: SEE capitals and case study metros



Own elaboration, based on Eurostat data

Moreover, the share of tertiary educated people (30–34 years) to the total population for 2012 in the SEE countries exceeded the EU27 average (36%). It is still lagging far behind the rates for Stockholm (56%) case of “north” capital whereas it is significantly above the rates of “south” and “east” capitals. The rates of Bucharest and Attiki increased fast during 2008-2012, surpassing the rates of most of the eight EU case study metros.

3.3.3. Conclusions

The low level of innovation of the SEE capitals’ economies and their orientation mostly to the national markets explain their lower competitiveness and resilience to the crisis compared to the EU "core"

The economies of the SEE capitals are comparatively more based on sectors oriented mainly to the domestic national market (construction of infrastructures and real estate) than on sectors oriented to the international market and endowed with a higher innovation potential in comparison with the EU northern metros. This explains for the most part the lag of the SEE capitals in overall competitiveness in comparison with the “north” metros, which leads to the fact that the former are less resilient to the crisis than the latter.

“North” capital city metros are higher performing, more competitive and thus more resilient to crisis because of the power of highly innovative sectors and a highly skilled workforce. “North” second tier metros follow the same economic model. By comparison, “south” capital city metros perform moderately well; they are moderately competitive and less resilient to crisis because of the high share of sectors oriented mostly to the domestic national markets as well as their moderate level of innovation. They also present considerably lower rates of labour productivity and employment

along with high unemployment rates. In general, their economies are less resilient overall to the current economic crisis. Prague, an “east” capital city metro, has an intermediate position between the “south” metros and the less developed “east” metros, but it has proven to be resilient to crisis.

Weaknesses and opportunities for competitiveness of the three capitals and SEE

In the previous sections, there has been an in-depth examination of the developmental trends of the three capitals and SEE during the crisis period, in order to highlight their development perspectives. However, in order to determine the perspectives and appropriate policy recommendations, full account should also be taken of the intentions of governments to link the recovery from the crisis with reforms for improving the competitiveness of the respective countries.

Below, an attempt is made to summarize the main weaknesses and opportunities for the competitiveness of the three capitals and SEE.

- The present structure in the three capitals presents specific weaknesses due to the high share of sectors, which are not export-oriented, such as constructions, several service branches as well as a high share of industrial enterprises that are less competitive.
- A second shortcoming, which is closely related to the first, regards the comparatively low level of R&D development due to low investment in R&D in the three capitals.
- Despite this there is the existence of sufficient human capital resources with high level skills concerning both the entire economy (including industry) and the specific sector of R&D, undoubtedly constituting an important opportunity. The main challenge for the three capitals is to develop R&D activities, allied to increased expenditure and long-term investments in order to develop specific branches of Advanced Producer Services (APS) and, further on, to spread innovation throughout the entire economy with emphasis on industry and dynamic services as well as tourism and culture activities. Here again, further exploitation of the transport / communication infrastructures that have been improved using the EU CSF funding remains a considerable opportunity for the three capitals and SEE.
- As regards, internal connectivity to public services as well as business and industry zones, some deficiencies still remain because the recent improvements had limited follow-up and territorial planning is inappropriately implemented, to some extent.
- On the other hand, the respective national, metropolitan and local authorities, by effectively implementing EU tools as well as national and local funding have the opportunity to complete the relevant interventions and improve the accomplishment of territorial planning.

The internal dynamics of the system of cities in SEE regarding competitiveness

The Core city (CC) areas have transmitted their dynamism on the one hand, but on the other hand also the disadvantages of their less competitive economies to the rest FMA. The CC was growing fast before the crisis, but slowed down considerably during the crisis. On balance, in spite of these disadvantages, in all three cases the CCs, which had earlier higher competitiveness, have gradually integrated the other areas of the FMAs and transmitted to a large part of them the development dynamics and the competitiveness of the City Cores. In other words, the CC ultimately functioned as a strong territorial driver of competitiveness for the large part of their FMAs; this is particularly evident for the eastern area of Attiki and for Ilfov county, in the case of Bucharest.

Overall, the three capitals do not redistribute sufficient innovation and accessibility to technology and, more generally, they do not function as territorial drivers of competitiveness for the rest of the countries.

Direct Investment from Attiki represents a key factor for raising interdependency in SEE, and is, by priority, directed to Bucharest and Sofia. During the decade of the pre-crisis period, the three capitals functioned as major engines of the development of their countries and SEE while the economic cooperation and interdependency among them have increased considerably. The most important driver of such economic cooperation was Direct Investment (DI) from Attiki to Bucharest and Sofia regarding specific branches such as the financial sector (mainly the banks),

telecommunications, retail trade (hyper markets) and specific branches of services and, to a lower extent, infrastructure construction, housing as well as real estate. Territorial cooperation in research was also more centred on the three capitals and much less to the rest of the three countries. In contrast, DI in industry has been directed less to Sofia and Bucharest and more to the regional capitals and to the smaller cities in the two countries.

Economic cooperation among the SEE capitals has gradually been extended to Western Balkans capitals and countries, but it has slowed down during the crisis. This kind of cooperation has not been limited only to the three capitals and countries, but has also been extended to their neighbouring areas of Western Balkans and Turkey (as well as Moldavia). This cooperation, initiated mainly from Attiki and Greece, has been enlarged to include gradually Belgrade, Skopje, Tirana and Istanbul. This interdependency that decelerated during the crisis period constitutes an important driver of competitiveness for the three capitals and SEE because it greatly increased investments in SEE and enabled increased turnover in a large number of enterprises in relation to their improvement in R&D.

The reinforcement of FDI and transport links, originating from Western Europe, has contributed to a moderate rise in the competitiveness of the three capitals and SEE, but has aggravated the deficit of their external trade. FDI originated from Western Europe has contributed to a moderate increase in the competitiveness of the three capitals and SEE but at the expense of a growing deficit of the SEE economies regarding the balance of their external trade.

To sum up, an important territorial driver of competitiveness regarding these multi-level interdependencies is the continuous increase of the accessibility in the three capitals and SEE to the rest of the EU space through the improvement of the transport axes at European level, mainly those included in the TEN-T.

3.4 Options for policy developments

The chapter contains a synthesis of the main ideas collected from the project research supported by recommendations derived from interviews, workshops and the feedback on the brochures published during the project. The research results (presented at full length in the scientific report) served as the basis for the discussions with stakeholders during the workshops held in Bucharest, Sofia and Athens, and their synthesis was published in a set of brochures on each capital studied, and for the supporting material used during the conducted interviews.

3.4.1 Policy recommendations of the project: strategy, objectives and actions / interventions

On the basis of the GROSEE project findings, a set of recommendations were defined, which was expressed in a set of appropriate policy objectives and actions / interventions, structured in six sections: economics, environment, transport, territorial and urban planning and South East Europe cooperation.

The initial set of proposed objectives and actions (see in the Scientific Report) was submitted to interested stakeholders of the three capitals / countries using an appropriate questionnaire for comments and suggestions. The interviews were based on expert opinion; they have covered all the groups of issues of the strategy and have transferred expertise from the public administration, the public sector, NGOs and universities.

Stakeholders have further highlighted specific priorities and provided ideas / suggestions for better implementing the strategy. Suggestions regarding the policy objectives and measures were used to reshape the latter. This was necessary for a few cases only. The final result is shown in **Table 5**.

Recommendations for better implementing the strategy according to the specific needs of the three capitals / countries are presented in section 3.4.2 (including three sub-sections, one for each capital). The above consultation has also included feedback from participants in GROSEE workshops in Athens, Sofia and Bucharest (in which specific brochures with summaries of

research results and initial policy proposals were distributed) as well as from discussions with stakeholders during the lifetime of the project (see in detail in the Scientific Report).

The results of the interviews carried out are based on expert opinion and are representative as long as we give credit to the experts interviewed. The interviewees came from central and local administrations, NGO's, various public bodies, private firms and academic institutions. The interviews are not statistically sampled because many experts and stakeholders declined to be questioned, disallowing a statistical sample. As a result, we were obliged to generalise the results from the fully completed interviews. The majority of experts mentioned their wish to remain anonymous. For this reason, the TPG adopted a general formulation so as not to disclose the source of the answer/idea/thought. The generalisation and extraction of policy opinions and recommendations was made by finding common denominators in the majority of interviews.

To define the main policy recommendations, experts and stakeholders have been asked to give their opinion concerning the main results of the research carried out in the project. The results were grouped in the following sectors: economy, environment, transport, territorial issues, and the present and future cooperation in the SEE.

Table 5 Policy recommendations confirmed by the stakeholders taken in the 3 MAs	
Policy recommendations proposed	**confirmed by the interviews**
Strengthening the Bucharest-Sofia-Athens development axis as well as the development of the three capitals metropolitan regions:	
• Diversifying local / regional economies with emphasis on manufacturing industries and agriculture	✓
• Developing policies to support the R&D sector and especially the creative and innovative sectors.	✓
• Increasing the attractiveness for specialised services in three capitals	
• Valorising the high cultural and touristic potential by improving infrastructure, services and promotion of the area within common programmes	✓
• Expanding general infrastructure to improve communication and access to information	✓
• Improving labour and human resources development policies in parallel with social ones in order to avoid social exclusion and improving access to labour market by encouraging development of new technologies	✓
Improving environment and quality of life inside the three capitals:	
• Improving systems of survey and disaster management	
• Reducing traffic problems and improving communication in the metropolitan areas to better control and reduce the sprawl tendencies, supporting the idea of a „compact city”	✓
• Promoting urban agriculture towards the improvement of urban environment	
Improving internal connectivity of the three metropolitan areas:	
• Improving public transport in Athens and developing transport infrastructure in both Bucharest and Sofia metropolitan areas	✓
• Developing mobility plans	✓
Improving integration inside the three capitals through better governance at metro level based on common strategies for the CC, FMA and OMR, implementing priority measures promoting integration at FMA level:	
• Establishing a special legal and institutional framework for metropolitan regions	
• Developing common spatial and socio-economic strategies with the	✓

adjacent towns and communes	
• Implementing strategic and action planning especially for enhancing the role of the metropolitan areas and surrounding regions as a leverage factor at territorial level	✓
Improving cooperation among the three capitals and inside the South-East Europe:	
• Enhancing the cooperation in all sectors by setting up cooperation networks in R&D, among entrepreneurial associations and professional organizations.	
• Developing active cooperation networks among universities and faculties in both educational and research programs	
• Improving territorial cooperation by the networking companies and of research centres	
Improving transport infrastructure with focus on TENs of Transport to promote the development of Bucharest-Sofia-Athens axis and territorial integration of SEE:	
• Expanding the pan-European corridors to Athens and improving the direct road and rail connections of the three capitals envisaging a Balkan Corridor to better connect the Danube corridor to the Aegean and Mediterranean seas	✓
• Upgrading port facilities to enhance intermodal transport through cooperation of rail and maritime transport (both passengers and freight).	✓

3.4.2 Key messages from the interviews, workshops and stakeholder feedback

The interaction with various stakeholders, practitioners and academics was a complex one and used three main tools: interviews, debates during workshops and comments and recommendations received as feedback following the dissemination of a set of brochures presenting the capitals selected as case study. Interviews were conducted in June –September 2013 and were based on a set of questions targeting the current state of relationships between each city and its metropolitan area, the way in which their cooperation might be enhanced, as well as the main dysfunctions and the solutions for reducing or disposing them. Special attention was paid to assessing the current state of cooperation between the three capitals and how this potential growth axis could become more relevant at European level**.**

Interviews were conducted with a total of 30 stakeholders (policymakers, experts and practitioners) from the three countries, following a similar structured discussion plan. These were conducted in June – September 2013 and were based on a set of questions targeting the current state of relationships between each city and its metropolitan area, the way in which their cooperation might be enhanced, as well as the main dysfunctions and the solutions for reducing or disposing them. Special attention was paid to assessing the current state of cooperation between the three capitals and how this potential growth axis could become more relevant at the European level.

The second important tool was represented by the three workshops held in Athens, Sofia and Bucharest with the participation of stakeholders from different national, regional and city institutions, who made recommendations for defining pathways and specific policies related to a better insertion of each metropolis in the national urban network and to the valorisation of opportunities arising from the geographical position in SEE.

The inputs and recommendations received following the publication of a set of brochures which included analyses of each of the three capital cities in the SEE context were very important in defining the key messages. These brochures were designed separately for Bucharest, Sofia and Athens, including only findings relevant to each city, and were published in two languages: the

national language and English. The public distribution of these materials generated written comments from some researchers and stakeholders who restated the idea of further research on the relations between these cities in the SEE area. On the basis of the inputs received, some recommendations have been made in fields such as economy, territorial development and urban planning, housing, environment, transport, SEE cooperation.

Bucharest and its metropolitan region

A total of 12 interviews were carried out with representatives of the two regional development agencies in the study area (South Muntenia Regional Development Agency and Bucharest-Ilfov Regional Development Agency), of national authorities (Ministry of Regional Development and Public Administration, Ministry of Agriculture and Rural Development), of local authorities (Bucharest municipality, Giurgiu County Council and Otopeni Town Council), of academic institutions (Geography Institute and National Economics Institute of the Romanian Academy) and of other public bodies (Bucharest Environment Agency, Romanian-Bulgarian Chamber of Commerce and Industry). The workshop was organised in Bucharest and was attended by 45 representatives of numerous public and private bodies, experts and decision-makers at different levels. A brochure, attached to the scientific report, was distributed to different institutions and decision-makers, with comments supporting the definition and synthesis of policy recommendations in increasing the regional role of the three capitals and the creation of a growth pole in SEE.

i. Economics

The stakeholders and the project team consider that IT and the services sectors (financial, legal, consulting, social, cultural) are the most important economic activities for Bucharest. Other strategic economic activities for Bucharest are manufacturing, logistics, auto parts industry, constructions, food industry, construction materials, machinery and equipment industry.

Almost every stakeholder expressed a different vision about the structure and functioning of Bucharest and its metropolitan region in relation to Sofia and Athens and their metropolitan regions. Even though they generally admitted that Bucharest's critical mass offers many job opportunities and a market for their products and services, so far, authorities and institutions outside Bucharest (Giurgiu County Council, South-Muntenia Regional Development Agency and Otopeni City Hall) consider that **the capital city drains the surrounding region** of its resources (financial and human) instead of fostering development.

The stakeholders from Bucharest (mainly Bucharest municipality and the Ministry of Regional Development and Public Administration) highlight the necessity of an official Metropolitan Area of Bucharest, while the stakeholders from the potential Metropolitan Area, as estimated by the GROSEE Project, consider that cooperation on a metropolitan basis with the capital city will cut their potential external funding.

Many stakeholders consider that Bucharest has a high capacity to encourage and attract development into its metropolitan area, but there is no appropriate framework to promote cooperation between the capital city and its metropolitan area.

Almost all the stakeholders identified the need for **an integrated development master plan** for Bucharest and its metropolitan region. In this regard, the main policy concerns should focus on **creating a competitive environment** for services, encourage innovation in the IT industry sector, creating the conditions to develop the automotive industry and/or bringing in car manufacturing, protecting the environment and promoting intensive agriculture.

ii. Territorial development and urban planning

The study has concluded and the stakeholders confirmed the negative effect that the lack of a common master plan has over the development of Bucharest and its metropolitan area. The

chaotic development of the suburban and periurban space and the disruptions of public transport between the metropolis and its outlying metropolitan area are consequences of numerous unrelated policies with an important economic and social impact.

For the city of Bucharest, it is important to rethink the transport system, to eliminate the major roadblock points, to regenerate the historical city centre and to better integrate the communist era buildings (including the workers' districts) in the urban landscape.

In order to facilitate regional relationships, it is necessary to define and to set several multimodal centres to efficiently connect different transport systems (railroad, subway, road public transport and private cars). Two of the solutions highlighted by the stakeholders would be the construction of a new airport in the southern part of the city and the resumption of service on the Bucharest-Danube Canal in order to reduce the asymmetrical development tendency of Bucharest. This new waterway would increase the attractiveness of the southern districts and would thus reduce the current emphasis on the development of the northern part of the city.

iii. Environment

The stakeholders from the environment field consider that Bucharest has no major environmental problems. Cooperation with Bulgarian partners is significant, but there was no mention concerning the collaboration with Greek partners, or of any projects run by all three countries. However, stakeholders from other fields consider that **Bucharest has a fragile and vulnerable environment** (due to poorly waste water treatment facilities, inefficient waste management, and unauthorized landfill and dumping of waste). Another environmental problem highlighted is the high level of airborne dust particles.

The majority of experts came to the conclusion that the most important factor to influence the quality of life, and, indirectly, the quality of the environment is the level of personal income. Other factors identified were pollution and quality of health care system.

The stakeholders consider that the **main policy concerns should be focused on creating an integrated environmental management system**, with a central body that takes an overall view and coordinates all efforts in this respect. It should be highlighted that few stakeholders considered education as an important factor that directly impacts on the quality of the environment and of life; therefore they tend not to consider education when making policy in this regard.

iv. Transport

The study argued and every stakeholder questioned considered **transport as the main priority**, both within the metropolitan region of Bucharest but also between the three SEE capitals.

The first priority for Bucharest metropolitan region is considered to be the **completion and modernising of the ring road**. Secondly, **updating of the railway system** for both long and short distances is seen as important. One stakeholder considers that a public metropolitan transport system can be developed only in relation to the jobs supplied, mainly by industry, in the metropolitan region.

Stakeholders maintained that above all Călăraşi and Giurgiu need **to develop their river** ports and thus enhance their role as intermodal nodes on the Danube. In general, it is considered that there are policies and plans (the projected Master Plan for Transport) for every kind of transport, so, the only issue to solve in this field is **the availability of financing.**

The priorities in this domain should also focus on extending the underground metro rail system not only within the administrative limits of Bucharest, but also inside its functional metropolitan area, complemented with park and ride facilities in intermodal locations, and diversification of the means of transport in relation to the wider metropolitan area. The completion of the ring road, at the standard of a divided highway, is another important project. Other priorities should focus on constructing a high-speed rail road to Istanbul and re-establishing the former railroad bridge on the Arges River between Bucharest and Giurgiu.

v. South East Europe cooperation

At metropolitan level there were opinions that the administrative relations between Bucharest and the administrative units from the metropolitan region are lacking efficiency. There is also a strong concern that institutions from Bucharest will take all the funding for different cooperation. More than this, some stakeholders questioned the logic that stood behind the financing of projects in the regional growth poles (such as Ploieşti) of which the rest of the region had no benefit (city tram lines, creating urban parks). They argued that **projects implemented by the regional growth pole should create benefits for the whole region**, not only for the growth pole.

The Romanian stakeholders highlight that there is a weak cooperation culture between the Romanian institutions.

At macro-level, it could be noticed a general agreement on a scarce collaboration or cooperation of institutions or companies between Bucharest, Sofia and Athens. Stakeholders pointed out that the most important collaboration and cooperation should focus on major projects of infrastructure, like the TEN-T network. The stakeholders couldn't point out existing complementarities or synergies, but they consider that the IT sector is the economic activity the most prone for cooperation. Other economic activities, on which cooperation can be built, inside SEE, are tourism, agriculture, industry. Also, cooperation in higher education could be envisaged.

Although the stakeholders couldn't point out relevant collaborations with partners from Athens and Sofia, many of them mentioned projects in various domains financed by the Romania-Bulgaria Cross-Border Operational Programme. Roughly speaking, the stakeholders highlighted some important dysfunctions of the legal and administrative frameworks, including significant differences between the Bulgarian and Romanian ones.

Stakeholders maintain that collaboration between Athens, Sofia and Bucharest is so challenging to establish because there is **no permanent political contact between them.** Also, as already mentioned, none of the interviewed stakeholders could identify common economic grounds on which to collaborate.

The majority of stakeholders consider that cooperation between the three countries and their capital cities focuses more on superficial short-term projects. They consider that an emphasis should be put also on substantial long-term projects (mutual investments in services, industry, agricultures and mostly on infrastructure projects).

A number of experts appreciate the fact that the different cultural backgrounds (referring mostly to the diversity of alphabets used: Greek, Latin and Cyrillic) could hinder the potential for cooperation.

In relation with the future Cohesion Policy of EU (2014-2020) and how this region, led by their capital cities, could implement the new EU requirements, stakeholders see IT and tourism as the most important sectors to be developed. A low carbon economy was not a topic for discussion during the interviews and discussions. The competitiveness of SMEs (mostly in services) is a strong policy focus as was already highlighted. Research and innovation is also seen as a key aspect, all stakeholders mentioned that there can be no development without innovation and research. The majority of them talked about hard innovations, mainly on technical and technological innovation, and not on soft (administrative and process) innovation.

Public policies in this domain should focus on building a network platform in which all public institutions, concerned private firms, different NGOs, research institutes and universities should be included.

II. Sofia and its metropolitan region

Bulgarian stakeholders underlined, during the 8 interviews conducted by the project team, the growing necessity **to utilize the potential for growth of the three capital cities for a balanced development** at both national and regional level as a major challenge for decision makers.

Better accessibility and connectivity, investments in technical and social infrastructure and sound planning are of crucial importance for the transfer of activities from the core cities to the periphery of the metropolitan area. To confirm policy recommendations proposed by the research in the project, the results of stakeholders' interviews, and the debate during the workshop from Sofia were used.

i. Economics

From the stakeholders' viewpoint, the economic crisis has played a twofold effect on the development of Sofia in recent years. It has increased the migration flows to the capital as the biggest labour market, and this process has affected all sectors of public life. At the same time, the crisis has put on hold investment projects for an extensive development of the city. According to stakeholders, industry and agriculture have been underestimated as potential drivers of economic growth of the capital at the expense of credit given to the sector of trade and services. The , stakeholders pointed out **Information technologies, pharmaceutics, and health services** as priority economic sectors with highest potential for Sofia. The potential for development of agriculture in the territories around the core is evaluated as a very important one. The capital previously benefited from a well-developed **agriculture** sector in the surrounding villages, and this is considered as a potential and an opportunity for future economic growth of these territories.

In the opinion of stakeholders the dynamics of population change in Sofia capital will decelerate, one of the reasons being the uncertain prospects for full economic recovery. A potential for redirection of investments to attractive areas in South-East Bulgaria is envisaged with the subsequent effects on demographic trends and migration patterns. As a major challenge in terms of structure of the labour force, stakeholders point out the retention of highly skilled specialists in the R & D sector and the attraction of Bulgarian emigrants from abroad.

According to stakeholders, the quality of education is the factor of greatest importance for the state of wellbeing in the capital. The condition of the environment is ranked as the second factor of highest importance, with access to health services and the level of income holding the 3rd and 4th positions.

ii. Environment

In terms of efficient use of environmental resources, the stakeholders pointed out as a major problem the high consumption of water and major losses in the water supply network. Furthermore Sofia has large reserves of mineral water, which are not efficiently used. According to stakeholders the strategy for tourism development in Sofia is inconsistent and needs to be revised with a better focus on fewer and clearer priorities. In this regard, the protected natural park – "Vitosha Mountain", has an important potential, as indicated by stakeholders. Since Vitosha is a protected site in the network "Nature 2000", there is a need for a careful balance between nature preservation and tourism development. The conservation of green areas inside the city, especially in residential areas, and the development of planned parks should be a major priority in the management of the green system, according to stakeholders. This requires sound and coherent planning, since separate parts of the city parks have changed their ownership in the process of land restitution and are currently in private hands. The municipality has to consider the idea to set up a municipal land bank for compensating such owners with public lands in exchange for preserving and renewing the city parks.

iii. Transport

Investments in transport infrastructure for better internal connectivity should be a matter of long term planning, according to the stakeholders. In their view, rail infrastructure has not been taken properly into account, according with its major regional importance. Inner city road infrastructure should be improved, thus avoiding congestion; whereas for public transport, renewal of vehicle stock is a major issue. The development of pedestrian zones in the core city area and Bus Rapid Transit systems is advised as well as the completion of planned metro lines. The metro network

and the underground buffer parking lots at the entrance and exit road arteries are considered crucial for the regulation of traffic flow. The underground infrastructure network needs to be mapped as a serious problem concerning the technical infrastructure.

The completion of major transport infrastructure projects, which are part of the TEN-T network, is of crucial importance for the full realisation of regional transportation, the stakeholders say. As **major projects**, the completion of the motorways and roads, connecting Sofia to Bucharest and Sofia to Thessaloniki and the section Sofia-Kalotina as part of the pan-European corridor 10 were pointed out. The Sofia-Skopje rail connection is also of high importance.

iv. Territorial development and urban planning

With coordinated efforts at national, regional and local level, stakeholders consider it realistic that existing territorial barriers for the development of the capital in the North and Northeast direction can be overcome in the next 15 years. As potential territories for this development, stakeholders point out the metallurgical complex Kremikovtzi, the territories in proximity of the planned Northern motorway, the area near Sofia airport. The existing elements of the green system in the northeast direction should be consolidated into uninterrupted green zones, river beds, connected park systems to create a potential for directing the development of the capital to mountain range Stara Planina and the river Iskur.

The old industrial estates and former agricultural areas are considered to hold major development potential which should be used. Urban renewal is considered crucial for the development of the capital. Stakeholders indicate that it is difficult to judge the rate of cooperation and transfer of activities between the municipalities, in a functional metropolitan area, since information on such activities is insufficient.

v. South East European cooperation

The stakeholders have pointed out the underestimated potential of cooperation between countries, regions and cities in South-East Europe. As a main driver of such cooperation, **the realization of major infrastructural projects for improving accessibility and connectivity** was emphasised.

For the time being, stakeholders consider the investments in the economy of the capital, coming from Bucharest, as marginal. Investments from Athens are mainly directed to banking services, franchising and other low-capital activities. The participation in common projects for the construction of transport and energy infrastructure is highlighted as a major factor for increasing the impact of the development axes Athens-Sofia-Bucharest. Lack of easily accessible information on the possibilities for investments and cooperation is emphasized as a problem.

According to stakeholders, the three capitals should increase the level of cooperation in INTERREG IVC and take advantage of all opportunities for cross-border and trans-national cooperation. The experience in current projects is evaluated as a good basis for future cooperation, especially in the fields of **waste treatment, innovations, transport**. According to stakeholders, there is unused potential for cooperation with Skopje and other big cities in the Western Balkans. The stakeholders argued that cooperation with Istanbul and Belgrade is hindered, since it does not fall within the scope of trans-border cooperation programs. Cooperation between cities along the Danube should further be developed. In regard to this, stakeholders showed that more support is needed for small and medium-sized enterprises in the settlements along the Danube. The development of communications, the transfer of technologies and the cooperation between universities are pointed out as major factors for improving the connections with the EU core.

III. Athens and its metropolitan region

In the case of Attiki, ten stakeholders in total were interviewed: (a) stakeholders representing Central government (Ministry of Development and Competitiveness, Ministry of Environment, Energy and Climate Change / Directions of Spatial Planning and Environment) (b) Regional and

local stakeholders (Region of Attiki, Organization for Planning and Environmental Protection of Athens, Municipality of Athens, Athens Urban Transport Organisation (c) stakeholders representing private sector stakeholders (Athens Chamber of Commerce and Industry), (d) Non - Governmental Organisations (WWF – Hellas) (e) Professionals / Private bureaus for urban studies (ENVIPLAN). At the same time, some ideas came up from the debates with the main stakeholders (22) at the workshop in Athens, as well as from the comments on the brochure linked to this metropolis.

i. Economics

The Greek stakeholders have agreed to the policy recommendations of GROSEE, promoting the diversification of the local and regional economy. They have further highlighted the importance of some strategic economic branches such as finance, modern industry, agriculture and transport but mainly logistics. All stakeholders have indicated tourism and culture as key elements for development. They also insisted on the need to support by giving priority to innovative enterprises in all branches.

The economic and social relationships between the City Core (CC), the larger Functional Metropolitan Area (FMA) and the Outer Metropolitan Ring are directly linked, especially between the CC and the FMA in the fields of transport and trade. According to the stakeholders, the criteria for the delineation of FMA should be rather operational / functional, geographical and financial than administrative.

Attiki stakeholders stated also the negative impact of the concentration of vulnerable and deprived groups -such as immigrants- in the Core City, while highly skilled labour force moves out to the suburbs. In this context, it is essential to focus on strengthening the social structures and formulating appropriate social and economic measures.

The relocation of activities to the metropolitan area led to the decongestion of the CC and the regeneration of the local areas, where the economic activities settled, but also to the abandonment of many local centres. Moreover, the current social and economic disparities between the CC and the rest of MR are likely to result in major labour movements, social unrest and degradation of Core City centres, in turn, negatively affecting important economic activities, such as tourism.

ii. Territorial development and urban planning

Regarding urban planning, stakeholders have agreed to the policy priorities of GROSEE and highlighted the importance of upgrading so as to better exploit cultural resources and further promote tourism and urban mobility. In the case of urban regeneration, it is suggested to further analyse socio-economic components in order to effectively address the major problem of social and spatial segregation.

However, the continuous linear development of land uses has not contributed to the development of the CC and led to significant lack of coherence, it therefore being suggested to change the current pattern of territorial development and give emphasis to the development of local centres.

iii. Environment

In the case of Attiki the state of urban ecosystems is seriously degraded, especially in the coastal zone. Greek stakeholders have all suggested improving microclimatic and green area conditions, through actions of prevention and maintenance and by making the best use and getting benefits from open spaces (such as the former Hellinikon airport) and coastal zone. It has also been suggested to transfer the management of urban parks to NGOs.

iv. Transport

In the context of promoting urban mobility and a “Compact city” model, Greek stakeholders agreed to the proposed policies and emphasized the importance of improving public transport, expanding cycling and metro networks, creating regional parking stations (park and ride), modernizing the rail network and expanding it to eastern and western Attiki as well as expanding the suburbs to the

ports of Rafina and Lavrio and developing telematics networks. In the important case of intermodal nodes, several suggestions were made both for CC and the Metropolitan Region (MR), such as Eleonas, Larisi's station, Attiki's centre, major ports and national motorways.

v. South East European cooperation

All Greek stakeholders underlined the importance of higher education and cooperation networks for the development of synergies between the three capitals, especially in the fields of culture, intermediate technologies and medicine. As for enhancing synergies and complementarities inside the SEE production system, the field of logistics, the R&D sector and ICTs (information and communication technologies) have been stated as the most important ones.

The setup of a regional research centre may lead to strengthening governance, developing channels of communication and transferring know-how between the three capitals and the European core, as stated by Greek stakeholders. Policies targeted to enhance local identity and polycentricity should be further implemented.

Greek stakeholders highlighted the importance of the policy recommendations formed by GROSEE in the field of Trans-European Networks and further noted the significance of improving road and rail networks, expanding "motorways of the sea" and promoting the interface of Piraeus (Athens) with other ports and hubs of SEE, with respect to the environment and local identity. Further on, they support the enhancement of the role of Piraeus as major gate from Asia and Africa to the EU – guiding through SEE, Western Balkans and Adriatic area to the European core.

The conclusions drawn from Attiki stakeholders in analysing the structures and the main problems of the CC, the FMA and the MR, and commenting on policy recommendations regarding the development of the capitals, the cooperation inside the SEE and between SEE and the European core as well as improving the Trans-European networks, all demonstrated a general acceptance of the preliminary policy recommendations formed by GROSEE.

Concerning the enhancement of territorial cooperation inside the SEE and with the European core, Attiki stakeholders pointed out the importance of higher education, R&D, ICTs, accessibility (emphasizing logistics), environmental management, cultural resources and governance, as more or less suggested by the initial proposals of the project. Especially in the field of improving accessibility, the policies formed by GROSEE involving the expansion of pan-European corridors (emphasizing on maritime transports), the general idea of a "Balkan corridor" and enhancing intermodal transport, were almost fully accepted.

Stakeholders estimated that the enhancement of cooperation among the three capitals should be undertaken by central government (the respective Ministries and Attiki Organisations for planning) as well as by self-governing institutions (the Region of Attiki municipalities), stakeholders representing private sector (for example: Athens Chamber of Commerce and Industry), Non-Governmental Organisations and Organisations of Professionals.

Conclusions

The majority of the initial recommendations were confirmed by the stakeholders interviewed in the three metropolitan areas. Some recommendations, mainly on environmental, economic or major infrastructure issues were confirmed in all three case studies.

Some common elements should be pointed out, such as:

- in all three areas there was a concern about the relationship between the core city and the surrounding regions and the important role of the latter ones, and the need for balanced development at metropolitan level was emphasized;
- economic competitiveness was also an issue that has been underlined by most of the stakeholders; solutions were seen in different ways, however a common ground seems to be the need for an improved major infrastructure ensuring a better accessibility in the three areas;

- environment was another matter of common interest, although due to different conditions and circumstances; the need for a better, integrated environmental management, improving the microclimate and protection of green areas were some of the solutions repeatedly mentioned;
- transport infrastructure and the finalisation of the pan-European corridors and the TEN-T projects were seen as essential elements for the development of the region and improvement of inner-regional connectivity as well as increasing its connectivity and accessibility to and from other regions.
- there is a need for integrated urban planning, a new vision on the development of metropolitan regions in the SEE area, and correlation of the city and regional master plans, starting from an integrated approach (e.g. using EU funding instruments such as Integrated Territorial Investment or Joint Action Plan).

Besides the above mentioned aspects, the interviewed stakeholders expressed their concerns about social issues, governance, education and research, urban mobility and ICT.

Important inputs were given in relation to planning and programming. In both metropolitan areas of Bucharest and Sofia, the increasing regional disparities and the unsustainable relationships of the core city with its surrounding territories were pointed out. Recommendations for a more sound and integrated metropolitan planning and for a better use of EU funds for the next programming period were made. It was pointed out that the growth poles policy should be better implemented in order to generate a clearer leverage effect at regional levels.

Athens insisted on the need for a more polycentric development of its metropolitan area to counteract the current tendencies of urban sprawl. This of course should apply to Bucharest and Sofia as well.

The attention that should be paid to sectors and areas that have been considered less as priorities by now, such as agriculture or railways, has been emphasized in several cases. The following should also be mentioned as important remarks: improvement of urban mobility, culture and tourism as professions that should be developed in order to make better use of local potential and values, support given to higher education, R&D and ICT sectors.

As a final conclusion, the comments of the interviewed stakeholders in the three areas confirm the initial findings and some important points, which could assist in setting up priorities and better ranking future policy recommendations. Special interest given to the environment, agriculture, transport (including the Danube corridor and its harbours), competitiveness, research, culture, tourism, planning and governance are all relevant points for drawing up elements for a strategy for the SEE region.

3.4.3 INTERREG Projects

These countries are at the south-eastern edge of the EU, at the border with the former Soviet Union space, and have relations to the Middle East, Northern Africa and Western Balkans. If the three countries are to have an impact in the region, they first need to build cooperation between them. Smart, sustainable and inclusive growth needs to be implemented. The best way to develop cooperation and reach these targets is by: motorways (Bucharest-Sofia-Thessaloniki), high-speed railways, bridges, seaports. After larger infrastructure projects are developed, cooperation should focus on small communities developing local and regional facilities (hospitals, schools, cultural centres, sports amenities, civil safety and emergency services) and fostering understanding between people of different ethnic, religious and social background towards a European conscience and citizenship. Cross-border cooperation is essential in this regard. Because the INTERREG programme might bring many benefits for implementing the GROSEE policy recommendations, it is necessary to present an assessment of the previous relevant experience in implementing INTERREG projects in SEE as well as to explore the opportunities for implementation of the relevant SEE territorial cooperation programmes by actions and projects which will be included in INTERREG.

a) Experience and lessons learned from cooperation among the three capitals and countries in INTERREG

Greek partners from Athens are more present in INTERREG IV C projects in comparison to partners from Bucharest or Sofia and their metropolitan regions. Also, there is a low level of contracting projects as lead partners (in the case of Romania and Bulgaria, especially Bucharest-Ilfov and Yugozapaden Regions) in the case of the SEE Transnational Cooperation Programme, especially on the priority "Development of transnational synergies for sustainable growth area". Nevertheless, it should be stated that all the three countries and regions are involved in many projects having as priority the "Protection and the Improvement of the Environment".

Among the INTERREG III C projects, PolyMETREX plus RINA North-South Interface was very useful for pushing cooperation between the three metropolises from SEE. For each capital (Athens, Bucharest and Sofia), and the biggest second tier city (Thessaloniki) a synthetic analysis was provided, looking to the planning issues of each city, city-region and the connectivity with the European polycentric network. By involving different representatives of each city planning office or other experts, the project demonstrated the importance of cooperation between the cities alongside this axis.

The main focus of the INTERREG programme is to support cooperation between local and regional authorities. However, cooperation between the latter and economical and social actors - especially universities- in exchanging their experiences and good practices, has been very useful and should continue to be supported. More should be done in order to capitalize the relevant results of INTERREG projects. Economic and social actors, especially universities, should be encouraged to get involved more actively in project partnerships.

b) Using INTERREG to implement GROSEE strategy: advantages / opportunities and challenges

INTERREG could enhance cooperation in SEE countries between citizens and institutions. It would emphasize the maturity of cross-border cooperation in some cases, the existing strategies for cross-border cooperation outside the INTERREG Program also through other associated programs such as ESPON, South East Europe Transnational Cooperation Program etc. All demonstrate an existing experience that is valorising their main strengths. This cross-border, trans-national and inter-regional, cooperation brings considerable added value to communities, in accordance with ex-post INTERREG evaluations. All this will lead to a joint elaboration of programme and/or project strategies, joint decision-making and joint management between the managing authorities and project partners.

INTERRREG programme offers the **opportunities** and fosters a considerable potential to **establish complementarities and synergies through co-operation and co-ordination with other EU and national programmes that should have territorial impact in the same region**. Taking into consideration the enlargement plans of the European Union for the Western Balkans and Turkey, the cooperation with these countries has a high potential. Athens, Bucharest and Sofia should carefully take into consideration this potential, and INTERREG should be well placed to encourage such cooperation.

Analysing the suggestions made in "The Intermediate evaluation of the Interregional Cooperation Programme INTERREG IVC" especially for the SEE, we would emphasize the opportunity to use this strand of INTERREG, as well as other projects from different European operational programmes:

- To make the three city-regions more compact and polycentric as well as to promote a polycentric urban network inside SEE; among others, by involving more strongly the universities and the research centres, to work together with the municipalities;

- To define, prioritize and implement the most appropriate measures for pushing the networking, know-how transfer and good practices exchange at the SEE level.

Other focus points for INTERREG should be financing projects on Romanian, Bulgarian and Greek **coastal area development**. In this global economy context, the coastal areas of these countries are the interface of trade with Ex-Soviet Union countries, Asia, the Middle East and North-Eastern Africa; thus, these coastal areas should be prepared to foster economic development.

Lastly, the INTERREG program should take advantage of the high cooperation potential in the domain of **infrastructure, green energy, and industry**. As the network of cross-border related motorways, railroads, coastal infrastructure is presently underdeveloped; INTERREG could support the setting up of a financing group which would undertake such costly projects in infrastructure.

The **challenges** that the capital cities and their metropolitan regions have to face are severe. The basic infrastructure is severely lacking in most rural areas, accessed from the metropolitan regions of Bucharest and Sofia. The capital cities struggle with infrastructure designed for the superannuated needs of more than 20 years ago. Rural areas suffer from drastic depopulation in many areas, lack of employment opportunities and absence of basic utilities.

Meanwhile in Sofia and Bucharest, the economic development in recent years has led to overcrowding of the road transport system, deterioration of environmental conditions and social housing inadequate to the burgeoning number of young people moving to work in the capital city. These are only a few of the most severe challenges that have to be dealt with. Although INTERRREG IV C offers smart approaches, local and regional authorities need solutions that cater to their most challenging problems.

The authors of “INTERREG III Community Initiative (2000-2006) Ex-Post Evaluation” discovered that the main **challenges in efficiently** implementing the projects were given by the low level of resources given to technical assistance and this is still a challenge for future INTERREG projects.

4. Further Projects and Research

The South-East of Europe area requires special attention for two main reasons: first, because there is a historic, cultural and linguistic diversity and second, because it displays a strong discrepancy in terms of economic and social issues in comparison to the European core. Moreover, the modest cooperation between Bucharest, Sofia and Athens, which is characteristic in all fields (economic, cultural, transports and environment), could become more productive by a joint regional development policy.

Based on the analysis conducted in this study, several priorities can be tracked for further research concerning the transformation of the SEE space into an emergent European growth pole. These would include projects for a stronger cooperation between Romania, Bulgaria and Greece, and between their three capitals.

The coastal regions of the Black Sea, the Aegean and the Ionian Seas, as well as the mountain areas can be investigated from the perspective of sustainable development and good practices in the management of such areas, especially in view of global climate change.

Starting from the policy recommendations resulting from research activity and confirmed in a large part by the stakeholders, we could define some projects sets that would include research and the activity of the main actors in the SEE area.

These projects sets would include:

- Strengthening the Bucharest-Sofia-Athens axis, through the development of other poles along it (Giurgiu, Ruse, Veliko Târnovo, Plovdiv, Thessaloniki, Larisa), on the basis of transnational and regional cooperation;
- The creation of cross-border cultural centres to promote national cultures and the exchange of values between the three countries;
- The creation of network platform for the SMEs, especially in tourism and IT, by involving institutes and universities;
- Introduction of a BONUS programme (research and development programme applied in the Baltic Sea Macro-region), that promotes cooperation in the research and territorial planning field;
- Using the INTERACT programme for the dissemination of good practices linked to transnational cooperation, integrated territorial investments and European territorial cooperation groups;
- The establishment of at least three interregional centres for technology transfer to intensify the relationships between the academic and the private sectors;
- Supporting coordination of initiatives for cooperation between the three metropolises - establishing regular meetings between the mayors of the three metropolises to create guiding lines for cooperation (the Mayor of Bucharest expressed the interest to organise a first meeting at the beginning of 2015);
- Creating the implementation core for trans-Balkans cooperation, initially with the representatives of the three metropolises and with a restrained administration;
- Mixing the concerns of tourism with the sustainable development of coastal and mountainous areas;
- A better use of the results of INTERREG and other European associated programs;
- Valorising the existing opportunities at macroregional level, (Strategies concerning the Danube and the Adriatic - Ionic Sea regions), through projects that would lead to an enhancement of cross-border cooperation;
- Similarly with NORDREGIO, for a better coordination of the research in this part of Europe, a Centre for Research on the Development of the SEE could be founded, gathering data and conducting common research on at least three main themes: environmental protection, development of road and railway networks, sustainable development of urban systems

The general framework for future research takes into account the priorities established by the EU 2020 Strategy and by the Territorial Agenda 2020, the current level of cooperation between the three cities and countries, and must consider at the same time the processes and tools that are approved by European documents. In future research conducted on the South-East Europe, particular attention has to be paid to strengthen the cohesion of this space. Moreover, by 2020, we expect a strong connection of the Bucharest-Sofia-Athens triangle, so that they would function as a node of a major growth poles network in this European area. Acting as drivers of competitiveness and as a catalyser of a region that exceeds the current boundaries of the South-East European Union, the three capitals can reduce territorial disparities and better diffuse development in all the other countries in the Balkans. At the same time, the creation of a strong urban network, using natural resources, human capital, location and physical infrastructure in an efficient way, will multiply the positive effects of interaction with the European urban system.

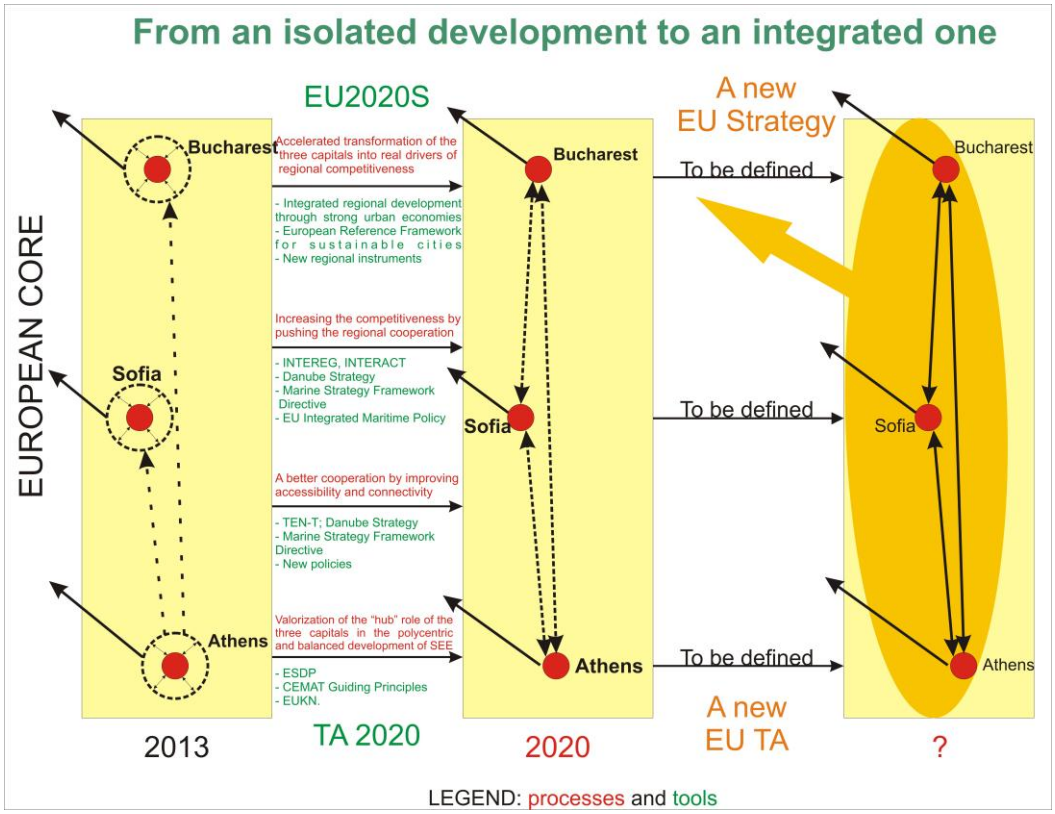
5. Conclusions

The present study is an analysis of the state of cooperation between the three capital cities in the context of a polycentric development, concluding that Athens, Bucharest and Sofia can foster the creation of an integrated growth area in SEE. The relative isolation of this area by land and the current development level require specific regional policies, with concrete targets, amid a broader

cooperation with European metropolises. One of the key messages of this project is to raise decision-makers' awareness concerning the development opportunities through cooperation. The interaction with various stakeholders has shown the low level of cooperation, the weak connectivity between the metropolises and the need to rethink the territorial development processes, taking into account the neighborhoods' effects.

In the current phase, each of the three metropolises has stronger relationships with the metropolises within the European core than between them. The neighborhood is still not seen as an opportunity. From the three metropolises, only Athens emerges as more competitive thanks partly to services offered in the banking and communications sector. In the implementation phase of EU 2020 Strategy and of the Territorial Agenda 2020, by using specific tools with a direct territorial impact, there will be an acceleration process for transforming these metropolises into engines of regional competitiveness, of physical infrastructure development that would increase their accessibility and connectivity degree, by valorising their position in the polycentric and balanced development of SEE (Figure 5).

Figure 5. Relationship dynamics between SEE metropolises



One of the expected effects of these processes, in particular through the creation of a North-South trans-Balkan corridor, is the intensification and diversification of the cooperation between Athens, Sofia and Bucharest. By maintaining and enhancing the relationships with the European Core, the polycentric network after 2020, focused on the three metropolises, might have an increased capacity for the functional structuring of the area.

Globalization and climate changes pose different problems for the three capitals. This means that they should have common concerns for an adequate urban and metropolitan restructuring, for the IT&C development, for a limitation of urban sprawl and for creating green-blue belts around major metropolitan areas. Therefore, economic revival, (re)urbanization and environmental issues might be considered priorities for the communities and States in conducting joint research.

In terms of geographical position in relation to the European corridors, all three metropolises encounter issues in connecting to each other. These corridors have been established in the intention of rapid and direct connections with the European Core. Through further research, proposals and solutions have to be individualized and formulated in order to have a North-South trans-Balkan corridor connecting Bucharest, Sofia and Athens.

Future research could be targeted towards the idea of a regional joint response to the current economic-financial crisis through the development of common sectoral and global strategies. By proposing new forms of cooperation on the basis of such strategies, the SEE would be able to find some solutions to specific aspects (social polarization, entrepreneurial sector, environment problems, urban planning etc.) of the current crisis and could turn into an economic growth area.

www.espon.eu

The ESPON 2013 Programme is part-financed by the European Regional Development Fund, the EU Member States and the Partner States Iceland, Liechtenstein, Norway and Switzerland. It shall support policy development in relation to the aim of territorial cohesion and a harmonious development of the European territory.

ISBN 978-2-919777-41-9