

## **METROBORDER**

### **Cross-border Polycentric Metropolitan Regions**

**Targeted Analysis 2013/2/3**

**Final Report | 31/12/2010**



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## A Executive summary

### 1 Analytical part

Metropolises are the central nodes in a globalising world. Above all, they are the cross-roads of economic flows, political power, and infrastructure settings. Traditionally, cross-border regions seem to be the counterpart of metropolitan regions as they are characterised by the most important spatial barriers of the modern world – the nation state boundaries. As long as borders have predominantly functioned as barriers, border areas have often been seen as peripheries. So until recently, border areas have been considered to be hardly metropolitan, and metropolises have been considered to be far away from national borders.

With the liberalisation of the European borders, however, the development has been dynamic in all border areas, and in particular to the metropolitan ones amongst them. The Metroborder project shows that *cross-border polycentric metropolitan regions* are an important emerging phenomenon of European spatial organisation having large development potentials. This is in particular true for the two case study regions of the so called Greater Region crossing the borders between Luxembourg, France, Germany and Belgium as well as for the Upper Rhine Region crossing the borders between Switzerland, France and Germany.

The objective of the METROBORDER project is to map and to better understand the organisation and the positioning of the cross-border metropolises and to explore ways how to (better) use their potentials.

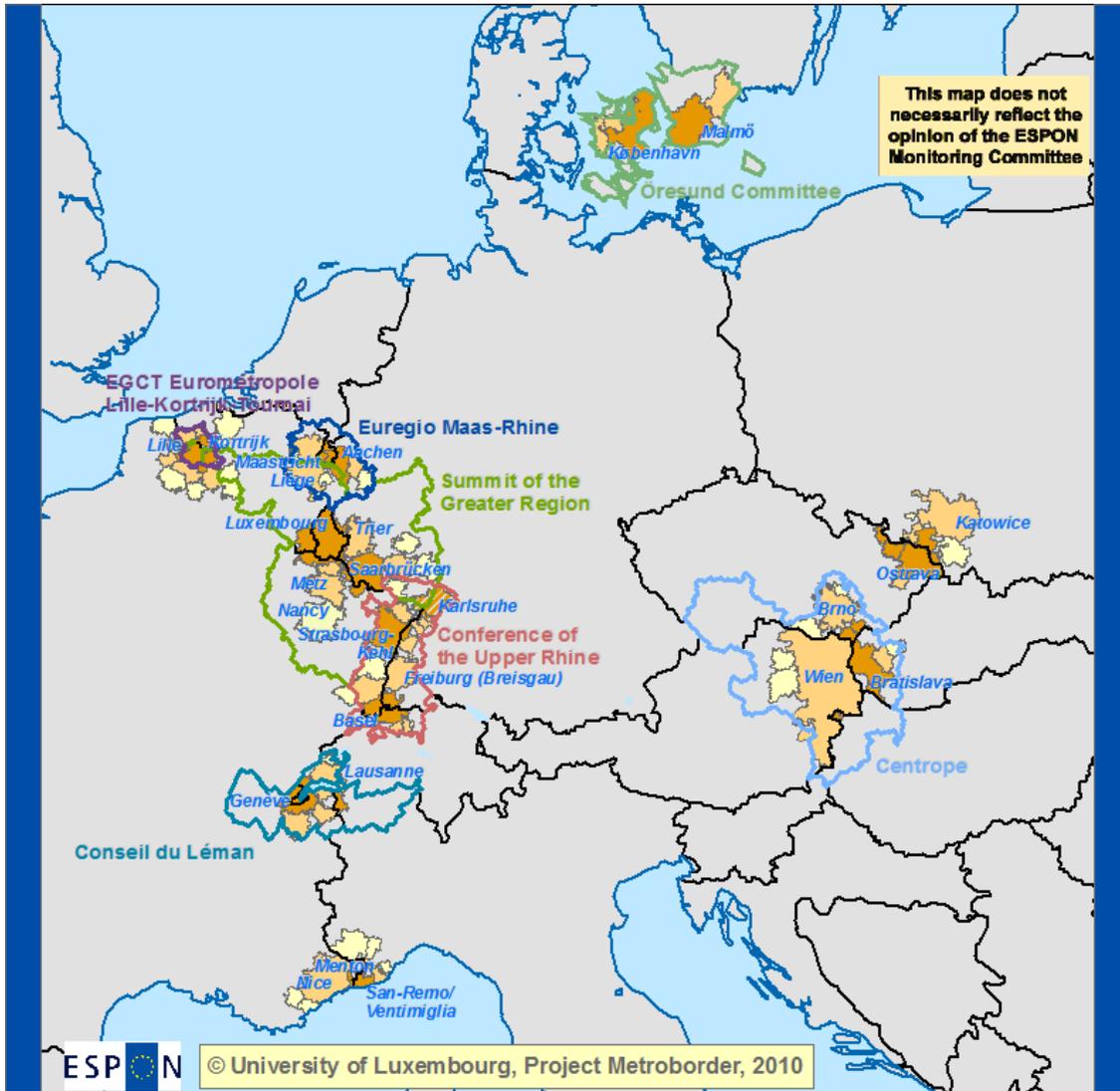
#### **Mapping cross-border polycentric metropolitan regions**

The concept of *cross-border polycentric metropolitan regions* (CBPMR) brings together several complex dimensions, in particular 'polycentricity' and 'metropolitan quality'. Moreover, a series of questions related to functional and institutional integration as well as to governance have to be addressed.

In this context, the Metroborder project understands CBPMRs

*as political constructions based on cross-border agreements which consider the existence of national borders as a resource for increasing interactions at the local level and based on the embeddedness of the metropolitan centre(s) in global networks. Because CBPMRs are composed of several urban centres located on either side of a border, these regional political initiatives can mobilise different geographical scales in order to utilise the assets and complementarities of the morphological and functional polycentricity.*

In less academic words and simplifying largely, the Metroborder project sees CBPMRs as spatial configurations whose potential lies in combining the characteristics on either sides of the border in a complementary way. The success of these regions in exploiting the metropolitan potential depends to a large extent on the will and the strategies of the actors to cooperate within a complex multi-level context.




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0 50 100 200 300 Km

Level: FUA  
 Source: ESPON Data Base, IGEAT, FOCI, 2010  
 Origin of Data: ESPON Data Base, IGEAT, FOCI, 2010  
 ©EuroGeographics Association for administrative boundaries

'Functional Urban Areas' (FUA)  
 Core FUA  
 Neighboring FUA of the core FUA  
 Surrounding FUA of the neighboring FUA  
 National borders

**Map 1** The functional urban areas (FUAs) of the cross-border polycentric metropolitan regions and the cross-border cooperation perimeters

In order to explore and compare the *cross-border metropolitan regions* on a European level, the project refers to the ESPON category of Functional Urban Areas (FUAs). Considering the *polycentric* character, a system of neighbouring and surrounding FUAs has been developed. Map 1 shows this spatial framework while also visualising the perimeters of the most important cross-border cooperations. This way of mapping does not intend to give final delimitations, rather it gives a territorial framework for comparative analysis.

We see a striking concentration of cross-border metropolitan regions along the borders between the Benelux-French-German-Swiss areas. In these areas, the longstanding struggle for stable political configurations is reflected in the relatively high population densities and in the cultural and linguistic interactions. The case of Vienna-Bratislava is not part of this context, but again, the long-standing joint history is of relevance, as only a few years after the fall of the iron curtain we see a cross-border region growing together. Only in the case of Katowice-Ostrava, two transformation states are involved. More generally speaking, in Central and Eastern Europe cross-border polycentric metropolitan regions do not yet play a comparable role to those in some 'old' member states. Also, within the old member states we have a series of further cross-border regions that have a certain potential as cross-border metropolises. For different reasons, these areas are not comparable to the case study regions of this project (e.g. little metropolitan dimension or cross-border interaction). This does not neglect that their potential of developing metropolitan and polycentric cross-border strategies might be large in the long run.

### **Polycentric metropolitan quality**

In general terms, *cross-border polycentric metropolitan regions* are localised 'in the shadow' of the most prominent and internationally renowned metropolitan regions such as Randstad, Rhine-Ruhr, Frankfurt-Rhine-Main, Zürich, Milan or Paris ("Pentagon"). However, several of the METROBORDER case study regions do show a considerable metropolitan quality in its most prominent parts (e.g. Vienna, Copenhagen). Being near to a national border does obviously not prevent a strong metropolitan quality or visibility in economic terms on the global scale.

The two case study regions of the Greater Region and the Upper Rhine illustrate very clearly the high importance of polycentric organisation: in particular with regard to their economic and demographic weight, only together they are comparable to 'classical' domestic regions. But if we accept this polycentric perspective, the CBPMRs are very much more comparable to classical metropolises than one might have expected.

To turn it the other way round: The aim to further develop the *cross-border polycentric metropolitan region* is a strategy towards meeting the challenge of 'critical mass': Considering the limited demographic size, economic weight

connectivity, this indicates certain vulnerability of the different parts of the CBPMR compared to domestic metropolises. Cooperating in a cross-border manner is an indispensable strategy to ensure and foster the position.

It is true that the headquarters of the economy, the most important political institutions are not evenly spread over larger metropolitan areas; instead they are always concentrated in selected parts of metropolitan settings. This is true for both – domestic as cross-border metropolitan areas. Thus, the different centres of the CBPMR systems are not 'similar' partners in terms of metropolitan quality, but they are complementary parts of a complex setting. This is in particular true if one refers to the understanding of metropolitan quality as, above all, the presence of decision-making capacity in economic and political terms.

The overall complementarities comprise economic specialisations on different sectors (knowledge intensive services or industrial innovation and production). The differentials in real estate markets and in retail offers do play a considerable role. Moreover, the diversity in cultural offer and landscape diversity does play an important role with regard to the quality of life. One should mention that the spatial unit of *Functional Urban Areas* comprise large spaces that have typical rural features (population density etc.), but whose labour market are strongly influenced by a metropolitan pole nearby.

The label of 'smart connected places' addresses exactly this complex setting: cross-border metropolises often show more and higher differentials than domestic metropolises. Using these differentials is a sometimes complex challenge, but might be a rewarding strategy in the long term for all partners involved.

### **Functional integration**

We can state an ongoing dynamic in functional cross-border integration. This concerns the sub-spaces of the *cross-border polycentric metropolitan regions* in different intensities and ways.

The Metroborder project has explored the question of functional integration by considering a series of indicators, namely cross-border commuting, public transport, the similarity of GDP per capita and the residents' citizenship. The results for these indicators show a high diversity amongst the cases – there is not 'the typical CBPMR'.

The results suggest that the presence of a knowledge-intensive economy driven by an international financial centre (Luxembourg, Geneva, Monaco) and/or high-tech activities (Basel) are crucial factors explaining the intensity of cross-border employment in Europe today.

The most prominent commuting areas (Luxembourg, Basel and Geneva) stand out because of their metropolitan quality, and also because they do not have

absolute language barriers as Luxembourg and Switzerland both function as 'linguistic bridges'.

Using the example of the automotive industry in the Greater Region, the Metroborder project explores economic cross-border flows on the regional level. These flows are not covered by standard statistical data; thus, a postal business survey was conducted. The results show a solid presence of the automotive sector in all subregions, but little cross-border linkages between the different players. Despite much international cooperation on European or global scale, there is hardly any cross-border strategy of the involved enterprises within the Greater Region. Almost in parallel, the diverse support initiatives from the (semi-) private sector are mostly focussed on the domestic level. The potential to exploit appears to be large.

With regard to social aspects, the added value of cross-border cooperation was addressed in the framework of the feasibility study concerning emergency services. The study provides a framework for analysing the accessibility in a promising way that could reveal very concrete options for political action.

### **Governance**

The political and institutional setting in cross-border metropolitan regions is demanding: In these multi-national settings, different domestic institutions come together that are characterised by sometimes contrasting political settings and cultures, different languages and policy paradigms. Moreover, cooperation takes place in a veritable multi-level context.

Governance and the institutional integration is a major aspect of the METROBORDER research. A variety of institutional mapping tools show that the diversity of governance settings within the European CBPMRs is enormous. The general challenge is it to overcome the 'multi-level-mismatch': to handle the asymmetric organisation of competences on different political and administrative levels on either side of the border. Moreover, a clear cross-border strategy, shared by all partners, appears to be indispensable.

"Geography matters" in these fields, too: defining and concretising a perimeter of action is a sensitive topic. In particular, the differentiation between institutional perimeter and the concrete territorial focus of political action can be crucial. Further aspects of particular sensitivity when setting up CBPMR governance, are the involvement of the municipal actors, as well as the economic actors, and the possible delegation of mandates to a stable 'supra-regional' institution.

Both with regard to the territorial and thematic focus as well as with regard to the governance forms within the different METROBORDER regions, the diversity does not indicate clear trends. An intensified exchange amongst the CBPMRs bears obvious potentials. However, due to the differing spatial and political

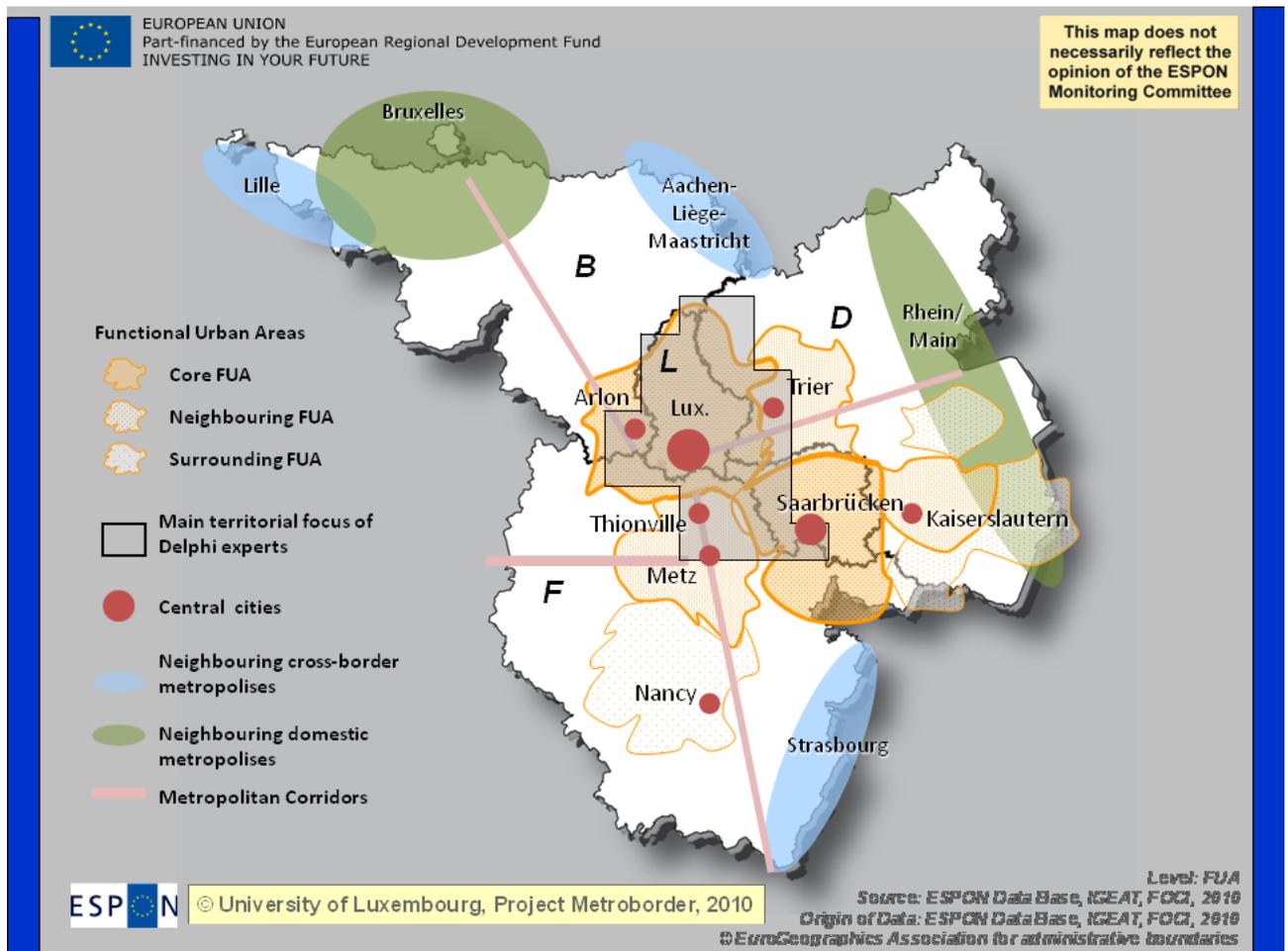
settings, there cannot be a “one-size-fits-all” model that could bring all of them forward.

### **Conclusions for the case study regions**

The METROBORDER project not only explores the *cross-border polycentric metropolitan regions* on the European level but also studies two case study regions in more details (see chapter 6 in the main report and, more in detail, the annex chapter 17 for the Upper Rhine and chapter 18 for the Greater Region). For both case study regions, the political vision of using the potentials of being a ‘CBPMR’ finds good arguments in the scientific analysis of the METROBORDER project. Both regions show a particular cross-border setting as they bring together three (Upper Rhine) or even four (Greater Region) national backgrounds. Their functional integration is – in some of their sub-spaces – outstanding on the European scale, the metropolitan quality is very visible, and the political will for cross-border cooperation is considerable. In both regions, safeguarding the critical mass is an ongoing challenge. With regard to the CBPMR vision, both regions do not have many convincing alternatives: they are, *de facto*, CBPMRs and they have to exploit the respective potentials.

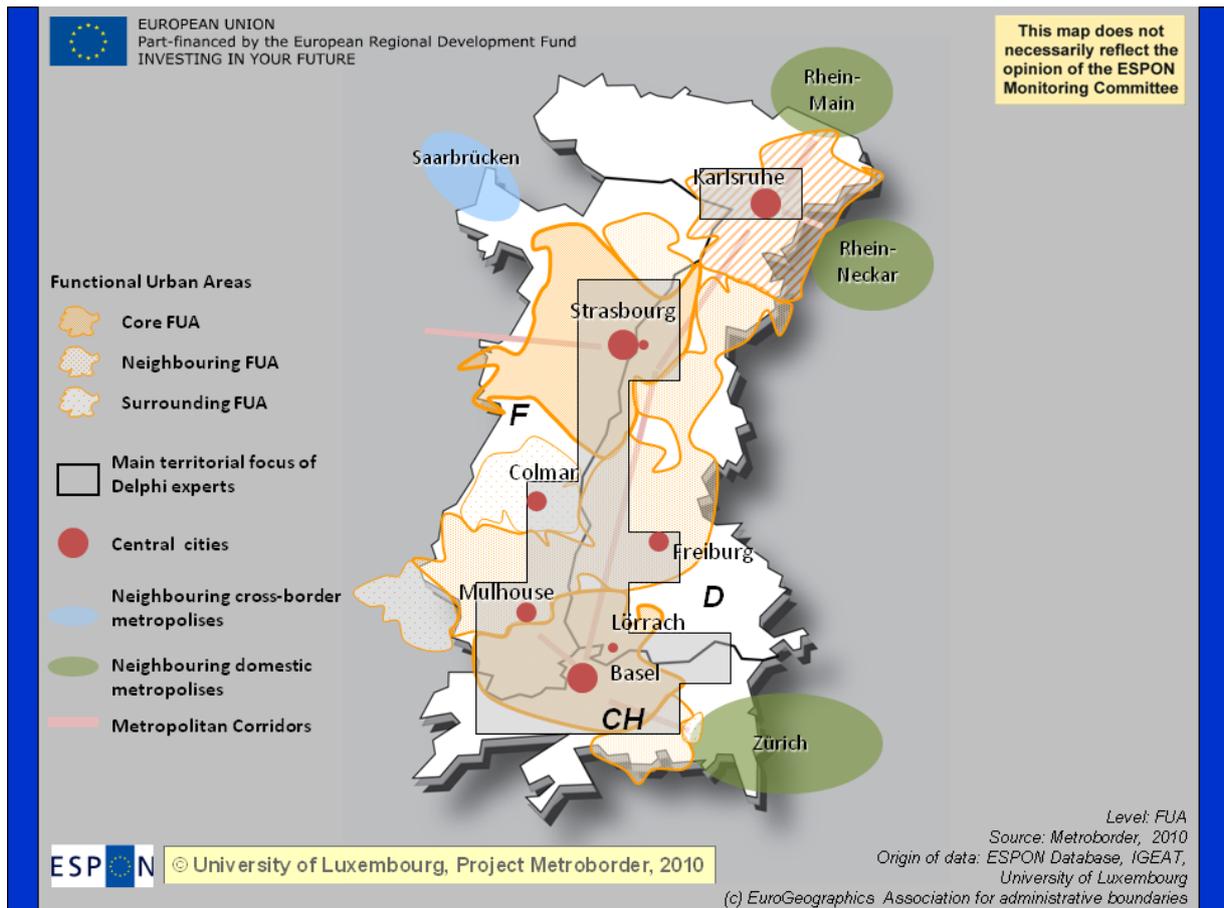
The **Greater Region** shows a clear functional, demographic, and morphological polycentricity that is the basis for the overall functioning of the region. In several dimensions, Luxembourg and Saarbrücken make up a bipolar structure of cross-border integration, being complemented by a series of domestic centres on either side of the borders (see Map 2). In terms of metropolitan relevance, the agglomeration of Luxembourg takes an outstanding position due to the economic dynamic. The overall functioning of this region, however, relies to a large extent on the strong cross-border integration with centres in the *Sillon Lorraine* (Thionville, Metz, etc.), Trier, Arlon, Sarreguemines and some others.

The extraordinary functional integration in the core zone not only has spill-over effects but also paves the way for the future development potentials. The size of the urban centres contrasts with the metropolitan visibility on the European map: None of the centres such as Luxembourg or Saarbrücken is comparable to ‘classical’ metropolises like e.g. the relatively nearby Frankfurt a.M. Yet, taking into account the polycentric setting, the demographic and economic weight indeed is comparable. The overall size has to meet a certain ‘critical mass’ in order to maintain or enhance the overall performance. Ensuring and enforcing this potential is a challenge that none of the partners will be able to meet on his own. Improving the transport performance, exploiting the potentials of spatial planning and stronger governance tools are the main points on the agenda.



**Map 2** A cross-border polycentric metropolitan region within the Greater Region – schematic synthesis map of METROBORDER results

The **Upper Rhine** region, too, shows a clear polycentricity with its major cross-border urban areas of Basel, Strasbourg, and to a certain extent, Karlsruhe. The overall spatial setting is more a linear form than the concentric setting of the Greater Region. Basel is the most metropolitan spot in the Upper Rhine, but the other centres are in particular from a demographic point of view on a similar level (see Map 3). The challenge now is to redirect its cross-border governance into more efficient forms, and to concretise what the main objectives of the metropolitan project are about. As in the Greater region, transport issues and spatial planning play an important role.



**Map 3** A cross-border polycentric metropolitan region within the Upper Rhine – schematic synthesis map of METROBORDER results

## 2 Options for policy development

The METROBORDER results show that the relevance and potential of cross-border metropolitan regions might have been underestimated thus far. But right now, cross-border cooperation with metropolitan ambitions is getting quite high on the political agenda – both in the European debate, and in the case study regions: On the 6<sup>th</sup> of December 2010, a ministerial meeting in the Greater Region agreed on further elaborating the strategy of further developing the *cross-border polycentric metropolitan region* and aims to further detail this vision in the coming months. Almost at the same time, on the 9<sup>th</sup> of December, the *Trinational Metropolitan Region* took an important step of institutionalisation by signing a joint declaration of foundation.

Metropolitan projects are currently developed dynamically in most of the CBPMRs. Only in Nice-Monaco-Sanremo and in Katowice-Ostrava are there no cooperative projects with metropolitan ambitions existing. This might give reason to reflect on the potentials of such cooperation in these cases, too.

For all those regions that are currently involved in establishing metropolitan projects, the institutional settings differ largely. For example, the EGTCs (European Groupings of Territorial Cooperation) and Eurodistricts play different roles in different regions. An enhanced exchange on the question of how CBPMR governance could or should be developed is in demand. The meeting of the Metroborder consultation committee meeting in March 2010 – bringing together representatives from different CBPMRs – was a first step in that regard.

An important tool for developing governance perspectives in the two case study regions has been a Delphi study – a repeated online survey amongst the regions' experts. From this Delphi study, we know that both the EU and nation states are important levels to be considered: EU governance tools and financial funding are crucial, while nation states are key players to implement strategic projects (ex. high speed train connections).

Within the two METROBORDER case study regions, the process of strategy building is currently ongoing. Within the Greater Region, the policy options are about to be debated for particular political dimensions and specific policy actions, amongst them a territorial observatory and a strong political EGTC.

Currently in the Upper Rhine, the most pressing questions are how to modify and simplify the governance structures. Three models have been developed and discussed in order to achieve a more efficient overall structure of the Upper Rhine that serve the overall objectives of the Trinational Metropolitan Region. More generally speaking, the objectives in policy development are: a) to create a stable, reliable, and transparent governance structure; b) to gain support from exterior authorities with regard to softening border effects and bridging the respective gaps; and c) to arrive at a clear vision, shared by all partners, on how to develop the cross-border polycentric metropolitan character of the region.

These concerns show a clear reference to the current debate on the European level, as the debates on territorial cohesion or the 5<sup>th</sup> Cohesion Report go into a very similar direction.

### **3 Need for further analysis/research**

Despite the fact that cross-border cooperation in Europe can look back on decades of experience, the data situation is still not satisfactory. This is true for many trans-regional and transnational constellations. This lack is due to different statistical and administrative contexts and is well known for example with regard to differences within the NUTS system.

Against this background, the METROBORDER project had to address an ambitious project specification: The newly establishing political vision of *cross-border polycentric metropolitan regions* results in many questions, yet are faced with an incomplete data situation. The idea of an ESPON priority 2 project ("targeted analysis") is to zoom into existing ESPON data – which turned out to

be a challenge as the ESPON programme has not yet conducted a more general research project on cross-border questions. The project, therefore, mostly zooms into ESPON projects that brought helpful data at the domestic level which could be analysed with regard to cross-border questions.

In addition, existing data from the involved research institutions of the METROBORDER project were taken into account. New empirical work was conducted, delivering new data and new interpretations (in particular, with regard to governance, functional integration and economic linkages).

For some questions, no data is available on a transnational/-regional level. For example, language issues are always named as one of the most pressing bottlenecks in cross-border cooperation, but there is hardly any data available on the linguistic competences of territories. On a more general level, two most pressing data and research needs should be named:

First, the data on the *economy* is not satisfactory. This is the more sensitive as economic arguments play a crucial role in political processes. Currently we can describe the situation on either side of the border, but the linkages between the different settings are hardly explored: It would be helpful to have *flow data* that would permit an analysis of cross-border supply chains on the regional level, in specific sectors, and of the intra- and inter-regional linkages.

Second, the notion of *polycentricity* is already from a domestic or European perspective challenging as the concept can be understood in very different ways. The METROBORDER results show morphological, demographic, metropolitan and functional polycentricity by using available indicators. Because most of these data sets are only available for one point of time, a temporal trend cannot be comprehensively developed. While we can describe that cross-border integration plays an important role in the overall functioning, but we cannot describe the causalities in any detail.

These questions would merit a project of more fundamental research than an ESPON priority 2 project. These concerns, however, do not question the overall picture that the METROBORDER project draws: *cross-border polycentric metropolitan regions* are an emerging and promising spatial pattern in Europe that might have been underestimated thus far.

## B Main Report

### 1 Introduction: Focusing on “CBPMRs”

Metropolises are central nodes in a globalising world. Above all, they are the cross-roads of economic flows, political power, and infrastructure settings. Traditionally, cross-border regions seem to be the counterpart of metropolitan regions as they are characterised by the most important spatial barriers of the modern world – the nation state boundaries. As long as borders have functioned as strong barriers, border areas have often been seen as peripheries. More prospering places situated near to borders were considered to be successful *despite* of their closeness to borders, certainly not *because* of it.

So until recently, border areas have been considered to be hardly metropolitan, and metropolises have been considered to be far away from national borders.

With the liberalisation of the European borders, the development in border areas has been dynamic in all border areas, and in particular to the metropolitan ones amongst them. The METROBORDER project analyses this new kind of spatial setting: It studies *cross-border polycentric metropolitan regions (CBPMRs)* by exploring both their external positioning and their internal organisation, and both their functional and their institutional dimensions.

The study of CBPMRs must take into account the current political debate on European regional policy, with intensive discussion of cohesion policy and the way in which the “Europe 2020” strategy can achieve success by providing support to the regions. At the same time, the Territorial Agenda is currently updated; and the Lisbon treaty has introduced territorial cohesion as an overall objective of European policy: Cross-border regions play a special role in these discussions of how to develop regional policy and how to concretise cohesion policy. The position of cross-border regions as former peripheral regions means they are an important focus of action for movement towards a prosperous Europe with reduced socio-economic imbalances.

Whilst studying CBPMRs, the METROBORDER project addresses two major dimensions: Firstly, the external perspective positions CBPMRs on a European scale as cross-border regions that compete with other metropolises, whether cross-border or domestic. Secondly, their internal perspective examines the internal features and interconnections of the CBPMRs.

As part of ESPON priority 2 (“targeted analysis”), its purpose is to respond to political questions from the project stakeholders by zooming into existing ESPON data, and in part complementing these with further research and external data.

The stakeholders represent two most intensively developing cross-border metropolitan regions – the Upper Rhine Region and the Greater Region.

The METROBORDER project's aim of studying cross-border metropolitan polycentric regions means that it must deal with a range of complex notions. *Polycentricity* has developed as an umbrella term in both analytical and political contexts. In all definitions, the hierarchical relations between the different centres and the spatial units in question both play a crucial role. Polycentricity is an overriding concern of the project, addressed in particular in chapter 2. The *metropolitan dimension* of cities and regions has become almost paradigmatic, but conceptual clarification is far from complete. Chapter 3 will explore this dimension, taking both a European and global perspective. *Cross-border regions*, too, have been the subject of countless studies. Chapter 4 will address this dimension, focusing in particular on the question of functional integration (internal perspective). Chapter 4.6 will focus on governance issues and institutional integration. Chapters 17 and 17 of the scientific annex summarise the METROBORDER results for the case study regions and suggest directions for future political strategies.

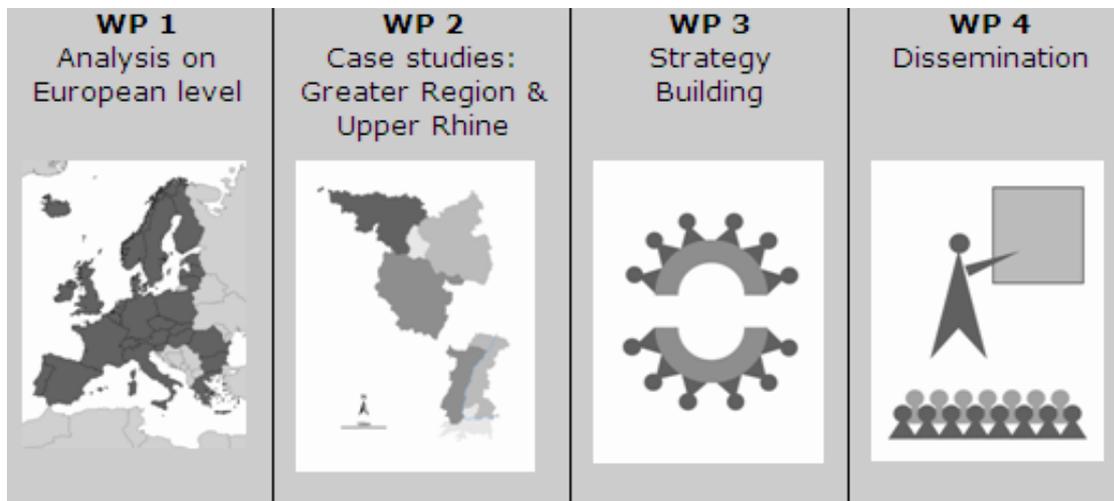
Not only are the various dimensions of the METROBORDER project complex on their own; in addition, their combination in the form of CBPMRs constitutes a new form of territorial research which has not yet developed final definitions. In this context, the METROBORDER project is based on a following theoretical understanding of CBPMRs which sees these:

*as political constructions based on cross-border agreements which consider the existence of national borders as a resource for increasing interactions at the local level and based on the embeddedness of the metropolitan centre(s) in global networks. Because CBPMRs are composed of several urban centres located on either side of a border, these regional political initiatives can mobilise different geographical scales in order to utilise the assets and complementarities of the morphological and functional polycentricity.*

In less academic words and simplifying largely, the METROBORDER project sees CBPMRs as spatial configurations whose potential lies in combining the characteristics on either sides of the border in a complementary way. The success of these regions to exploit the metropolitan potential depends to a large extent on the will and the strategies of the actors to cooperate within a complex multi-level context.

The research of the METROBORDER ESPON project is organised in work packages (see Fig. 1). The presentation of the Report, however, will not follow this structure chronologically but will instead present results following the main dimensions of the CBPMRs, mostly starting with at European level (WP 1) and then, when possible and useful, focus in greater detail on the two case studies of

the Greater Region and the Upper Rhine (WP 2). More detailed information are compiled in the scientific annex.



**Fig. 1** Work package structure of the METROBORDER project

## 2 Spatial configuration of CBPMRs

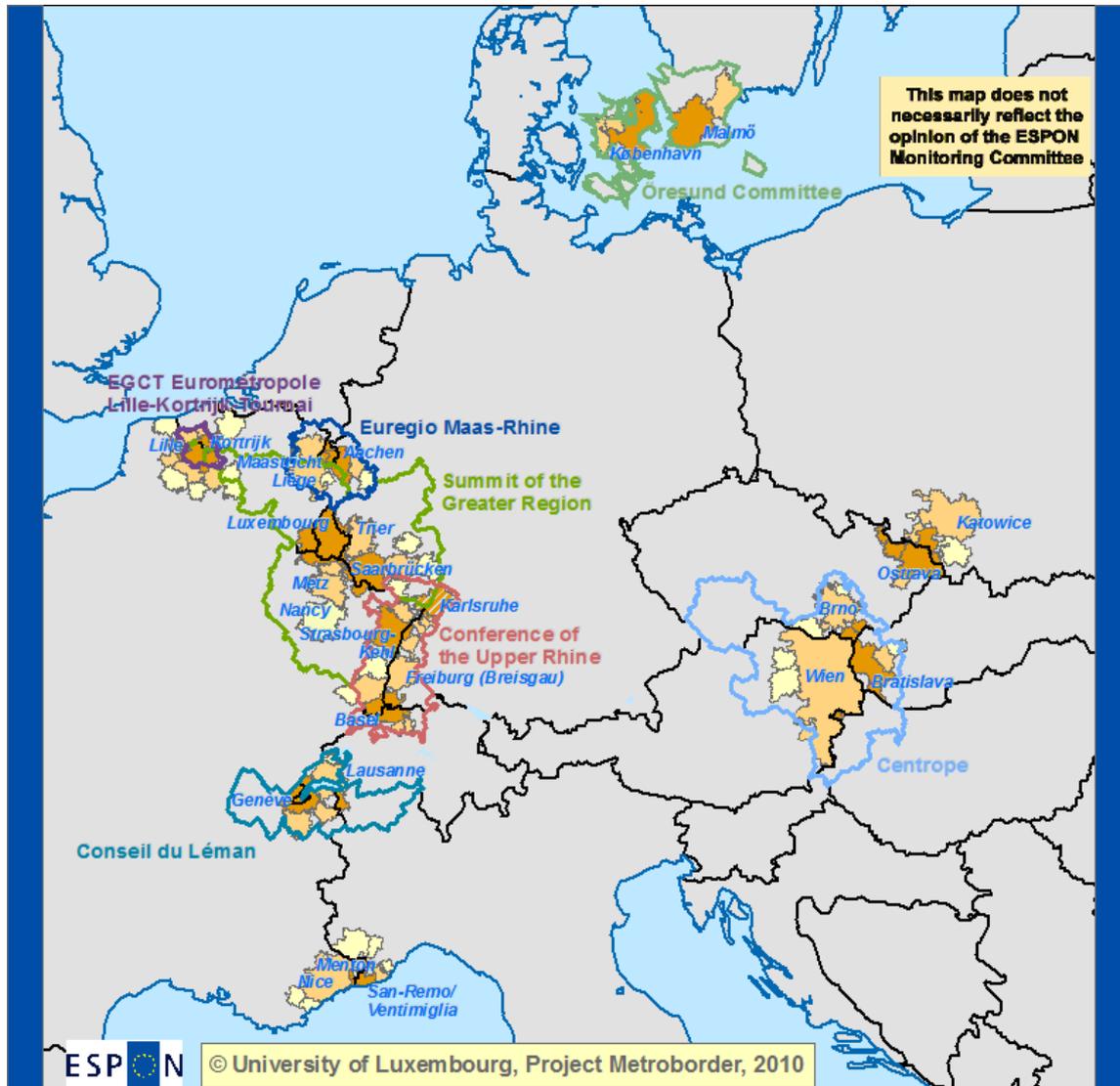
### 2.1 European scale

Given the complex and diverse contexts of the *cross-border polycentric metropolitan regions* and the current political dynamics of the cross-border cooperation, the METROBORDER project cannot give final spatial delimitations and definitions of the different regions concerned within Europe. However, as a first step, we map the general spatial context of the CBPMR (Map 4). Each CBPMR has a cross-border core area that was already identified in the framework of the previous ESPON project 1.4.3. These core areas are defined on the scale of Functional Urban Areas (FUAs), and thus on a local scale. Functional Urban Areas are a crucial analytical concept for the ESPON programme and are defined primarily by commuter flow data at the local level. The precise delimitation of the FUA is associated with the threshold of 10% of the occupied of the active population commuting to the central Morphological Urban Area (MUA). These MUAs are defined as densely built and inhabited urban areas (details in appendix, chapter 7).

The status of a metropolitan cross-border FUA implies that an area is above a certain threshold in terms of cross-border metropolitan quality, sharing this status with only 10 other places in Europe.

The METROBORDER project then takes a 'scale jump' from the local to the regional level and considers more than these starting points ('core FUAs' in the map) – for two reasons: Firstly, functional integration and dependencies on

superior levels must be seen as crucial, especially in the context of metropolisation. Secondly, the political will in cross-border cooperation has in recent years more and more stressed the regional level. The cooperation of the Greater Region and the Upper Rhine region are just two examples of this trend. The jump in scale allows an examination of polycentricity at the regional level.



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0 50 100 200 300  
Km

Level: FUA  
Source: ESPON Data Base, IGEAT, FOCI, 2010  
Origin of Data: ESPON Data Base, IGEAT, FOCI, 2010  
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'Functional Urban Areas' (FUA)

- Core FUA
- Neighboring FUA of the core FUA
- Surrounding FUA of the neighboring FUA
- National borders

**Map 4** The Functional Urban Areas (FUAs) of the CBPMRs

Hence, the adjacent (“neighbouring”) FUAs are included, as well as the “surrounding” FUAs, adjacent to the latter ones. The criteria of being adjacent must not be understood as a de-facto cross-border interaction but rather as granting a potential for cross-border interactions in the future. Furthermore, Map 4 shows the institutional perimeter of the most relevant cross-border cooperations, when these demonstrate some metropolitan ambition (which is not the case for Nice-Monaco-Sanremo and Katowice-Ostrava; for details, see chapter 5.1).

This perspective of the METROBORDER project means that both urban and rural areas are taken into account. The densely built areas as the typical urban complex are just a minor part of the whole considered territory (see the MUAs in the map). This reflects the ongoing trend that also the morphologically rural spaces are strongly influenced by structural change in economy and society: metropolitisation as an overall trend is not restricted to metropolitan cores but is part of the overall functioning of the European territory.

Map 4 serves as a framework for more detailed investigations throughout the project. It neither intends to give a final definition of CBPMRs, nor does it aim to provide a ‘correct’ perimeter of political action. The purpose is limited to the comparison of the overall spatial setting, leaving a broad scope for political and functional arguments.

The naming of the cross-border metropolitan area refers to the largest city in terms of demographic size and not to any cross-border institutional cooperation area (e.g. MAHHL) or any geographical feature (e.g. Öresund). More than one city is only referred to if the population size is comparable (e.g. Vienna-Bratislava). In the text we use the English expression of cities if any has been established; in the maps the domestic expressions are kept (e.g. Genève – Geneva).

Before going into greater detail concerning the particular regions and their characteristics, we can draw some conclusions already from this European mapping:

Today, after more than 50 years of European integration and 25 years of the Schengen Agreement, we see a series of CBPMRs which have profited greatly from border liberalisation. However, their location on the European map relates to the broader European history. We see a striking concentration of CBPMRs along the ‘border’ between *Romania* and *Germania*, i.e. through the Benelux-French-German-Swiss areas. In these areas, the longstanding struggle for stable political configurations is reflected in the relatively high population densities and in the cultural and linguistic interactions.

The case of Copenhagen-Malmö is a case of its own as it is today linked by a tunnel-bridge construction.

The case of Vienna-Bratislava is not part of this context, but once again, the long-standing joint history is again of relevance, only a few years after the fall of the iron curtain. Only in the case of Katowice-Ostrava, two new member states are involved. More generally speaking, in Central and Eastern Europe cross-border polycentric metropolitan regions do not yet play a comparable role than between some 'old' member states. From ESPON project 1.4.3 we know already that some regions obviously bear potential, just e.g. Helsinki-Talinn, Ruse-Giurgiu, Frankfurt a.d.O.-Slubice, or Gorizia-Nova Gorica. For different reasons (e.g. smaller metropolitan dimension or cross-border interaction), these areas cannot be compared to the case study regions of this project. This does not neglect that their potential of developing metropolitan and polycentric cross-border strategies might be large – but these questions require a research project of its own.

## 2.2 Greater Region

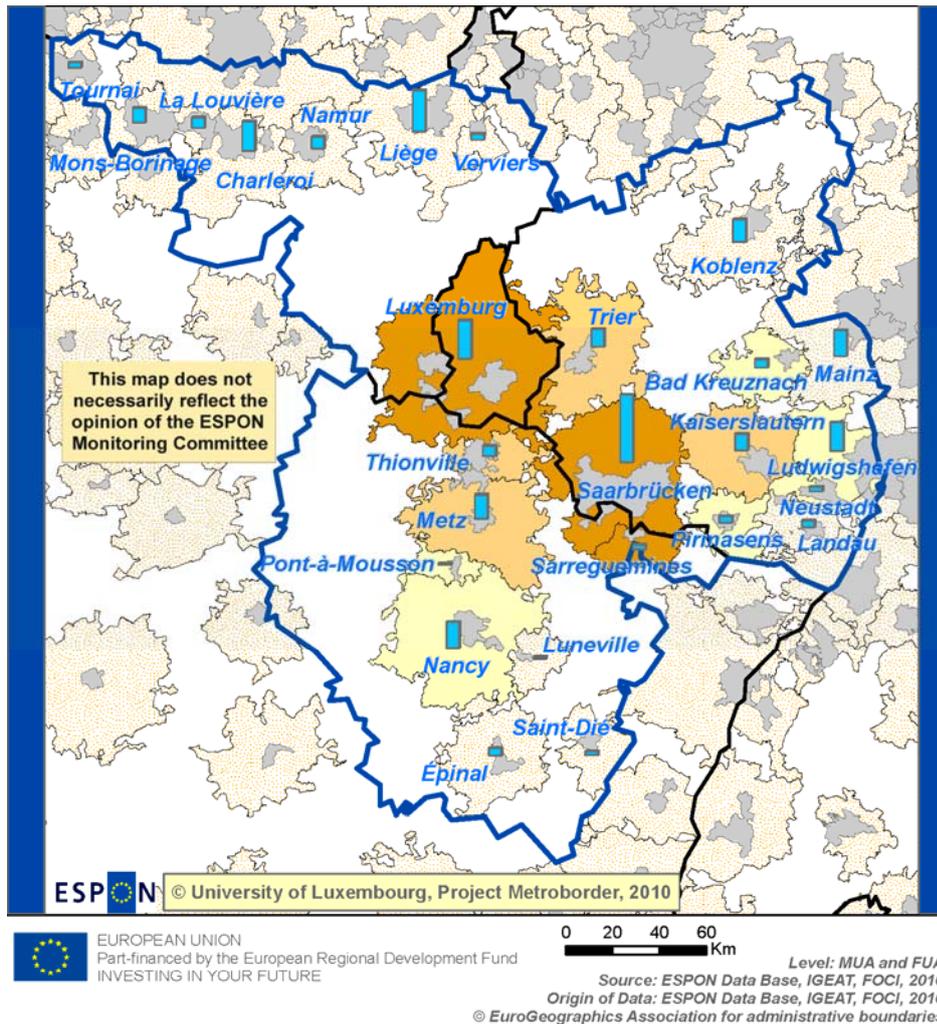
If we focus on the Greater Region, we have to consider two starting points ('core FUAs') that have been identified as metropolitan cross-border FUAs in the ESPON project 1.4.3 – Luxembourg and Saarbrücken (see Map 5). Both are within the institutional perimeter of the "Summit of the Executives of the Greater Region" cooperation project.

The Functional Urban Area of Luxembourg comprises the urban centres of Luxembourg and Esch-sur-Alzette on the Luxembourgian side, Arlon on the Belgian side and some smaller settlements on the French side. The inclusion of the whole of the country of Luxembourg must not be misunderstood as implying that it is all 'metropolitan' in nature. However, even the highly rural municipalities in the north of the country meet the criterion of 10% of the active population working in the metropolitan centre of the FUA.

The FUAs of Luxembourg and Saarbrücken are to a slight degree in direct contact, meaning that the institutional integration of both centres is reasonable. It should be noted that this constellation represents the closest proximity of metropolitan cross-border core FUAs in Europe. This spatial proximity accounts for the common concerns with regard to, for example, transport matters or political issues. This bipolar cross-border structure features Saarbrücken as the larger FUA in demographic terms and Luxembourg as the more metropolitan FUA in economic terms, as we will see below.

The spatial setting of the Greater Region illustrates the relationship of the urban and rural parts: large parts of the 'functional urban areas' actually show typical characteristics of small villages, low population density, importance of agriculture etc. – this is true for the Northern part of the Grand Duchy of Luxembourg, of large parts of the Saarland etc. Nevertheless, they are part of the functional *urban* area as their labor markets are clearly dominated by close urban centres that show a certain metropolitan quality.

Map 4 also illustrates the criterion of being adjacent to the cross-border FUA: the FUA of Thionville is clearly linked and influenced by the French-Luxembourgish border, and also the FUAs of Trier and Metz are linked to both cross-border centres of Luxembourg and Saarbrücken. With regard to the surrounding FUAs of e.g. Nancy, the situation is different: the city of Nancy is approx. 100 km away from the French-Luxembourgish border, so dominant functional cross-border integration is not to be expected. But from a polycentric point of view there is some potential: Being part of the “Sillon Lorrain” illustrates a certain political will to contribute to cross-border cooperation, too.



**Map 5** Functional and morphological urban areas (FUAs/MUAs) in the Greater Region

There are further FUAs within the institutional perimeter of the Greater Region that are neither adjacent nor surrounding FUAs to the cross-border centres. This position does not automatically mean that they could not be involved in cross-border cooperation; Namur is a good example, as it is a solid FUA of its own with strong links to Brussels in the north. At the same time, the connection to Luxembourg via rail/road and the political will to cooperate could make it an interesting partner. However, already this first mapping shows that there is cross-border core area within the institutionalised perimeter of the Greater Region.

The next chapters will return to the spatial setting of the CBPMR of the Greater Region, providing a more multi-dimensional perspective (see chapters 6 and 18).

### **2.3 Upper Rhine**

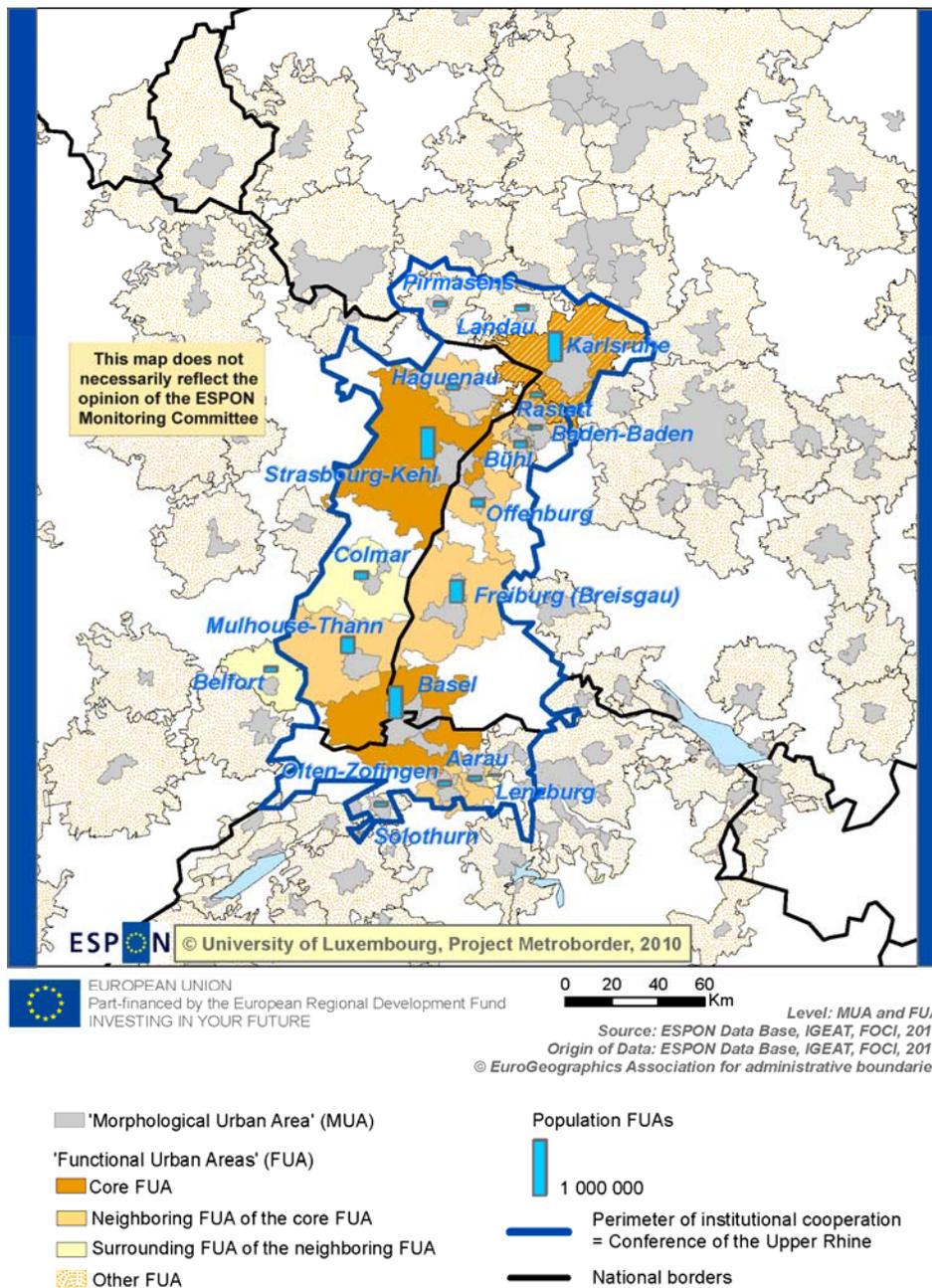
The structure of Functional Urban Areas within the perimeter of the Upper Rhine conference shows again two cross-border starting points that were identified within the earlier ESPON project 1.4.3 (the 'core FUAs' Basel and Strasbourg/Kehl; see Map 6). As for the Greater Region, we will very briefly describe the general spatial setting and expand on a variety of aspects in the following chapters, and will bring together the findings in chapter 17.

The FUAs of Hagenau, Freiburg, Mulhouse/Thann, and some others have, because they are adjacent to the cross-border cores, clear cross-border potential in terms of proximity, infrastructure setting and economic background.

The situation of Karlsruhe in the north is a unique one, even at the European level. Karlsruhe is not a cross-border metropolitan FUA within the meaning of the ESPON 1.4.3 project, and, therefore, cannot be a core FUA within the meaning of the METROBORDER approach (it would instead be a "surrounding FUA"). However, three aspects provide support for the idea that Karlsruhe has a special position: the functional urban area of Karlsruhe crosses the German-French border; its demographic weight is comparable to those of Strasbourg and Basel; and the FUA is only a few kilometres away from the core FUA of Strasbourg.

Thus, if we consider polycentricity on a regional scale, Karlsruhe is certainly an important cross-border centre within the Upper Rhine valley. We will come back to this position when exploring the governance setting of the "Trinational Metropolitan Region of the Upper Rhine" and in the overall synthesis of findings concerning of the Upper Rhine (chapters 6.3 and 17).

The key feature of the Upper Rhine FUAs is that they are all near to the border(s); the polycentricity is more linear than concentric, compared to the Greater Region. Both case study regions – the Greater Region and Upper Rhine – comprise (at least) two cross-border core FUAs and are particularly polycentric.



**Map 6** Functional and morphological urban areas (FUAs/MUAs) in the Upper Rhine region

### 3 Metropolitan positioning

#### 3.1 Approaching metropolitan quality

Metropolises are considered as nodes in a globalising world. Above all, they are the cross-roads of economic, political, and infrastructure settings.

The metropolitan quality of cities and regions is addressed in a vast body of literature. There is a consensus that there are several metropolitan functions to be considered, in particular the 'gateway function' meaning a high degree of

accessibility, the 'innovation capacity', and perhaps also the 'symbolic dimension' of metropolitan settings. The most prominent aspect, however, is undoubtedly the economic dimension of 'decision and control' which concentrates in particular the localised control functions of the globalised economy, but also considers important political institutions.

The range of approaches to metropolitan rankings, indicators, etc. is vast (for a current overview see e.g. the FOCI ESPON project). However, the metropolitan quality of *cross-border* areas has rarely been addressed in an explicit manner. METROBORDER approaches the metropolitan quality of its regions in five steps. Firstly, the Globalization and World City (GaWC) monitor is used to explore the positioning of those cities which are *parts* of the CBPMRs. Secondly, we use existing ESPON data (from project 1.4.3) in order to map the metropolitan dimension on the European scale for the cross-border metropolises. This takes into account also other indicators in addition to economic ones. Thirdly, we return to a purely economic perspective by using very recent data from the FOCI project which provide a mapping of the economic control function: these data allow an analysis on the intraregional scale and some conclusions to be drawn concerning cross-border polycentricity. Fourthly, we compare the two case study regions with some exemplary domestic ones. Finally, we explore recent data with regard to metropolitan connectivity via plane within the two case study regions.

### 3.2 Findings from the literature: the global perspective

On the global level, the best known approach to metropolisation is probably the 'Globalization and World City research network' (GaWC), which monitors the global evolution of metropolitan places and is based primarily on economic indicators (see <http://www.lboro.ac.uk/gawc>). The GaWC monitoring studies those cities worldwide with the most significant metropolitan quality. The cities are categorised into ten hierarchical categories that summarise their metropolitan quality, based primarily on economic control indicators.

The GaWC approach is regularly represented in a visual manner as shown in Fig. 2.

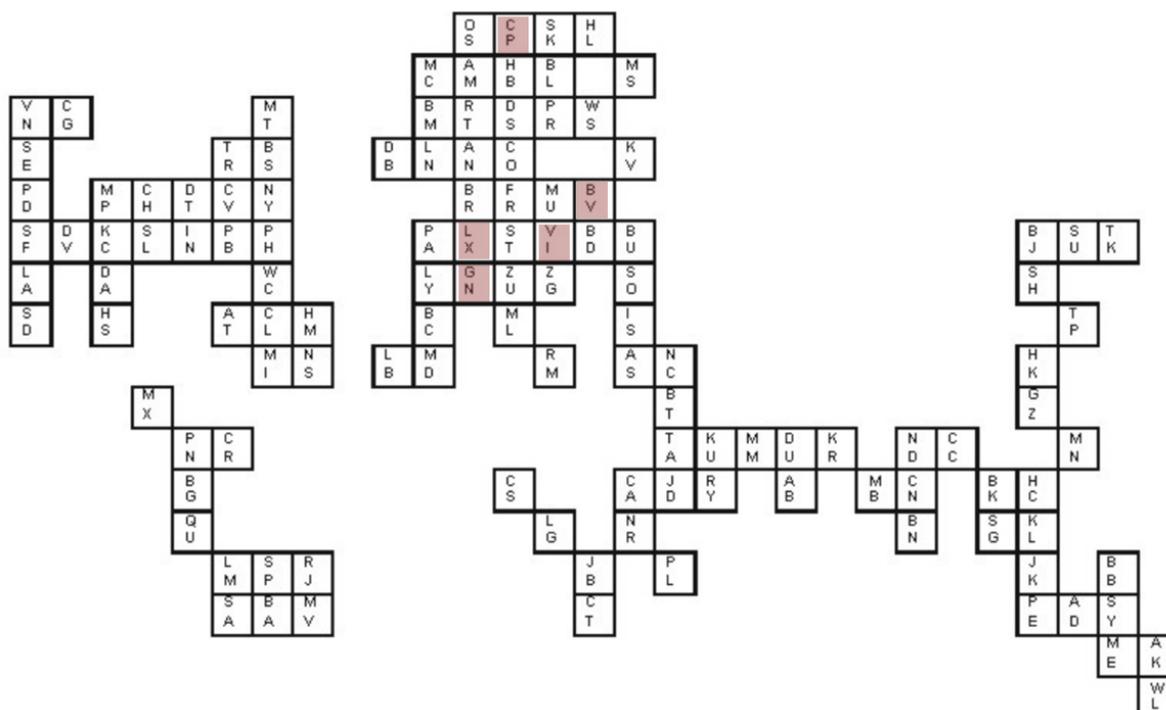
The graphic represents in an abstract manner the shape of the world's continents, and each box represents a metropolis. Marked in red are those cities that are part of a cross-border metropolitan region of the Metroborder project.

Among the most important metropolises worldwide, we find five that are part of the European CBPMRs – Vienna, Geneva, Copenhagen, Luxembourg, and Bratislava. This shows that European border cities do play a role on the global stage. Basel and Strasbourg are mentioned as showing "sufficiency" but are not included in this map (cp. GAWC 2008).

These cross-border metropolises are not global nodes at the highest level, and certainly not all the CBPMR cities play a role. We can however note that being

near to borders does not provide an insurmountable barrier to global economic significance.

Beyond this, the GaWC approach leaves several questions open, in particular: What is the added value of cross-border polycentricity on a regional scale? What about non-economic indicators of metropolitan quality? We will approach this question by considering the data and the results of two other ESPON projects (ESPON 1.4.3 and FOCI).



**Fig. 2** CBPMR-cities in the GaWC-monitor (marked in red): each square indicates a metropolis, and its position roughly represents the position on the world map (source: GaWC 2008; modified graphic).

VI = Vienna: alpha city (in 4<sup>th</sup> of ten world city categories)

GN = Geneva: beta city (6/10)

CP = Copenhagen: beta city (6/10)

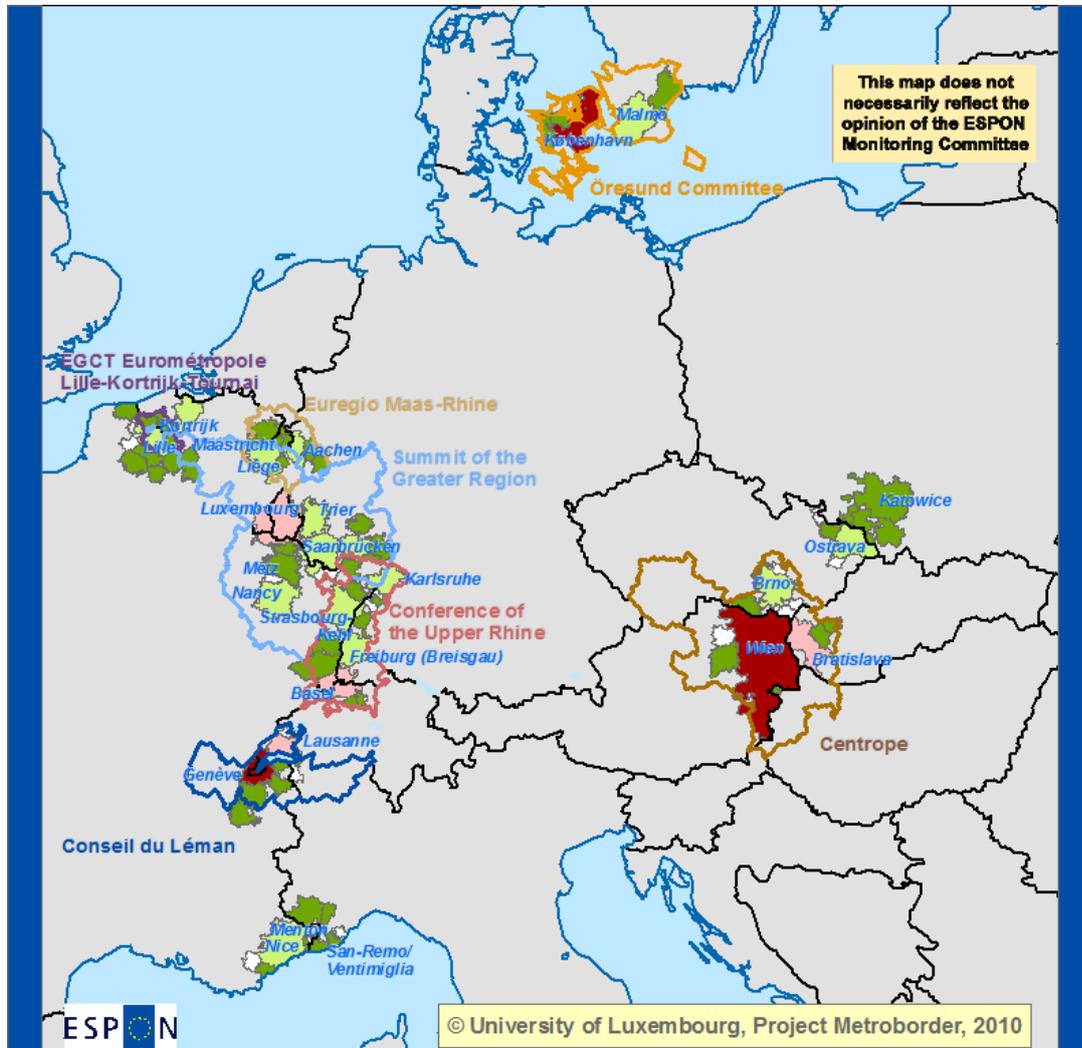
LX = Luxembourg: beta city (6/10)

BV = Bratislava: gamma-plus city (8/10)

### 3.3 European screening: The 'functional score' of CBPMRs

During the previous programme period, ESPON focussed on the different functions of cities and regions. Project 1.1.1 on polycentricity demonstrated that most cross-border FUAs show a certain metropolitan quality as *Metropolitan European Growth Engines* (MEGAs). Project 1.4.3 then analysed a broad set of indicators concerning metropolitan significance. The indicators result from an understanding of metropolitan quality that sees a particular importance in economic decision making (e.g. the indicator global and European

headquarters), political decision making (e.g. major European, national and regional public institutions), the presence of knowledge intensive services (e.g. employment in these services, number of research centres), the visibility as cultural destination (indicator Michelin guide for Europe), the transport connectivity etc. (for details see ESPON 1.4.3, p. 22 ff.)



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0 50 100 200 300  
Km

Level: FUA  
Source: IGEAT, ESPON 1.4.3 2007  
Origin of Data: IGEAT, ESPON 1.4.3 2007  
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Functional score

- 0,01 - 2,00
- 2,01 - 4,00
- 4,01 - 6,00
- 6,01 - 8,00
- no data

National borders

**Map 7** The 'functional score' of the CBPMRs – using the ESPON 1.4.3 approach

When applying this data to the METROBORDER regions (see Map 7), we can immediately see some differences concerning the position of these regions: the FUAs of Vienna, Copenhagen and Geneva are the highest-ranking ones, the first two as quite large national capitals and the latter as the seat of many international political organisations and the European seat of multinational businesses. In the second tier, also Basel, Luxembourg and Bratislava demonstrate a European level of visibility and significance. In all cases, these functional urban areas are in a core of a polycentric system where the metropolitan quality is not evenly spread.

With regard to the two case study regions, we learn the following: the highest-ranking metropolitan centre within the Greater Region is Luxembourg, due to its economic position, especially in the financial sector, its political functions as national capital and seat of European institutions, and its airport.

In the Upper Rhine, the Basel FUA is ranked quite highly due to good ratings with regard to the knowledge-intensive service sector, the transport sector (airport), and the economic decision-making intensity (cp. ESPON 1.4.3: 159).

The other Upper Rhine centres are not metropolitan to this degree.

The rankings from the above-mentioned functional-score mapping and the GaWC-approach differ, but the overall picture is largely the same. From this we can conclude that economic indicators are relatively meaningful with regard to overall metropolitan quality. This is true even if the scale of the data (often NUTS 2) raises some methodological problems.

We now return to a purely economic approach in the next section, which allows a closer examination of more recent and more detailed data.

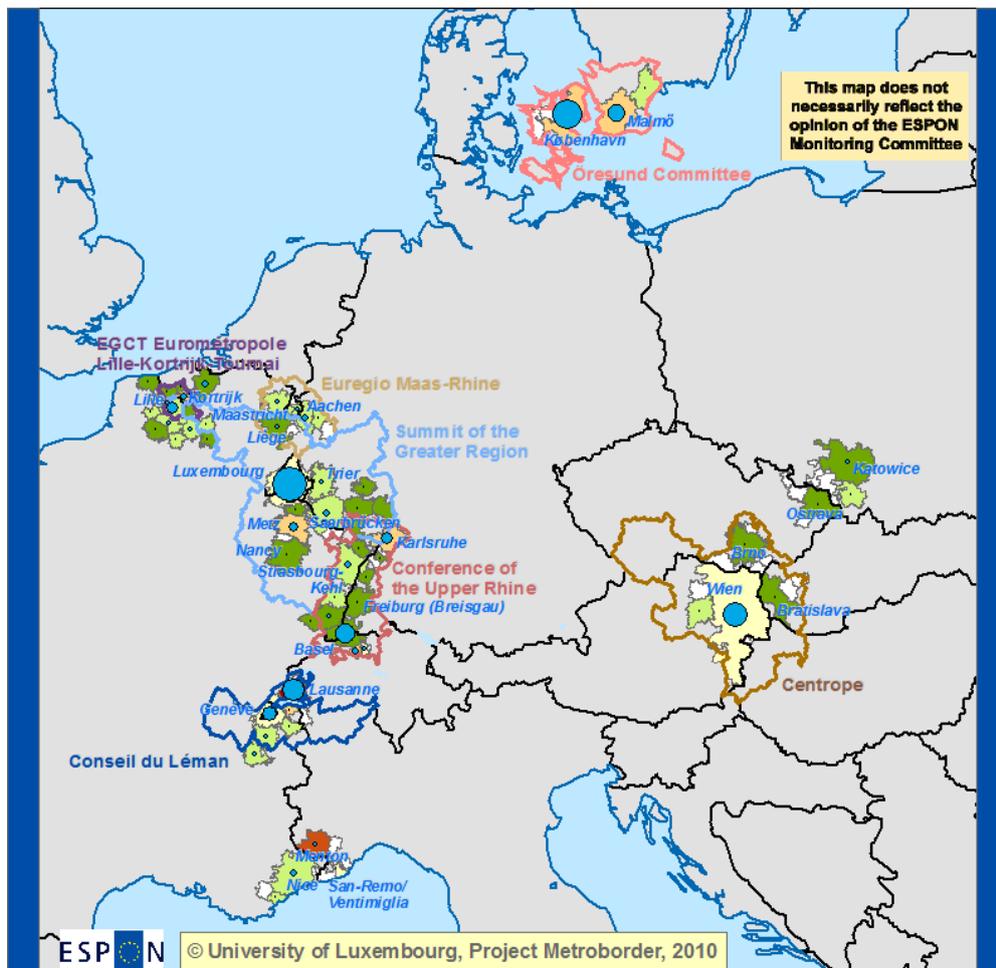
### **3.4 CBPMRs as ‘competitive nodes’? - Using the FOCI data**

As already mentioned, metropolitan quality is very much linked to the presence of economic headquarters and to decision-making in transnational enterprises. The ESPON FOCI project (in particular team partner Céline Rozenblat at the University of Lausanne) has processed data from the 3,000 largest businesses worldwide (ORBIS database) and, on this basis, has developed a geography of economic power in a globalised economy (for the European map, see appendix/ chapter 8, cp. FOCI DFR 2010: 151 fwd.). On the European scale, London and Paris are the dominant metropolitan centres; beyond this, we find a series of national capitals of particular importance.

The database allows an approach to the economic power that is localised at particular sites with the firms. At the scale of the METROBORDE FUAs, the data gives the spatial pattern shown in Map 8.

This map gives two types of information. Firstly, the size of the circles represents the present number of top-3,000-businesses. Secondly, the colour of the circles indicates the degree of control that is located at this site. The

question of control is far more complex one as it does not automatically address *geographical* directions, as the examples of Paris and London show (cp. Appendix, Map 21): the dominant degree of control in Paris is linked to the numerous subsidiaries in French FUAs, whereas in London the European subsidiaries of US enterprises play a key role. It is, thus, not easy to evaluate 'economic power', but this indicator nonetheless a good one to use to attain an overall understanding.



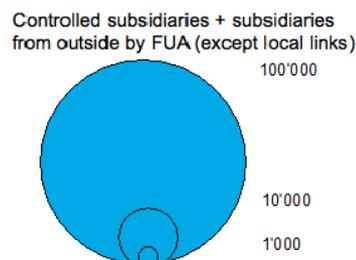
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0 50 100 200 300 Km

Level: FUA  
Source: Team IGUL, FOCI 2010  
Origin of Data: Team IGUL, FOCI 2010  
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Controlled subsidiaries - subsidiaries from outside  
Controlled subsidiaries + subsidiaries from outside

- 0,71 - 1,00
- 0,51 - 0,70
- 0,21 - 0,50
- 0,01 - 0,20
- 0,49 - 0,00
- 1,00 - -0,50



**Map 8** Economic control in CBPMRs – applying the FOCI approach

With regard to the CBPMRs, the map suggests the following conclusions: The presence of the top 3,000 businesses reflects the GaWC picture: The functional urban areas of Copenhagen, Luxembourg and Vienna have a reasonably high degree of visibility, while the other areas show a lower score at the European level.

With regard to economic control, Geneva, Vienna and Copenhagen are outstanding; the red colour indicates a strong presence of headquarters that control subsidiaries in other locations. Luxembourg, Basel and Bratislava also have high values.

With regard to the intraregional polycentricity of the CBPMRs, one can state the following: In those cases where a strong economic centre can be identified, we see a clear difference between the centres (e.g. the differences between Copenhagen and Malmö, or even between Vienna and Bratislava).

Moreover, we can state that the metropolitan character of the different CBPMRs differs largely – intensities of both economic involvement and of the decision making capacity do not show homogenous patterns across Europe.

With regard to the two case study regions, we can again see some contrasting findings (for further detail see appendix, Map 22 and Map 23). In the Greater Region, the economic metropolitan centre is clearly the FUA Luxembourg, which hosts the most top 3,000 businesses. The control function is stronger than in most other METROBORDER regions, but still not very prominent on the overall European scale. This is perhaps to be expected, as it reflects the presence of numerous financial enterprises that have their headquarters outside of the Greater Region's perimeter.

In the Upper Rhine, the picture is similar with regard to the control function – the different subregions are clearly integrated into the globalised economy, but the degree of control exercised is not outstanding. The case of Basel is perhaps surprising, as it is not metropolitan to the degree one might expect, bearing in mind the considerations above. This is partly due to the fact that the indicator only reflects the number of businesses – a large chemical industry headquarters in Basel, for example, only carries as much weight as a banking subsidiary.

In general, it is worth noting that the metropolitan dimension of the METROBORDER regions and their sub-spaces does not reflect the totality of their economic position. For example, highly innovative and flexible small- and medium-sized enterprises (SMEs) are not considered in these approaches, although they typically play a crucial role in the economic prosperity of regions between large cities, as in parts of Baden-Württemberg. The available statistics do not allow a comparison of – for example – the presence of so-called “hidden champions”, primarily SMEs with leading global position due to a high degree of innovation. Developing the metropolitan quality of the CBPMRs will require consideration of these aspects and must not be restricted to a simple comparison with top ranking metropolises such as London or New York. Still, the

metropolitan quality of CBPMRs should not be underestimated, as the following chapter demonstrates.

### 3.5 Comparing cross-border and 'classical' metropolises

Recent chapters have already shown that cross-border regions show a very considerable metropolitan quality in some of their spaces. Still, one might question if cross-border polycentric regions are really comparable to 'classical' – i.e. monocentric, domestic – metropolises. In order to address this question, we compare some metropolises on an exploratory basis (Map 9).

For this comparison we juxtapose the two Metroborder case study regions with some domestic metropolises that are on higher positions in most metropolitan rankings such as the already mentioned GaWC monitor: Oslo, Barcelona, Frankfurt, and Hamburg. The spatial units taken into account for the mappings are the functional urban areas (the central or cross-border ones plus their adjacent FUAs). On the basis of this spatial setting, the number of the inhabitants and the total GDP is calculated. Moreover, the economic control function is included with the above introduced indicator of the present top 3,000 businesses. All six maps are shown in the same geographic scale.

We should again stress that these geographic settings are not to be read as spatial limitations but as a methodological approach for comparison. E.g. for the Greater Region, one might ask if Nancy should not be included or if Kaiserslautern should really be linked here – the overall picture, however, would not change largely due to such modifications.

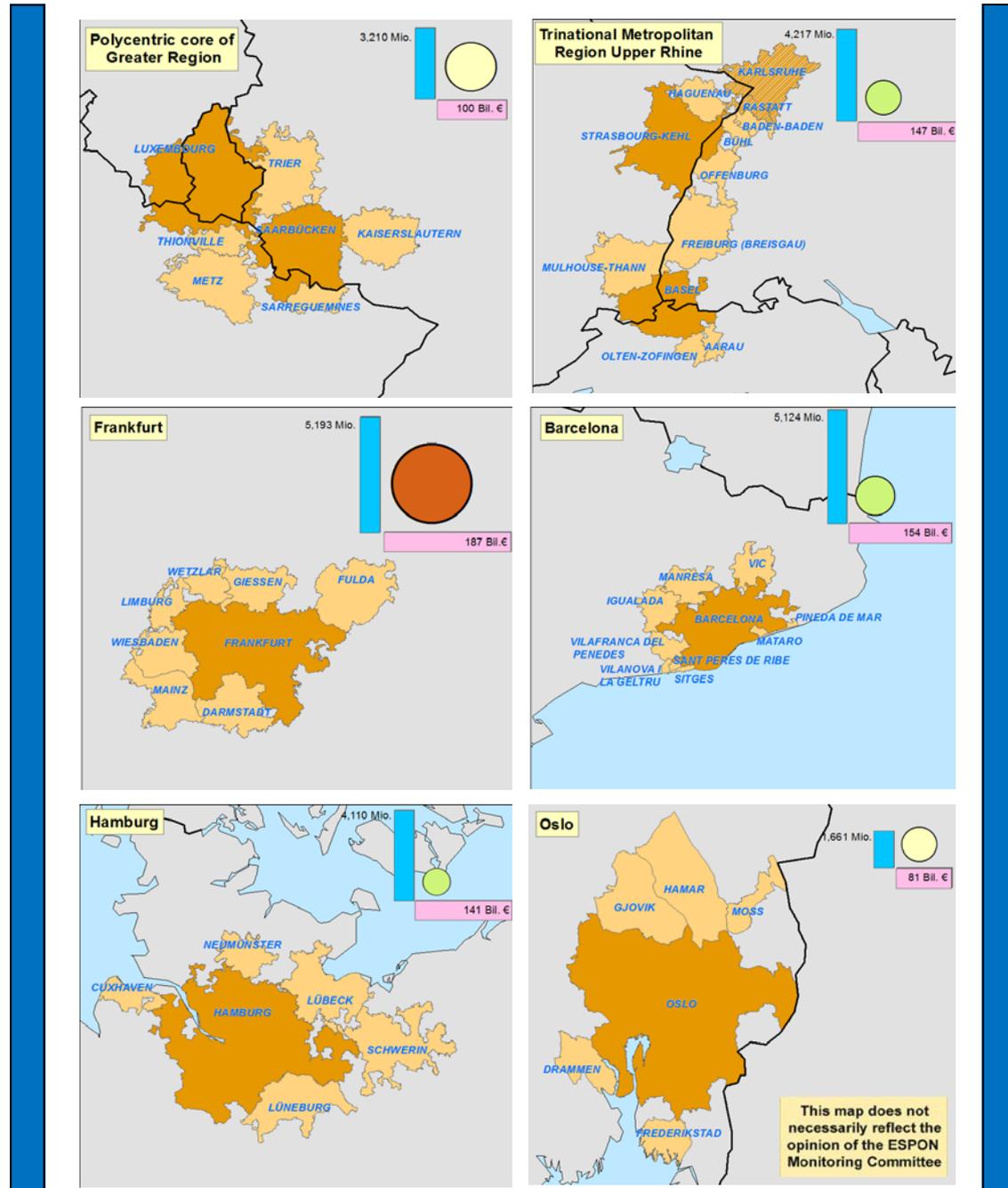
The map immediately shows that domestic and cross-border metropolises are not 'worlds apart'. If we accept that cross-border polycentricity matters, we see players from similar 'leagues' of metropolitan quality.

It is true that Frankfurt is a player well ahead in terms of both population and GDP and in particular to the presence of transnational enterprises. This is mainly due to a well developed financial sector that is present in Frankfurt (which is true, to a lesser extent, for Luxembourg). We do not show London or Paris which make up a league of their own going far beyond of Frankfurt. However, Barcelona, Hamburg, and Oslo show values that are highly comparable to the two cross-border cases.

These exemplary maps show very clearly the importance of polycentricity for cross-border metropolitan regions as only together the (sub-) centres have the 'critical mass'. This does, however, not mean that all parts of the polycentric settings should or can show the same characteristics, as pointed out in the last chapters: in qualitative terms, a complementary organisation is indispensable.

We should conclude that these maps are just an exploratory mapping approach. It needs more detailed research on the comparability of cross-border and domestic metropolises; and with regard to methodology and data there is still

much to be discussed. Still, the importance of polycentricity of cross-border metropolises, illustrated in these maps, can hardly be denied.



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0 10 20 40 60 Km

Level: FUA

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Origin of Data: ESPON Data Base, IGAT, Team IGUL, FOCI, 2010  
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'Functional Urban Areas' (FUA)

- Core FUA
- Neighboring FUA of the core FUA

National borders

Total population

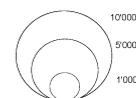
Total GDP (€)

3'500'000 120 Bil.

Controlled subsidiaries - subsidiaries from outside  
Controlled subsidiaries + subsidiaries from outside

- 0.71 - 1.00
- 0.51 - 0.70
- 0.21 - 0.50
- 0.01 - 0.20
- 0.49 - 0.00
- 1.00 - -0.50

Controlled subsidiaries + subsidiaries from outside by FUA (except local links)



Map 9 Comparing domestic and cross-border metropolitan regions

### 3.6 Metropolitan accessibility?

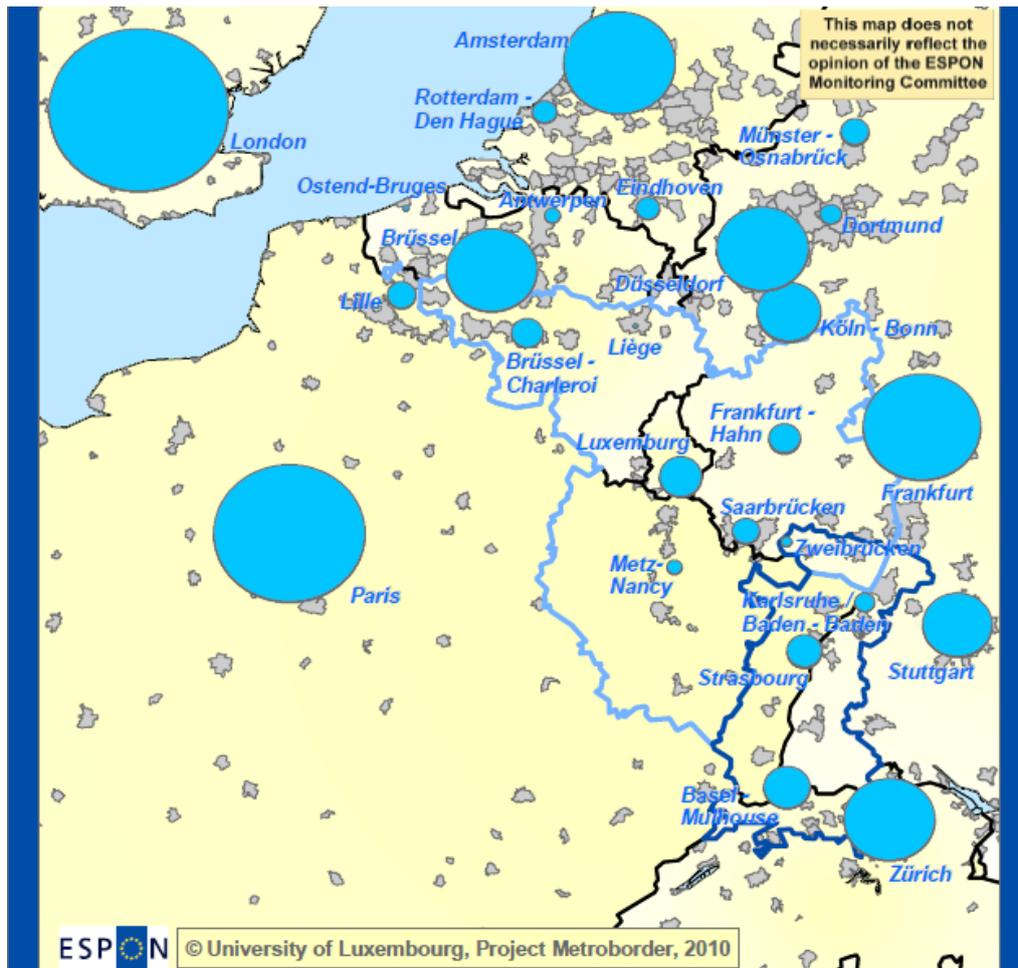
Accessibility is an important indicator for metropolitan quality as it addresses the 'gateway function' of metropolitan spots. From several ESPON projects we already know the European patterns of accessibility (e.g. Territorial Observations No. 2). Whereas the multimodal mappings are helpful on the European scale, we focus on airports as a meaningful indicator for the connectivity of the local and regional scale in transnational and global flows.

We were able to use the data from the ESPON project FOCI that include all European flight connections for one working day in October 2009 (provided by the FOCI project partner University of Paris-Est). The indicator is not the number of passengers but rather the number of connections (passenger flights). From a customer's perspective, this is the more relevant indicator, as the number of connections is of greater relevance than plane capacities etc. Mapping this indicator gives a surprisingly clear picture (see Map 10).

Firstly, the "shadow" cast by the classic domestic metropolises is very clear, and even more clearly so than in the mappings of the overall metropolitan indicator. Especially when considering the institutional perimeter, large airports like Frankfurt, Zurich and Brussels are located in close proximity and easily be used by the inhabitants of the case study regions. Secondly, the diversity of smaller airports within both regions is impressive.

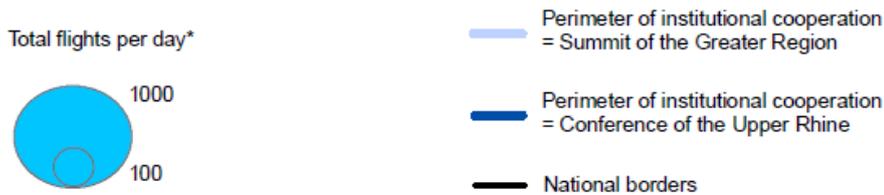
The existence of many smaller airports is not necessarily to be seen as inefficient – the clients have a choice of 'gateways' relatively near to their homes. The necessity to take connection flights can even be compensated by efficient airports where check-in/-out procedures do not take that much time as at major airports.

The challenges presented by this situation are obvious. Airports are major infrastructure investments – in most cases involving public money – and at the same time, the market is sensitive to economic crises, political uncertainties, taxation and environmental policy instruments. Against this backdrop, the question is that of how competition can be kept to a reasonable level: from the perspective of the case study regions, competition both between the smaller regions within their perimeters and with the larger hubs beyond their perimeter is of importance. Developing complementarities with regard to destinations, services (business, tourist, freight) etc. can be an important element within this strategy (cp. these aspects from the governance side, in chapter 4.6).




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0 25 50 100 150 Km  
 Level: NUTS 5  
 Source: Université Paris-Est, LVMT, Inrets 2009, FOCI, 2010  
 Origin of Data: Université Paris-Est, LVMT, Inrets 2009, FOCI, 2010  
 © EuroGeographics Association for administrative boundaries



\* London = Sum of airports Heathrow, Gatwick, City, Luton and Stansted  
 Paris = Sum of airports Charles de Gaulle, Orly, Beauvais-Tillé  
 Weekday October 2009

**Map 10** Number of flights per day and airport for the two case study regions and their surrounding areas

### 3.7 Summary

The METROBORDER project relies on the overall understanding of metropolises that these are nodes of a globalising world. Economic and political decision making capacity, innovation, and accessibility are crucial characteristics of metropolitan places.

Cross-border regions – at first glance - seem to be the counterpart of metropolitan regions as they are characterised by nation state boundaries. It is

true that the case study regions are located 'in the shadow' of well-established and internationally-renowned metropolitan regions such as the Randstad, Rhine-Ruhr, Frankfurt-Rhine-Main, Zurich, Milan and Paris ("Pentagon"). However, if we consider the polycentric organisation of cross-border metropolises, we can state a very considerable metropolitan quality for many of the cross-border metropolises.

Considering demographic weight or connectivity indicates a certain vulnerability in terms of degree of metropolitan quality: 'critical mass' is a challenge for many of the CBPMRs. Cooperating in a cross-border manner is an essential means of securing and developing their position – in particular at a time when domestic metropolitan regions are strongly deepening their cooperation within domestic frameworks.

High metropolitan quality is rarely attached to more than one FUA of the polycentric setting. This, however, does not put into question the idea of the polycentric region: the overall functioning depends to a large extent on intraregional dependencies and integration. However, the idea of polycentricity in strongly metropolitan contexts must be differentiated: the centres of CBPMR systems should not be regarded as somehow 'similar' partners, but rather as complementary components of a complex system.

One should mention a recent study from BBSR (2010) on metropolitan functions on a European scale that have also been deepened with regard to cross-border questions. Though the methodology is completely different, the overall findings are similar – both with regard to the location of CBPMRs as well with regard to their metropolitan position.

Ongoing political debates on a *smart, sustainable and inclusive growth* (cp. Europe 2020 strategy) have to take into account that the classical notion of metropolitan region might not be complete. It still is true that metropolitan regions are important growth poles and driving forces for territorial development in Europe. However, metropolitan regions cannot only be found within domestic contexts but also along national borders, comprising (sub-) centres on either side.

## **4 Functional integration within CBPMRs**

### **4.1 On the concept of cross-border integration**

The term "spatial integration" has been given multiple definitions, particularly in the context of studies on European integration (Anderson & Wever 2003, Brenner 2004, Dabinett & Richardson 2005, Hansen & Serin 2007). The spatial integration process is fundamentally based on the existence of interactions between areas separated by a boundary. These interactions are not limited to the economic sphere, but concern also other flows or transactions (cultural,

political relations, migration, etc.). The existence of interactions does not necessarily mean that the territories converge. Some relationships can be highly asymmetric and be fed by strong differentials. It is therefore necessary to complete the analysis by considering the possible convergence of the territories. Cross-border relations are not necessarily based on shared motivations. The need or the desire of actors to cooperate is therefore an essential aspect of the integration process. As a consequence, in this study we define cross-border integration as a process of the development of increasing interactions between different types of actors located on both sides of the border and we pay particular attention to what extent this comes along with convergence. This definition allows us to consider the two main dimensions of integration: firstly, cross-border integration refers to the existence of *interactions* between territories and is based on flow analysis and barrier effects; secondly, cross-border integration also refers to the *convergence* of spatial characteristics and is based on analysis of homogeneity and discontinuities. Interactions and convergence can be studied in terms of different domains, including demography, economy, transport and policy. With regard to interactions, the project studied the intensity of cross-border commuting, the frequency of cross-border public transportation lines, as well as the structure of cross-border cooperation. With regard to convergence, the analysis is based on average annual demographic growth, the evolution of the residents' citizenship (i.e. nationality), and the development of regional gross domestic product (GDP; cp. Table 1).

Domains	Interactions	Convergence
Demography	Residential mobility flows	Population structure (e.g. age, sex, fertility and mortality rate) → Residents' citizenship
Economy	Flows of goods, capital, services, labor → Cross-border commuters	Level of economic development, structures and business activities → Regional GDP
Transports	Flows of people, traffic and transit → Frequency and average speed of cross-border transportation lines	Interconnection of transport networks

**Table 1** Potential indicators for assessing of functional cross-border integration and marked with → those indicators used in METROBORDER

In the following sections, the results from the commuting analyses and the overall synthesis of the interaction indicators are presented and illustrated. For more details, in particular with regard to the other indicators, see appendix, chapter 9. Institutional integration will be addressed in chapter 4.6.

## 4.2 Cross-border commuting

### 4.2.1 European overview

Commuting data constitutes the best data set available which considers cross-border flows and allows the comparison of the different aspects of the border regions (including direction, size and the temporal development). Moreover, time series and trends can be elaborated for these data. Fig. 3 shows the European context of cross-border commuting.

The different CBPMRs show very different commuting intensities, depending on the size, average annual growth and distribution by country of origin considered. With more than 127,000 cross-border workers in 2006, the Luxembourg metropolitan area is undoubtedly the border area where this phenomenon is the most developed, followed at some distance by Basel (49,000), Geneva (47,500), Nice-Monaco-Sanremo (34,000) and Lille (27,500). Saarbrücken (21,500), Aachen-Liège-Maastricht (17,500) and Copenhagen-Malmö (13,500) have a lower number of cross-border workers, while Strasbourg (6,000) and Vienna-Bratislava (1,000) are, in numerical terms, much less affected by the phenomenon. No comparable information is available on Katowice-Ostrava.

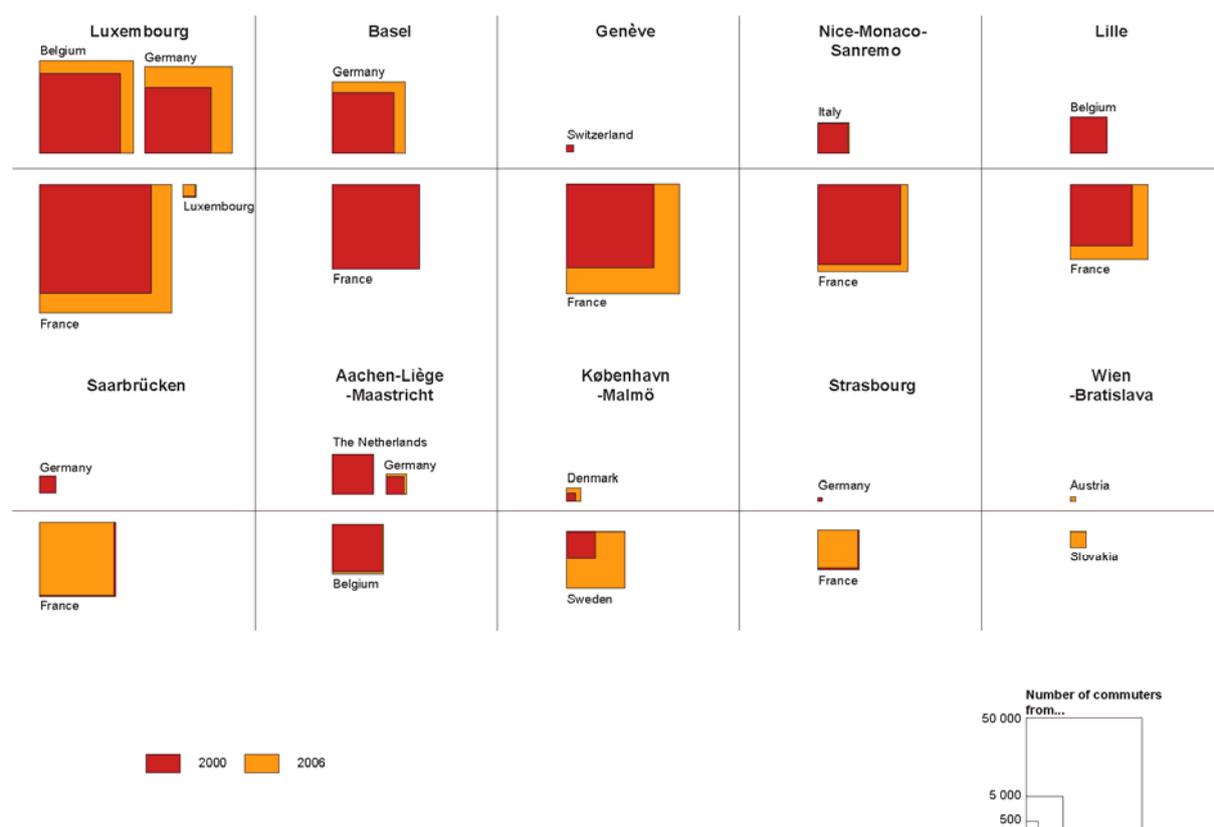
Most of the cross-border metropolitan areas examined in this study experienced positive annual growth in cross-border employees between 2000 and 2006, with the exception of Saarbrücken (-0.8%) and Strasbourg (-1.2%). The highest average annual growth can be observed in Copenhagen-Malmö (+26.5%), which can be explained by the opening of the Öresund Bridge in 2000. In Geneva (+9.0%), Luxembourg (+6.4%) and Lille (+5.9%), the number of cross-border workers is also growing rapidly and is at least twice as high as in the other metropolitan areas.

In most cases, the distribution of cross-border workers by country of origin is extremely asymmetric. This is particularly true for the metropolitan areas of Luxembourg, Basel, Geneva, Nice, Saarbrücken, Copenhagen-Malmö and Strasbourg, where over 90% of the flows are moving in one direction. Two exceptions should be noted: in Lille and Aachen-Liège-Maastricht, the distribution between countries is more balanced.

The Grand Duchy of Luxembourg (127,533) is the most important destination for daily cross-border commuters, coming ahead of Germany (86,334). The European Union (2009) states that around 664,000 cross-border workers were identified in the EU15/EFTA and 114,000 in the EU10+2, which means a total of

778,500 cross-border workers in the EU27/EFTA (2006-2007). Our results suggest that at least 345,000 of these (44%) are located in one of the 10 regions examined.

Interestingly, these results suggest that the presence of a knowledge-intensive economy driven by an international financial centre (Luxembourg, Geneva, Monaco) and/or high-tech activities (Basel) is a crucial factor explaining the intensity of cross-border employment in Europe.

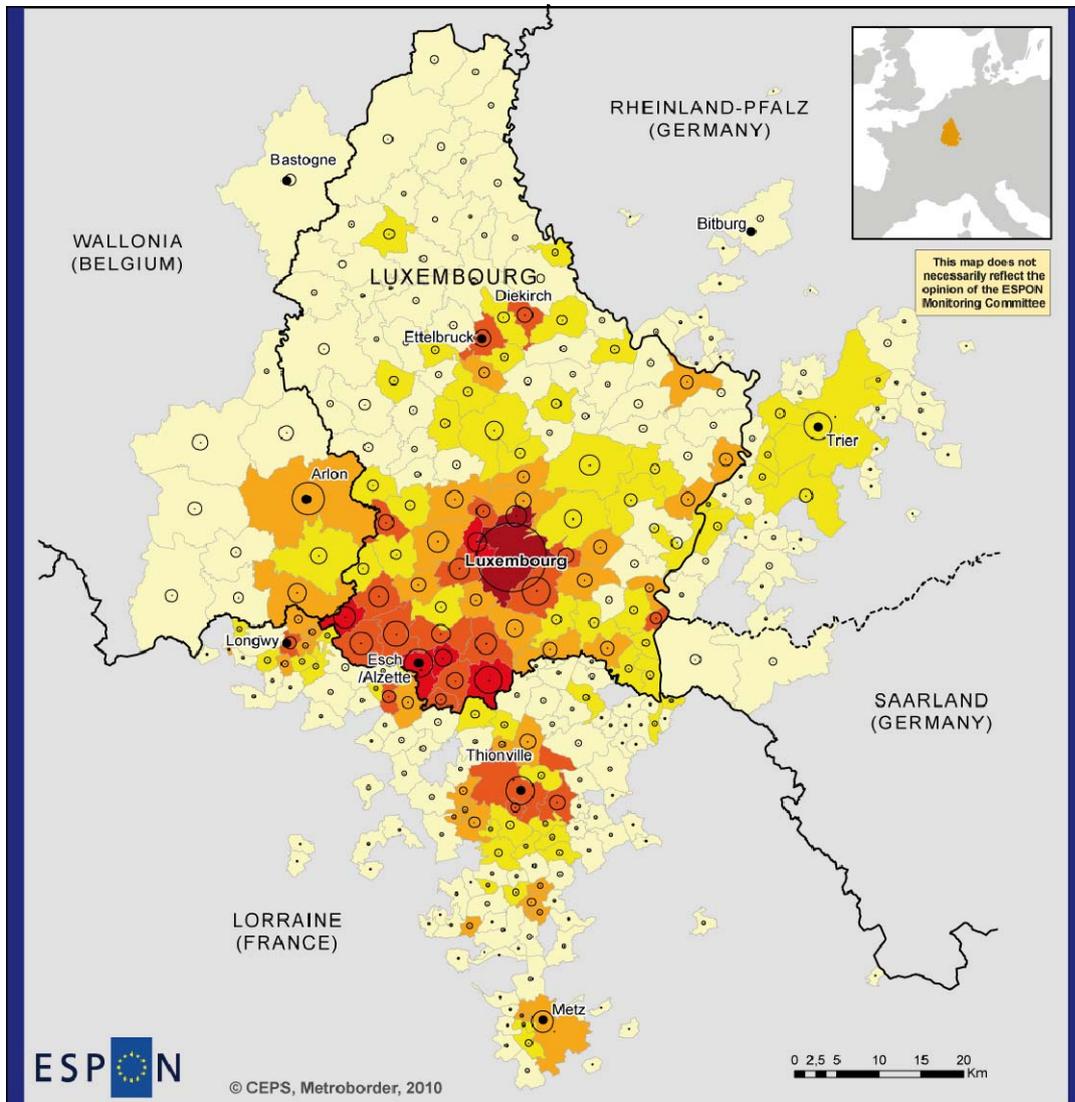


**Fig. 3** Cross-border commuters in metropolitan areas, 2000 and 2006 (sources and spatial units: see appendix, chapter 9)

#### 4.2.2 'Metropolitan commuting' in the Greater Region

When considering cross-border commuting in cross-border metropolitan regions, the question is to what extent this commuting can be attributed to the metropolitan dimension. In most regions, this question cannot be addressed due to limited data availability. For the Luxembourg area, however, the available data allow this question to be addressed to at least a certain extent (cp. Map 11). The limitations of data availability for the Luxembourgish side of the border result in a presentation that cannot consider the complete multilateral flows. Considerable commuter flows also exist between the Belgium, French and German parts of the Greater Region, even if the flows are not that large as towards the Luxembourgish parts (for details see annex, chapter 10.1).

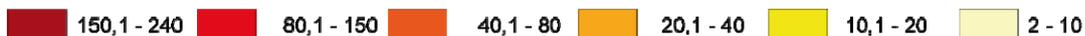
High-technology and knowledge-intensive jobs represent a growing proportion of total employment within Luxembourg, rising from 29.2% in 1994 to 36.2% in 2008. 82.5% of this employment is located with the Luxembourg Urban Area.



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Local level: NUTS 5  
Source: Metroborder, 2010  
Origin of data: Metroborder, 2010  
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**High-Tech and KIS employment density**



**Number of persons working in the Luxembourg Urban Area**



**Map 11** Place of residence of high-tech and KIS workers employed in Luxembourg and number of persons working in the Luxembourg MUA, 2005

High-tech and KIS workers live mainly in the Luxembourg urban centres and suburban municipalities and in peripheral urban centres located in neighbouring France (Thionville 2,079, Metz 1,199), Belgium (Arlon 2,654) and Germany (Trier 1,917). Despite its industrial past, the southern region of Luxembourg is a major residential area for those categories of workers (13,000), coming after the City of Luxembourg (19,800), demonstrating a form of functional interdependence between the economic centre of the metropolis and its urbanised periphery.

An significant border effect can be identified between municipalities in southern Luxembourg where high-tech and KIS employment density is high and in many French municipalities located close to the border in North Lorraine. No such border effect can be observed elsewhere in the metropolitan area: a remarkable continuity can be observed between Luxembourg City and the hinterland of Arlon, and between the capital of Luxembourg and Trier.

Accessibility by road, the preference for suburban housing, the cost of housing and increased cross-border work has lead to an extension of the Luxembourg cross-border metropolitan residential area. The latter – including medium-sized (e.g. Thionville, Arlon) and larger cities (e.g. Metz, Trier) in the neighbouring countries – gives this cross-border metropolitan region a clearly polycentric character from a residential point of view. This is undoubtedly the case at the intraregional level (i.e. Luxembourg's FUA). Further research on potential overlapping with FUAs of neighbouring urban centres may provide evidence regarding the interregional level of metropolitan polycentricity.

#### **4.2.3 Cross-border vs. domestic commuting in the Upper Rhine**

The data situation concerning commuting in the Upper Rhine region differs from that for the Greater Region: no parallel analysis of employment in the field of knowledge intensive services can be carried out. However, we can much better localise the (cross-border and domestic) commuting flows at a municipal level. Visualising the data flows for the Upper Rhine gives an interesting picture (Map 12): border effects can be clearly seen between France and Germany, despite the linkages between Strasbourg and Kehl. In the case of Basel, no border effects are seen. The larger differentials in terms of attractive job offers overcome geographic, cultural, political and other differences.

However, the overall picture indicates that commuting is not a predominantly cross-border characteristic: commuting is primarily a domestic phenomenon that is being complemented by cross-border commuting. This can be seen as an indicator that further cross-border integration can have very positive effects in terms of dynamic labour markets.



for later years. However, comparing the overall data for 1999/2001 and 2006/2008, the general picture is quite stable (cp. also Fig. 3). Commuting towards Basel is slightly increasing from the German side and stagnating from the French side. Commuting from France towards Germany is stagnating, too. However, some sub-areas show increasing levels, especially the Mulhouse-Basel axis and that along the Rhine valley on the German side.

### 4.3 Synthesizing functional integration indicators

The cross-border commuting discussed above is just one indicator that has been analysed in order to obtain a better picture of the functional integration within CBPMRs. Functional integration must be considered in the context of territorial cohesion. Already the planning policy advocated in the ESDP, but also the Territorial Agenda, the Lisbon Treaty, or the Europe 2020 strategy aim to reduce regional imbalances. Territorial cohesion is not only relevant to the current debate at the European level but also to politics within the respective regions: the challenge of equivalent living conditions, territorial balance, and joint prosperity is seen on all sides of the border. Within the METROBORDER project, these questions have been approached via the dimensions of 'interactions' and 'convergence'. The indicators of cross-border commuting, public transport, regional GDP and residents' citizenship have been calculated, adding a comparative perspective on a European scale for the core spaces within the perimeters of institutional cooperation (see Fig. 4).

Cross-border metropolitan areas	Interactions		Convergence	
	Cross-border commuters	Cross-border public transport	Similarity of GDP per capita	Foreign citizenship of residents
Luxembourg	5	5	1	5
Saarbrücken	3	3	5	2
Basel	4	4	2	3
Strasbourg	1	1	5	1
Geneva	4	4	2	4
Aachen-Liege-Maastricht	2	2	4	5
Lille	3	1	5	3
Nice-Monaco-San Remo	3	2	2	3
Copenhagen-Malmö	2	4	4	2
Vienna-Bratislava	1	5	3	1
Katowice-Ostrava	No Data	1	5	No Data

1 = very weak, 2 = weak, 3 = moderate, 4 = strong, 5 = very strong.

**Fig. 4** Synthesis indicator for cross-border interactions and convergence (source: CEPS/Instead; for details see Annex 9)

The European picture shows a variety of patterns. The interpretation of regional GDP on this scale is – due to the data situation – a sensitive issue. However, a certain trend can be observed of a high difference in regional GDP correlating with strong functional integration. Economically attractive places are the driving forces of cross-border interactions. At the same time, considerable must be borne in mind that GDP per *inhabitant* is strongly influenced by the high number of cross-border *commuters*.

Given that one of the objective to reduce regional imbalances, cross-border commuting should not be the only indicator to illustrate the level of the maturity of the cross-border integration, since its development can be based on the existence of differentials.

The indicator of public transport infrastructure also appears worthy of consideration. It shows whether the planning authorities are aiming to facilitate and support interaction arising from economic opportunities or not. Indeed, political decisions are necessary to either create new public transport lines or support private transport companies.

Finally, the indicator of citizenship illustrates to what extent residents have moved across national borders from the neighbouring countries. This indicates to what extent the border still plays the role of a barrier to the individual decision to move abroad. The reasons for such a choice vary – the existence of language barriers, but also the overall quality of life, tax issues in relation to housing supply etc. obviously play an important role.

It can be observed that the Greater Region is in a remarkable position. In comparison with the other CBPMRs in Europe, an extraordinarily high intensity of interactions can be seen. The second core, Saarbrücken, is clearly different, but remains an example of interaction and convergence. However, clear differences in terms of GDP can be found in all cases where cross-border commuting is a strong phenomenon.

The Upper Rhine region shows, as was the case with commuting intensity, different values for the Basel and the Strasbourg areas: again, the contrast between GDP differences and interactions is striking.

The indicators presented here are of course not exhaustive, but they do serve to illustrate the spatial cross-border integration process.

In general terms, this can be seen as providing evidence for the argument that differences are the driving force of cross-border interactions, as they can be exploited by actors in complementary ways. The question of who profits most and who does not profit remains a sensitive issue.

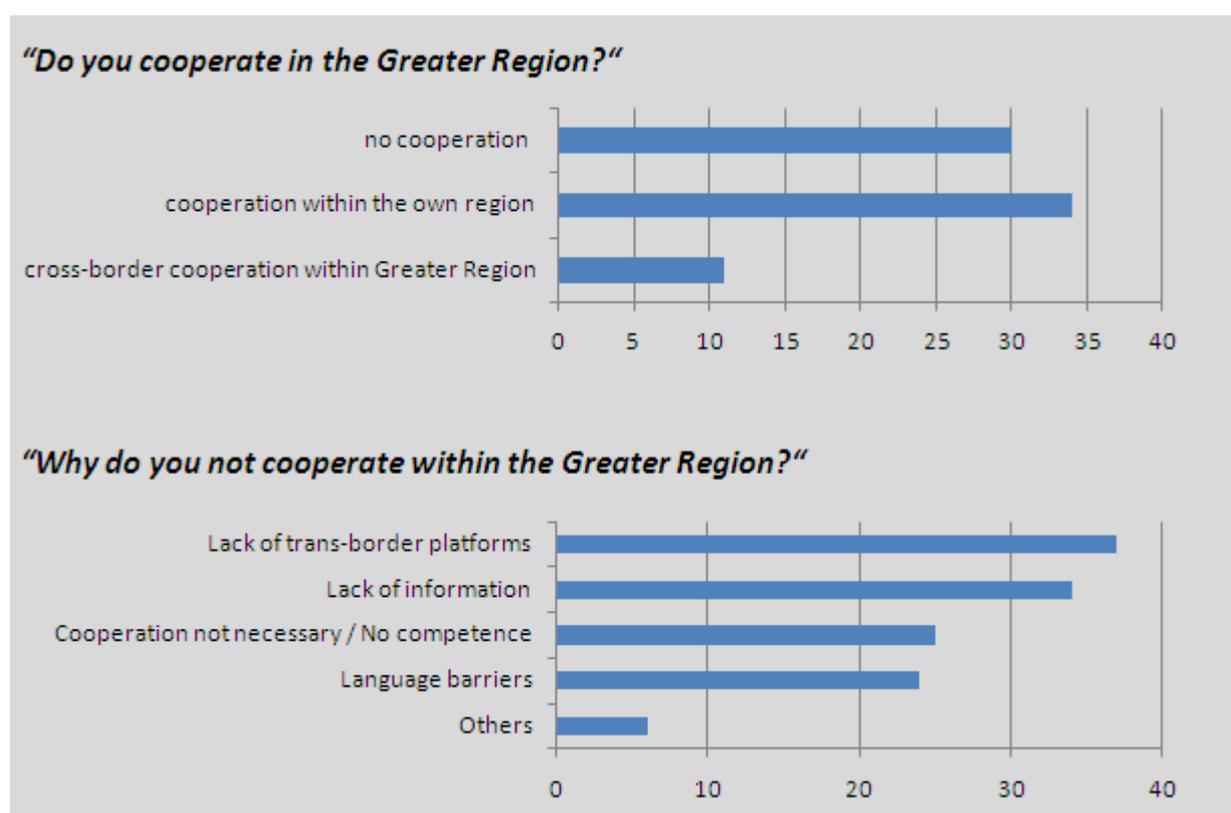
The following two chapters explore economic and social aspects of cross-border integration that are not part of the above shown integrated analysis of all CBPMRs. Both 'zooming-in' arguments will show the potential of cross-border cooperation when being increased.

#### 4.4 Cross-border integration of the economy?

##### 4.4.1 The example of the automotive industry in the Greater Region

Economic development is a driving force of regional development and is, at the same time, high on the political agenda; this is true for domestic as for cross-border regions to the same extent: 'Co-opetition' and 'win-win by added value' are just two key phrases from the political debate. It is not easy to study economic cross-border flows on a regional level due to a certain lack of data. The METROBORDER project has, against this background, provided details of some aspects of the automotive industry in the Greater Region by conducting a postal survey was addressed to 650 enterprises – most of them small- or medium-sized – in order to explore the cross-border dimension of this sector on the regional scale. This survey has been complemented by a series of expert interviews.

The automotive industry is present and relatively important in all parts of the Greater Region, when considering the diverse patterns of the whole value chain, including R&D, production, marketing etc. (see Appendix, chapter 11).



**Fig. 5** Challenges for inter-regional cross-border cooperation in the Greater Region (postal survey 2009/10, University of the Saarland; n=75)

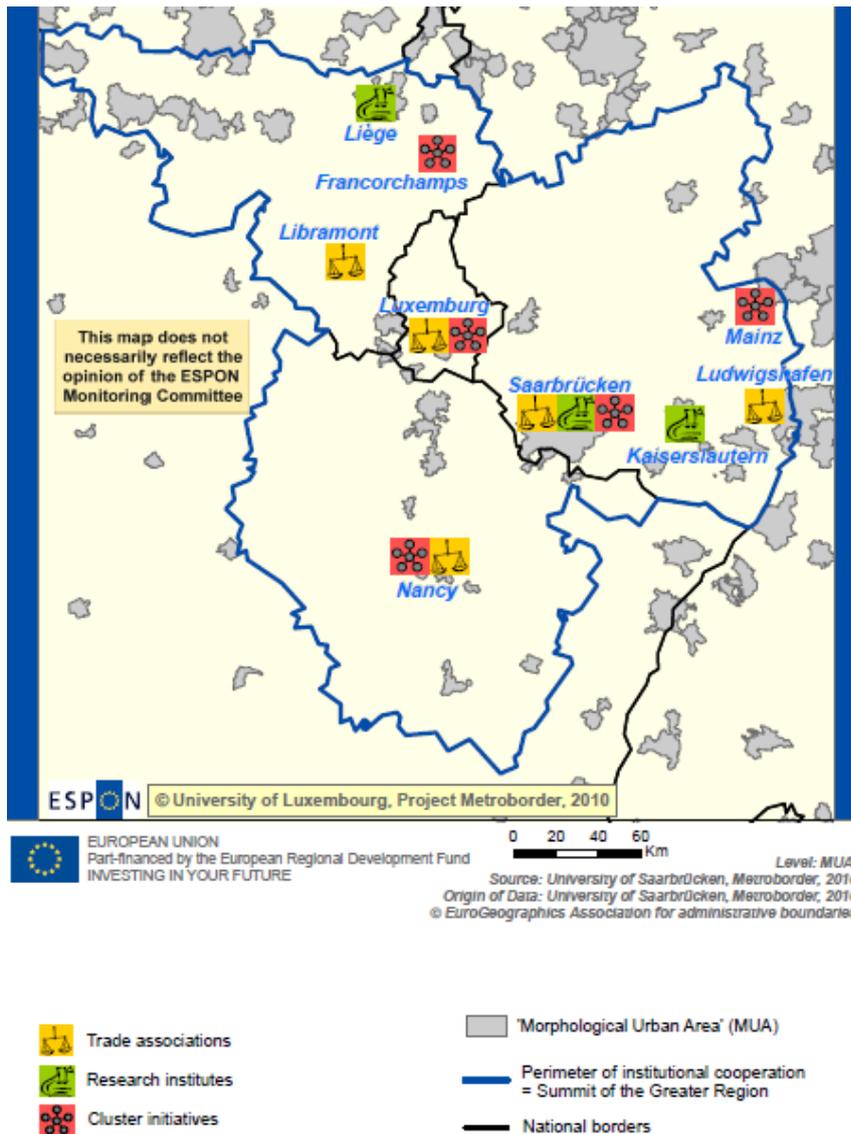
Although these basic characteristics indicate similarities and homogeneity between the parts of the Greater Region and seem to form a solid basis for an integrated economy, the survey results show that the degree of cross-border activity is very low. Less than 15% of the enterprises (11 out of 75 responding) cooperate with partners located in a foreign part of the Greater Region (see Fig. 5). At the same time, about 45% of the enterprises (34 out of 75) cooperated within their own region. Consequently, the automotive industry of the Greater Region has to be considered more as a conglomerate of five separate regions than as one integrated 'automotive region'.

There are diverse reasons for this situation: on the one hand, several enterprises – mostly subsidiaries of large, globally-active companies – do not have the ability to develop cooperation at the regional level. Furthermore, many enterprises refer to language and mental barriers: they either lack language skills to develop relations with foreign partners, or have protectionist attitudes. In addition, prejudice about the performance of foreign enterprises can be observed.

There are many instruments which could potentially be used to overcome the barriers; one of these is the creation of a common platform. More than 50% of the enterprises state that a lack of integrated, cross-border platforms and networks hinders greater cooperation within the Greater Region. Therefore, optimised performance on the part of the cluster initiatives will probably increase the degree of cross-border cooperation within the Greater Region.

Indeed, five cluster initiatives mainly focus on their respective region by organising meetings for the enterprises, providing information and databases, and installing cooperation among enterprises (Map 13). The entire Greater Region, however, has only been of secondary interest for the cluster initiatives: from time to time, they organize bilateral meetings (for example for enterprises from Lorraine and Saarland), and some of the initiatives provide internet links on their website to other initiatives. Independent from a sector focus, the existence of the "Conseil Interrégional des Chambres des Métiers Saar-Lor-Lux" (CICM) should be mentioned. However, more intensive cooperation for the automotive sector is largely absent.

This finding fits a recent study from the Upper Rhine Region that studies the existing networks and initiatives that aim to promote economic activity and innovation in the three domestic contexts (ADIRA 2010): The study observes a co-existence on the different sides of the border. Again, the potential of enhanced cross-border cooperation appears to be enormous.



**Map 13** Mapping of automotive institutions – potential for a common platform?

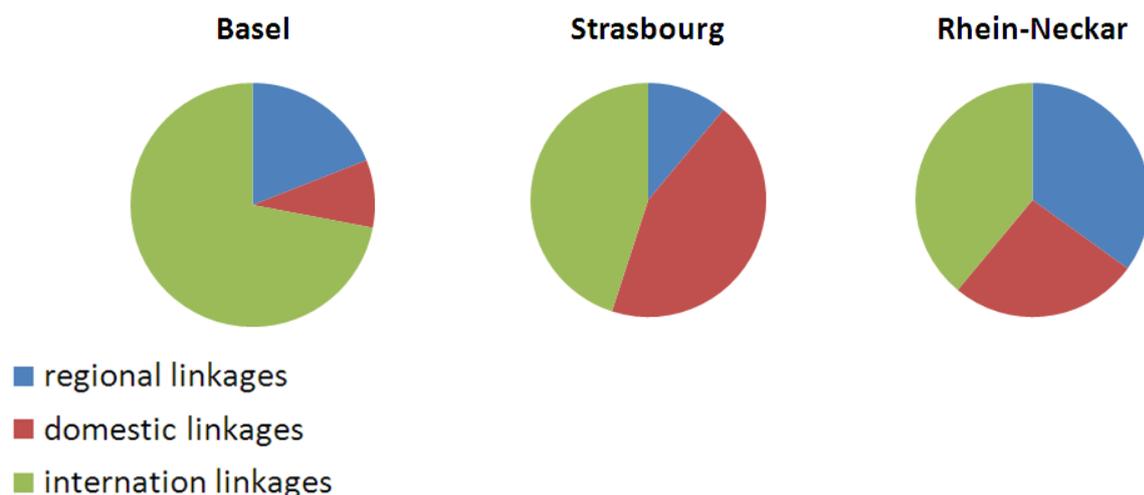
#### 4.4.2 Life sciences in the Upper Rhine

The spatial organisation of the Upper Rhine differs from the above-mentioned case of the automotive industry: it is much more concentrated in certain locations as we know from a series of recent studies (in particular Biovalley Basel 2010, Plaut Economics & BAK Basel Economics 2007, Metrobasel 2009, Regio Basiliensis 2009, Schneider Sliwa 2008, Swiss Biotech Association 2010, Zeller 2001). The METROBORDER project additionally conducted a series of expert interviews and refers to some additional municipal data.

The Upper Rhine Region developed early (already since the 15. century) as a common economic space and was characterised by strong frontier effects. Especially the tri-national region of Southern Baden, Southern Alsace and Basel constituted for the textile industry in all three countries a common trajectory

which gave (via, first bulk chemicals, then fine chemicals) the basis of today's biotech-clusters Basel. The effects of the border with its different political regulations nearby led to changing cooperation and mutual complementarity. With regard to the today's spatial organisation, three clusters of biotechnology can be observed within the Upper Rhine. Of these, Basel has the strongest international dimension; it comes before even Strasbourg, which also is very much oriented towards the international market. The Rhine-Neckar cluster is only partially contained within the Upper Rhine perimeter and is not located as near to the national borders as the clusters already mentioned; it also differs clearly in that it is much more oriented towards the regional and domestic market (cp. Klöpfer 2009, Fig. 6).

For both cases directly at the border, one can observe clear border effects (Klöpfer 2009). The Basel cluster in particular shows a pattern of new enterprises located in the Swiss part of the metropolitan region. This can be explained in particular by the Swiss regulations favourable to research and economic freedom.



**Fig. 6** Intraregional, national and international interdependencies in the biotechnological sector – source: Klöpfer 2009: 121, modified.

However, these intraregional demarcations do not apply to the labour market, which is open and serves both clusters. Parallel to structural changes to the regional production system from chemistry to biotechnology/life sciences, with its high R&D component, the structure of the workforce and its qualifications has shifted towards highly qualified employees, who are recruited globally. The three biotechnology clusters in the Upper Rhine together achieve the critical mass necessary for the Upper Rhine to gain a global reputation. The enlarged labour market reinforces agglomeration advantages and reduces search costs for enterprises and individuals; in particular, it reduces risks for new immigrants.

On the municipal scale, we find – in the case of Basel – a very clear complementarity that includes an attractive job market the Swiss side and attractive residential areas, leisure landscapes and retail on the French and German sides.

Also in this context, we should mention the most recent study ADIRA (2010) that highlighted the potential to better link domestic initiatives that promote economic activities – the cross-border potential is rarely exploited yet.

#### **4.5 Social aspects: the example of the emergency services (feasibility study)**

Political attention has been paid in the Greater Region as well as in the Upper Rhine Region to accessibility to emergency services. Cross-border arrangements in this field are likely to improve services to residents. In the METROBORDER Interim Report (IR), we underlined the value of a multiscale analysis of the emergency services, in order to consider not only travel from emergency hospitals to the place of injury, but also travel to the specialist hospital – known as primary transport and secondary transport.

##### **A case study on strokes**

A case study is here proposed for a particular disease: cerebrovascular accidents (CVA, or strokes). CVA are a serious public health issue, because the time between the occurrence of the accident and the medical operation in a specialised hospital (a stroke unit) must be less than three hours in order to avoid repercussions – and for example in France, 50% of the CVA are not cured within this three-hour period (Ministère de la Santé et des Sports (France), 2009). It is thus particularly interesting to the hypothesis of transnational care of this disease, in order to show the potential benefits to residents.

As a feasibility study, the aim is to examine the operational interest and a methodology to pave the way for a study in the Greater Region and the Upper Rhine Region (for contextual and methodological details, see Interim Report and annex, chapter 12).

##### **The time-distance matters**

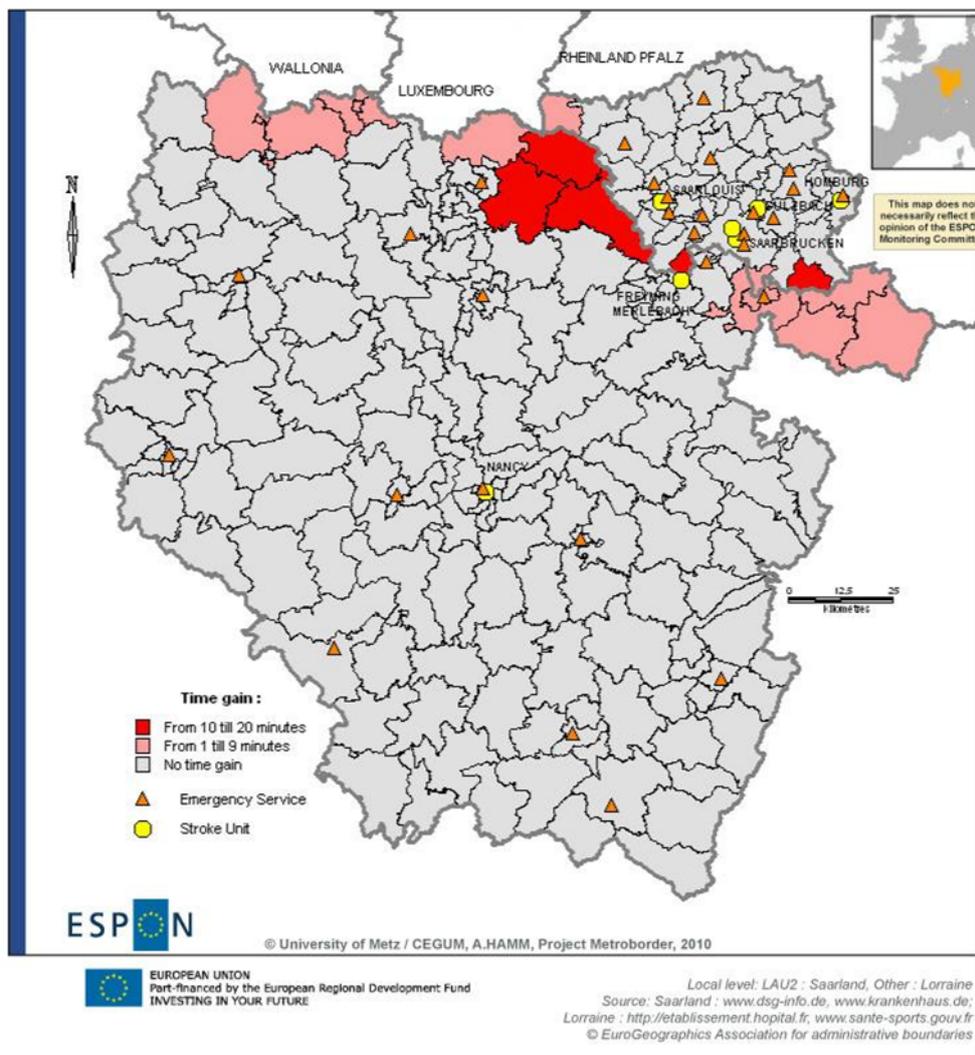
The key issue was to define the time necessary between the attack and the arrival of the patient in the stroke unit, where they can undergo thrombolysis (medical removal of blood clots). This time consists of: calling an emergency service and description of the symptoms; time for an emergency vehicle to arrive; time for the diagnosis; time of transportation to a stroke unit; time for exams (scanner, MRI); then operation. The time for the diagnosis, exams, calls

etc. has been assessed as 90 minutes, so the time for transportation cannot exceed 90 minutes in order to not exceed the vital period of three hours.

A significant amount of work is involved, so in this feasibility study we had to focus the test on only two parts of the Greater Region, Lorraine and Saarland. The following figure shows a case in which LAU1/2 residents experience time gains in a scenario of a transnational care for CVA as compared with domestic care (current situation). In other words, the arriving emergency vehicle is the nearest, whatever the side of the boundary, and the stroke unit to which the patient is driven is also the nearest.

### Significant time gains in the LAU close to the boundary

Although the border area is well-equipped with various medical and emergency facilities, the map shows clear improvements in CVA care, with a maximum improvement of 18 minutes. This time is precious within a vital period as short as three hours.



**Map 14** Significant time gains for the residents under a hypothesis of harmonised cross-border care of strokes

The situation at the margins of Luxembourg and Wallonia cannot be properly analysed as the inhabitants may benefit from the stroke units located in these regions, so the time gain could be larger.

### **Lessons to be learned from the feasibility study**

The study provides a framework for analysing the accessibility to emergency services in a transnational context. First, conceptual elements were defined in the Interim Report – primary and secondary transport; definition of accessibility. Second, several methodologies were also set out in the IR, to meet the various objectives and spatial levels of emergency services action. Third, the benefit to residents is tested for the case of CVA.

Nevertheless, although the benefit of cross-border arrangements is proven with regard to primary transport, it is less obvious for secondary transport – with the exception of diseases for which rapid care is vital, such as CVA. For other diseases, such as severe burn injuries or accidents requiring neurosurgery, time is not as critical once a patient is stabilised; he/she can wait several days before being treated in a specialised hospital. A study of emergency services and CVA would be highly useful in the transnational context of the whole Greater Region and of the Upper Rhine, combining the network of emergency services with the localisation of stroke units, as it would meet a real need of residents.

#### **4.6 The complex picture of functional integration**

Recent sections have shown a mosaic of information on functional integration. It is true that the dynamic is not easy to grasp, given the complexity of processes and the sometimes poor data situation. However, we can state that cross-border integration means both – *interaction* and *convergence*, and these processes are developing differently in the METROBORDER regions. Differentials in economic development appear to be the most prominent driving force of cross-border integration. From the perspective of territorial cohesion, these dynamics can be very positive as border-effects often soften in these processes. At the same time, these processes draw the attention to a fair allocation of the dynamic development and of growing wealth. When addressing this challenge from a political perspective, the question is how to bring the assets of each side of the borders together in a complementary way: which economic sectors and strengths, which labour force qualifications, and which territorial assets can be combined in a smart way in order to enhance wealth and quality of life. The rise of *cross-border polycentric metropolitan regions* has just started a few years ago. The example of the economic sector is striking: in the globalising world and in a Europeanised regional development, the cross-border cooperation on the regional level has so far rarely been exploited.

## 5 Governance of CBPMRs

### 5.1 Addressing Governance

In the previous chapters, the understanding of CBPMRs has been mainly based on functional indicators and perspectives. However, cross-border integration, metropolitan ambitions and polycentric systems cannot be understood without taking into account governance.

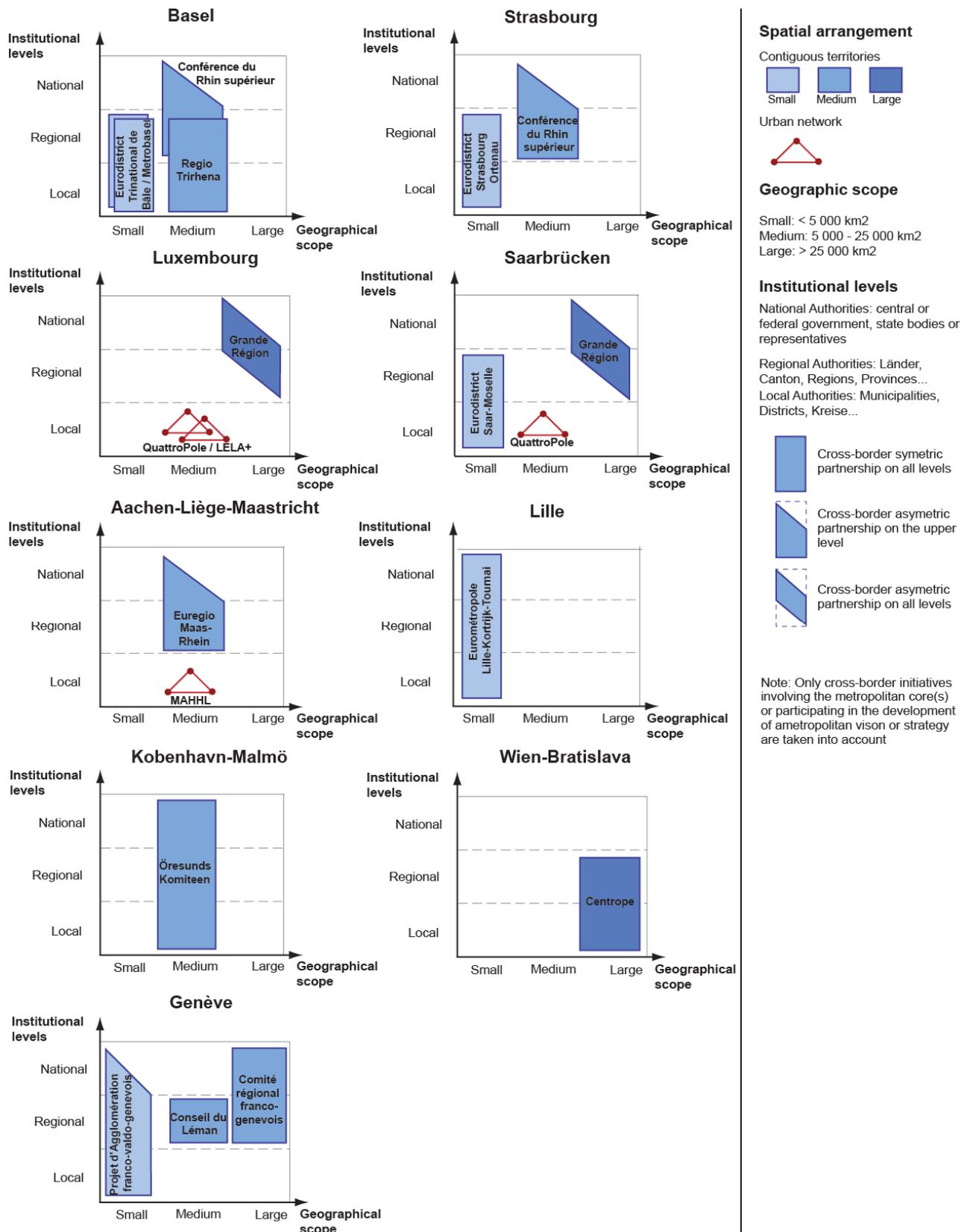
Governance focuses on the institutional aspect, but goes beyond the notion of government. In general terms, governance explores power relations in a multi-level system and can link up with territorial questions (cp. the overview in Benz & Papadopoulos 2006, more specifically Reitel 2006).

Not differently to any governance setting in any regional development setting, efficiency, effectiveness, and the democratic involvement of all key actors including civil society are the challenging aims also in cross-border region (cp. 5<sup>th</sup> Cohesion Report, COM 2010: 243ff.). The frictions between the domestic systems make governance in cross-border regions even more complicated. The METROBORDER project takes a multi-dimensional approach in order to analyse the governance settings of the CBPMRs. Firstly, institutional mapping on different levels and with different tools give a systematic overview (for details see Appendix, chapter 13). Secondly, a comprehensive Delphi study in both case study regions has been conducted in two rounds. Thirdly, expert interviews and workshops have served both analytical purposes and the strategy building process.

### 5.2 Overview at European level

The diversity of governance settings in Europe's CBPMRs – i.e. of the institutional arrangements for the coordination and execution of cross-border policies and projects - is vast. Fig. 7 illustrates this diversity in a simplified overview for those cases where cross-border governance shows a certain degree of metropolitan ambition: the x-axis represents the geographical scale and the y-axis the institutional levels of the public bodies involved (see Appendix, chapter 14).

The analytical distinction between geographical scales and institutional levels seems relevant, as cooperation at local scale does not necessarily involve only local actors and cooperation at a regional scale is not restricted to regional or national authorities. In fact, there is a decoupling of the two parameters, making tangled governance assemblages both (institutionally) multi-level and (geographically) multi-scalar. After having synthesised the institutional cooperation setting in each CBPMR, this analysis seeks to identify common trends and structures.



**Fig. 7** Institutional Mapping of CBPMRs (CEPS/Instead 2010)

In order to ensure comparability on European level, both axes have to simplify highly complex aspects. Firstly, the institutional level refers to the domestic

political hierarchy. Numerous specific details have to be simplified (e.g. French *Préfecture*, absence of regional level in Luxembourg etc.). The notion of symmetric / asymmetric patterns addresses the hierarchic level and must not be misinterpreted as normative. Asymmetric configurations can be optimal if they bring together the required competences, and symmetric configurations can bring together partners that do not possess the same institutional powers. Secondly, the geographic scope refers to the formal perimeters of the institutions involved or the cross-border institution. This does not necessarily mean that the political ambition of the cooperative project is focused on the complete territory.

It is not only the institutional levels and territorial scopes that are very different. The overall result is large diversity of juridical forms, actors involved, and policies addressed (see chapter 14). It is true that, given the diversity of territorial settings, there cannot be a one-size-fits-all solution to CBPMR governance. However, the interviews indicated that exchange between the different regions does not take place in a very systematic way. Political leaders of cross-border cooperation know each other on a personal level and they do exchange; European platforms like the AEBR (Association of European Border Regions) provide the possibility of mutual learning. However, the development of governance strategies is based mostly on regional path dependencies. Focusing more closely on the two case study regions will illustrate some differences and similarities of CBPMR governance.

### **5.3 Territories of cooperation: focusing on the case study regions**

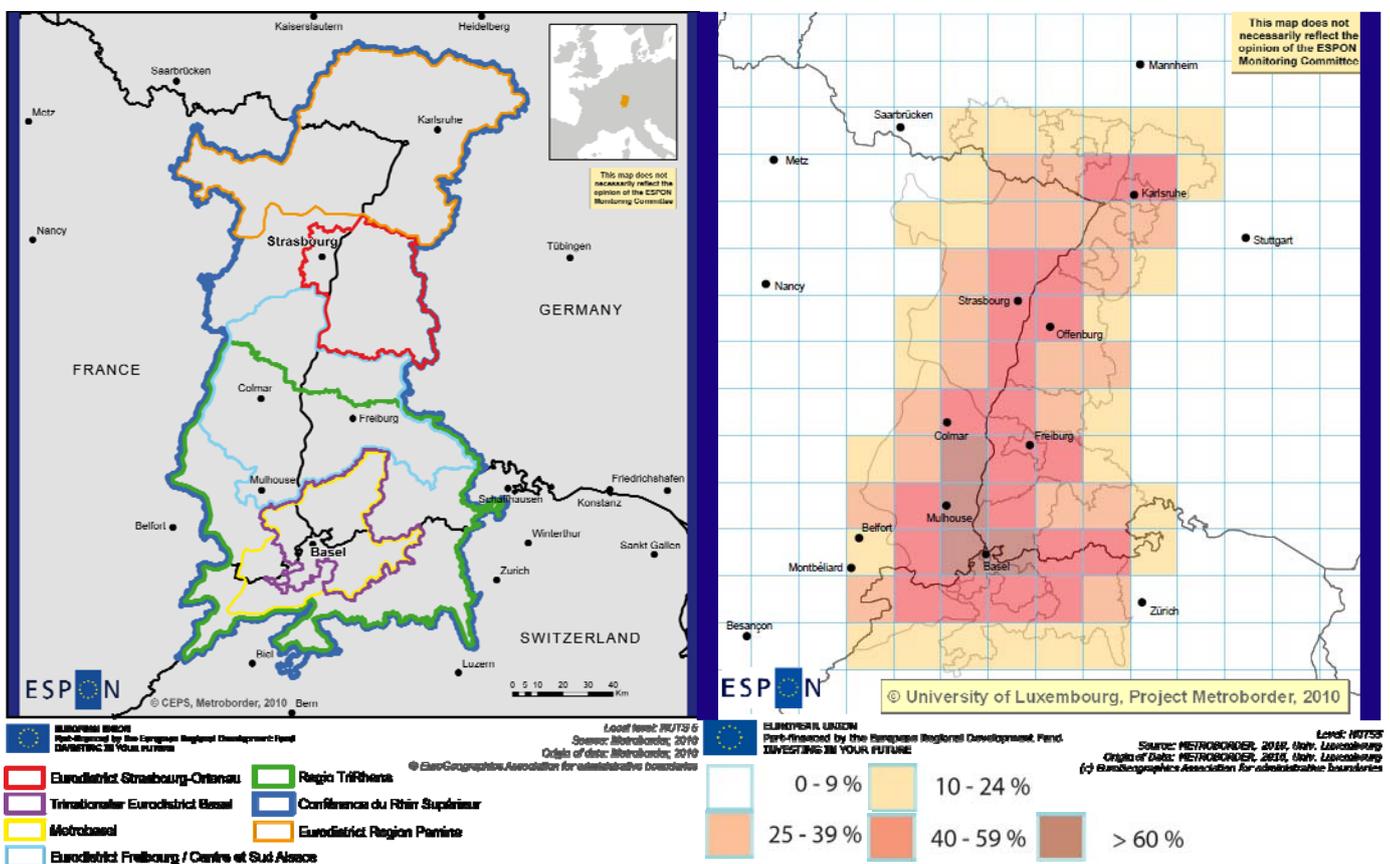
Both case study regions – the Upper Rhine and the Greater Region – have to handle a large territory. The advantage of a large perimeter is that more relevant actors are included and that it is possible to address large-scale issues (e.g. TENs). At the same time, both the diversity of actors and the large size can pose problems. Residents and politicians may question the sense of working over such distances and in such institutions.

Given the diversity of territorial settings at the European level, the question of the cross-border perimeter is a crucial one. We examine this in greater detail by focusing on the two case study regions.

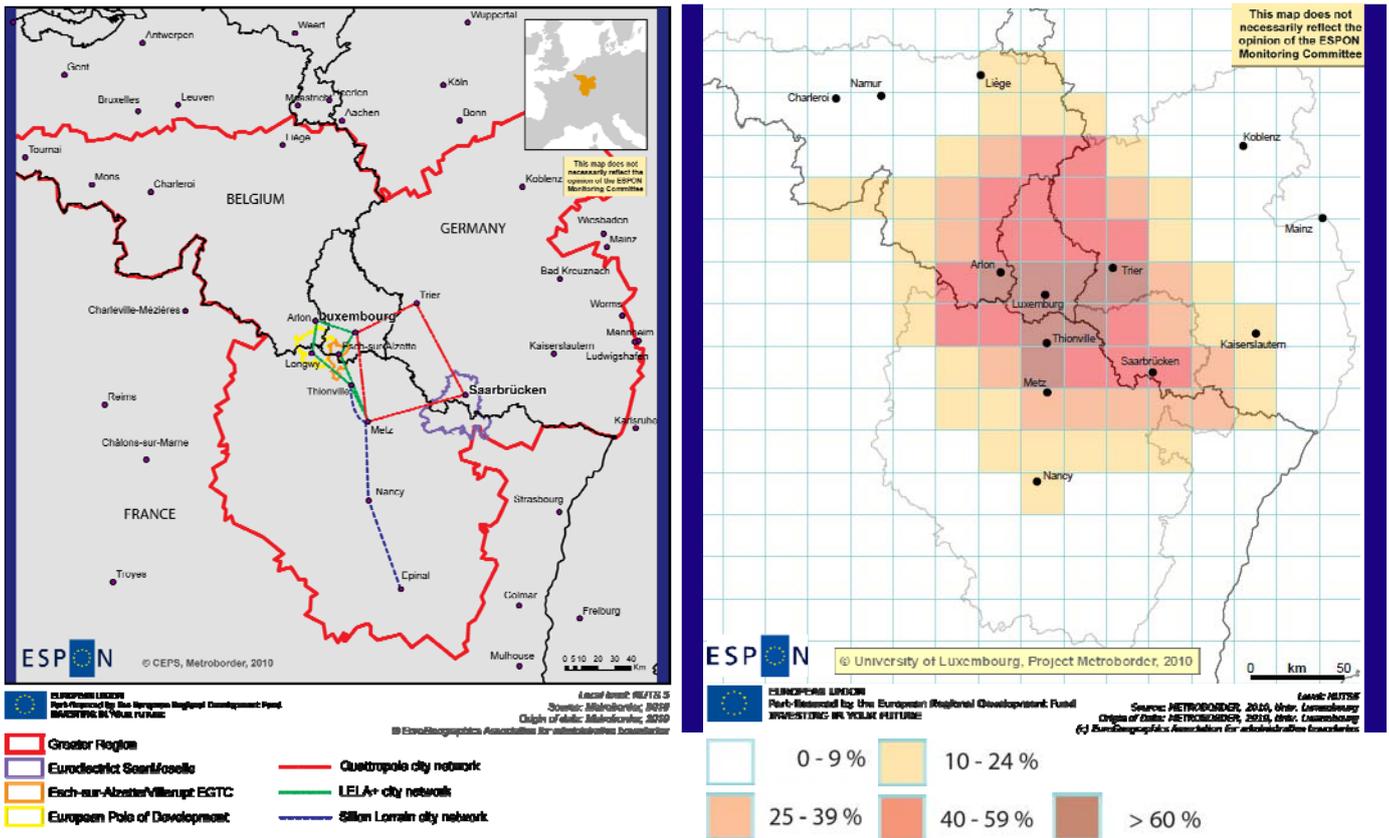
A variety of tools for institutional mappings has been developed in order to explore the governance setting in a more detailed way (see chapter 13). Beyond that, the key methodological tool was a comprehensive Delphi study of approximately 300 experts for both case study regions in order to scrutinise the territorial dimension of the CBPMR governance and to develop political strategic options (see chapter 16).

The Greater Region’s perimeter consists of the ‘pooled’ perimeter of the institutions involved. The Upper Rhine Conference has defined a particular (and smaller) perimeter that excludes parts of the German federal states, although they are full institutional members of the cooperative project (for details see 3-D mappings in Appendix chapter 13).

In the course of the Delphi Study, the experts on both case study regions were asked to identify those areas that they consider to be in particular important for the cross-border cooperation. The results (cp. Map 15-Map 18) show interesting similarities and differences for both regions.



**Map 15** left: cross-border institutions and their perimeter within the Upper Rhine region; **right:** core spaces for increased cross-border cooperation in the Upper Rhine Region

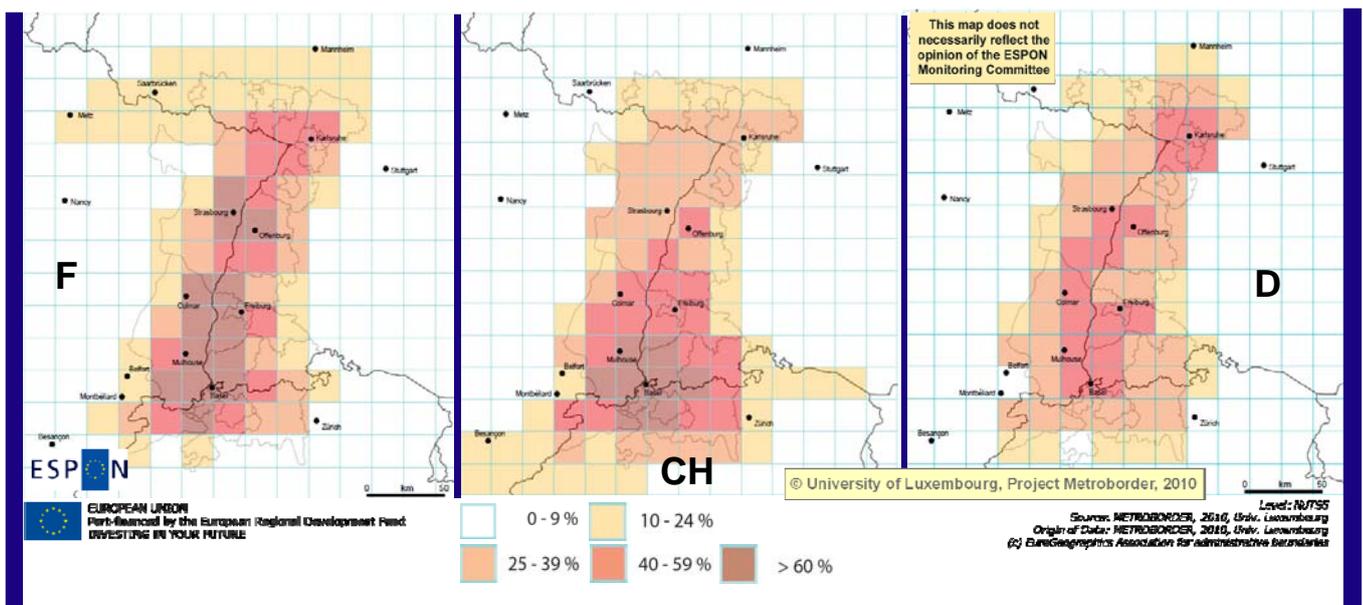


**Map 16** left: cross-border institutions and their perimeter within the Greater Region; right: core spaces for increased cross-border cooperation in the case study region – results from the Delphi study, differentiated for the national backgrounds of the responding experts (legend s. Map 15).

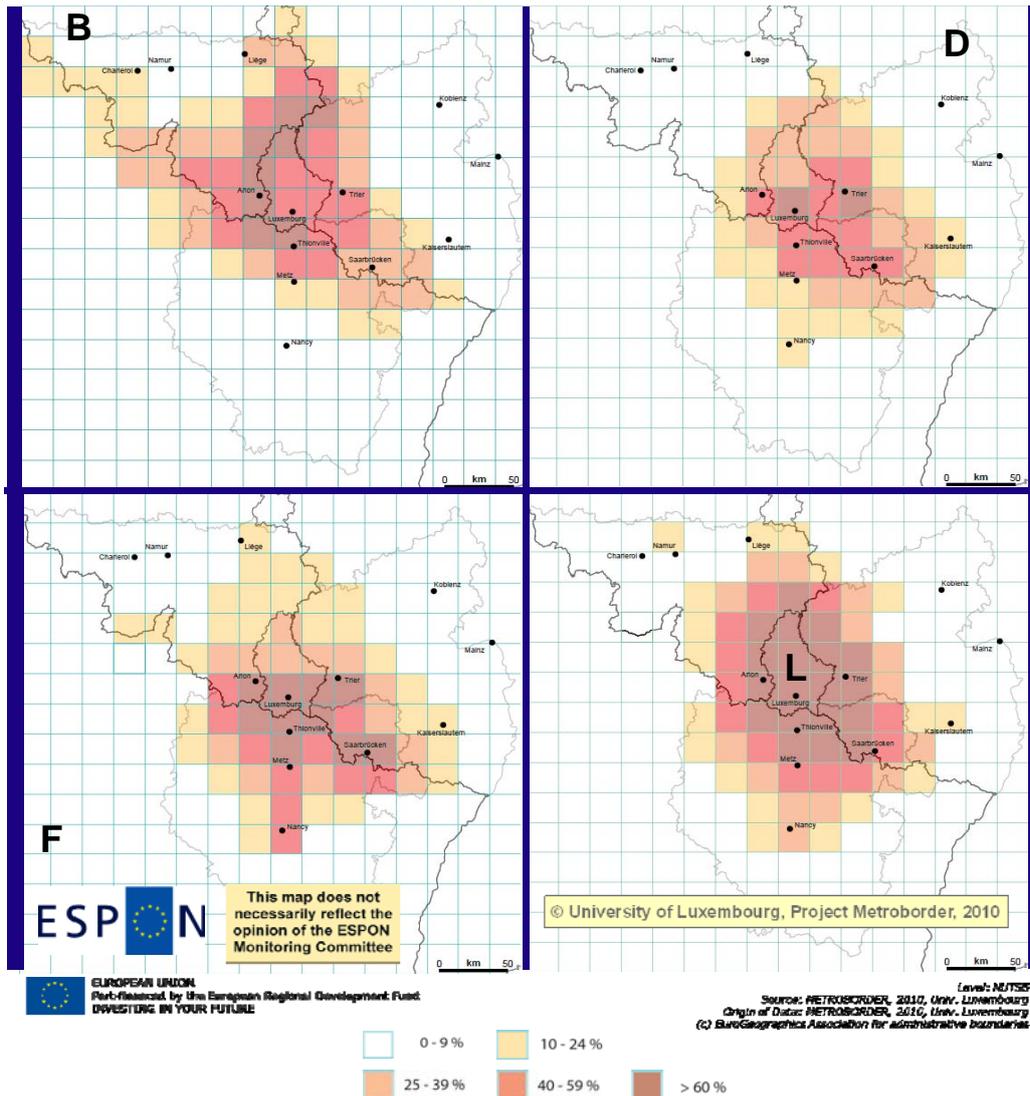
In general, the maps illustrate the differences between institutional territory (“Vertragsraum”) and the territory of political projects (“Mandatsraum”). The clear difference between both regions is that the perimeter of the Upper Rhine is in general seen as relevant to cross-border cooperation. The Greater Region’s experts, in contrast, concentrate much more clearly on a core area that is much smaller than the institutional perimeter. Hence, the Greater Region’s experts seem informally to agree on a core perimeter of cross-border cooperation that has never been institutionalised. This explains why – as another Delphi result shows – the large perimeter of the Greater Region is not considered as a major barrier to intensified cooperation. The Upper Rhine, in contrast, has explicitly defined a perimeter that differs from the pooled territory of the domestic institutions involved in the cooperation. This perimeter is largely confirmed.

The maps of both regions show a certain consensus among the respective experts in terms of core areas. Even if we differentiate by the national background of the experts involved, the answers do not differ greatly. The multilateral context is not predominantly seen as an arena for bringing forward domestic interests. Instead, common concerns are very visible.

Interestingly, the overall pictures show a certain parallel between the experts' vision from the respective countries: This parallel indicates that the respective 'cultures' in planning and politics have a visible impact. In both regions, the French vision is clearly influenced by the spatially-comprehensive, inclusive concept of the *aménagement du territoire* approach. The German approaches are much more discrete, which might be interpreted as a reference to the Christaller school of centrality and a polycentric vision of metropolitan quality. Both Luxembourg and Switzerland – as "bridge" countries in terms of language, culture etc. – see in particular their own "bridge" areas included.



**Map 17** Core spaces for increased cross-border cooperation in the Upper Rhine Region – results from the Delphi study, differentiated for the national backgrounds of the responding experts



**Map 18** Core spaces for increased cross-border cooperation in the Greater Region – results from the Delphi study, differentiated for the national backgrounds of the responding experts

These results do not give easy answers to the complex questions of territoriality. The many challenges include:

- Depending on the policy focus of the cross-border cooperation, different spaces have to be taken into account (so called 'flexible geography')
- Domestic frameworks – e.g. with regard to administrative territorial delimitations – remain important.
- The political mandate, and thus the territoriality, is organised on the basis of a domestic logic. Setting up a transparent and democratic setting is not easy in this context.

Despite these major challenges, the Delphi maps illustrate the political will at the (cross-border) regional level to establish strong cross-border frameworks. The

next chapter addresses the phase of strategy building that aims to make use of this political energy.

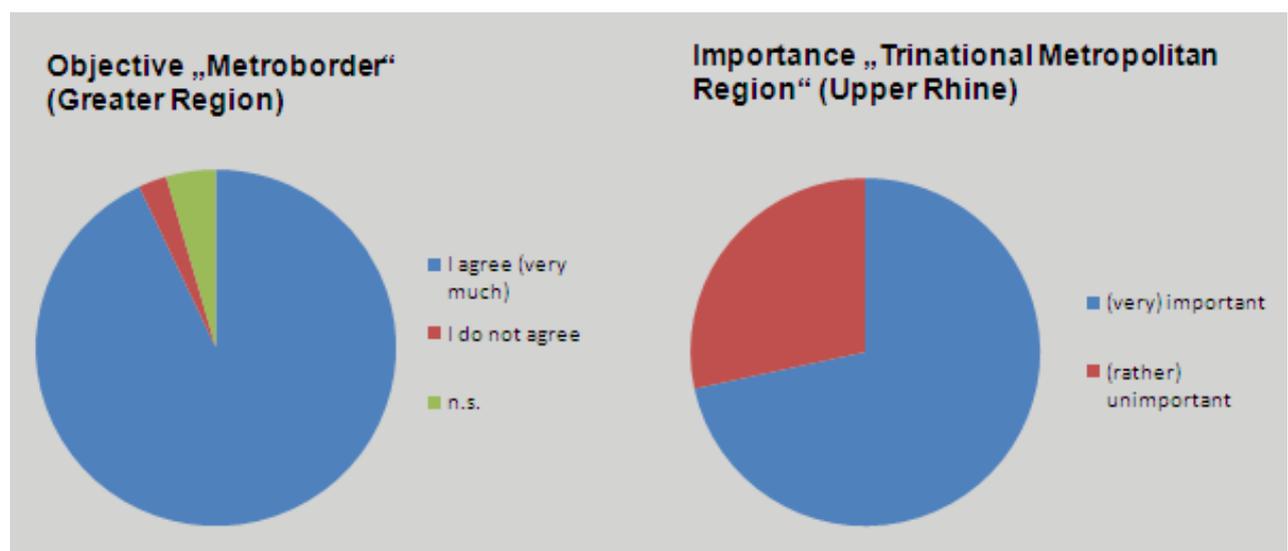
#### 5.4 Towards a CBPMR governance: strategy building

The Delphi study in both regions shows a strong political will to support and establish cross-border metropolitan projects (Fig. 8). The Greater Regions' experts "agree" to a level of over 90% with the political ambitions; within the Upper Rhine, about three quarters of the experts consider the project to be "(rather) important".

This degree of consensus can be regarded as a political window of opportunity that offers the impetus needed to concretise and establish the projects.

In fact, in both regions the political process is making swift progress: On the 6<sup>th</sup> December 2010, a ministerial meeting in the Greater Region has agreed on further elaborating the vision of being a *cross-border polycentric metropolitan region* and aims to further detail this vision in the coming months. Almost at the same time, on the 9<sup>th</sup> December, the *Trinational Metropolitan Region* took an important step of institutionalisation by signing a joint declaration of foundation.

For the next steps, the following insight will might play an important role – as the Delphi study, numerous expert interviews and the reflections within workshops of the strategy building process have clearly shown two axes of action: institutionalisation and concretisation. Institutionalisation does not necessarily mean *more* institutions, but a rather reflection on and adaptation of the existing structures. In the Upper Rhine, a certain institutional 'overload' is noted by the experts; in the Greater Region, a certain under-institutionalisation can be identified. In both regions, however, changes are considered to be due.



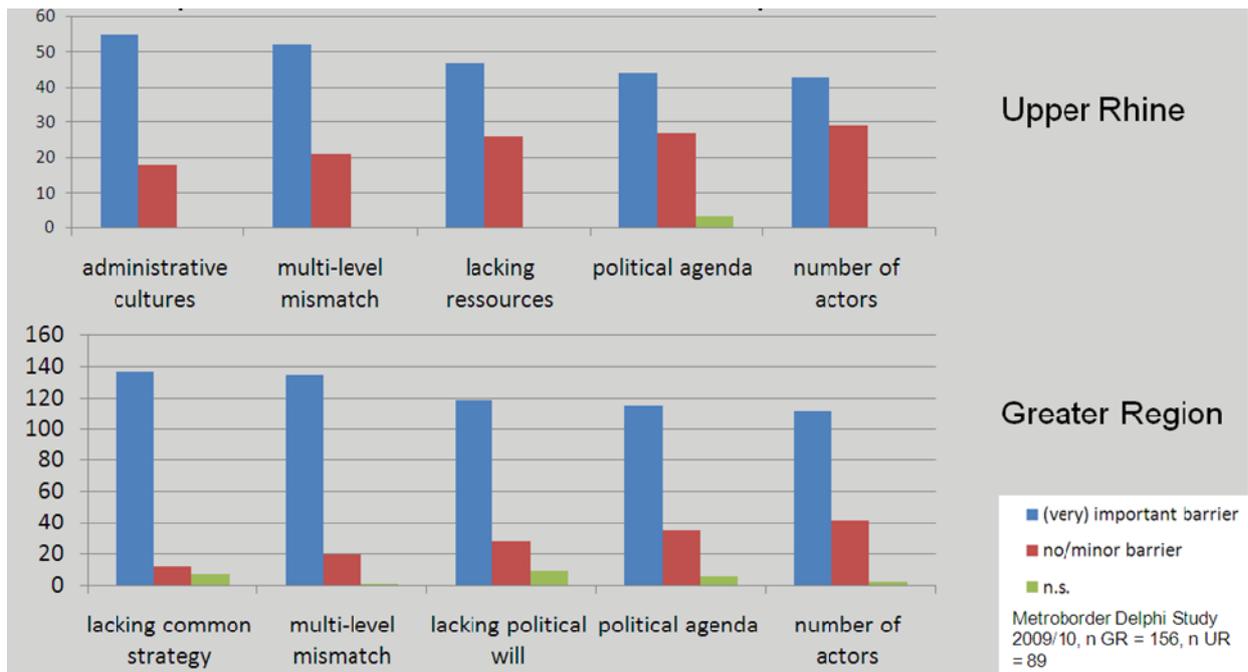
**Fig. 8** Political support of the metropolitan strategy in the Greater Region in the Upper Rhine (source: Delphi Study; n GR= 156, n UR =89)

Concretisation means the *conceptual elaboration* of the ambitions (e.g. what kind of joint lobbying strategy in national capitals?), the improvement of the *actual outcome* of the cooperation (e.g. joint transport improvements, establishment of a 'network-of-the-networks'), and, last but not least, the development of visible projects with a strong *symbolic dimension*. If one thinks of the visibility of the Öresund bridge or the pedestrian bridge between Strasbourg and Kehl, the importance of the symbolic dimension in cross-border governance becomes obvious: Even if traffic infrastructure is a major infrastructure investment, the return of investment is not only the improvement in accessibility, but also the enhanced visibility and reputation. This is not only important in order to strengthen the position in European and national debates, but also as starting points for 'cross-border identities' of civil society.

In both case study regions, the policy focus for future action is very similar (Fig. 9), and also the barriers to overcome in further developing cross-border cooperation are parallel (cp. Fig. 10).

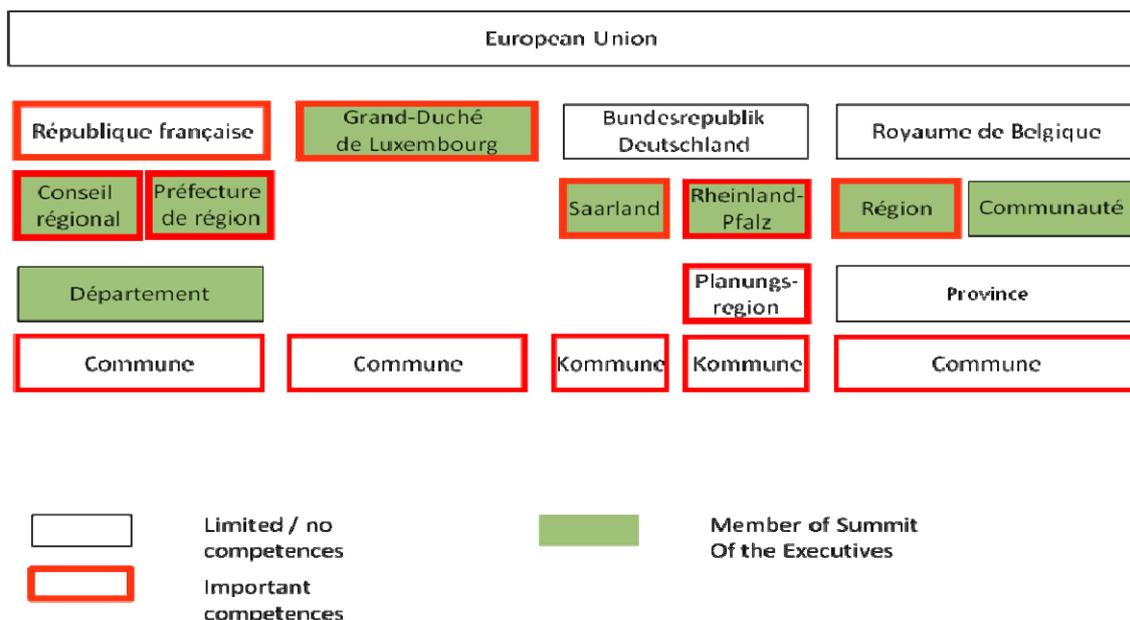


**Fig. 9** The most relevant policies for increased cross-border cooperation (Delphi Study)



**Fig. 10** The five most important barriers for an enhanced cross-border cooperation in both case study regions (Delphi study)

Of the barriers to better cross-border cooperation, the ‘multi-level mismatch’ plays a crucial role in both case study regions. That political and administrative competences cannot be found on the same levels on either side of the border(s) is true of almost every policy - Fig. 11 illustrates this for the example of spatial planning in the Greater Region, which is not the most complicated case (for background information see annex, chapter 13.2).



**Fig. 11** Institutional mapping of competences for spatial planning in the Greater Region

There is no easy way to overcome these barriers. There is no easy way to overcome these barriers. Harmonisation of hierarchies and competences is not a realistic prospect. In the end, a kind of 'shared management' has to be installed that is capable to meet the complex challenges (cp. 5<sup>th</sup> Cohesion Report, COM 2010: 243ff.).

A key aspect is the informal competence of the personnel working in the region, having a detailed knowledge of the other side's organisation, with personal contacts and confidence playing an important role. However, staff turnover and individual mishaps can endanger the functioning. This is why the establishment of *supra*-regional institutions carries a certain potential. Discussions about European Groupings of Territorial Cooperations (EGTC) are the best-known example of this (for more detail see Appendix, chapter 15). Concrete projects like the *Territorial Observation* project in the Greater Region aim to achieve regionally-specific implementation. The European Union plays an important role in this context: experts in both regions consider the support in terms of governance tools to be the most important, followed by support in form of funding and facilitation by harmonisation.

Strategy building processes are still going on in both case study regions which aim to concretise political action in both regions. The process has also included several workshops in both regions with representatives of the Metroborder researchers.

In the Upper Rhine region, institutional questions are the most pressing. A workshop in September 2010 in Freiburg discussed three scenarios of how to simplify the institutional diversity (multi-level, bi-level or one comprehensive structure). A more content-oriented strategy has also now been developed. In the Greater Region, questions of institutionalisation and concretisation have to be discussed in parallel. Institutionally, the involvement of economic actors as well as of municipal representatives is the most pressing task. The current establishment of an EGTC is fuelling these debates. With regard to concretisation, three dimensions of action are actively discussed – the 'economic metropolis', the 'laboratory of Europe' and the 'mobile and accessible region'.

When reflecting institutionalisation, the results can be very different (more or less institutions, softer or harder institutionalisations, more or less partners etc.). However, four aspects can be identified as being of particular sensitive in both case study regions, and interviews with experts from other CBPMR regions indicate that these are general problems:

- If multi-level mismatches are to be overcome and the political output of cross-border institutions is to be enhanced, the question of supra-regional institutions must be addressed. This requires reflection on political power and democratic legitimisation.
- As long-term success depends to a large extent on joint economic prosperity,

the involvement of business is highly desired, but not easy to achieve. In particular, decision-makers from private enterprises do not focus on regional cooperation at the political level.

- In relation to metropolisation, the municipal level – in particular the larger cities – has an important role to play. Linking inter-regional and inter-municipal cooperation, however, is a challenge as it can easily complicate the already-complex situation.
- Last but not least, involving civil society is a challenge. This participation is indispensable, both from a political and a democratic view. At the same time, the complex and abstract situation is not easily communicated to a broader public.

The appendices (in particular Chapters 17 and 18) will give more details on which arguments are considered as most important in this process of establishing the CBPMR vision in particular regions.

Addressing the challenge is likely to be worthwhile. The CBPMRs are the laboratories of Europe – border areas have always been where Europeanisation has always shown results in the most concrete and positive ways, and border areas remain regions of high potential. This potential is all the larger as metropolitan characteristics are in general seen as driving forces. There is little doubt that the current window of opportunity should be exploited, even if the work required is enormous. Developing strategies of joint lobbying, economic complementarities, territorial marketing etc. will lead to complex political debates. Addressing the poor availability of data would be an important step in this process; showing economic potential and bottle-necks in a more detailed way would certainly facilitate this process.

Still, political will is decisive, and currently the floor is open for those who seek to make use of a “first mover advantage”. The floor is open for a pioneering CBMPR approach, which will certainly replace the CBPMR acronym with a label suitable for territorial marketing.

## **6 Conclusions for the case study regions**

### **6.1 From research to political action**

Strategy building brings together territorial evidence and political vision - the following two chapters contain crucial elements that are discussed in the context of strategy building in both case study regions, bringing together the results presented so far.

During the series of strategy building events, many aspects were discussed (for an overview of the events organised, see chapter 19). The current state of the debates is described in greater detail in a comprehensive description in the appendix (chapters 17 and 18). These appendices aim to provide a relevant summary for the stakeholders from the respective regions.

## 6.2 Synthesis of the Greater Region situation

### 6.2.1 Why a 'CBPMR strategy' for the Greater Region?

At the European level, the Greater Region is an outstanding 'cross-border metropolitan polycentric region' (CBPMR): in no other place in Europe, or perhaps in the world, is there such a high density of national borders combined with such a high degree of cross-border integration. The unique internationalism and the strong functional integration in the central part of the Greater Region highlight its potential to be the 'laboratory of Europe'.

Moreover, the Greater Region is not just a polycentric settlement system, but also comprises a metropolitan area of European and global significance, despite its relatively small cities. Further exploiting the potentials of the CBPMR is a coherent strategy with few alternatives in the long run.

The development of the Greater Region has to take into account its overall strengths and weaknesses. In greatly simplified terms, the most prominent strength of the Greater Region is its role as a metropolitan region of European relevance, despite its relatively small agglomerations. This visibility results both from the strong embeddedness of the Functional Urban Area (FUA) of Luxembourg FUA in the global economy and from the Greater Region's complementary polycentric structure.

Several constraints and weaknesses must also be considered. The overall challenge for the Greater Region is to ensure that the 'critical mass' is attained in terms of urban agglomerations and metropolitan functions. The sheer territorial size of its cooperation perimeter does not compensate for the small size of the cities and the still limited metropolitan quality of the economy. This argument also plays a crucial role with regard to accessibility issues and the capacity of influencing political agendas. Only when cooperation and combining the different assets of the partners involved, the Greater Region can maintain and perhaps expand its current role.

With regard to governance, the purely intergovernmental and hardly institutionalised character has to be further developed as – among other factors – the 'multi-level mismatch' must be better addressed.

Without enhanced cross-border development, sustainable spatial development is difficult to attain. The main argument for a CBPMR strategy is that a *laissez-faire* approach is not appropriate to address the highly dynamic cross-border integration. This cross-border dynamic has positive and negative effects, and both have to be addressed and accompanied.

### 6.2.2 Which perimeter for the CBPMR?

The spatial configuration is a particularly sensitive issue within the Greater Region, as it is known for being extremely large without having – apart from administrative and institutional constraints – any especially convincing reasons for this perimeter. The current territory is not an outcome of explicit political reflection. In a process that brought together the relevant institutions involved in regional cooperation, each institution brought with it its territory – resulting in a huge ‘pooled’ territory which is frequently criticised.

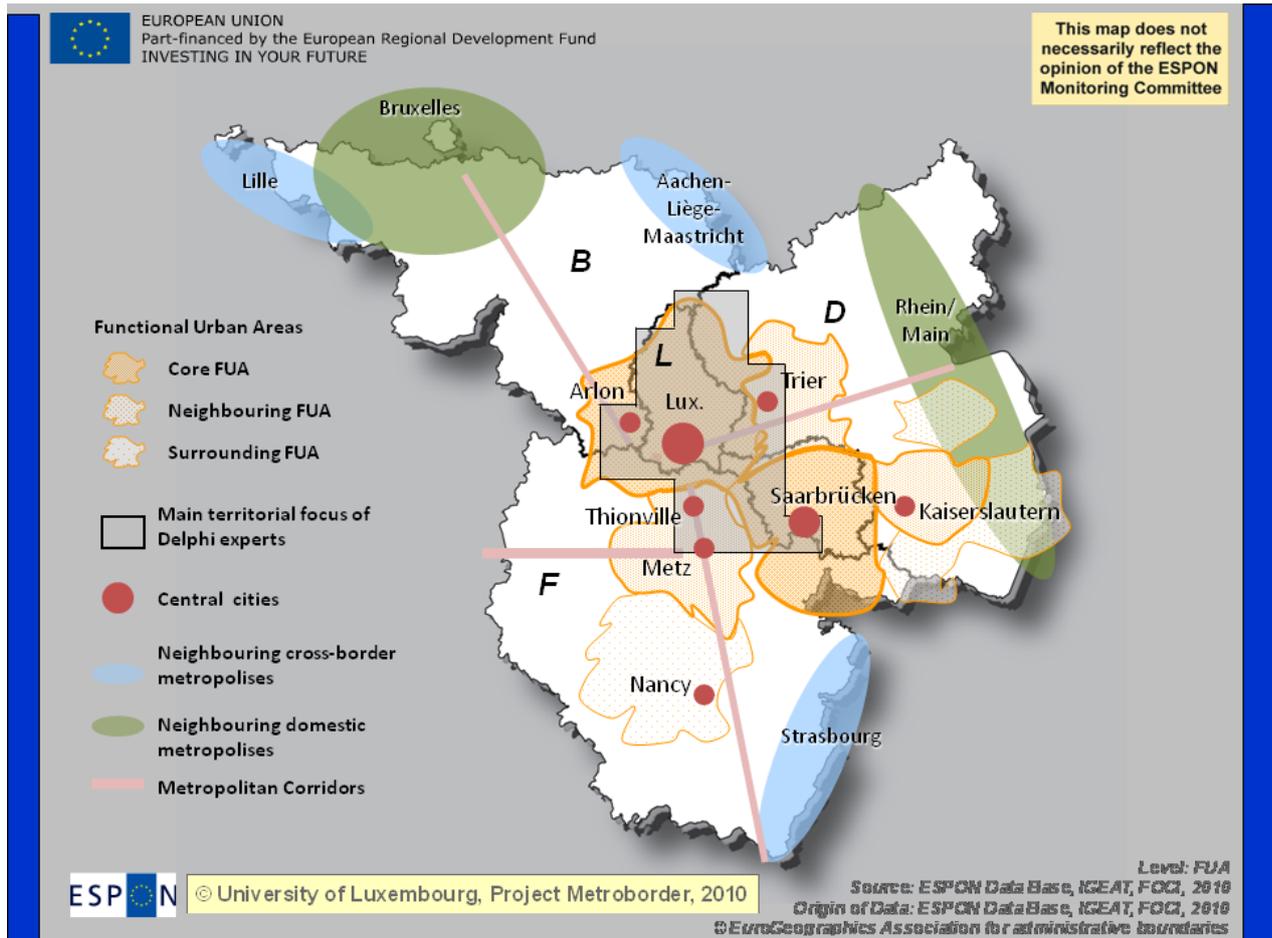
The potential perimeter of the *cross-border polycentric metropolitan region* within the framework of the well established cross-border cooperation ‘Greater Region’ is a complex issue: obviously, there cannot be *the* correct spatial delimitation. Depending on the policy and the political project, the territory will differ largely. Transport problems, economic cluster initiatives, and cultural ambitions will not always share the same territorial scope. However, the METROBORDER project has shown some evidence that the metropolitan basis does not extend to the outer borders of the Greater Region. This does not mean that only actors should be involved who would cover a smaller core area, the opposite: Involving the regional level remains the key actor for the most important policies of cross-border metropolitan ambitions. But there obviously is a difference between the institutional perimeter and the political spatial focus which can be smaller.

Bringing together the territorial evidence from the METROBORDER project gives some indication of the spatial configuration of the CBPMR project within the Greater Region. The schematic Map 37 gives a simplified overview of this setting.

The different information layers of the map can be explained as follows:

- **Functional Urban Areas:** The Greater Region comprises two Functional Urban Areas (FUAs) with a cross-border dimension – the Luxembourg FUA including Arlon on the Belgium side and the Saarbrücken FUA including Sarreguemines on the French side. Having two metropolitan cross-border FUAs touching each other is unique within Europe. They can even be regarded as a bipolar metropolitan cross-border corridor. Within this bi-polar structure, Luxembourg is the much more metropolitan area in economic terms; Saarbrücken has the larger urban centre in demographic terms. Jointly with the neighbouring and surrounding FUAs of the Sillon Lorrain and Trier in particular, we see important evidence for a *metropolitan polycentric cross-border core space* of the Greater Region. One should stress that the Functional *Urban Areas* are not restricted to urban spaces in the narrow sense but instead they comprise also large morphologically rural areas whose labour market is influenced by a metropolitan central pole.

- **Central cities:** The overall polycentric structure of the Greater Region's core space is represented by the settlement structure. Here, we see four types of centres within the core space, reflecting 1) the outstanding economic importance of Luxembourg, 2) the demographic size and political importance ('Landeshauptstadt') in the case of Saarbrücken, 3) the urban centres of the neighbouring FUAs (e.g. Thionville, Trier), and 4) the centres of the surrounding FUAs (in particular Nancy) whose profiting from the CBPMR status depends largely on the respective political will to cooperate.
- **Focus of Delphi experts:** The political will has been analysed by the Delphi study; in the map, the perimeter shown represents the space considered by over 40% of experts to be particularly important. This core space covers all national frontiers and the cities near to the borders. The fact that political action might focus on a certain core area does *not* mean that the institutional setting should be changed or reduced in order to only cover this area as pointed out above. Instead, the existing institutional structures have to be considered as a good basis for developing strategies resulting from the Metroborder study. This is in particular true for the city networks that link important cities of the core space of the Greater Region (the synthesis map in the annex includes as visualization of also of these city networks; cp. Map 37).
- **Metropolitan corridors:** The ambition of establishing the Greater Region as a *cross-border polycentric metropolitan region* is linked to the situation regarding infrastructure. The most important links to the surrounding metropolises are of particular importance. Whereas Paris is comparably well connected, the Brussels connection, and also the Rhine direction and the Strasbourg/Basel link, are not yet adequate. Focussing political attention on these links is, as also indicated by the Delphi study, doubtless a useful approach.
- **Neighbouring cross-border and domestic metropolises:** The spatial setting of the Greater Region CBPMR cannot be understood without paying attention the surrounding metropolises. The Greater Region is enclosed within a series of metropolises, two of them domestic ones (Brussels region, Rhine valley/Frankfurt) and three of them cross-border metropolitan areas (Lille, Aachen-Liège-Maastricht and Strasbourg-Kehl).



**Map 19** 'CBPMR Greater Region': schematic synthesis map of METROBORDER results

### 6.2.3 Governance: the political setting of the Greater Region

Cross-border cooperation in the Greater Region dates back to the early 1970s and can be regarded as providing a solid basis for future cooperation. Its strength can be seen in the involvement of the decision-makers at the top political levels and the many years of experience.

The institutional cooperation in the form of the 'Summit of the Executives of the Greater Region' is complemented by a variety of further institutions, some of them closely linked to the Summit (such as CESGR and IPR).

At the same time, the challenges are obvious as the involvement of four national backgrounds multiplies the border effects in political terms. In particular, the 'multi-level mismatch' must be seen as a major bottleneck in terms of cross-border cooperation, meaning that different and sometimes incompatible allocations of competences in many spheres occur on either side of the border. The current organisation is not ideal for the overcoming of these multi-level mismatches, as the approach is mainly based on a rotating intergovernmental system ('presidencies of the Greater Region's summit').

The second challenge is to involve the municipal level in the most adequate way. With the City networks, but also with the Eurodistrict and Euregio the Greater Region has established cross-border institutions on the local level: The Delphi study highlighted not only the political request of involving the municipal level in a tight way; at the same time, the range of already institutionalised cross-border cooperation on the local level gets obvious (see annex, Map 38).

The third challenge is to activate the private sector for cooperation and to ensure the adequate involvement of the municipal and metropolitan actors within the interregional cooperation.

Some of the main results of the Delphi study regarding governance can be summarised in the following bullet points:

- The experts of all countries involved agree that cooperation has to focus on a core area of the Greater Region.
- The priorities with regard to the policy focus are clear – transport, spatial planning and R&D are the key areas.
- The currently-established EGTC (European Grouping of Territorial Cooperation) can be seen as an important steppingstone towards a governance framework that complements the current structures. There is a strong will to establish a strong EGTC in the medium term.

#### 6.2.4 Strategic options

As explained in greater detail in chapter 18, concretising the ambition to establish a CBPMR can be discussed along the following dimensions or *leitmotifs*:

- The vision of an “economic metropolis” aims to explore further synergies and complementary natures in order to ensure cross-border prosperity. The internal dimension aims to develop potentials in regional supply chains and clusters. The external dimension aims to position the Greater Region more prominently within the globalised economy.
- The vision “laboratory of Europe develops the potential that the extraordinary international and multicultural Greater Region bears. This addresses mainly two spheres. Firstly, the citizens (*civil society*) have to be further involved in the cross-border dynamics. Secondly, and more pressingly, the *political sphere* of the Greater Region has to deal with cross-border mismatches in many dimensions on a daily basis. The Greater Region has long experience in cross-border cooperation, and has – in a complex environment and at times of outstanding economic development – achieved some good results. However, the purely intergovernmental organisation with its rotating presidencies is still a relatively cautious structure. Given the current dynamics with regard to EGTCs on the Greater Region’s perimeter, the role

played must be that of pioneer and laboratory.

- The vision “mobile and accessible region” aims at improving transport issues, but also at facilitating professional mobility. With regard to mobility questions, both the technical and the symbolic aspects have to be taken into account.

### 6.2.5 Specific actions

The next steps towards the establishment of the Greater Region CBPMR must, firstly, include reflection on governance issues (*institutionalisation*). Secondly, the cross-border cooperation has to think about more concrete, visible projects, and outcomes (*concretisation*).

The following sections develop examples of actions that are – from the academic perspective – promising. The concretisation of political visions, however, is the original mandate of the political sphere.

The projects to be further debated in the political sphere are the following (in detail see annex, chapter 18):

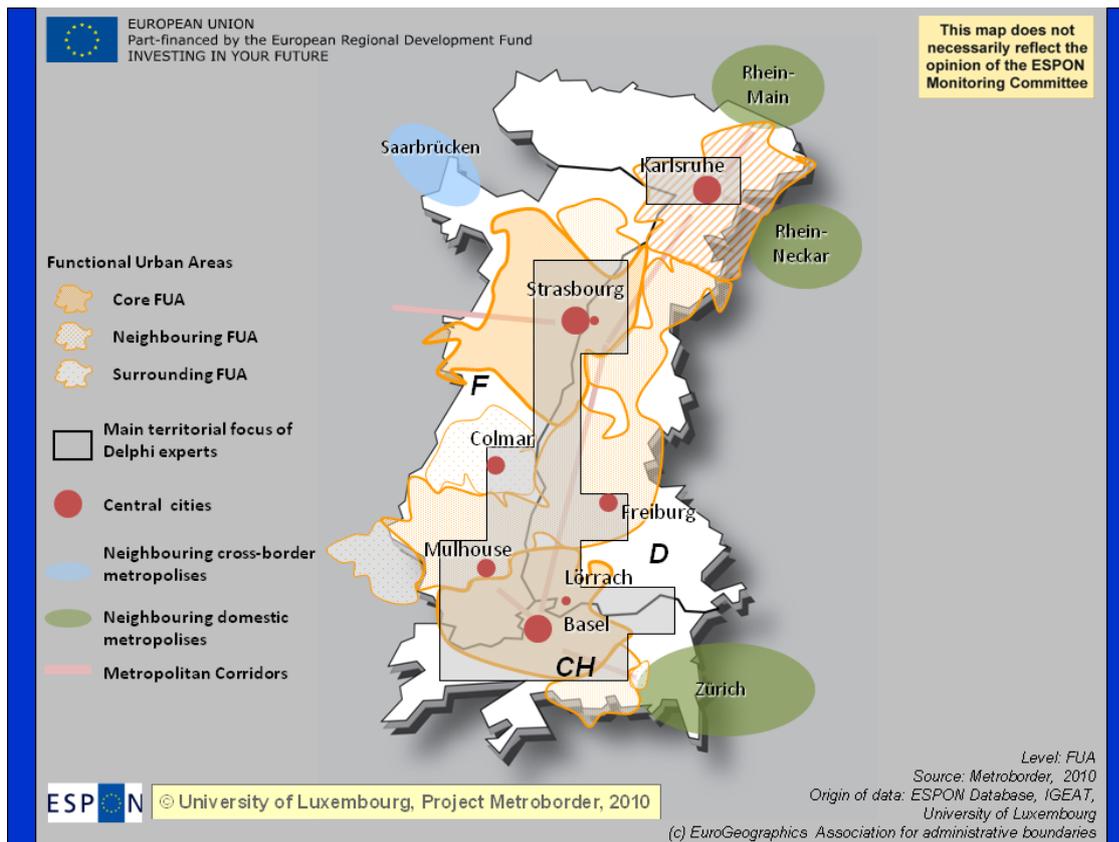
- the ‘*automotive platform*’ as an example for the development of interregional synergies and complementarities within the cross-border regional economy.
- A *territorial observatory* in order to close knowledge gaps that result from the various statistical multi-level-mismatches.
- Developing a *politically strong EGTC* as a supra-regional institution that helps to enhance the political outcome
- *Territorial marketing*: territorial marketing has not yet been established in the Greater Region as an important policy – this should be done in strategic and also more symbolic/visible terms
- Having the pressing transport issues in mind, a *Greater Region mobility scheme* has to be developed in order to solve the manifold bottlenecks, linking the already existing national and bilateral agreements and developing a coherent vision for the multilateral setting.

## 6.3 Conclusions for the Upper Rhine

### 6.3.1 Synthesis of the Upper Rhine situation

The Upper Rhine region is a particular CBPMR because of its tri-national character. Compared to the other European CPMRSs, its polycentricity is quite balanced (having two truly cross-border cores with the Basel and Strasbourg FUAs and an important third player with Karlsruhe). The functional cross-border integration is particularly intense in the Basel FUA, being amongst the three most important cross-border commuting regions in Europe.

The status of the Upper Rhine as a *cross-border polycentric metropolitan region* is obvious: the synthesis map brings together the crucial results from the METROBORDER research.



**Map 20** 'CBPMR Upper Rhine': schematic synthesis map of METROBORDER results

The different information layers of the map can be explained as follows:

- **Functional Urban Areas:** The Upper Rhine perimeter comprises two core cross-border FUAs (Basel and Strasbourg), with Karlsruhe as a third player with a cross-border character and with a high demographic and economic weight. The neighbouring and surrounding FUAs match almost exactly the perimeter of the Upper Rhine conference.
- **Central cities:** The strongest metropolitan dimension within the Upper Rhine perimeter can be found in and around Basel, mainly due to economic factors. Strasbourg, too, has a clear metropolitan dimension, amongst others due to political indicators. Karlsruhe has a strong economic dimension, but Freiburg, Colmar and Mulhouse are also important centres, in particular in terms of demographic figures.
- **Main focus of Delphi experts:** Political will was measured by the Delphi study – in the map, the perimeter represents the area that more than 40% of the experts consider as particularly important. This picture reflects the overall acceptance of the Upper Rhine perimeter. At the same time, the northern part (around Karlsruhe) is seen as part of this setting, but in a more 'careful' way – this is, in a way, going very much parallel to the functional analysis.
- **Metropolitan corridors:** The metropolitan corridors of the Upper Rhine are

dominantly oriented along the Rhine valley. The problem in this region are – differently to the Greater Region – not so much the linkages to external metropolitan regions but more the internal bottlenecks.

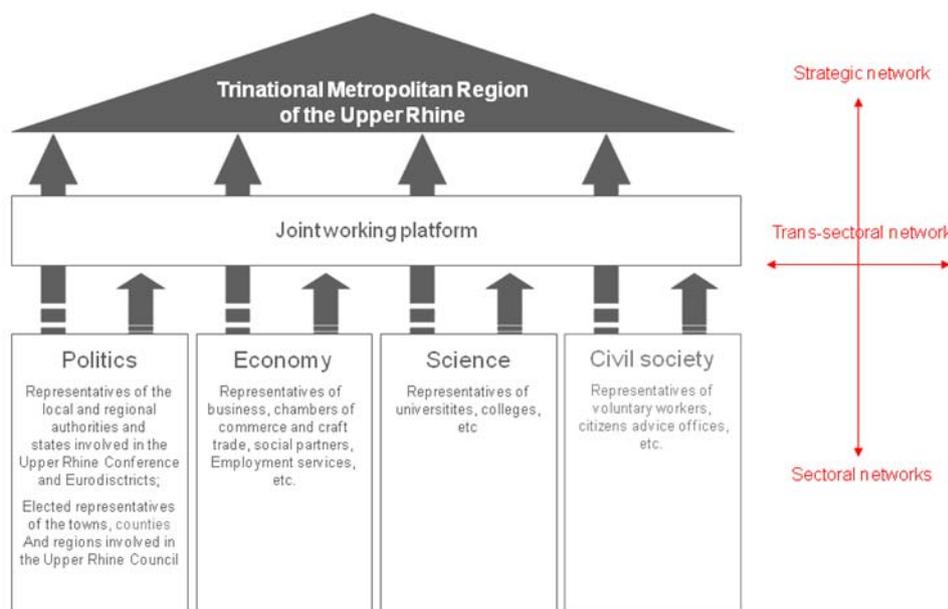
- **Neighbouring cross-border and domestic metropolises:** The Upper Rhine is positioned 'in the shadow' of the 'Pentagon' metropolises, namely Zurich, Rhine-Neckar (Stuttgart), Rhine-Main (Frankfurt). At the same time, the Upper Rhine is part of corridor of cross-border metropolises in Western Europe, not very far to the Greater Region and Geneva.

### 6.3.2 Governance and the “Trinationale Metropolregion”

The METROBORDER project has shown that the Upper Rhine region is characterised by strong cross-border flows, such as cross-border commuting, as well as a well-developed cooperative structure. In this regard, the Upper Rhine is often considered as an exemplary cross-border region.

The actors involved in cross-border cooperation in the Upper Rhine have decided to go a step further and better position the region as a model for cross-border cooperation and development by establishing the so called “Tri-national Metropolitan Region of the Upper Rhine”.

The objectives of the project are multiple. According to the results of the Delphi study, the two main goals are the intensification of cross-border cooperation on the one hand, and lobbying in Brussels, Berlin, Paris and Berne on the other (see appendix, chapter 15). In order to achieve these objectives, the actors have established a new cooperative structure:



**Fig. 12** The “Trinationale Metropolitan Region of the Upper Rhine” – current overview

One should mention the institutionalised involvement of the business and science sectors, as well as of civil society, in the cross-border cooperation. We must stress here that the four pillars of the “Tri-national Metropolitan Region of the Upper Rhine” do not show the same degree of institutionalisation. While the “politics” pillar can be considered as being over-institutionalised, there is a need to consolidate the organisational structures within the “economy” and “science” pillars. Finally, the “civil society” pillar represents a real challenge in terms of institutionalisation. This pillar is characterised by a lack of structure.

At the same time, the actors in the Upper Rhine are working on the definition of tri-national strategies within each pillar, as well as of a common strategy for the whole “Tri-national Metropolitan Region of the Upper Rhine”. The overall strategy focuses on the following action areas: multi-level governance, competitive and sustainable development, knowledge economy, and civil society.

### 6.3.3 Strategic options

In the framework of the Delphi study, the need for institutional revision was expressed quite clearly (for details see appendix 17). The simplification of the cooperative structures is not a goal in itself, but rather contributes to

- improving the efficiency of the cross-border cooperation
- enhancing the transparency of the cooperative system and the visibility of the cross-border region,
- increasing the democratic legitimacy of the cross-border cooperation.

On the basis of the Delphi results, three different scenarios for possible simplification of the cooperative structures within the “politics” pillar have been developed. The idea was not to present realistic future trends, but rather to provide stimulus for discussion. The three scenarios were presented to the regional stakeholders and discussed at a workshop held on September 14<sup>th</sup>, 2010. The stakeholders were asked to criticize the scenarios and to further develop them.

The scenarios are briefly described in the following bullet points; discussion of the strengths and weaknesses is contained in the appendix.

#### **Scenario 1:** Multi-level cooperation (status quo)

The “multi-level cooperation” scenario reflects the actual situation. Its main characteristics are:

- “Politics” pillar: long tradition of cooperation and over-institutionalised cooperative structure.
- “Economy” and “science” pillars: well-functioning cooperative networks (e.g. BioValley, EUCOR and NEUREX) and cooperative structure which is institutionalised only to a low degree.
- “Civil society” pillar: low involvement in cross-border matters and lack of

cooperative structure.

### **Scenario 2: Two-level cooperation**

The scenario “two-level cooperation” presents a realistic development alternative. Its main characteristics are:

“Politics” pillar:

- Two cooperation levels: regional level with the Upper Rhine Conference together with the Upper Rhine Council and local level with the Eurodistricts together with so called District Councils.
- Integration of the Upper Rhine Council in the Upper Rhine Conference (as Upper Rhine Parliament)
- Creation of a District Council in each Eurodistrict (as District Parliament)
- Close cooperation between the Upper Rhine Conference and the Eurodistricts
- Representation of the interests of the Upper Rhine Conference and the Eurodistricts on the national level by the Governmental Commission
- Abolition of the RegioTriRhena
- Abolition of the City Network

Pillar “economy”:

- EURES-T Upper Rhine a centre of excellence for cross-border mobility
- Integration of EURES-T Upper Rhine in the “economy” pillar

All pillars:

- One coordinator for each pillar, close cooperation between the coordinators and the pillars

### **Scenario 3: Integration**

The scenario “integration” represents more a vision than a realistic development alternative. Its characteristics are:

- Creation of a single cooperation structure: Tri-national Metropolitan Conference
- Creation of a Tri-national Metropolitan Council as Upper Rhine Parliament
- Integration of the bigger cities with their agglomerations in the Tri-national Metropolitan Conference as Agglomeration Committees
- Abolition of the Eurodistricts and the City Network
- Integration of the pillars “economy”, “science” and “civil society” in the Tri-national Metropolitan Conference as Thematic Networks
- Representation of the interests of the Tri-national Metropolitan Conference on the national level by the Governmental Commission
- Integration of the different helpdesks (e.g. INFOBESTs and Euro-Institut) in one information centre

As mentioned above, simplifying the cooperation structures in the Upper Rhine is a necessity as well as a challenge. It will take time and a great deal of convincing will have to be done. Together with the other results of the project METROBORDER, the revised scenarios will be presented again and discussed with the regional stakeholders within the framework of the Upper Rhine Conference and the Eurodistricts.

In order to achieve real results, the actors involved in cross-border cooperation will then have to take over and carry forward this process.

## **C Scientific Annexes**

### **7 The system of MUAs and FUAs in a cross-border context**

#### **7.1 Morphological and Functional Urban areas**

Morphological and Functional Urban Areas have been developed within the ESPON programme as an important tool of spatial analysis. The starting point was the GEMACA I/II and POLYNET European research projects, and the system has been further developed throughout the ESPON programme. ESPON projects 1.1.1. and 1.4.3. established the major contours in terms to methodology and definitions. Statistical adaptations (in particular LUA2) and the EU eastwards enlargement have been taken into account. Most recently, this approach has been updated within the framework of the ESPON FOCI project.

This system takes as its starting point Morphological Urban Areas. These are, essentially, densely built areas. More precisely, MUAs are defined as agglomerations with a population density of not less than 650 inhabitants per square kilometre. At the LUA2 level, territories below this threshold are also included if they have more than 20,000 inhabitants. The final MUA perimeter is checked via satellite images.

A Functional Urban Area (FUA) is mainly defined by its commuting zone, calculated primarily at the municipal level. A FUA consists of one or more MUA(s) and the surrounding area within which 10% of the active population commute towards the MUA(s).

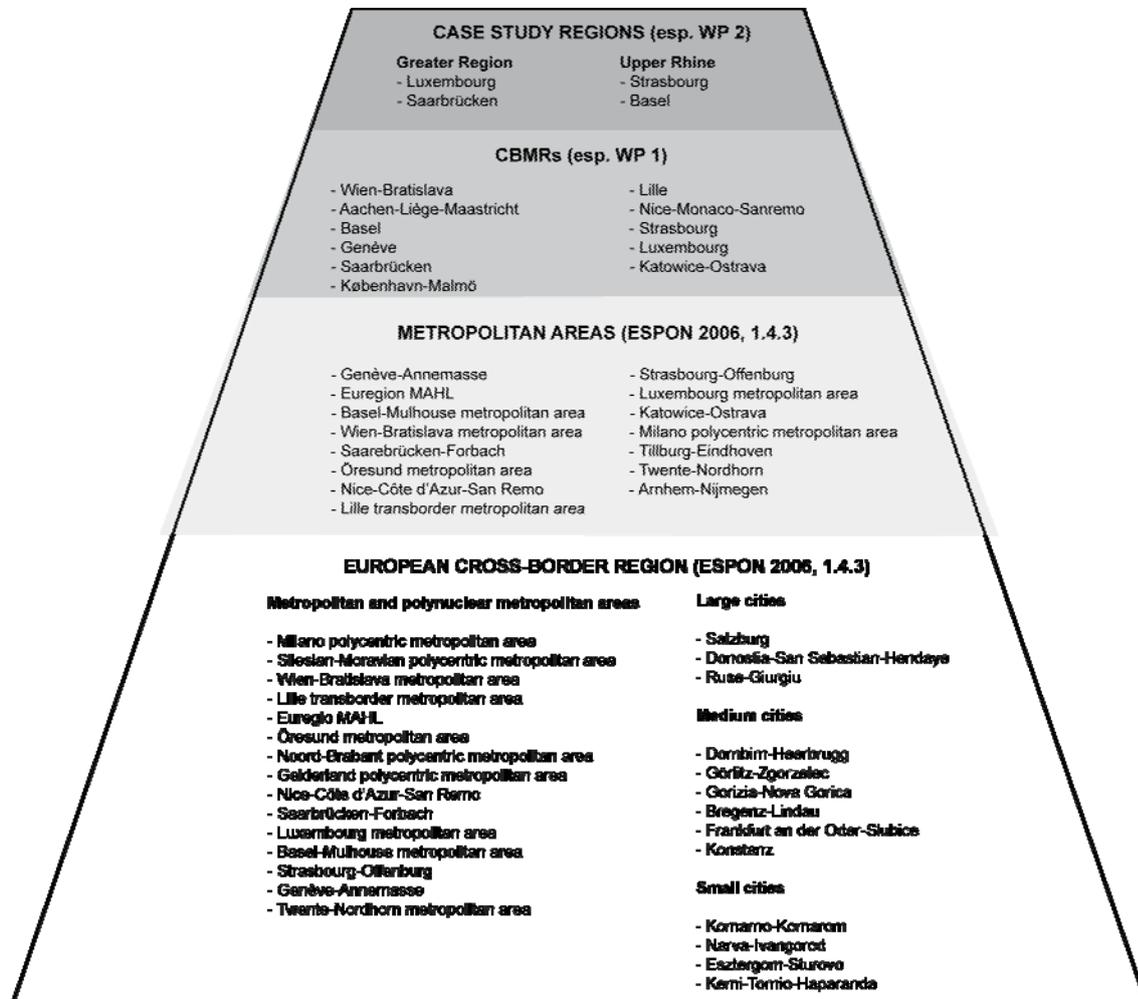
#### **7.2 The pyramidal approach**

The starting point for the identification of CBPMRs is ESPON Project 1.3.4 (2007) that identified 28 cross-border regions of which – within that project – 15 have been identified as being metropolitan to a certain degree.

Taking into account the additional criteria of polycentricity, the number of research areas is reduced to 11 regions (see Fig. 13): the threshold is having at least 10 percent of the population living on either side of the border. For example, the cross-border dimension was not strong enough in the cases of Milano and Tillburg-Eindhoven, as more than 95% of the population of the cross-border area lives in one country. With regard to all other criteria, the selection procedure adopted is the the approach used in ESPON 1.4.3 (Arnhem-Nijmegen

and Twente-Nordhorn do not have a clear metropolitan dimension, as shown by ESPON 2007: 1.4.3).

Four of these areas are parts of the METROBORDER case study region: Strasbourg and Basel belong to the Upper Rhine region, and Luxembourg and Saarbrücken to the Greater Region.



**Fig. 13** Pyramidal approach to Cross-Border Metropolitan Regions (CBPMRs). Source: European cross-border regions and Metropolitan Areas according to ESPON 1.4.3 (2007).

### 7.3 From the municipal to the interregional level

Both the METROBORDER project specifications as the political dynamic in the case study regions stress the importance of the *regional* level for cooperation – this goes beyond the *local* level of the FUA system. Flow data are not available on a scale that would permit both an exact functional delimitation and a European comparison of the cross-border dimension. Thus, the criterion of adjacency is applied in order to show potential integration zones.

The starting points are those cross-border core FUAs that cross the border itself and/or whose MUA at least touches the border.

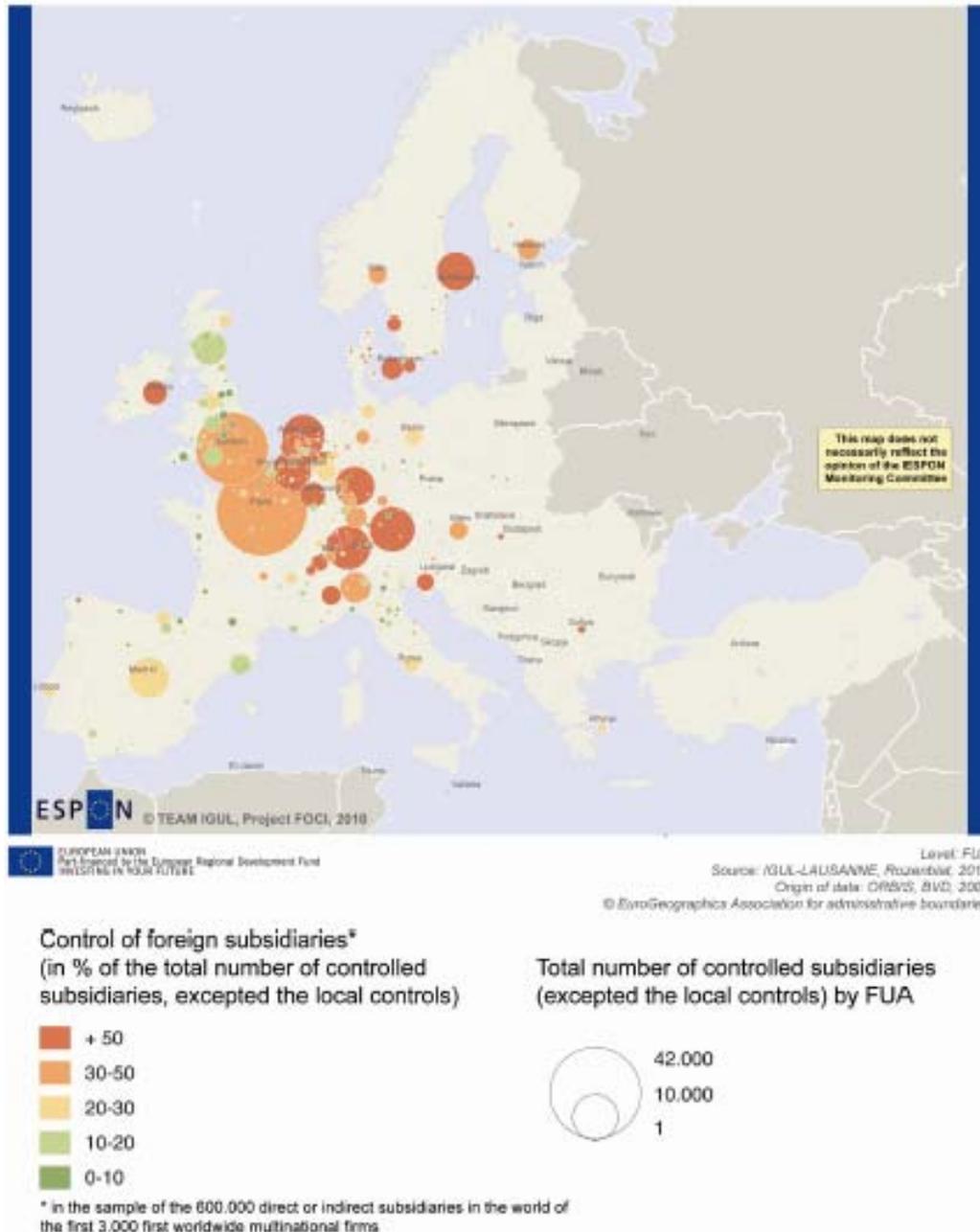
Next, the adjacent (“neighbouring”) FUAs are included. Then the “surrounding” FUAs, adjacent to the latter ones, are included.

More concretely, after having started from the 1.4.3 cross-border FUAs, we consider those FUAs as cross-border core FUAs if the FUA crosses the border itself and/or if the MUA at least touches the border.

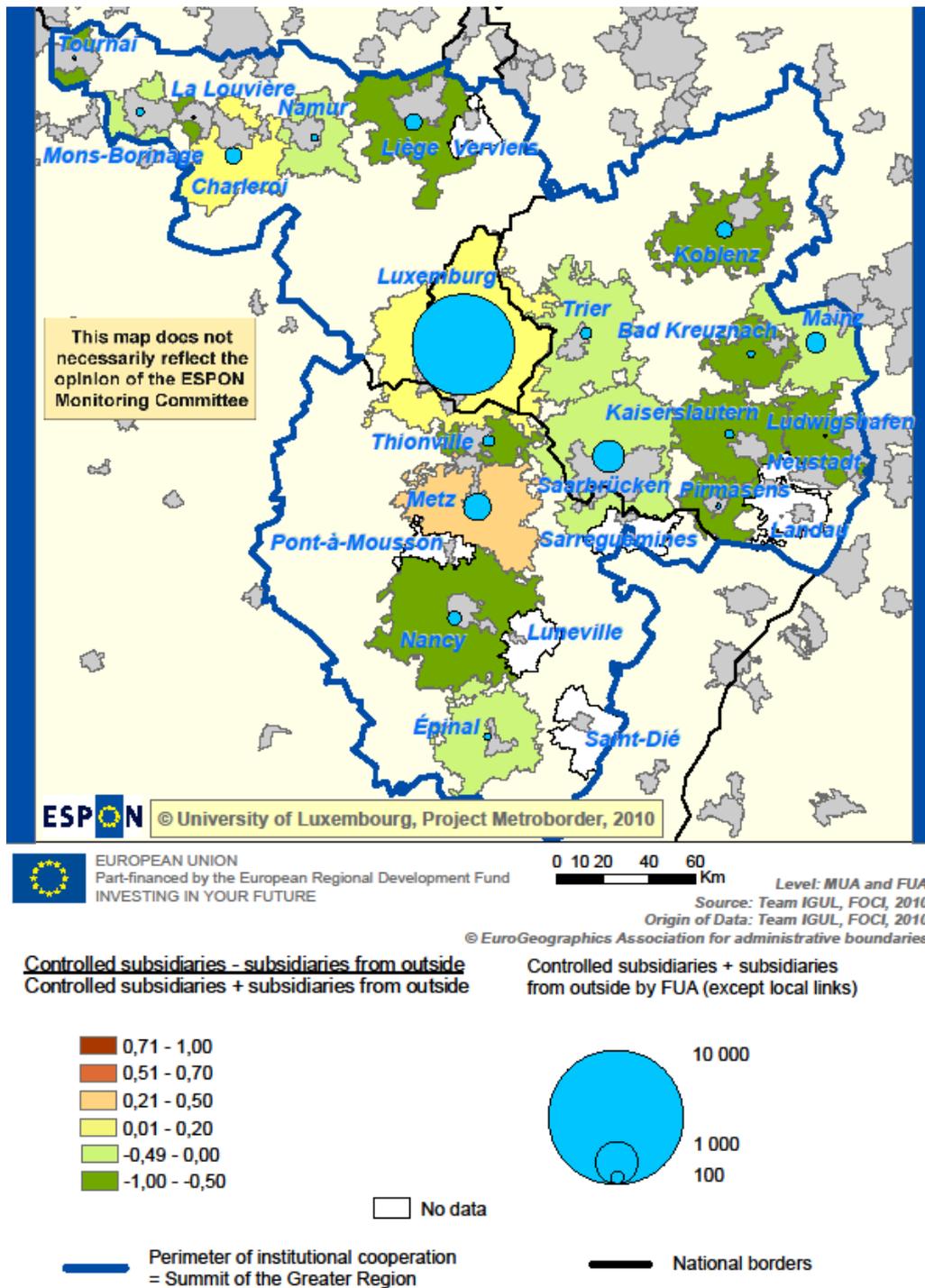
Adjacent FUAs are not included if the corresponding MUA has a higher population than the cross-border MUA that was the starting point of the selection process – this criterion ensures a certain level of polycentricism and of cross-border character. Following this rule, Cologne, for example, is not considered to be part of the Aachen-Liège-Maastricht CBPMR, and so on.

## 8 The 'competitive nodes' approach – map appendix

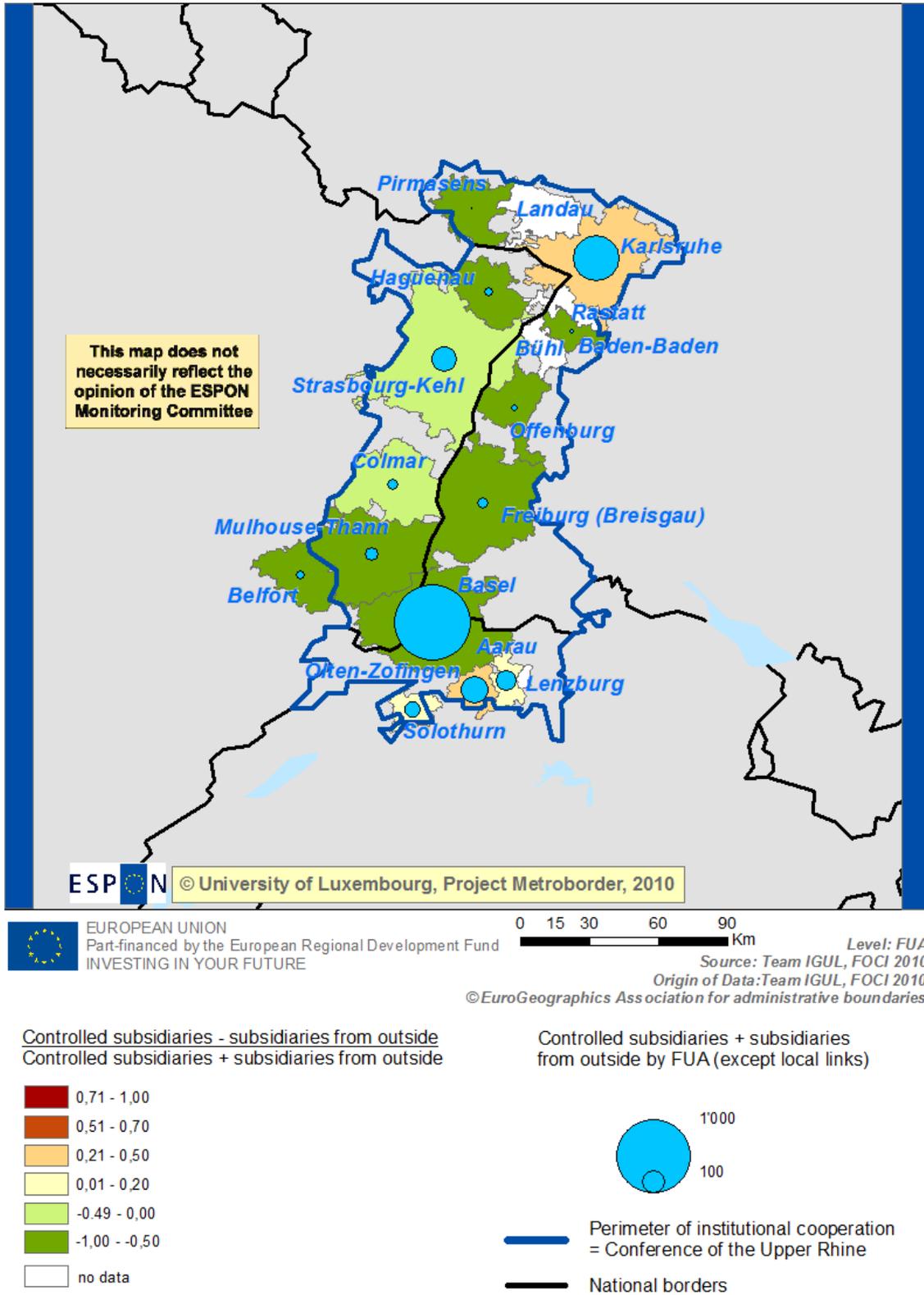
The following maps illustrate section 3.4.



**Map 21** Multinational firms networks – control of foreign subsidiaries by FUA (source: FOCI DFR 2010: 151)



Map 22 'Competitive nodes' approach - focusing on the Greater Region



Map 23 'Competitive nodes' approach – focusing on the Upper Rhine

## 9 Functional integration

### 9.1 Indicator 1 - Cross-border commuting (2000/2006)

As explained in detail in section 4.1, the notion of spatial integration is applied in the context of the METROBORDER project via indicators of interaction and convergence. The following sections will give more detailed methodological and empirical background information.

The aims of the cross-border commuting indicator are threefold: to measure the intensity of home-work-flows across the borders in 2000 and 2006; to investigate the number of cross-border commuters in each country (asymmetry) at both points in time; and to study the change in the number of commuters between 2000 and 2006.

Case study	Number of cross-border commuters 2000	Number of cross-border commuters 2006	Proportion of commuters to each country 2000	Proportion of commuters to each country 2006	Average annual growth 2000-2006	Rank 2000	Rank 2006
Luxembourg	87,908	127,251			6,4	1	1
Luxembourg	87,300	126,723	99.3	99.6	6.4		
France	200	200	0.2	0.2	0.0		
Germany	108	196	0.1	0.2	10.4		
Belgium	300	132	0.3	0.1	-12.8		
Basel	43,165	48,887			2.1	2	2
Switzerland	42,565	48,287	98.6	98.8	2.1		
France	100	100	0.2	0.2	0.0		
Germany	500	500	1.2	1.0	0.0		
Geneva	28,382	47,514			9.0	4	3
Switzerland	28,198	47,354	99.4	99.7	9.0		
France	184	160	0.6	0.3	-2.3		
Nice-Monaco-Sanremo	28,592	34,073			3.0	3	4
France	200	200	0.7	0.6	0.0		
Monaco	28,157	33,638	98.5	98.7	3.0		
Italia	235	235	0.8	0.7	0.0		
Lille	19,500	27,500			5.9	6	5
France	5,000	5,000	25.6	18.2	0.0		
Belgique	14,500	22,500	74.4	81.8	7.6		
Saarbrücken	22,700	21,623			-0.8	5	6
Germany	21,700	20,623	95.6	95.4	-0.8		
France	1,000	1,000	4.4	4.6	0.0		
Aachen-Liège-Maastricht	16,587	17,695			1.1	7	7
Netherlands	5,115	5,895	30.8	33.3	2.4		
Germany	10,308	10,375	62.1	58.6	0.1		
Belgium	1,164	1,425	7.0	8.1	3.4		
Copenhagen-Malmö	3,291	13,494			26.5	9	8
Denmark	3,010	12,744	91.5	94.4	27.2		
Sweden	281	750	8.5	5.6	17.8		
Strasbourg	6,409	5,959			-1.2	8	9

France	70	70	1.1	1.2	0.0	
Germany	6,339	5,889	98.9	98.8	-1.2	
Vienna- Bratislava	N.A	1,055				- 10
Austria	N.A	954	-	90.4	-	
Slovakia	N.A	101	-	9.6	-	
Katowice- Ostrava	N.A	N.A				- -
Poland	N.A	N.A	-	-	-	
Czech Republic	N.A	N.A	-	-	-	

**Table 2** Cross-border commuters, 2000 and 2006  
(for a more schematic visualisation, see chapter 4.2 in part B)

Sources: Luxembourg: IGSS, ADEM Eures, BA, INAMI. Basel: OFS, MOT and own estimates. Geneva: OFS and own estimates. Nice-Monaco-Sanremo: Fusco 2009, Principauté de Monaco 2009. Lille: Groupe de travail parlementaire franco-belge, Insee. Saarbrücken: BA, Insee, IGSS, Observatoire 2001. Aachen-Liège-Maastricht: EU 2007, Euregio Meuse-Rhin. Copenhagen-Malmö: Öresundstatistik. Strasbourg: CCI Strasbourg et Bas Rhin, Eurodistrict 2008 and own estimates. Wien-Bratislava: Arbeitsmarkservice Austria, OECD and own estimates; Katowice-Ostrava: no data available.

Spatial units: Luxembourg: Greater Region. Basel: Canton of Basel-Stadt and Basel-Land, France, Germany. Geneva: Canton of Geneva, France. Nice-Monaco-Sanremo: France, Italy. Lille: metropolitan regions. Saarbrücken: Saare, Lorraine. Aachen-Liège-Maastricht: Euregio. Copenhagen-Malmö: Öresund Region DK, Scane County. Strasbourg: Eurodistrict. Wien-Bratislava: Centrope; Katowice-Ostrava: no spatial units.

The different CBPMRs show very different commuting intensities, depending on size, average annual growth and distribution by country of origin. From a demographic perspective, Table 2 shows clearly that several patterns can be observed in relation to the level of cross-border working, with the intensity of the phenomenon varying. With more than 127,000 cross-border workers in 2006, the Luxembourg metropolitan area is undoubtedly the border area where this phenomenon is the most developed, followed at some distance by Basel (49,000), Geneva (47,500), Nice-Monaco-Sanremo (34,000) and Lille (27,500). Saarbrücken (21,500), Aachen-Liège-Maastricht (17,500) and Copenhagen-Malmö (13,500) have lower numbers of cross-border workers, while Strasbourg (6,000) and Wien-Bratislava (1,000) have much lower numbers. No comparable information is available on Katowice-Ostrava.

As Table 2 indicates, most of the cross-border metropolitan areas concerned by this study experienced positive annual growth in the number of cross-border employees between 2000 and 2006, with the exceptions of Saarbrücken (-0.8%) and Strasbourg (-1.2%). The highest average annual growth can be seen in Copenhagen-Malmö (+26.5%), which can be explained by the opening of the

Öresund Bridge in 2000. In Geneva (+9.0%), Luxembourg (+6.4%) and Lille (+5.9%) too the number of cross-border workers is growing rapidly and is at least twice as high as in the other metropolitan areas. As a consequence, the ranking of metropolitan areas on the basis of the absolute number of cross-border workers underwent some changes between 2000 and 2006. These changes have mostly been to the benefit of Geneva, Lille and Copenhagen-Malmö.

In most cases, the distribution of cross-border workers by country of origin is extremely asymmetrical. This is particularly true for the metropolitan areas of Luxembourg, Basel, Geneva, Nice, Saarbrücken, Copenhagen-Malmö and Strasbourg, where over 90% of flows are moving from one country to the other. Two exceptions should be noted: in Lille and Aachen-Liège-Maastricht, the distribution between countries is more balanced, reflecting the dynamic growth of Flemish urban centres in the first case and the polycentric urban structure in the second.

This must be seen in the context of the fact that between 1999/2000 and 2006/2007 the number of cross-border workers grew significantly, from 490,000 to 660,000, in the EU15/EFTA which is home to 95% of the cross-border employees. Flows to Switzerland, Luxembourg, Austria and the Netherlands increased (fuelled primarily by France, Germany and Belgium), while flows to Germany declined. In the 1990s, Switzerland, Germany, and Luxembourg were the leading cross-border destinations for commuters. In 2006, however, Luxembourg (127,533) clearly outpaced Germany (86,334) in terms of daily cross-border workers. The European Union (2009) now states that around 664,000 cross-border workers could be identified in the EU15/EFTA and 114,000 in the EU10+2, representing a total of 778,500 cross-border workers in the EU27/EFTA (2006-2007). Our results suggest that at least 345,000 of these (44%) are located in one of our 11 cross-border metropolitan regions.

Table 3 provides a ranking of border regions from a purely bilateral perspective, according to the number of cross-border commuters in 2000 and 2006. In 2006, the border between Luxembourg and France was by far the busiest border region among the 11 cases. It can be considered as the busiest border in Europe, with 64,540 daily cross-border commuters. Among the top five borders, three are characterised by flows into Luxembourg. Figures for the borders between France and Switzerland in Geneva and Basel, and between France and Monaco in Nice-Sanremo-Monaco, are also extremely high. The results confirm previous regional studies showing that, in Europe, France emits the highest number of cross-border workers whereas Luxembourg, Switzerland and Monaco receive the highest numbers of these workers (EU 2009). Interestingly, these results also suggest that the presence of a knowledge-intensive economy driven by an international financial centre (Luxembourg, Geneva, Monaco) and/or high-tech activities (Basel) is a crucial factor explaining the intensity of cross-border employment in Europe.

		From	To	2000	2006
1	Luxembourg	France	Luxembourg	46,500	64,540
2	Geneva	France	Switzerland	28,198	47,349
3	Luxembourg	Belgium	Luxembourg	24,300	33,021
4	Nice- Sanremo- Monaco	France	Monaco	24,958	30,060
5	Luxembourg	Germany	Luxembourg	16,500	28,982
6	Basel	France	Switzerland	28,329	28,450
7	Lille	France	Belgium	14,500	22,500
8	Saarbrücken	France	Germany	21,700	20,623
9	Basel	Germany	Switzerland	14,236	19,822
10	Copenhagen- Malmö	Sweden	Denmark	3,016	12,744

**Table 3** The 10 busiest borders in Europe, 2000 and 2006  
Sources and spatial units: see Table 2. NB: Only borders with more than 10,000 daily cross-border commuters in 2006 are included.

## 9.2 Indicator 2 - Cross-border transportation lines

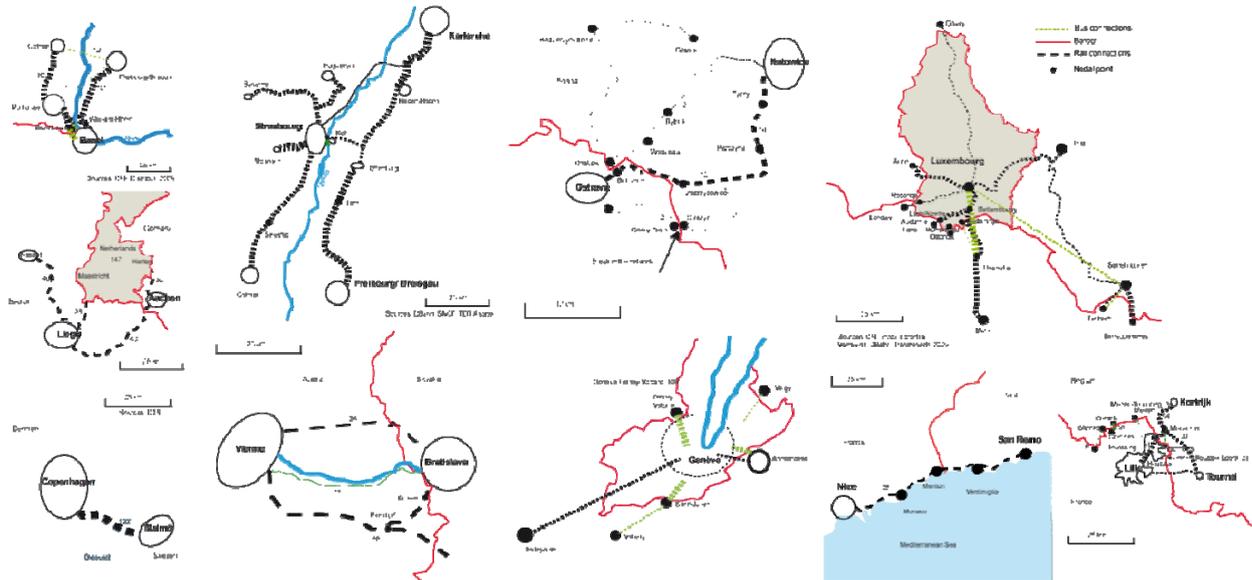
For this indicator, all existing public transport connections and their frequencies between major cities of the CBPMRs have been taken into account – whether rail, bus, or even boat (for Vienna-Bratislava, along the Danube). The total number of connections in both directions has been counted on a working day over a 24 hour period (for a geographic overview, see Fig. 14). For this indicator, not all linkages with the polycentric setting have been considered, but only the most important *cross-border* linkages in the core spaces.

In the Upper Rhine Basel plays a key role, because railway lines in Alsace and Baden-Württemberg run north-south. From a public transportation perspective, Basel represents a node of interconnection between these networks. Further north, in the case of Strasbourg the city of Offenburg connects the Alsatian railway lines with the Karlsruhe-Basel line.

Luxembourg has high frequencies, mainly running to and from Luxembourg City, which is the main centre for the labour market. This high number of daily connections is in response to the huge flows of commuters coming from Lorraine, Wallonia, Rhineland-Palatinate and Saarland every day. In Aachen-Liège-Maastricht, the figures show relatively poor integration. Liège is the main hub linking the Belgian cities and the Dutch and German cities within this area of cooperation.

It is important to note that the different situations cannot easily be compared, as each case is specific and embedded in a single context. Nevertheless, some fundamental differences in the architectures of the public transport networks of

the different case studies can be noted. Connections with foreign cities are very numerous in the regional employment centres of Luxembourg and Basel, whereas links remains poor between the Polish and the Czech national railway systems in the example of Katowice-Ostrava.



**Fig. 14** Structure of most important cross-border public transport lines in CBPMR core spaces - geographical context

Sources: Sources: Strasbourg: SNCF, Deutsche-Bahn. Basel: SNCF, Deutsche-Bahn, CFF, København-Malmö: DSB, SJ Katowice-Ostrava: Polrail, České dráhy. Lille: SNCF, SNCB, Transpole, TEC Hainaut, De Lijn. Genève: SNCF, CFF, Frossard, TPG. Wien-Bratislava: ÖBB, ŽSR, PostBus, slovaklines, Twin city liner. Luxembourg: CFL, SNCF, SNCB, Deutsche-Bahn, Weber, TEC, mobiliteit. Aachen-Liège-Maastricht: Nederlandse Spoorwegen, Deutsche-Bahn, SNCB, Veolia, De Lijn, ASEAG, TEC. Nice-Monaco-SanRemo: SNCF, Trenitalia. Saarbrücken: Deutsche-Bahn, SNCF, Transbus.

### Comparative analysis

The linkage frequency index is a composite index delivered for all studies regions, which takes into account all connections between the different cities, weighted by the number of cities considered. The estimated speed of the public transport lines between main urban centres is calculated by dividing the distance as the crow flies by the time that is required to link the different urban centres (Table 4).

Values for transport within the urban agglomeration are presented separately, in order to differentiate intra-urban and inter-urban speeds. Only urban centres with more than 20,000 people have been taken into consideration in the analysis.

Again, given the diversity of the situations we cannot simply compare the different values. For example, the weak results that are obtained for the case of Geneva can be explained by the fact that only the cities of Geneva, Thonon-les-

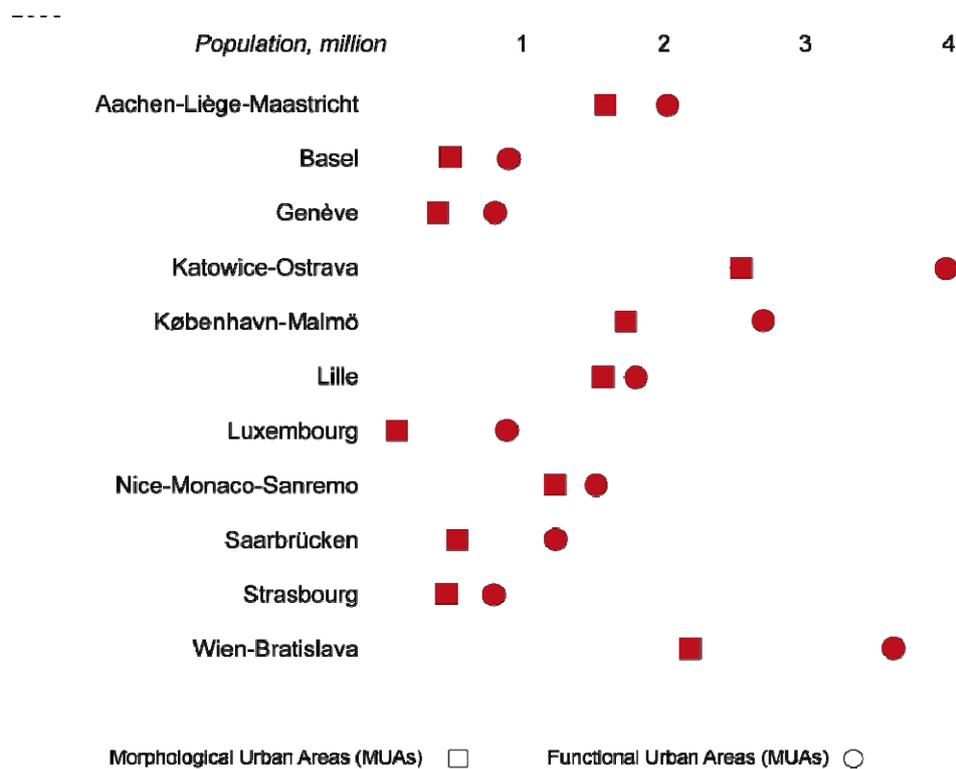
Bains and Annecy were considered, whereas most of the cross-border flows are contained in Geneva's morphological agglomeration, which includes Annemasse. The results indicate that the situation is particularly favourable in the case studies of Luxembourg, Basel, Vienna-Bratislava and Copenhagen-Malmö. In these examples, connections are numerous and efficient between the main urban centres. However, these results must be interpreted with caution, due to huge differences between the demographic weights of the cities that were used in the production of this indicator. Needs in terms of frequencies and seating capacities between for example Strasbourg and the small city of Offenburg in Baden-Wurttemberg on the one hand, and, on the other hand, both capital cities of Vienna and Bratislava, are not the same.

	Theoretical Average Speed	Speed Rank	Linkage frequency index	Frequency Rank	Cities considered	Ranking according to the intensity of CB links inside the MUA
Copenhagen- Malmö	48.0	6	122	1	Copenhagen- Malmö	N/A
Vienna- Bratislava	63.7	3	117	2	Vienna- Bratislava	N/A
Luxembourg	69.1	1	100	3	Luxembourg, Metz, Thionville, Trier, Arlon	N/A
Basel	67.5	2	81	4	Basel, Fribourg, Mulhouse, Colmar	2
Nice-Monaco- Sanremo	39.7	9	73	5	Nice, Monaco, Sanremo, Vintimiglia, Menton	N/A
Aachen-Liège- Maastricht	38.7	10	61	6	Hasselt, Aachen, Maastricht, Liège, Heerlen	N/A
Saarbrücken	53.9	5	61	7	Saarbrücken, Forbach, Sarreguemines	N/A
Geneva	34.4	11	55	8	Geneva, Thonon-les- Bains, Annecy	1
Strasbourg	44.2	8	49	9	Strasbourg, Offenburg, Baden-Baden, Freiburg/Breisgau	3
Lille	57.8	4	31	10	Lille, Kortrijk, Tournai, Mouscron	4
Katowice- Ostrava	45.0	7	18	11	Katowice, Ostrava	N/A

**Table 4** Speed and number of public transport connections between the major centres in the different case-studies, 2009. Sources: see Table 2

### 9.3 Indicator 3 - Population density and growth

Before we examine functional integration in more detail by means of population data, we will look more closely at the demographic positioning of the cross-border MUAs and FUAs. The positioning of the central MUAs and FUAs in question shows the diversity of these regions.

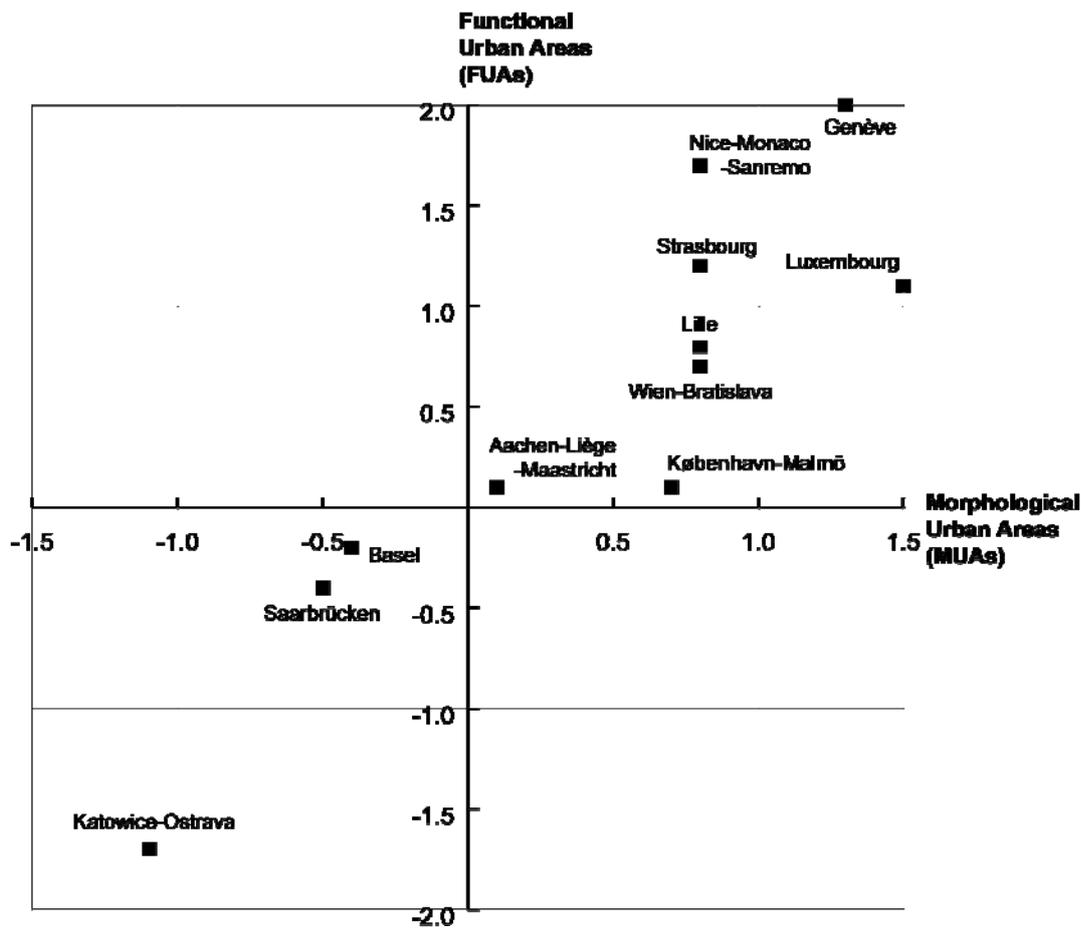


**Fig. 15** Comparing the population of Morphological and Functional Urban Areas

The morphological urban areas within the 11 CBPMRs are quite diverse in terms of demographic size (see Fig. 15), ranging from 130,000 (Luxembourg) to 2.5 million (Katowice-Ostrava) inhabitants in 2006. As to the morphological areas, functional areas are very diverse in terms of population size, ranging from 800,000 (Geneva) to 4 million inhabitants (Katowice-Ostrava) in 2006. Comparing the demographic size of morphological and functional urban areas in 2001 and 2006 shows divergent profiles (cp. Fig. 16).

In the cases of Geneva, Lille, Nice-Monaco-Sanremo and Strasbourg, the difference between the population of the two spatial units is small (less than 400,000 inhabitants in 2006) whereas in Vienna-Bratislava, Katowice-Ostrava, Copenhagen-Malmö and Luxembourg, the difference between the two is extremely large (more than 800,000 inhabitants in 2006). From this point of view, Luxembourg is in an exceptional situation: its functional area is more than 7 times bigger than the morphological area.

As Fig. 15 shows, the changes in average annual population growth of Morphological and Functional Urban Areas are usually convergent: Basel, Saarbrücken and Katowice-Ostrava are declining in demographic terms whereas Geneva, Luxembourg, and Nice-Monaco-Sanremo grew very fast between 2001 and 2006.



**Fig. 16** Comparing the average annual growth of Morphological and Functional Urban Areas (between 2001 and 2006, in %)

Focusing on population density and growth explores the effect that national boundaries may have on population dynamics in a metropolitan context. The indicator measures a) density of population in 2006 and b) average annual demographic growth between 1980 and 2006 for all municipalities located in the 11 cross-border metropolitan regions.

The findings demonstrate that border regions in Europe have highly heterogeneous demographic profiles. Like any other European metropolitan regions, cross-border metropolitan regions are characterised by intense spatial dynamics in terms of employment and population. The spatial pattern, however, takes on specific forms in border contexts. While European integration has

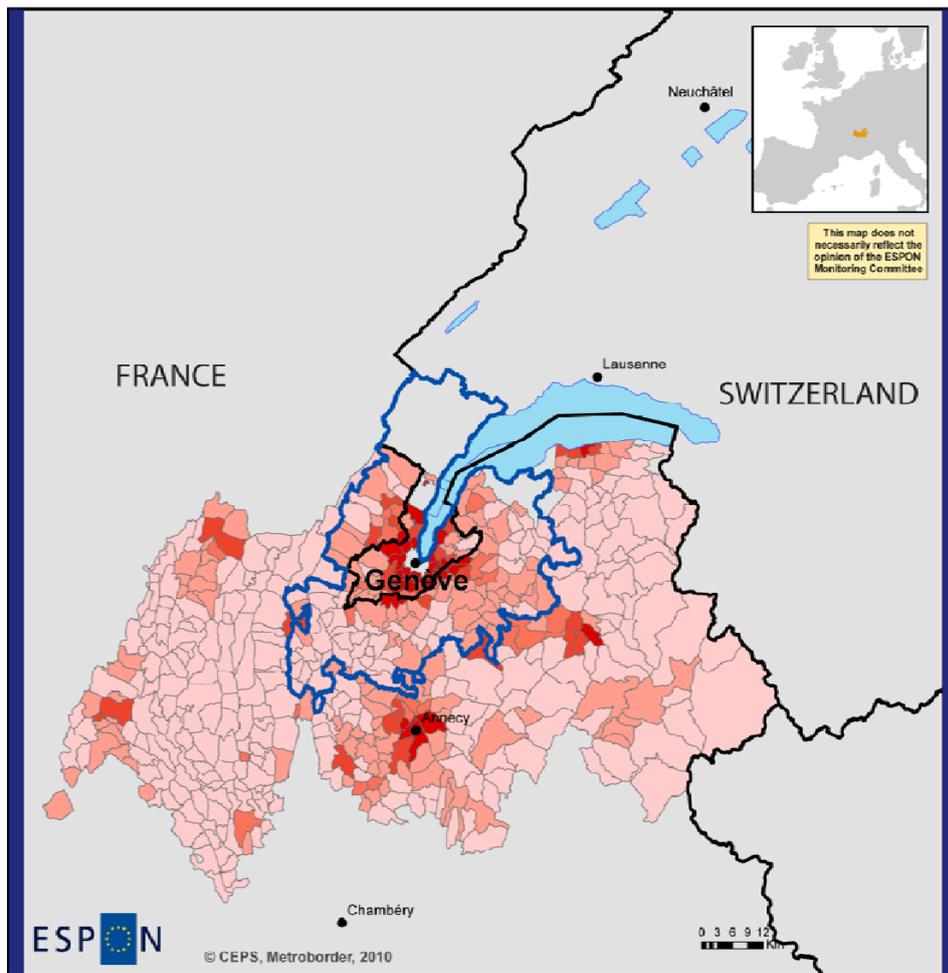
significantly boosted the opening of borders and fostered trade between nations, certain demographic differentials can still be observed within the metropolitan areas considered by this study.

### **Density of population**

The calculation of population density (number of inhabitants per square kilometre in 2006) shows the population patterns within border areas. Map 24 shows the example of Geneva.

Like Geneva, several border cities (Lille, Nice-Monaco-Sanremo, and Katowice-Ostrava) show similarities in demographic terms: the conurbation of Geneva was extended towards the border and now encompasses the urban area of Annemasse; the metropolitan area of Lille is a very dense cross-border polycentric conurbation because of its industrial history; the situation is similar for the urban and industrial Silesian region which is one of the most important industrial areas in Europe; while in the case of Nice, the coast is urbanised and forms a urban cross-border continuum (from Cannes to Sanremo). Given these results, the boundaries in these cross-border regions do not introduce significant demographic variations between the municipalities of the countries; there is no strong population density differential across the border.

On the other hand, in some cases (Vienna-Bratislava, Aachen-Liège-Maastricht), differences in density across the borders can be seen. In the case of Aachen-Liège-Maastricht, "The rates and regulation of taxation vary strongly. Many cross-border workers pay income taxes in both countries. They have to fill in forms in both countries and require help which is difficult to obtain." (MKW Wirtschaftsforschung 2009). This is the reason why people prefer to move to the country where they work. In this case, the border constitutes a barrier. For Vienna-Bratislava, there are also strong differences in demographic terms between the two sides of the border. This is associated with the existence of the Iron Curtain for 40 years, but also with the fact that on the Austrian side there is now a reserved area along the Danube River which prevents urban development in the area. Copenhagen-Malmö is a special case because of the presence of the sea physically separating the two main cities. In these circumstances it is difficult to assess differences in densities.




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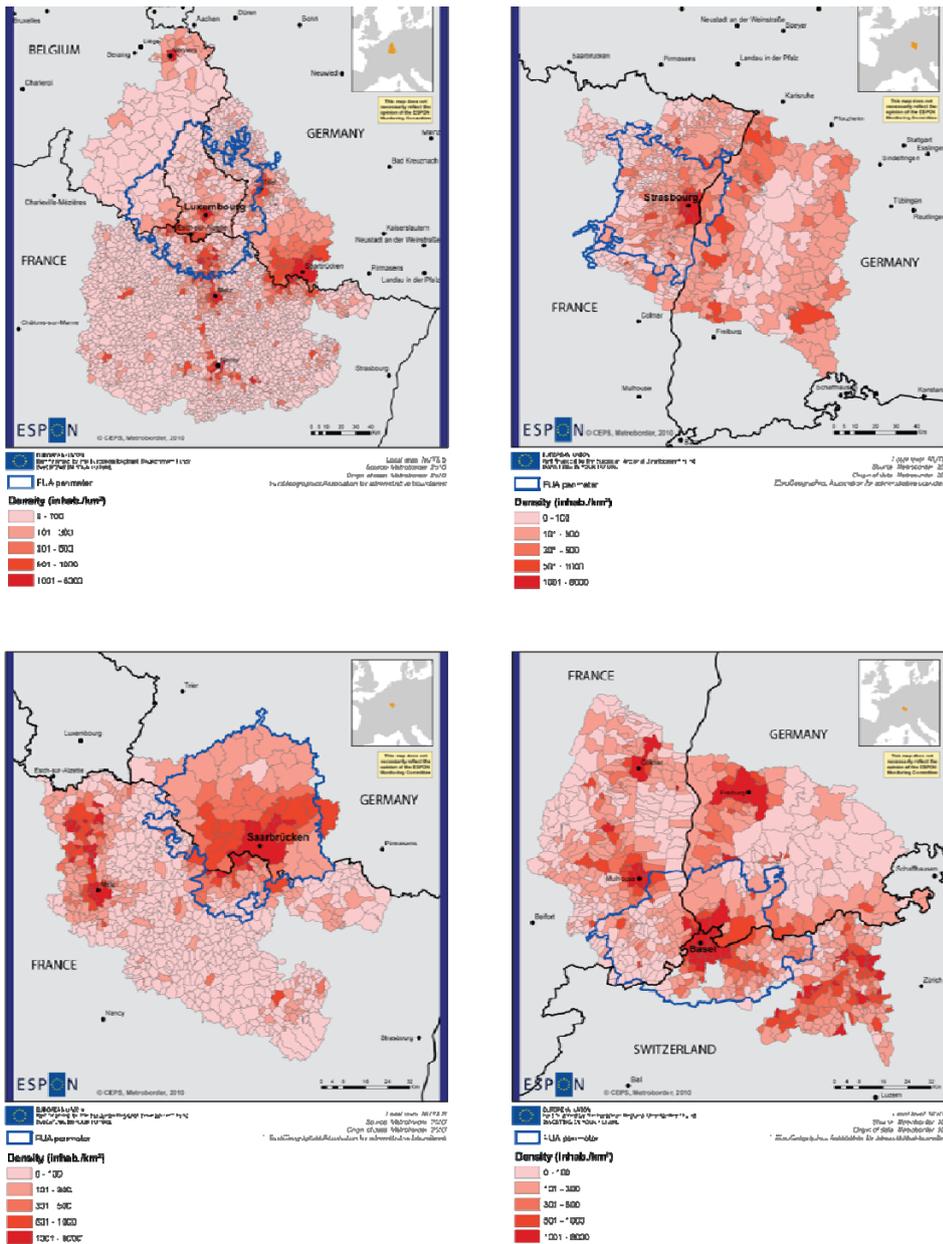
 FUAs Perimeter

**Density (inhab./km<sup>2</sup>)**

-  0 - 100
-  101 - 300
-  301 - 500
-  501 - 1000
-  1001 - 8000

Local level: NUTS 5  
 Source: Metroborder, 2010  
 Origin of data: Metroborder, 2010  
 © EuroGeographics Association for administrative boundaries

**Map 24** Population density in the Geneva region



**Map 25** Population density of Basel, Luxembourg, Saarbrücken and Strasbourg

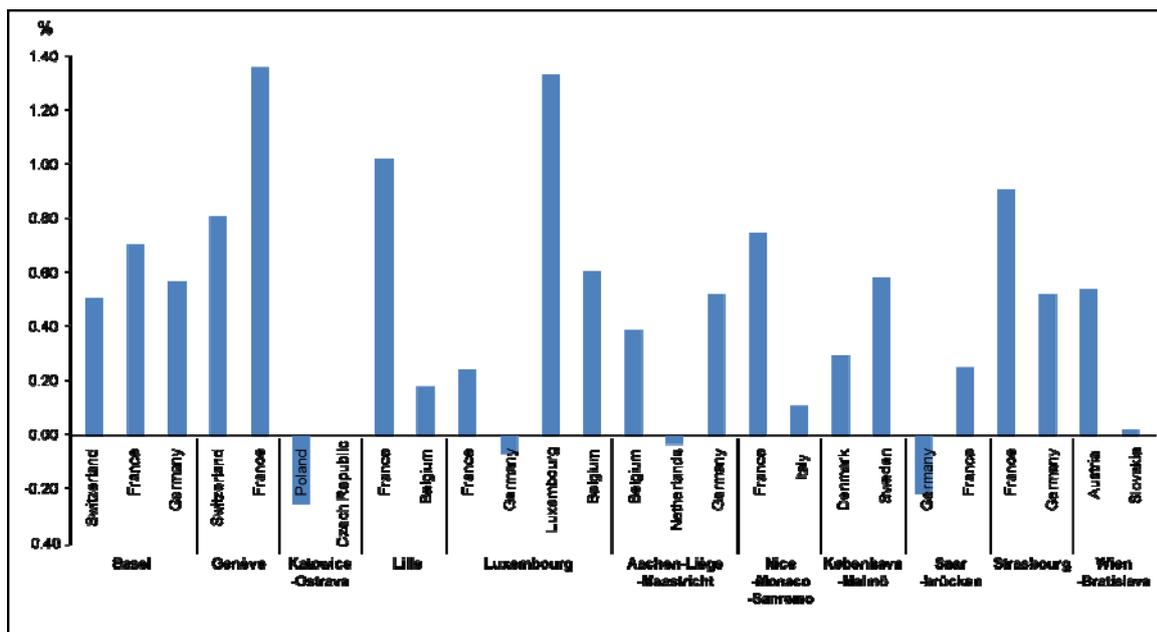
Note: only municipalities from a selection of NUTS 3 are represented

In the case of the Greater Region, the main centres of population are cross-border: the sector of Esch-sur-Alzette-Differdange-Longwy-Villerupt, the sector of Saarbrücken-Sarregeumines-Forbach-Saint-Avold, and the sector of Metz-Thionville, areas undergoing structural change now benefiting from the economic dynamism of Luxembourg. In the case of the Upper Rhine, the two main cities (Strasbourg and Basel) form urban border areas, since the neighbouring municipalities also have population densities similar to these two centres. There is a spreading effect of density outwards from urban centres as it diffuses over space. Between these two population centres, several sub-centres are spread across the Rhine area (Mulhouse, Colmar, Freiburg im Breisgau).

### Average annual growth rates

The indicator of average annual growth (AAGR) measures the demographic change between 1981 and 2006. This indicator allows a comparison of the population growth dynamics in the different regions, although demographic data are not available for the same date for all cases.

Fig. 17 shows that in many cases demographic development has seen similar growth on both sides of the border (particularly in Basel, Geneva, Copenhagen-Malmö and Strasbourg).



**Fig. 17** Average annual growth rate over the last 15 years  
Sources: National statistical offices

In the others cases, such as Nice-Monaco-Sanremo, Katowice-Ostrava and Saarbrücken, the demographic trends are not the same on either side of the borders. There are strong differences, with contrasting average annual growth rates. For the cases of Vienna-Bratislava and Aachen-Liège-Maastricht, trends vary according to the time scale considered. Over a period of 25 years, the annual growth rates are quite similar, while over a period of 15 years population growth rates are radically different, even antithetical (for example, Dutch municipalities lost population).

Morphological Urban Areas (MUAs)	Population 2001	Population 2006	Average annual growth (%)
Katowice-Ostrava Total	2,644,319	2,507,825	-1.1
Vienna-Bratislava Total	2,084,715	2,174,365	0.8
Copenhagen-Malmö Total	1,714,305	1,778,928	0.7
Aachen-Liège-Maastricht Total	1,577,469	1,588,592	0.1
Lille Total	1,401,644	1,458,504	0.8
Nice-Monaco-Sanremo Total	1,193,202	1,239,836	0.8
Saarbrücken Total	628,267	611,638	-0.5
Strasbourg Total	556,537	579,799	0.8
Basel Total	566,331	555,635	-0.4
Geneva Total	447,179	477,681	1.3
Luxembourg Total	120,331	129,517	1.5

**Table 5** Morphological Urban Areas (MUAs): population in 2001 and 2006

Notes: Copenhagen-Malmö: Malmö population 2005. Katowice-Ostrava:

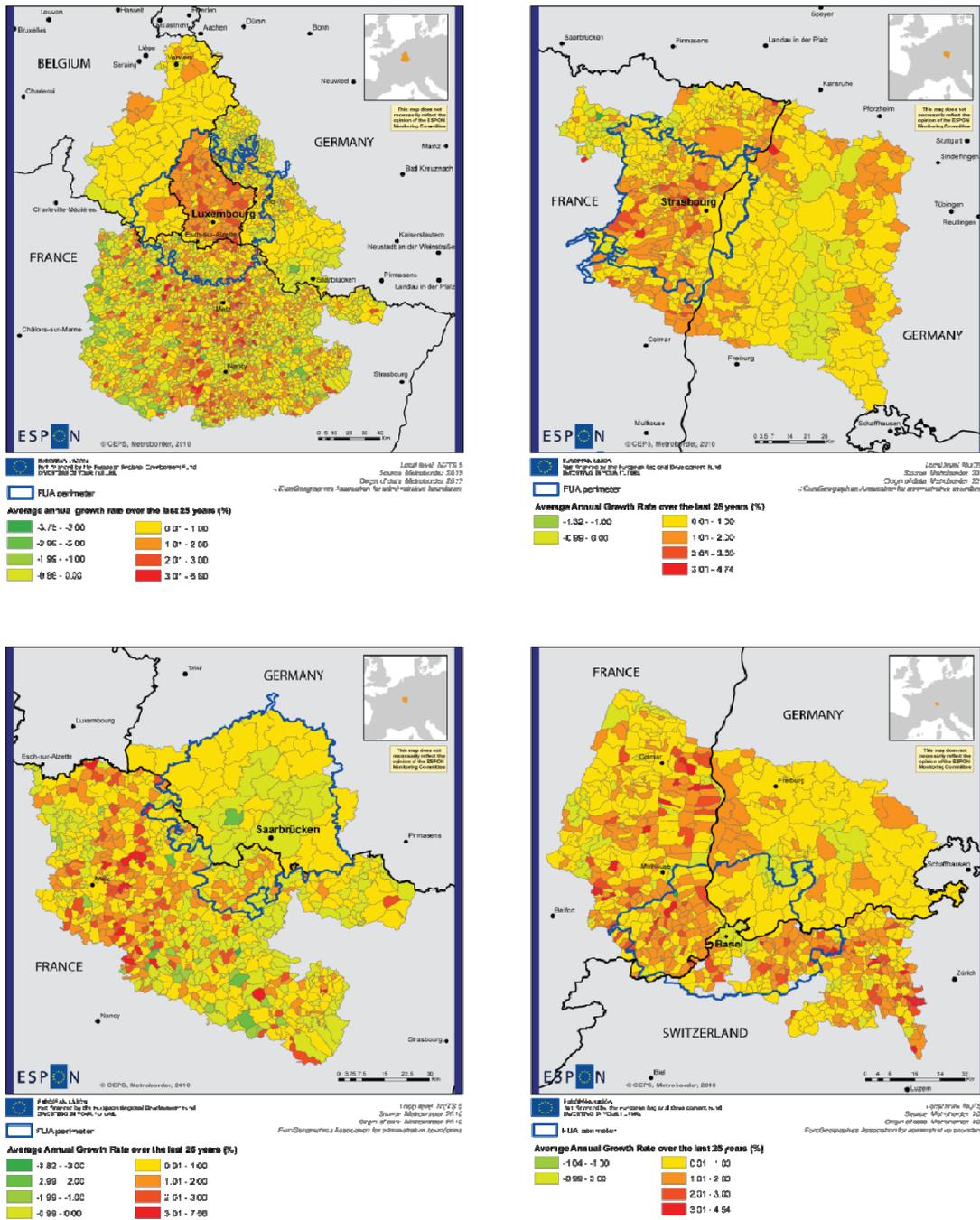
Katowice population 2008

Sources: Luxembourg: STATEC, Statistisches Landesamt Rheinland-Pfalz, Statistisches Landesamt Saarland, IGEAT, Insee. Basel: OFS, Statistisches Amt des Kantons Basel-Landschaft, Basel-Stadt Statistik, Statistisches Landesamt Baden-Württemberg, Insee. Geneva: OFS, Office cantonal de la statistique du canton de Geneva, Statistiques Vaud, Insee. Nice-Monaco-Sanremo: Insee, Istat. Lille: Insee, IGEAT. Saarbrücken: Statistisches Landesamt Saarland, Insee. Aachen-Liège-Maastricht: Statistisches Landesamt Nordrhein-Westfalen, IGEAT, Statistics Netherlands. Copenhagen-Malmö: Ørestat databank. Strasbourg: Insee, Statistisches Landesamt Baden-Württemberg. Vienna-Bratislava: Statistik Austria, Statistical Office of the Slovak Republic. Katowice-Ostrava: Czech Statistical Office.

Between 2001 and 2006, most of the cross-border metropolitan cores experienced positive average annual growth, with the exceptions of Basel, Saarbrücken and Katowice-Ostrava. Luxembourg and Geneva saw particularly strong annual demographic growth compared to the other MUAs. Previous studies suggest that this growth is primarily linked to the development of a knowledge-intensive economy, notably in finance and business services (Walther and Dautel, 2010).

Functional Urban Areas (FUAs)	Population 2001	Population 2006	Average annual growth (%)
Katowice-Ostrava	4,319,991	3,956,937	-1.7
Vienna-Bratislava	3,496,574	3,628,679	0.7
Copenhagen-Malmö	2,645,546	2,658,435	0.1
Aachen-Liège-Maastricht	1,990,946	2,005,498	0.1
Lille	1,773,063	1,846,699	0.8
Nice-Monaco-Sanremo	1,282,703	1,395,866	1.7
Saarbrücken	1,192,745	1,170,563	-0.4
Basel	960,538	952,139	-0.2
Luxembourg	882,285	931,771	1.1
Strasbourg	848,591	899,155	1.2
Geneva	731,281	807,909	2.0

**Table 6** Functional Urban Areas (FUAs): population in 2001 and 2006  
Notes: Copenhagen-Malmö: Malmö population 2005. Katowice-Ostrava: Katowice population 2008. Source: See Table 2.



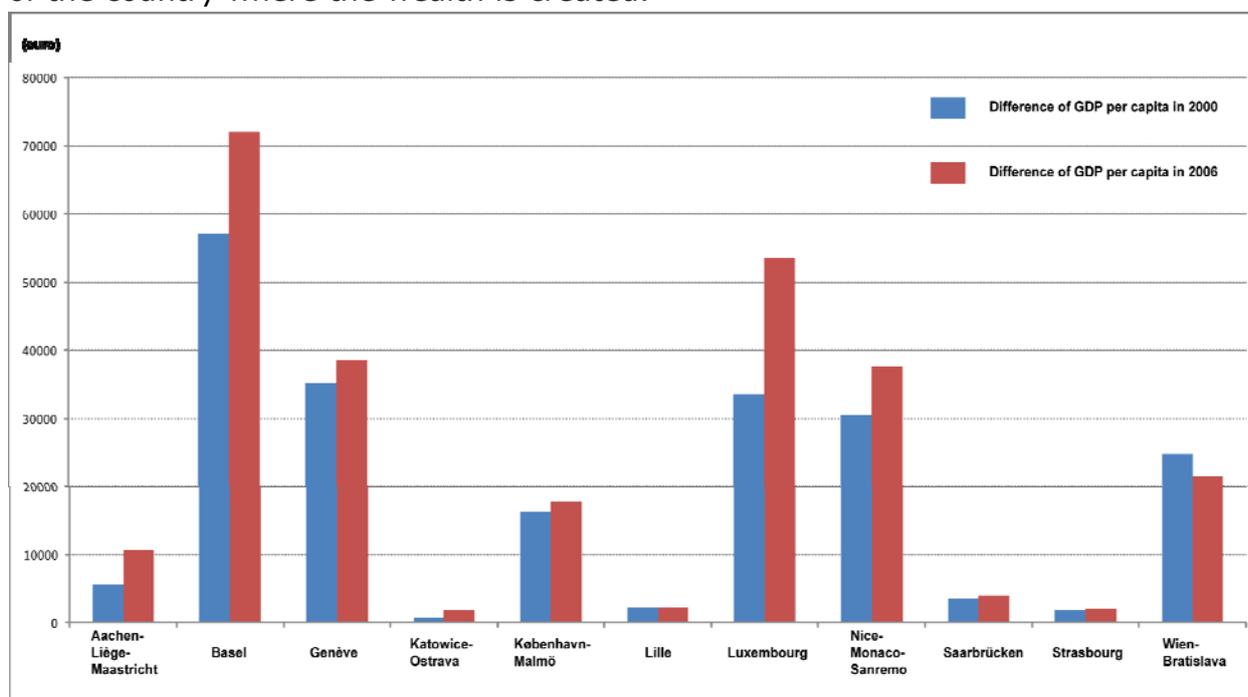
**Map 26** Average annual growth rate in the four selected cases studies: Basel, Luxembourg, Saarbrücken and Strasbourg

### 9.4 Indicator 4: GDP growth

The effects of a border on economic integration depend on several factors, notably the degree of openness of the border, language differences and political relations, but also the degree of economic disparity (Anderson and Wever 2003). Large differentials in factor costs drive cross-border production sharing, but also cross-border shopping and cross-border work (MKW Wirtschaftsforschung 2009).

The GDP growth indicator measures the differences between the wealth created in the territories located on either side of the border (Fig. 18 and Fig. 19). This indicator thus highlights the economic dynamism of a territory and is calculated on the basis of GDP per capita in 2000 and 2006 at NUTS 3 level. Only the border regions are taken into account in the calculation of GDP per capita growth differentials. When more than two territories are involved, it is the gap between the highest and the lowest GDP per capita that is taken into consideration.

One must remain cautious about the interpretation of this indicator, especially due to two spatial mismatch effects. Firstly, GDP data are produced at NUT3 scale, which corresponds for some countries to much larger regions than the FUAs involved in the cross-border integration phenomenon. Secondly, in cross-border metropolitan regions where there are many cross-border workers, such as Luxembourg, Geneva and Basel, the GDP per capita figures are overestimates as they do not take into account cross-border workers as part of the population of the country where the wealth is created.



**Fig. 18** Evolution of the differential of GDP per Capita  
Sources: Eurostat, BAK Basel.

	Average GDP per capita in 2006 (€)	Border territory
Aachen-Liege- Maastricht	19,724	Germany
	30,400	The Netherlands
	21,847	Belgium
Basel	23,360	Germany
	24,700	France
	95,417	Switzerland
Geneva	64,849	Switzerland
	26,325	France
Katowice-Ostrava	13,485	Poland
	15,300	Czech republic
Copenhagen-Malmö	48,713	Denmark
	31,000	Sweden
Lille	24,800	France
	27,149	Belgium
Luxembourg	21,193	Belgium
	18,218	Germany
	23,711	France
	71,800	Luxembourg
Nice-Monaco- Sanremo	60,595	Monaco
	23,000	Italia
	29,100	France
Saarbrücken	23,300	France
	27,313	Germany
Strasbourg	29,963	Germany
	27,800	France
Vienna-Bratislava	36,360	Austria
	14,847	Slovakia

**Fig. 19** Average GDP per capita (2006)

Sources: Eurostat, BAK Basel.

Without expanding on the results of this indicator, two main observations can be made.

Without expanding on the results of this indicator, two main observations can be made.

### 9.5 Synthesis: Evaluation of functional cross-border integration as shown by the indicators

As already pointed out in the framework of the Main Report, taken together these indicators give the picture set out below.

To enable and facilitate the comparison of indicators, we highlight the major trends, making ordinal classifications to combine case studies in different statistical sub-set.

Cross-border metropolitan areas	Interactions		Convergence	
	Cross-border commuters	Cross-border public transport	Similarity of GDP PPS per capita	Residents' citizenship
Luxembourg	5	5	1	4
Saarbrücken	3	3	4	2
Basel	4	4	1	3
Strasbourg	1	1	5	1
Geneva	5	4	1	5
Basel	4	4	1	3
Aachen-Liege-Maastricht	2	2	4	2
Lille	3	1	5	2
Nice-Monaco-San Remo	3	2	1	4
Copenhagen-Malmö	2	4	4	2
Vienna-Bratislava	1	5	4	1
Katowice-Ostrava	no data	1	5	no data

1= very weak, 2 = weak, 3 = moderate, 4 = strong, 5 = very strong.

**Table 7** Synthesis indicator for cross-border interactions and convergence (source: CEPS/Instead)

These ordinal scales show values ranging from 1 to 5. A low value (1) illustrates a phenomenon of low intensity, while a high value (5) shows a major phenomenon. Thus, a value of 5 indicates that the economic differential between border regions is considerable, or that the number of cross-border workers is high.

Classification of dependent and independent variables (based on absolute values)

Classification of the number of cross-border commuters per capita (number of in-commuters compared to the population of the metropolitan centre):

- Class 5 (number of cross-border commuters > 20 %)
- Class 4 (number of cross-border commuters between 5 to 20 %)
- Class 3 (number of cross-border commuters between 1 to 5 %)
- Class 2 (number of cross-border commuters between 0.5 to 1 %)
- Class 1 (number of cross-border commuters < 0.5 %)

Classification the similarity of GDP per capita:

- Class 5 (difference in GDP < €10,000)
- Class 4 (difference in GDP between €10,000 and €20,000)
- Class 3 (difference in GDP between €20,000 and €30,000)
- Class 2 (difference in GDP between €30,000 and €40,000)
- Class 1 (difference in GDP > €50,000)

Classification of number of foreign residents within the cross-border metropolitan areas:

- Class 5 (number of foreign residents > 40,000 persons)
- Class 4 (number of foreign residents between 30,000 to 40,000 persons)
- Class 3 (number of foreign residents between 20,000 to 30,000 persons)
- Class 2 (number of foreign residents between 10,000 to 20,000 persons)
- Class 1 (number of foreign residents < 10,000 persons)

Classification of the cross-border transit (combination of data taking into account the number of connections, average speed of public transport lines and the linkage frequency)

## 10 Metropolitan labour market and commuting in the Greater Region

### 10.1 Commuting in the Greater Region – statistical details

Incoming commuters							
Destination	Origin				Incoming Total	Date	Source
	Germany	France	Luxembourg	Belgium			
Saarland		20,301	45	47	20,393	30/06/2008	BA
Rhineland-Palatinate		5,134	160	144	5438	30/06/2008	BA
Lorraine	1,120		200	130	1,450	2005	ADEM EURES
Luxembourg	34,819	72,053		37,074	143,946	30/06/2008	IGSS
Wallonia	517	24,072	359		24,948	30/06/2007	INAMI
<b>GREATER REGION</b>	<b>36,456</b>	<b>121,560</b>	<b>764</b>	<b>37,395</b>	<b>196,175</b>		

Outgoing commuters							
Origin	Destination				Incoming Total	Date	Source
	Germany	France	Luxembourg	Belgium			
Saarland		1,000	6,616	-	7,616	31/03/2008	INSEE/IGSS
Rhineland-Palatinate		120	25,141	-	25,261	31/03/2008	INSEE/IGSS
Lorraine	22,450		64,014	4,464	90,928	2007	INSEE
Luxembourg	275	200		381	856	30/06/2004	BA/INSEE/INAMI
Wallonia	4,685	4,348	31,385		40,418	30/06/2004	INAMI
<b>GREATER REGION</b>	<b>27,410</b>	<b>5,668</b>	<b>127,156</b>	<b>4,845</b>	<b>165,079</b>		

**Table 8** Commuting in the Greater Region – statistical details for the subregions

Source: Report of the 'Observatoire Interrégional du marché de l'emploi (OIE 2009)

BA – Bundesagentur für Arbeit – Deutschland (Statistikservice Südwest)

IGSS: Inspection Générale de la Sécurité Sociale – Luxembourg

INAMI : Institut national d'Assurance Maladie-Invalidité – Belgique

INSEE – Institut national de la statistique et des études économique – France (DR Lorraine)

### 10.2 Methodology: knowledge intensive services in the Greater Region

Developed within the framework of the theory of knowledge and on a European level, the work initiated by the OECD in the mid-1980s is not subject to the above criticisms (OECD, 2006). Based on the intensity of research and development (R&D) and the technological level of activities, these analyses initially concerned the manufacturing sector (Hatzichronoglou, 1997).

Subsequently, they were extended by Eurostat (2006) to cover service activities, and finally provided a European classification of high-technology and knowledge-intensive sectors. The resulting classification distinguishes between four categories of manufacturing industry as a function of their technological level, as well as six categories of services of which four are highly knowledge-intensive

and two are less knowledge-intensive. Table 1 shows these different sectors on the basis of the NACE classification of activities adopted by the European Union (EU) and shows in grey the high-technology and knowledge-intensive services (KIS) which are discussed in the subsequent analysis.

The main drawback of this sectoral classification is associated with the heterogeneity of the activities considered as highly or less highly knowledge-intensive. The financial sector, for example, consists of several very diverse specialisations (asset managers, IT workers, secretaries, security staff). There is also the fact that enterprises are increasingly inclined to specialise in terms of type (function) of job and no longer only in terms of economic sector. The management and production functions thus tend to occupy different places within the same economic sector, as shown by Duranton and Puga (2005), who describe this as the passage from sectoral specialisation to functional specialisation.

Economic sectors	NACE version 1.1 codes
Manufacturing industry	
High technology	24.4, 30, 32, 33, 35.3
Medium-high technology	24 (-24.4), 29, 31, 34, 35 (-35.1 and 35.3)
Medium-low technology	23, 25 to 28, 35.1
Low technology	15 to 22, 36, 37
Services	
High-technology Knowledge Intensive Services (KIS)	64, 72, 73
Market Knowledge Intensive Services (KIS)	61, 62, 70, 71, 74
Financial Knowledge Intensive Services (KIS)	65 to 67
Other Knowledge Intensive Services (KIS)	80, 85, 92
Market Less Knowledge-Intensive Services (LKIS)	50 to 52, 55, 60, 63
Other Less Knowledge-Intensive Services (LKIS)	75, 90, 91, 93, 95, 99

**Table 9** Manufacturing and services sectors

Note: high-tech industries and knowledge-intensive services are indicated in gray.

Sources: OCDE (2006) and Eurostat (2006).

Adaptation for the case of Luxembourg and identification of high-technology and highly knowledge-intensive sectors

The methodological process includes two stages. Firstly, the OECD-Eurostat classification is adapted to the specifics of Luxembourg, to the extent to which

this is mandated by the nature of the data used. Then, a procedure selecting the jobs corresponding to highly knowledge-intensive sectors is carried out.

The classification of highly knowledge-intensive activities produced by the OECD and Eurostat is based on the classification of economic activities within the EU (NACE version 1.1). Taking into account the data available at the European level, the identification of high-technology manufacturing industries has been made using the NACE codes to three figures, while the highly knowledge-intensive services are aggregated on the basis of the NACE codes taken to two figures. The use of figures from the IGSS's administrative files allows the classification to be refined and to better take into account the specific features of the Luxembourg economy by using the NACE code to five positions for all those in active employment and registered for social security. This statistical opportunity allows two types of modification to be made to the OECD-Eurostat classification. Firstly, certain sectors which are aggregated when the NACE codes are taken to two positions are disaggregated to select the most relevant activities (in purple in Table 10). This operation was carried out for the following activities: post and telecommunications (64), other business activities (74), education (80) and health and social work (85). In each of these activities, only the sectors with the highest level of knowledge intensity as identified by Krätke (2007) in his analysis of the knowledge economy at the level of the European metropolises have been retained, viz. telecommunications (64.2), certain other business activities (75.1-5), higher education (80.3) and the human health activities (85.1).

Secondly, the classification has been completed by sectors of activity linked to the other supporting transport activities (63.2) and the organisation of freight transport (63.4), which are particularly highly developed thanks in particular to the Luxembourg airport facilities, as well as certain activities within the general (overall) public service activities, foreign affairs, justice and judicial activities (75.111, 75.210, 75.230) and the extra-territorial organisations and bodies (99). This modified classification has been used as the basis for the identification of high-technology and highly knowledge-intensive jobs. Socio-professional status has been taken into account in order to exclude the analysis of blue-collar workers, as this category of employees generally corresponds to less qualified positions which are thus not representative of high-technology and knowledge-intensive employment. Although the IGSS data provides neither the NACE code nor the location of the head office of self-employed intellectual workers, this category has been taken into account in calculating high-technology and knowledge-intensive jobs because of the specific profile of the professions in question (doctors, lawyers, insurance agents etc.). The international civil servants included by STATEC and absent from the IGSS data have also been included in the calculation of these jobs. These two additions, however, concern only the statistics aggregated at the national level, as no information relating to the location of these jobs is available for the dates studied.

OECD classification	NACE	adapted classification for Luxembourg	NACE
Manufacturing industry		Manufacturing industry	
High-technology		High-technology	
Aerospace	35.3	Aerospace	35.3
Computers, office machinery	30	Computers, office machinery	30
Electronics-communication	32	Electronics-communication	32
Pharmaceuticals	24.4	Pharmaceuticals	24.4
Scientific instruments	33	Scientific instruments	33
Knowledge-intensive services		Knowledge-intensive services	
Knowledge-intensive high-tech services		Knowledge-intensive high-tech services	
Post and telecommunications	64	Telecommunications	64.2
Computer and related activities	72	Computer and related activities	72
Research and development	73	Research and development	73
Knowledge-intensive market services		Knowledge-intensive market services	
Water transport	61	Water transport	61
Air transport	62	Air transport	62
		Other supporting transport activities	63.2
		Activities of other transport agencies	63.4
Real estate activities	70	Real estate activities	70
Renting of machinery and equipment without operator and of personal and household goods	71	Renting of machinery and equipment without operator and of personal and household goods	71
Other business activities	74	Other business activities	74.1-74.5
Knowledge-intensive financial services		Knowledge-intensive financial services	
Financial intermediation	65	Financial intermediation	65
Insurance and pension funding	66	Insurance and pension funding	66
Activities auxiliary to financial intermediation	67	Activities auxiliary to financial intermediation	67
Other knowledge-intensive services		Other knowledge-intensive services	
Education	80	Higher education	80.3
Health and social work	85	Human health activities	85.1
Recreational, cultural and sporting activities	92	Recreational, cultural and sporting activities	92

	Other less-knowledge-intensive services	
	General (overall) public service activities, Foreign affairs, Justice and judicial activities (selection)	75.111, 75.210, 75.230
	Extra-territorial organisations and bodies	99

**Table 10** High-technology manufacturing and knowledge-intensive services sectors. Sources: OCDE (2006) and Eurostat (2006).

## 11 Zooming in: automotive industry in the Greater Region

### 11.1 Methodological framework

Within the Greater Region, cross-border functional integration is examined in greater detail using the example of one particular economic sector. The aim is in particular to better understand the cross-border dimension of the economy. The envisaged selection of the automotive industry has been reflected upon taking into account several concerns. Nevertheless, the automotive sector has proved to be the most appropriate example; for the following reasons:

All Greater Region countries recognise the relevance of the automotive industry and seek to foster it by means of cluster initiatives etc. Moreover, this key industry has been an important pillar in all those countries which have undergone the structural changes over recent decades which can be characterised as a uniting, trans-boundary development (cp. Dörrenbächer & Schulz 2002, 2005, 2006). As a consequence, the automotive industry now includes diverse types of enterprises: Besides the actual vehicle producers usually referred to as original equipment manufacturers (OEM), an ever growing number of – especially 1<sup>st</sup> tier – supporting industries, which are increasingly important (cp. VDA 2004). These suppliers belong to the fields of R&D, electro-technology and high quality service providers, all of which are characterised as metropolitan functions.

As the automotive industry consists of diverse branches and both small and medium sized enterprises as well as large entities, it dominates the industrial sector within the Greater Region (see table and map below, cp. Ministère d'Etat du Grand-Duché Luxembourg 2009: 20f.). This relevance is highlighted by the employment figures.

The politically-initiated cluster initiatives in all parts of the Greater Region serve as a source of information. No other economic sector provides such a

comprehensive open-access database. Given the limited resources for this zoom-in study, a comprehensive data collection is not feasible.

Two types of data can be used. Firstly – as the ESPON database does not provide any data for the given case study – existing data are compiled (from cluster initiatives etc.), giving information on original equipment manufacturers as well as 1<sup>st</sup>, 2<sup>nd</sup> and 3<sup>rd</sup> tier suppliers.

Secondly, between November 2009 and January 2010 a questionnaire was developed and sent to all companies to inventory the structure of the automotive industry and the cross-border relations of the companies. The questionnaire covers the following issues:

- the fields of cooperation (production, R&D, networking etc.) and location of partners,
- the intensity, the character and the challenges of cross-border cooperation within the Greater Region (communication patterns, linguistic barriers etc.),
- the employment structure (number of persons employed, geographical origin of the employees), and
- the organisational structure of the companies (headquarters vs. branch plant, degree of independence etc.).

## 11.2 The situation in the Greater Region

The inventory of the automotive industry based on analysing the open-access databases first of all provides higher numbers of employees within the automotive sector than frequently found in official statistics: more than 650 companies with about 160,000 persons employed belong to one of the cluster initiatives (Table 11). These figures are far more diverse and larger than usually stated.

Region	Persons employed
Lorraine	35,000
Luxembourg	10,000
Rhineland-Pal.	50,000
Saarland	49,000
Wallonia	15,500

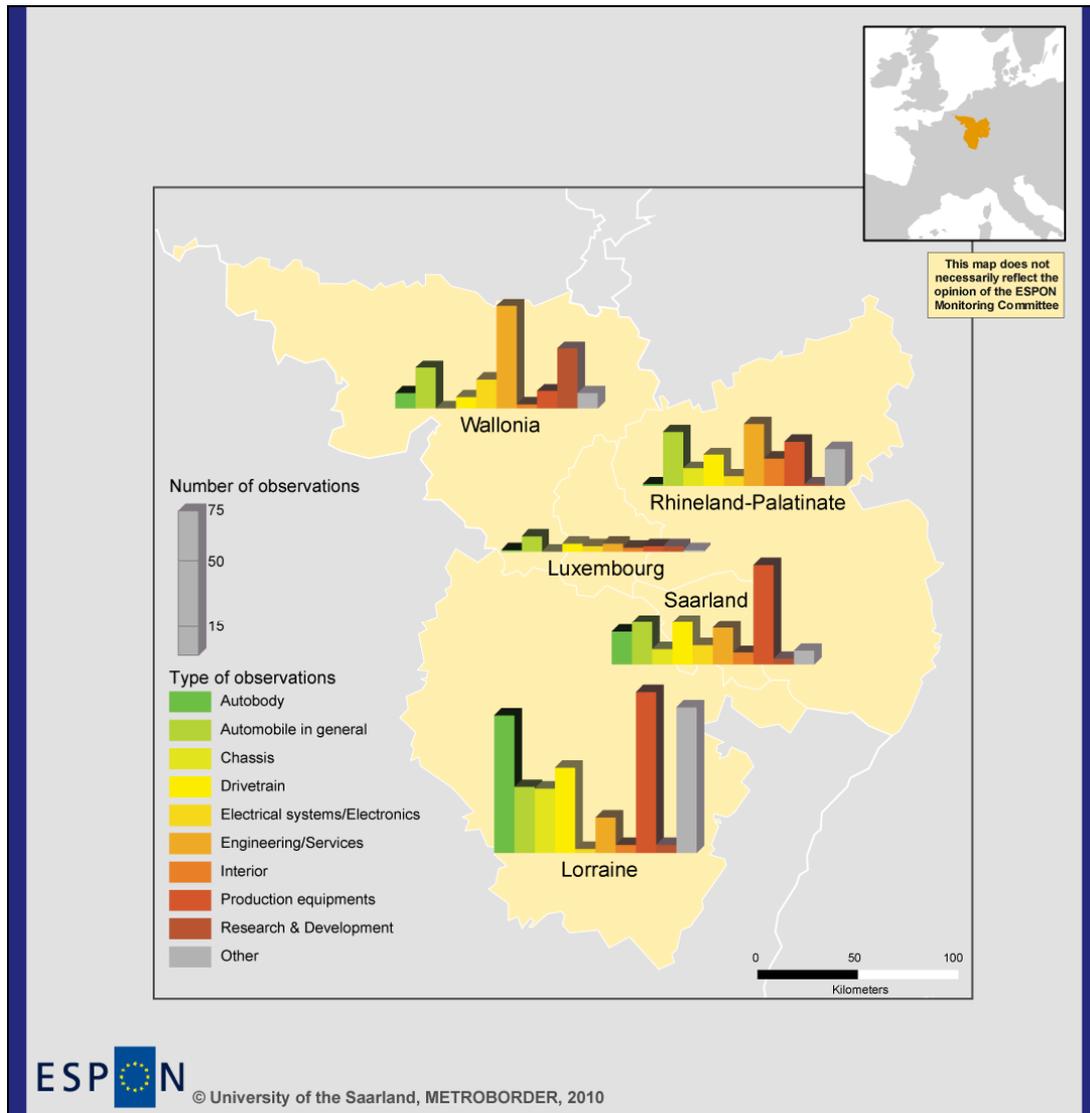
**Table 11** Persons employed in the automotive industry (OEMs and supplying industry, excluding truck production).

Sources: autoessor, ILEA, Zulieferinitiative Rheinland-Pfalz, automotive.saarland, Cluster Auto-Mobilité de Wallonie

The available data allow differentiation between business activities in terms of supply industry and their spatial patterns (see Map 27).

Recent developments in automotive technology and market dynamics have clearly led to a significant shift in the structure of the automotive industry, as

about one third of the companies are working in the fields of high quality services, electro-technology or R&D.



**Map 27** Fields of business activity of suppliers in the automotive industry (number of firms excluding OEMs, excluding truck production).

Sources: Autoessor (2010), Automobil-Netzwerk des Saarlandes (2010), Automobil Zulieferinitiative Rheinland-Pfalz (2010), Cluster Auto-Mobilité de Wallonie (2010), ILEA - Industrie Luxembourgeoise des équipementiers de l'automobile (2010), Ministère d'Etat du Grand-Duché Luxembourg (ed.) (2009)

## **12 The accessibility to emergency services: methodological choices**

### **12.1 Principles**

At the occurrence of a CVA, or a stroke, the time is vital. If the patient is not treated within three hours, he may suffer from important sequelae. This three hour period is short as it needs to include:

- calling an emergency service. The patient or his neighbourhood understands the gravity of the illness and calls the emergency service. Description of the symptoms to the emergency platform call.
- Arrival of the emergency unit, i.e transport time from the emergency service to the place of the stroke occurrence.
- Diagnosis by the medical team. Assessment that is probable that a stroke has occurred, and decision to transport the patient to a stroke unit.
- Transport from the place of the occurrence to the stroke unit.
- Arrival at the stroke unit; new diagnosis, with the help of a scanner and/or an IRM
- Operation.

These different steps are indicative; sometimes the patient can be directly driven by his relatives to an emergency service, or to a general practitioner. In addition, the time for diagnosis may be greater or shorter, depending on the kind of stroke.

In this modelling exercise we had to measure on a common basis the inequalities between places of residence of the inhabitants in terms of time to reach a stroke unit. Some simplification had to occur regarding the way the time for diagnosis and examination was estimated; we set this time at 90 minutes. As the vital period is three hours, this leave just 90 minutes for transportation (transportation from the emergency service to the place of stroke occurrence plus transportation from the place of stroke occurrence to the stroke unit).

Two different scenarios were tested:

- the national borders are not permeable. The emergency unit which arrives belongs to the same country, and the patient is driven to a stroke unit in the same country.
- The national borders are permeable. The emergency unit to arrive is the nearest one, from whichever country, and the stroke unit used is also the closest one.

### **12.2 Methodology**

A harmonised network of LAU1/2 was set (cf. METROBORDER Interim Report). The place of occurrence of strokes has been arbitrarily localised at the centroid of each LAU.

An inventory of the emergency services and stroke units was elaborated in Lorraine and Saarland (two stroke units were identified in Lorraine and five in Saarland; they are certified and have the capacity to provide full care to a patient suffering a stroke).

The time distance from the emergency services to the LAU was calculated, as well as the time distance from the LAU to the stroke units (at an ambulance speed, using the main roads). The closest emergency services and stroke units were considered in this step, but alternative ways could have been selected (cf. analysis in the framework of ESPON3.2 as regards the accessibility to maternity hospitals in the Greater Region).

Preliminary computations display the accessibility time for each LAU (time from the emergency service to the LAU + time from the LAU to the stroke unit) in the scenario of national borders permeability and in the scenario of impermeability. The map in the report provides the differential between both scenarios, allowing a measure of the time gains and thus the additional chances of survival of the patient, in case of cross-border cooperation and health harmonisation.

## **13 Cross-border institutional mapping**

### **13.1 Methodology of cross-border institutional mapping**

In the framework of the Metroborder project different approaches of institutional mapping have been applied. These tools of cross-border institutional mapping (c-bim) refer to different approaches towards territoriality (in detail Chilla et al. forthcoming).

In general, the questions behind are:

- Territorial scope: On what territory does the cross-border cooperation work? How do we define the 'external borders' of the cross-border cooperation?
- Territorial mandate: What does the cross-border cooperation intend to do on the given perimeter, based on what kind of political legitimation? Is it more a single-issue cooperation (e.g. transport project) or is it a more general perspective?
- Territorial organisation: Which territorial authorities from which sides of the borders and from which level are included and play which role?

Traditionally, the concept of territoriality means that political control and legitimacy is linked to the clearly defined physical areas of nation states; these spatial entities are reciprocally exclusive and separated by borders (e.g. Knippenberg & Mamadouh 2001; critical Elden 2010). From a juridical and more

technical perspective, national borders are the most important “legal lines separating different jurisdictions” (Anderson & O’Dowd 1999: 594), a more normative-critical perspective sees territoriality as a political “strategy” that controls a given space and its inhabitants in a somewhat authoritarian way (Anderson & O’Dowd 1999: 598). However, the understanding of territoriality as central point of national authority has been questioned during the last years: The experience of a globalised economy, of increasing international migration, and of environmental threats has questioned the dominance of *national* ‘containers’: The national containers became ‘leaking’ in economic, social, cultural etc. dimensions (e.g. Taylor 1994, 1995; Paasi 2004), and relevant changes and challenges cannot always be addressed in an effective way by purely national politics.

Moreover, the seemingly *fix link* between the physical territory as ‘container’ of the political sovereignty is questioned (Ruggie 1993; Mamadouh 2001). This has been much discussed with regard to the European Union that has for example different territorial foci for the monetary union and for the common market. In this context, the notion of variable geography (Goldsmith 2003) has been coined; with regard to the spatial planning policy, this perspective has mostly recently further developed with regard to ‘soft spaces’ (see Faludi 2010, Haughton et al. 2010). From a formal juridical point of view, the organisation of sovereignty might still be a non-ambiguous aspect. From a political and practical point of view, sovereignty can be considered – in practice – as “de facto negotiated, and hence dispersed, multiplied, and shared among several actors, including states, subnational governments and supranational institutions” (Jerneck 2000: 39). This aspect is one of the most sensitive aspects of democratic legitimation in the framework of Europeanisation processes.

Moreover, territorial regulations do not have to be exclusive. Again, the European Union is an instructive example, as its territory can be regarded as a “secondary territory, an extrapolation of the pooling together of the state territories” that are attached to a certain national sovereignty (Mamadouh 2001: 425; Jerneck 2000). The processes of ‘pooling together’ territorial as well as political power from different nations states and political levels has inspired much of the research on multi-level governance: In general words, multi-level governance studies “nested governments at several territorial tiers” (Hooghe/Marks 2003: 234) and pays particular attention to the power relations, the formation of coalitions, bypassing strategies etc. From the beginning, research on multi-level governance has had a clear territorial focus: The founding works have empirically focused on European regional policy. Moreover, this strand of debate argues – as the citation above illustrates – with *territorial* tiers, that are conceived more or less synonym to political levels, or scales. This is why this perspective has been criticised as being essentialist (Gualini 2006: 885): Though the predominance of national territoriality is questioned, the coverage of political mandates for a given territory is assumed, even if in a multi-layered context.

Over the last decades, regional cross-border cooperation in Europe has led to the emergence of manifold forms of interregional and intermunicipal institutional frameworks and operational bodies (e.g. Euregios, Eurodistricts; see MOT 2006, Comte&Levrat 2006). The scholarly work accompanying this dynamic is vast, but rarely addressing questions of territoriality. Cross-border studies have focused on the liberalisation of borders and the increasing interaction due to globalisation. The changing character of borders has been intensively described, scrutinising the function of being selective filters (with regard to particular categories of goods, persons, finance, services). Conceptually, political geography as well as political science analyses have almost exclusively focused on organisational and governance issues including barriers to cooperation by mostly using actor-centred perspectives (e.g. institutional approaches, regime theory, network and policy analyses; cp. Perkman 2003/2007a, Blatter 2004, Newman 2006, Paasi 2005). Even when applying an explicit multi-level perspective and despite the so called spatial turn in political science, territorial aspects have to be rarely addressed.

This might be also due to the fact that the existing cross-border cooperations do not show a territoriality in the classical understanding that is much inspired by the nation state perspective:

The territorial dimension of cross-border cooperations often has an almost arbitrary background – it is the secondary, pooled territory of the respective domestic institutions, as introduced above with regard to the European Union. At the same time, cross-border cooperations rarely have a clearly defined ‘hard’ political mandate: Often, the control of a project or programme budget is part of the field of responsibility, but mostly limited in time. Formally, all policies remain the responsibility of domestic institutions on both sides of the borders. It would be exaggerated to consider cross-border cooperations as having unclear political mandates with an arbitrary territorial focus. But it is true that political mandates are not organised in a clear territorial way as it is the case for the classical nation states.

If one agrees that sovereignty in the context of Europeanisation is increasingly subject to political negotiations, territoriality should not only be operationalised as a two-dimensional geometry that considers changes in territoriality as a zero-sum-game – in a sense that if one institutions gains territoriality the other institution loses to the same extent (cp. Anderson & O’Dowd 1999: 598). Instead, territoriality in a European multi-level governance system is more complex and cannot reduce territoriality to one level. This perspective does not intend to neglect the problems with regard to democratic legitimacy and efficiency when sovereignty is seen as subject to political multi-level bargaining.

In simple words, the objective of institutional mapping is a “visual representation of the different groups and organisations within a community and their

relationships and importance for decision-making" (Rietbergen-McCracken/Narayan-Parker 1998: 273).

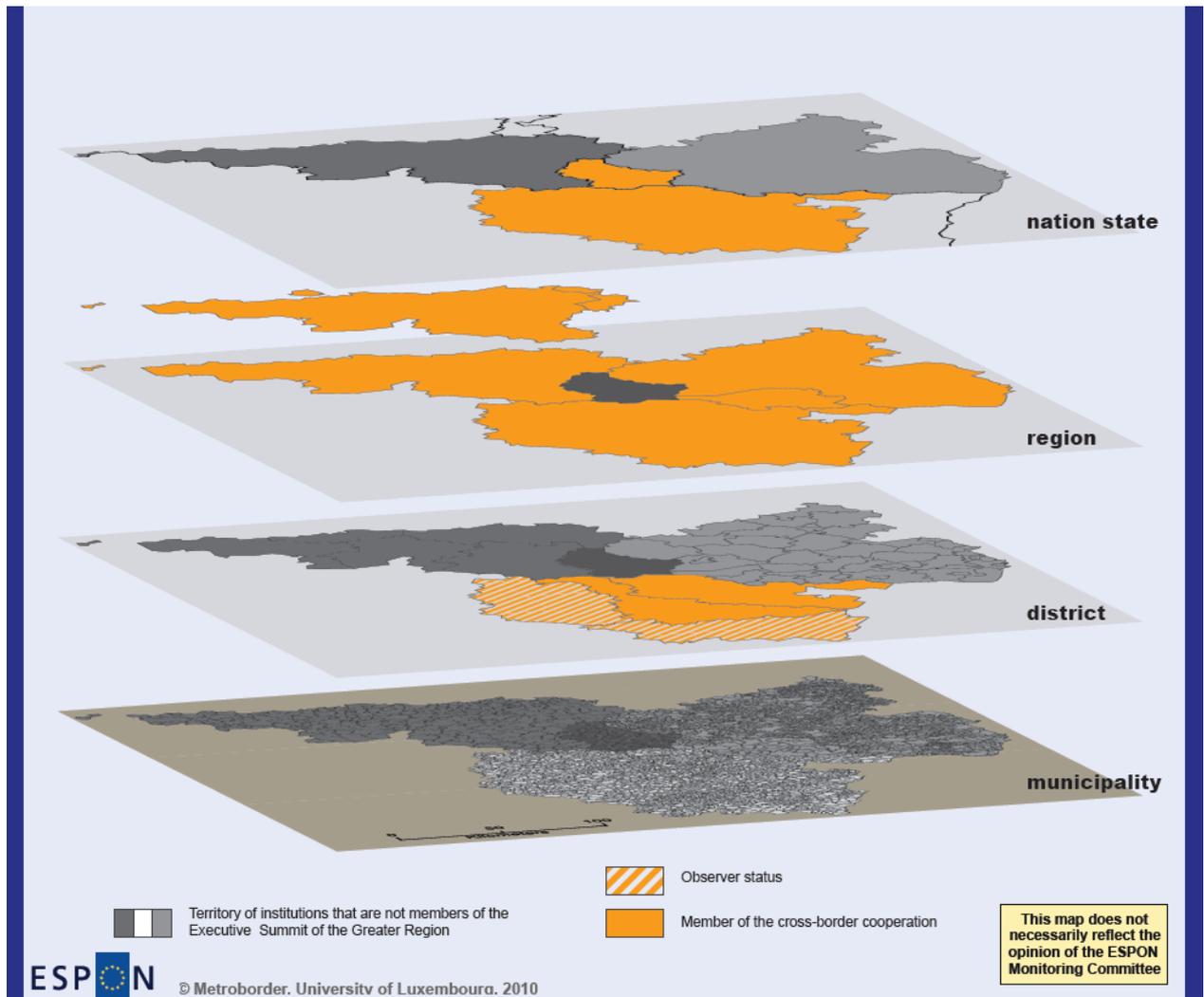
This instrument is used in various disciplines (political sciences, sociology, marketing etc.). The essential aim of 'mapping' is to visualize and – in that – to reduce complexity and to simplify to a certain extent, in institutional and geographical terms (cp. Aligica 2006). Political scientists frequently *map* the institutional architecture of political contexts; and at the time, geographers – whilst *mapping* a territory – often include the visualisation of its institutional dimension. However, both disciplinary perspectives tend to underestimate the challenges of the institutional mapping since the political perspective seldom considers the spatial dimension while mapping institutions. At the same time, the territorial perspective on institutional settings risks to stick to formal boundaries, to codified issues and overlooks the governance context in a larger sense.

As preparatory work, the perimeters of the different cross-border institutions are mapped (13.2). After this, the following steps have been developed as overall methodological framework for cross-border institutional mapping that has also been applied on the Metroborder questions:

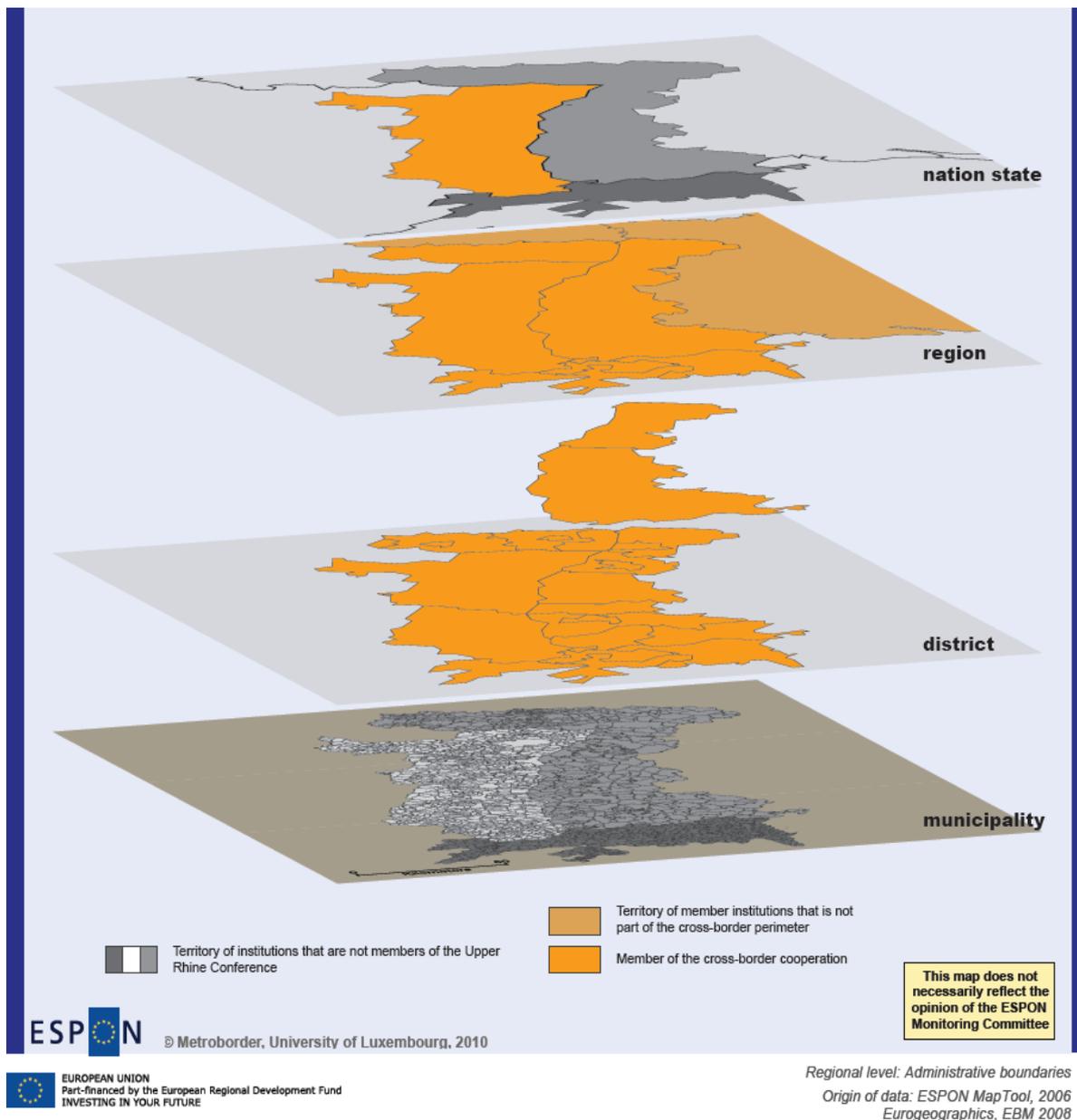
#### Step 1: Multilevel mapping of the cross-border institution(s)

Our approach starts with a systematic inventory of scale levels concerned and the formal territorial mandate of partaking local, regional, national and supranational authorities or other relevant institutions. This step reveals the formal institutional framework and provides a first understanding of the institutional and territorial complexity of cross-border cooperation. The territorial dimension is reflected only in the visualisation of the physical territories formally involved – the so called 'pooled' territory in three-dimensional cartography.

These maps played an important role when preparing the Delphi study. In particular, the difference of *Vertragsraum* and *Mandatsraum*, i.e. between pooled institutional territory and particular cross-border perimeter becomes obvious: the Upper Rhine has defined its conference perimeter by excluding parts of the perimeter of the partaking German Bundesländer; the Greater Region comprises the whole pooled territory of all institutions involved and is, thus, much larger. This finding is a key to understand the relevance of the *core space* that was mapped in the framework of the Delphi study.



**Map 28** Multi-level mapping of the Summit of the Greater Region



**Map 29** Multi-level mapping of the Upper Rhine conference

### Step 2: Multi-level policy mapping

The second step goes further by mapping the relevant domestic actors no matter if they are formally involved or not in the cross-border cooperation. This step has to apply to concrete policies, action arenas, political projects etc. The resulting map might require adding scale levels hitherto absent. It provides with a more concrete picture of the potential governance patterns. With regard to the territory, the territorial dimension is addressed as in step 1, as pooled territory. Part B of the Metroborder report shows the example of the spatial planning in the Greater Region (cp. Fig. 11).

### Step 3: Political topography mapping

The third step goes beyond the formally institutionalised setting and is the most ambitious step. It aims – still via the perspective of institutional mapping – at conducting a more thorough analysis of the actual governance mechanisms in a concrete context and its territorial implications. It thus adds to the territorial and merely formal institutional dimension a third governance dimension. Depending on the exact research question, a large variety of objectives can be addressed, amongst them to evaluate the actual power relations of the enrolled actors ('power-topographies'), to uncover hidden (territorial) agendas etc. In our case, we have explored the focus of the Upper Rhine and the Greater Region's experts in order to conceptualise implicitly and informally their territorial mandate (see below, Chapter 14).

### **13.2 Background: spatial planning competences in the Greater Region**

As pointed out, institutional mapping combines visualisation techniques and categorisation of complex political matters. The complexity for the Greater Region is large as it brings together four nation states that are organised in different ways - more federalist countries like Belgium and Germany, and countries with a more centralised organisation in the cases of France and Luxembourg (Fig. 11).

Some countries have particular institutions that are difficult to compare to the others – for example, in France the *Etablissements publics de coopération intercommunale* (EPCI) and in Germany the *Verbandsgemeinden* and the *Kreise* have considerable weight and competence, but both can still be considered as belonging to the local level.

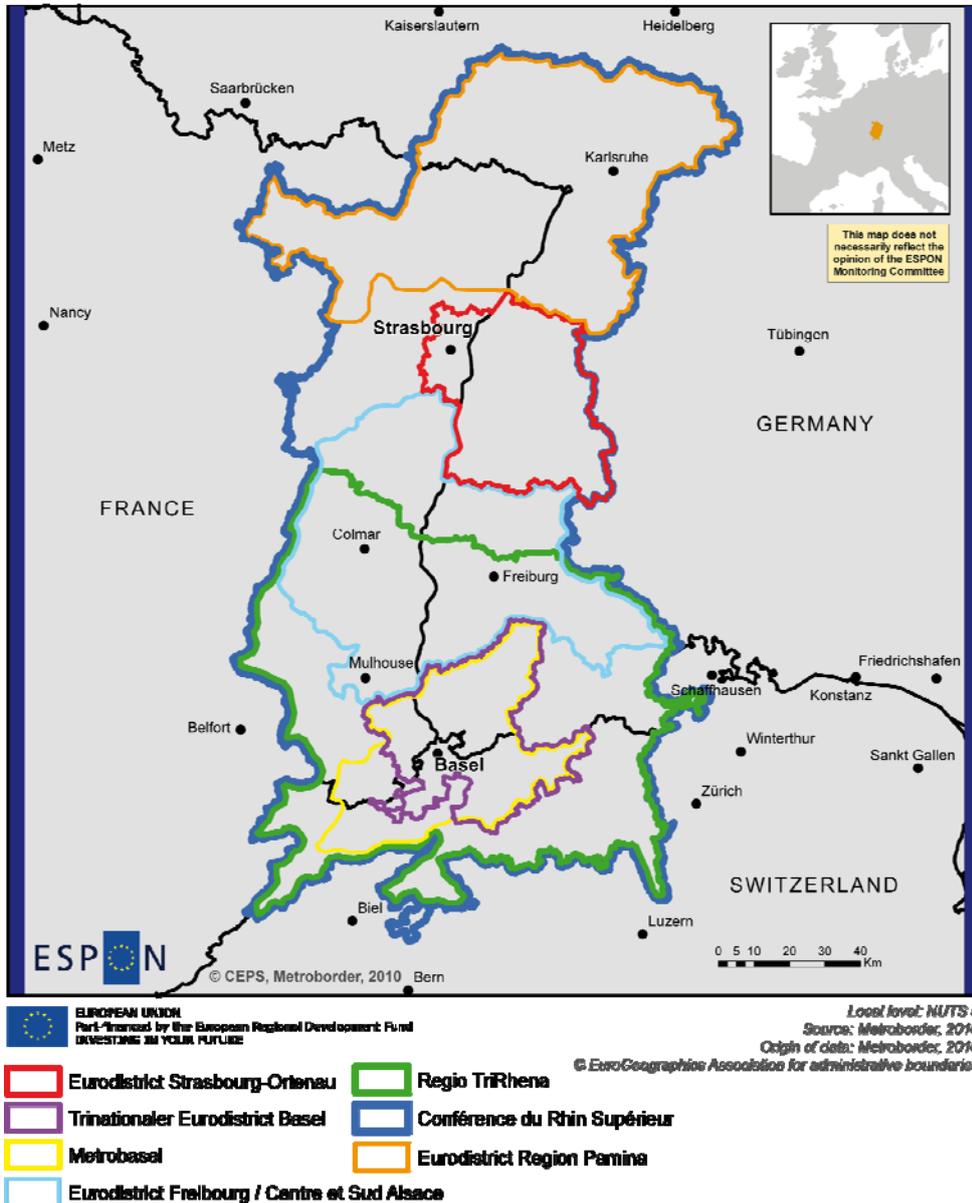
In general, spatial matters are dealt with at each political level in each country. However, there are some specific differences with regard to the main powers. The overall picture is, however, clear: in all countries, there is a municipal power over planning which is most directly linked to the realisation of building, construction, and physical action.

At the regional level, a concentration of more strategic and large-scale spatial planning mandates can be observed. The institutions here publish a series of important, even if not always binding, policy documents that concern the border areas of the neighbouring states (namely the French *schéma regional d'aménagement et de développement du territoire* - SRADT, Luxembourg's *Integrierter Verkehrs- und Landesentwicklungsplan* - IVL, the German *Landesentwicklungspläne* - LEP, and the Belgian *schéma de développement de l'espace regional* - SDER).

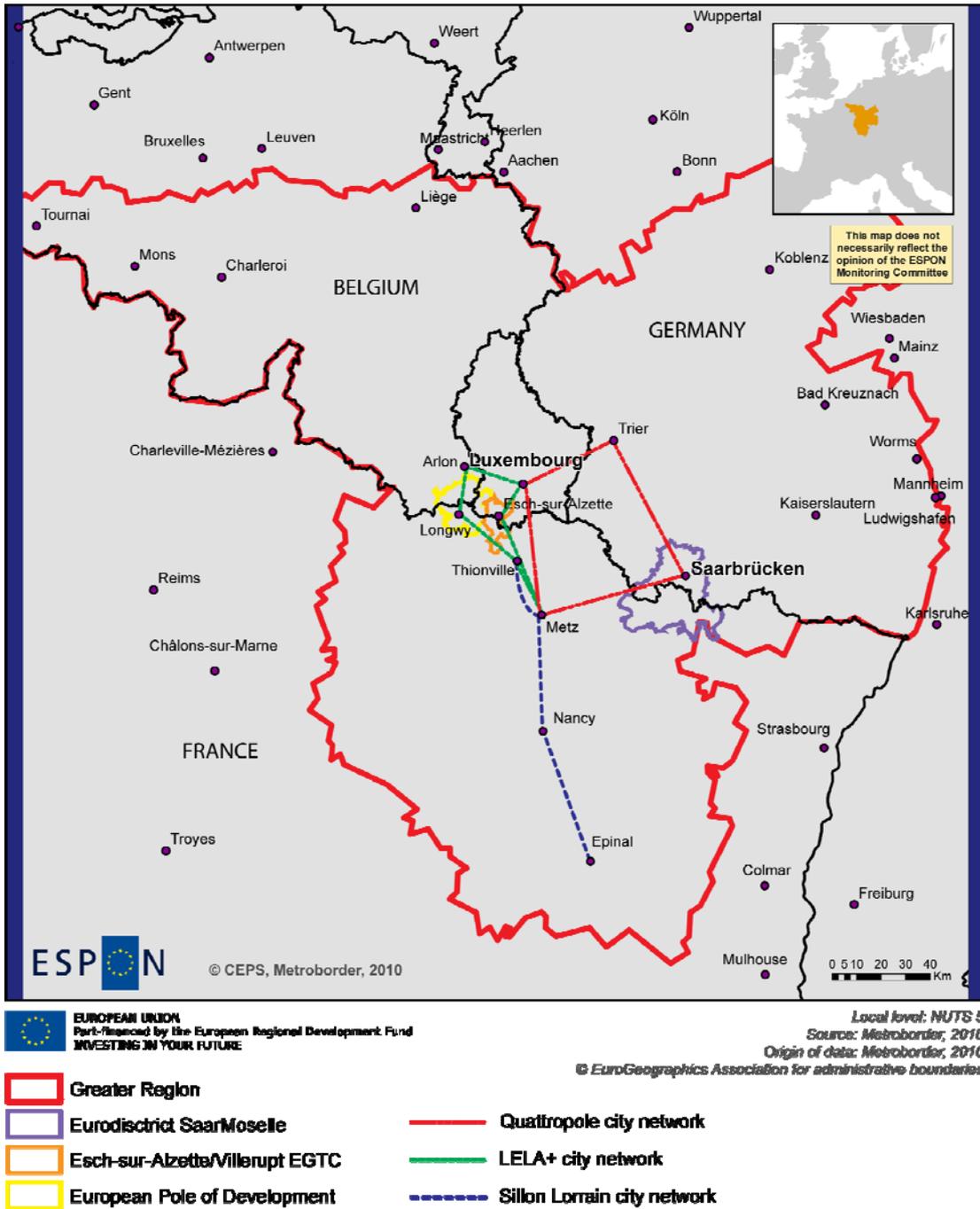
The Summit of the Executive – and the respective working group for spatial planning – brings together most of the key institutions for spatial planning. The challenge involved in bridging the different levels, planning cultures and procedures is obvious.

### 13.3 Map overview: perimeters of cross-border cooperation

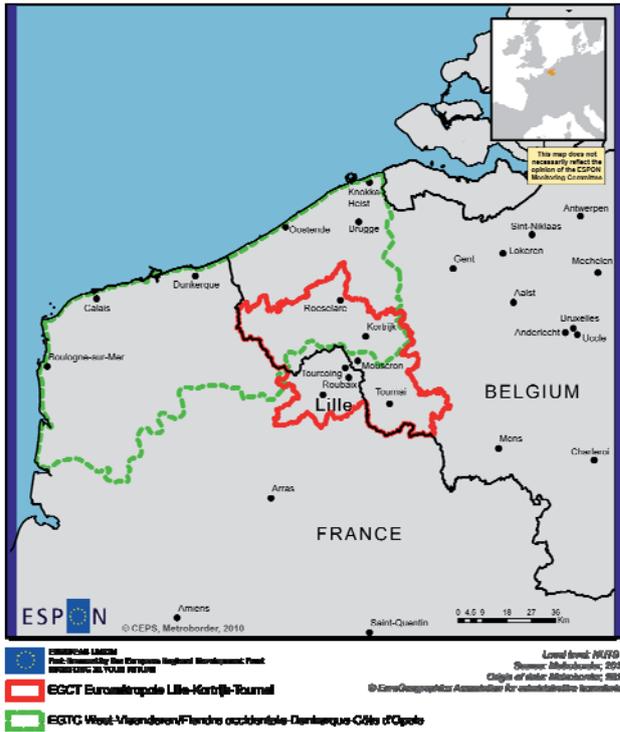
The following maps show the perimeters of the cross-border cooperation has they have been reflected in chapter 4.6. In that, they also represent a preparatory step for the cross-border institutional mapping introduced in the previous chapter.



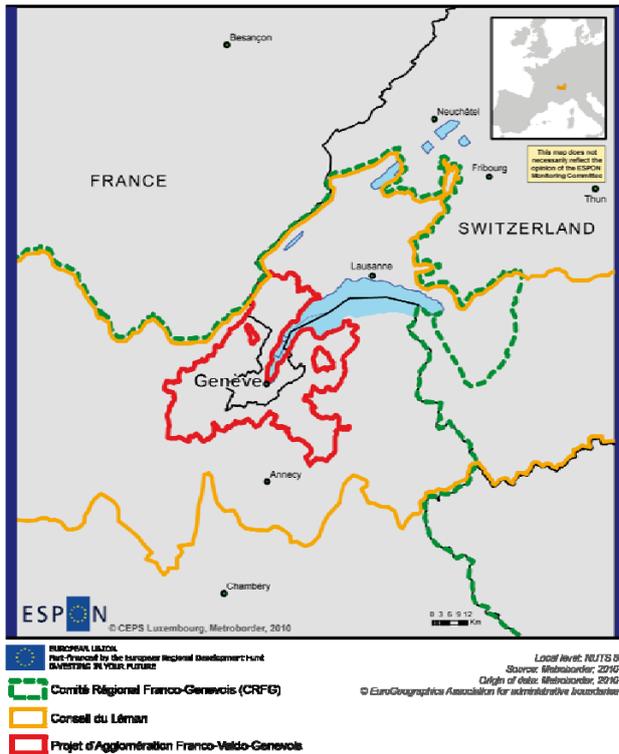
Map 30 Upper Rhine: Institutional perimeters of cooperation



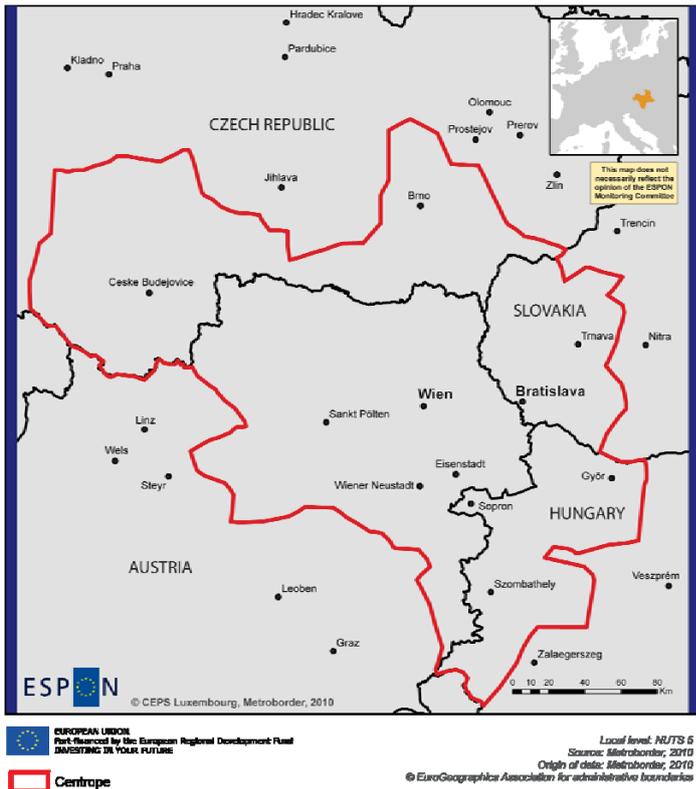
Map 31 Greater Region: Institutional perimeters of cooperation



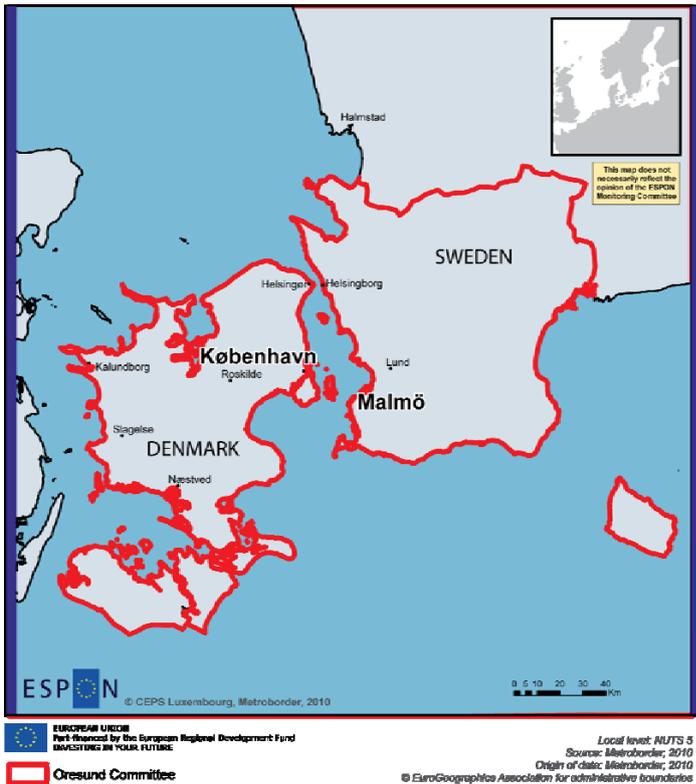
Map 32 Lille: Institutional perimeters of cooperation



Map 33 Geneva: Institutional perimeters of cooperation



Map 34 Vienna-Bratislava: Institutional perimeters of cooperation



Map 35 Copenhagen-Malmö: Institutional perimeters of cooperation

## 14 CBPMR governance

### 14.1 Comparing the different institutionalisations: legal status

A comparison of cross-border cooperation shows a variety of configurations related to the nature of the institutional structures in place, the thematic focus of the cross-border cooperation, the scalar arrangements of these governance initiatives, their geographic structure and the type of actors and organisations involved (see Table 12).

	Name of cross-border cooperation structure	Status of CBC structure	Organisation of technical staff	Area of cooperation (km <sup>2</sup> )	Date of establishment of actual cooperation structure	Date of first institutional cooperation in cross-border area
Aachen-Liège-Maastricht	<i>Euregio Meuse-Rhin</i>	Charter	Coordination between regional teams	12,882	1976	1976 (Euregio Meuse-Rhin)
	<i>MAHHL</i>	Association	Working Groups	-	1991	
Basel	<i>Trinationaler Eurodistrict Basel</i>	Association	Integrated Team	1989	1994 (ATB), 2007 (ETB)	1963 ( <i>Regio Basiliensis</i> )
	<i>metrobasel</i>	Association	Working groups	2606	2008	
	<i>Regio TriRhena</i>	Association	-	8700	1995	
	<i>Commission Intergouvernementale franco-germano-suisse</i>	-	Working groups	21518	1975	
	<i>Conseil Rhénan</i>	-	Working Groups	21518	1997	
	<i>Oberrheinkonferenz</i>	Intergovernmental commission	Working groups	21518	1991	
	<i>Regio Basiliensis</i>	Association & Swiss intercantonal coordination office	Integrated team	-	1963 (Association), 1970 (Intercantonal coordination office)	
Geneva	<i>Projet d'Agglomération franco-valdo-genevois</i>	Charter	Integrated team	1900	1997 (Charter), 2004 ( <i>Projet d'agglomération</i> )	1974 ( <i>Comité régional franco-genevois</i> )
	<i>Conseil du Léman</i>	Consultative institution	Commissions	18,868	1987	
	<i>Comité Régional Franco-Genevois</i>	Consultative institution	Working groups	47,192	1974	
Katowice-Ostrava	No structure	-	-	-	-	-
Copenhagen-Malmö	Öresund Committee	Association	Integrated team	20,869	1993	1964 ( <i>Öresundskommitten</i> )
Lille	<i>Eurométropole Lille-Kortrijk-Tournai</i>	EGTC	Integrated team	3533	1991 (Copit), 2008 (EGCT)	1960 (Regional Economic Liaison Committee), 1970 (Franco-Belgian Commission for the development of border regions)

Luxembourg	QuattroPole	Consultative Institution	Working groups	-	2000	1971 (Regional Commission Saar-Lor-Lux-Trier)
	LELA +	Charter	Working groups	-	2007	
	Euregio SarLorLux +	Association	Working groups	36700	1988	
	Greater Region	Charter (Creation of EGCT under discussion)	Working groups	65401	1995 (1st Summit of the Greater Region)	
Nice-Monaco-Sanremo	No Structure	-	-	-	-	-
Saarbrücken	Eurodistrict Saarmoselle	Association (Creation of EGCT under discussion)	Integrated team	1460	1991 (Association Zukunft SaarMoselle Avenir)	1971 (Regional Commission Saar-Lor-Lux-Trier/West Palatinat)
	QuattroPole	Consultative institution	Working groups	-	2000	
	Greater Region	Charter (Creation EGCT in discussion)	Working groups	65,401	1995 (1st Summit of the Greater Region)	
Strasbourg	<i>Eurodistrict Strasbourg-Ortenau</i>	Association (Creation of EGTC on 02/2010)	Integrated team (forthcoming)	2176	2005	2003 (Joint Franco-German Declaration), but institutionalised relationships at the municipal level since 1975
	<i>Conférence du Rhin supérieur</i>	Intergovernmental commission	Working groups	21,518	1991	
Vienna-Bratislava	<i>Centrope</i>	Charter	Subcontracting	48,000	2004	2000 (Jordes)

**Table 12** General characteristics of institutional cross-border cooperations  
Sources: Bundesamt für Bauwesen und Raumordnung (2009) and METROBORDER.

Note: city networks are not represented

The cooperation structures show a high diversity in terms of legal status, reflecting strong differences in the type of organisation and the level of institutionalisation. Cross-border cooperation groupings can simply rely on an informal structure like a charter or a convention between partners. This is notably the case for the *Projet d'Agglomération franco-valdo-genevois* or *Centrope*. The cooperation can also be based on a non-profit association of national (or regional) right like the Eurodistricts in Basel, Saarbrücken and Strasbourg or the Öresund Committee. In recent years, the convention of Karlsruhe (1996) was of particular importance for the contracting countries France, Switzerland, Germany, and Luxembourg, as it allowed the creation of local groupings of territorial authorities. Finally, cross-border institutions can become European Groupings of Territorial Cooperation (EGTC), which is an entity with legal personality. In different cross-border metropolitan regions like Luxembourg and Saarbrücken, the creation of an EGTC is in preparation. Amongst others, Lille and Strasbourg have implemented this legal tool (for more details on the ECTC tool, see chapter 15).

The legal status of the organisations determines, to some extent, the form and role of cross-border governance structures. It can sometimes be advantageous for local and regional actors to cooperate at a low level of institutionalisation. Territorial observation, strategic territorial vision, project coordination or communication and lobbying can be undertaken within an informal structure; large projects, however, often require a more formalised organisation (MOT 2006).

#### **14.2 Thematic focus of cooperation**

Broadly speaking, town and regional planning, economic development, tourism, culture, training and employment constitute the most common domains covered. Although some CBPMRs suffer from shortage of affordable housing or residential land, these issues are seldom included in the cross-border cooperation (only the Eurodistrict Trinational of Basel and the *Projet d'Agglomération franco-valdo-genevois* are considering this issue). Last but not least, the organisation of big events that are able to increase the international attractiveness of the metropolitan region has been undertaken or supported by a few cross-border groupings. The most relevant examples are Luxembourg and the Greater Region with the European Capital of Culture in 2007, and IBA Basel 2020, an international architecture exhibition supported by ETB. Of course, within each domain the level of involvement in the cooperation structure may vary considerably. As far as town and regional planning is concerned, the most advanced territorial diagnosis and strategic planning have been conducted at the level of cross-border agglomerations, some of them like Basel, Geneva, and Strasbourg being in the process of implementing urban development or public transportation projects. The existence of an integrated technical team constitutes an advantage for such activities. For other territorial groupings, forward thinking in urban and regional development is conducted but implementation of concrete projects on the ground has not yet occurred.

#### **14.3 Geographical scope**

Within the structures of cooperation, three spatial scales can be distinguished.

(1) Firstly, there are cooperation groupings that are based on cross-border conurbations and their nearby economic space. This is notably the case for Eurodistricts (Basel, Lille, Saarbrücken, and Strasbourg) and agglomeration projects (Geneva). The size of these cooperation groupings ranges between 1,500 and 3,500 km<sup>2</sup>. In most cases, these initiatives were launched during the 1990s.

(2) The second category of structures of cooperation typically comprises "Euroregions" defined in a broad sense (Perkmann 2003). Their geographical size ranges between 10,000 and 20,000 km<sup>2</sup>. This scale of cooperation is notably at play in the region of Aachen-Liège-Maastricht, in the Öresund region, the Lemman region and in the Upper Rhine region. These structures either represent

regional cross-border cooperation groupings that come in to support other initiatives implemented at a more limited spatial scale, or they form the main structure of cooperation (like the Öresund Committee or the Euregio Maas-Rhine). Generally, these structures of cooperation are older than the first ones, most of them having been formed in the years 1960-1970.

(3) The last category of cooperation groupings is much wider as it includes institutional structures that bring together several regions, thus forming large areas that extend over more than 40,000 km<sup>2</sup>. Among our case studies, only Centrepe, the *Comité régional franco-genevois* (CRFG) and the Greater Region fall into this category. It should be noted that this difference in scale does not concern different institutional settings or differing types of cooperation.

#### 14.4 Type of actors

Finally, cross-border cooperation initiatives also vary in terms of the type of actors involved (public, private, civil society...) and, for public organisations, their institutional level. Among the cooperation groupings driven by public actors, one can distinguish two kinds of institutions. Firstly, some structures bring together local actors (municipalities and districts) and/or regional actors (regions, provinces, cantons, and *Länder*). In principle, these cooperation groupings benefit from a certain degree of autonomy vis-à-vis central states. Secondly, some structures involve representatives of central or federal governments. In some cases, as in Geneva, Lille and Copenhagen-Malmö, the main structure of cooperation includes actors from the three institutional levels (although for the Öresund Committee the states are only involved as observers). The presence of national players in the cross-border cooperation groupings is linked to the institutional settings at place in the different countries, especially the structure of the state (central or federal) and the level of decentralisation. In any case, the participation of central states can be seen as twofold: it can be advantageous for the implementation of cross-border cooperation, particularly with regard to the legal competence of central governments or the political leadership of a national actor (e.g. Lille with Pierre Mauroy) or, on the other hand, it may inhibit cooperation between local and regional authorities who sometimes distrust the central government.

As far as non-public actors are concerned, their role varies from being the initiators of alternative private organisations (like metrobasel in Basel or the network Twin City Vienna-Bratislava) to being associated with some instances of institutional cross-border cooperation (e.g. the Economic and Social Council of the Greater Region).

As the ESPON Project on Governance (2006/2.3.2) has already shown, there is quite a bias towards public actors; the participation of civil society and stakeholders is less developed.

## 15 The “European Grouping of Territorial Cooperation” (EGTC) as new governance tool

### 15.1 Background

In several of the CBPMRs, the EGTC governance tool is currently being implemented and established; in most of the other regions, it is at least being considered. This section aims to give an overview on what the EGTC is about and its potential (cp. Clement 2008; European Parliament and Council 2006; Levrat 2005, Metis 2010, MOT 2007, Spinaci/Vara-Arribas 2009).

Before the establishment of the EGTC in 2006, no legal instrument had been established within the framework of the EU to facilitate cooperation between European regions. Instead, European regional policy predominantly supported (cross-border) regions by means of funding (ERDF, ESF etc.). However, beyond the EU, the Council of Europe, with 47 Member states, offered legal support. Of most relevance in this regard is the “European Outline Convention on Transfrontier Co-operation between Territorial Communities or Authorities” (1980) and especially its “additional protocol” (1995). The latter grants a specific right to local authorities to cooperate on their own initiative (within the scope of their domestic powers). However, this kind of cooperation can only involve local or regional authorities (but not states like, e.g., the Grand Duchy of Luxembourg).

That is why the European nation states concluded specific treaties dedicated to their “own” borders. One of the most important and relevant for our case studies is the Convention of Karlsruhe (1996) between Germany, Luxembourg, Switzerland and France. It allows local authorities to delegate their own domestic competences to a cross-border cooperation body – *Groupement local de coopération transfrontalière* (GLCT) - with legal personality under the public law of one of the contracting authorities.

The EGTC was established following a general discussion of the territorial agenda and the meaning of “territorial cohesion”, which is now one of the aims of the European Union as it is included in the Lisbon Treaty.

### 15.2 Main features of an EGTC

The EGTCs:

- are applicable in the same way in all European member states
- are open to public bodies (local and regional authorities as well as member states)
- can have a strong mandate if the EGTC members delegate parts of their competence to the EGTC (in respect of their national law).
- have a legal personality (i.e. can employ their own staff, can lead a

European programme, launch public procurement procedures or conclude conventions with private actors). The details are ruled according to one of its members domestic regulative background

- is mostly composed by at least a director who represents the EGTC and an assembly (made up by representatives of its members). On this basis, an equal representation of all members can be ensured.

At the time of writing, it is quite difficult to summarise how this new tool has been used across the whole of the EU. First, the underlying European regulation 1082/2006 has to be enacted by the nation states (art. 16/17). This process delays in practice the setting up of an EGTC. Second, public authorities willing to set-up an EGTC have to agree upon and to sign a common convention. Most of them are currently at this point or already recruiting staff. This step is a crucial one as the staff will “embody” the common structure and will be in charge of the day-to-day work.

In practice, EGTCs vary greatly in terms of the following aspects.

#### **Territorial focus**

The EGTC can define its own ‘original’ perimeter or it can be based on a territory that has already be defined within another context. An example of the latter is the EGTC Greater Region, which is becoming is responsible for implementing the Interreg IV Grande Région under the supervision of the *Préfecture de Lorraine*. It will be in charge of selecting, assessing and following-up the implementation of Interreg projects. The perimeter had been defined in collaboration with the European Commission.

#### **Involved levels of governance**

The EGTC is free to combine different levels of governance:

- one level of governance (e.g: Duero Douro EGTC involving local stakeholders)
- multiple levels demand complex internal EGTC governance (e.g: the EGTC Cerdanya at the French and Spanish borders gathers actors ranging from municipal to nation state level). It has to find efficient ways to involve all levels without slowing down or diminishing the implementation of projects.

In terms of different EGTC status, one can observe that the different levels are interlinked via different organs:

- Assembly of members (meets once or twice a year to decide the annual work programme, approve the budget, elects the responsible persons for the executive organ). All levels of governance are involved.
- Executive board: meets more regularly, appoints the director and

approves the projects (often equal representation between nationalities).  
It can gather representatives from different levels of governance.

- Director and staff employed by the EGTC execute the work programme.

### **Scope of activities** (single vs. multiple issue focus)

Some EGTCs have a wide scope of activities (Lille Kortrijk Tournai EGTC is responsible for promoting and supporting cross-border cooperation in general). Others carry out a specific activity (Cerdanya EGTC will be in charge of managing a cross-border hospital).

### **Degree of independence**

Currently, we see that for most existing conventions that EGTCs act as a platform of exchange between their members. They help to implement and follow-up cross-border projects (often supported by EU funds), or they are responsible for territorial marketing and lobbying towards national or European institutions.

Despite giving the legal opportunity to delegate considerable political competence for cross-border projects in the name of all members, this is rarely found at present.

## **16 Delphi study**

### **16.1 Methodology**

The Delphi method was originally developed as a qualitative forecasting method. As such it aimed to "obtain the most reliable consensus of opinion of a group of experts" (Dalkey 1962). Originally developed in the 1950s for military purposes (Dalkey 1962), this method has been widely employed in "technical and scientific investigations as a valid vehicle for obtaining and processing the subjective information amassed by experts" (Gupta and Clarke 1996).

Over recent years, this method has also been adopted and used in policy-making processes to "identify future priorities that offered input into the inter-governmental negotiation" (Hilbert 2009). This latter development of the method is known as "strategic" or "policy" Delphi.

This specific Delphi method was used in the Metroborder project to develop strategic policy options in each case study region in order to foster the potentials of being a CBPMR. It allows the detecting, developing, aggregating and assessing of the future development paths of the CBPMR.

Each Delphi is characterised by specific features which can be summarised as follows (Landeta 2010):

- Iterative process: the experts are consulted at least twice "so that they can rethink their response with the help of the information which they receive concerning the opinions of the rest of the experts". In the Metroborder questionnaires, the aim was not to reach a consensus between the experts

but to identify the different policy options for the future of the CBPMRs and to deepen the experts' analysis (cp. Pütz 2004, Helmer 1967, 1983, Stratmann 2000: 129, Evalsed 2008; ESPON 2006/1.3.1).

- The questionnaires maintain the anonymity of the participants because the results are directly analysed by the scientific team.
- "Controlled feedback". The scientific team analyses the results and filter the most relevant information which should be submitted to the evaluation of the experts. The exchange of information between the experts is not free.
- "Statistical group response. [...] The questions are formulated so that a quantitative and statistical treatment of the answers can be carried out".

In general, the Metroborder Delphi had to tackle a very particular challenge: conduct a Delphi in two case study regions taking into account their similarities and their specificities. To take into account the political debates in each region and to detect the most important issues at the moment of designing the questionnaires, there was one scientific team in the Upper Rhine region and another in the Greater Region. At the end, the results should be comparable and be able to drive forward the strategy-building process. In total, four questionnaires have been designed as a result of strong interaction and cooperation between both teams. They have been developed in German and French in both case study regions in order to allow the experts to reflect on the complex issues in their native language.

The survey has been prepared by a series of expert interviews. The basic methodological steps can be summarised as follows.

### **Status and selection of experts**

In the preparation of the Delphi study, several expert interviews were conducted in order to broaden and deepen the information already retrieved from the literature, documents etc. The selection of the experts followed the same principles as the selection of the Delphi addressees, without aiming to achieve the same quantity: for the Metroborder policy Delphi, experts are defined by their personal expertise, not primarily by their institutional background. The experts are considered to have a profound understanding of the future political development and, thus, their expertise is not restricted to purely technical matters (cp. Häder 2000).

The geographical focus is on the largest cooperation space in both case study regions (Summit of the Greater Region, Upper Rhine Conference). Experts on purely bilateral cooperations have not been considered. In addition, experts at the highest political level have not been addressed (prime ministers at the national level etc.). In the Upper Rhine, the smaller cooperation space of the *Trinational Eurodistrict Basel* is however also taken into consideration in order to allow a focus on the local cooperation level.

The aim is to address a high quantity of experts within both case study regions. Furthermore, the aim was to maintain a certain balance: this applies in particular to the different levels of governance (communes, districts, regions, nation state level and to some extent the European level) and to the regional balance (for the Greater Region, 4 countries/5 regions involved - cp. Fig. 22). In this context, statistical representativeness is not the relevant criterion: a homogenous quantitative 'density of experts' cannot be assumed for all regions or all levels. However, the aim is to have all potential types of perspective included. In each case study region, approximately 300 addressees have been identified and contacted individually in the first Delphi round (280 in the Greater Region, 315 in the Upper Rhine). In total, 119 experts took part in the two rounds in the Greater Region, while 51 experts participated in the questionnaires in the Upper Rhine region. Fig. 22 also shows the response rate.

### **Preparation and design of the Delphi questionnaires**

In both case study regions about 30 interviews have been conducted in order to prepare the Delphi study. The semi-conducted interviews followed a guideline that addressed the three 'classical' domains of the political arena:

- Questions of *polity* concern the institutional questions – who is involved in which processes (or should be), what are the relations to external actors, what is the territory of a political cross-border mandate etc. Which trends can be identified for the future of these cooperation institutions?
- Questions of *policies* mainly concern the content – on which subjects should cooperation be intensified etc.
- Questions of *politics* address the procedural side, especially differences in administrative, cultural and language contexts. What are the main barriers to cooperation, and how can they be overcome?

Sending the questionnaire as a PDF attachment to emails was found to be the appropriate method; online surveys were not flexible enough with regard to the included map and presented several technical problems.

The first questionnaire form comprises four parts: thematic questions (policy), geographical aspects, institutional setting (polity and politics) and personal background. The Delphi design had to respect restrictions with regard to quantity and complexity in order to achieve a good response rate.

The second Delphi survey served different purposes as it a) deepened and detailed the results from round one, b) filtered and combined the results obtained and c) provide a control for several findings.

It was divided into five parts: spaces and actors of cooperation (polity and politics), thematic questions and Metroborder strategy for the Greater Region or Trination metropolitan region for the Upper Rhine (policy), and personal background. Each part was first introduced with the results of the first

questionnaire and the coordination team's statements. Experts were asked to confirm/correct the statements and to answer complementary questions to provide greater depth for the analysis.

With regard to policy and politics, it was found that the five top policy priorities for both case studies were similar (multilingualism, transport, research and innovation, professional mobility and spatial planning). Experts were asked to mention:

- On which cross-border territory should this policy concentrate (in particular with regard to spatial planning and transport)?
- Which policy tools could be developed?
- Which cross-border institution and/or political actor could allow the cooperation to be deepened? Which additional stakeholders should be involved?

With regard to polity, the initial results had shown that experts on cross-border cooperation believe that local and national stakeholders should more closely be involved in the cooperation, while private actors should also have been considered to a greater extent. In addition, the EU is seen as a key level for cross-border spaces. The aim of the second questionnaire was to render more concrete the extent to which these actors should be more involved (in which policy field, bilaterally or multilaterally, in cross-border institutions or in the cooperation with the regions).

In both the Greater region and in the Upper Rhine the experts were asked in the second round to express which thematic focus the metropolisation strategies should have, and which institutions and actors should design and implement it (*Trinational Metropolitan Region and Metroborder strategy*).

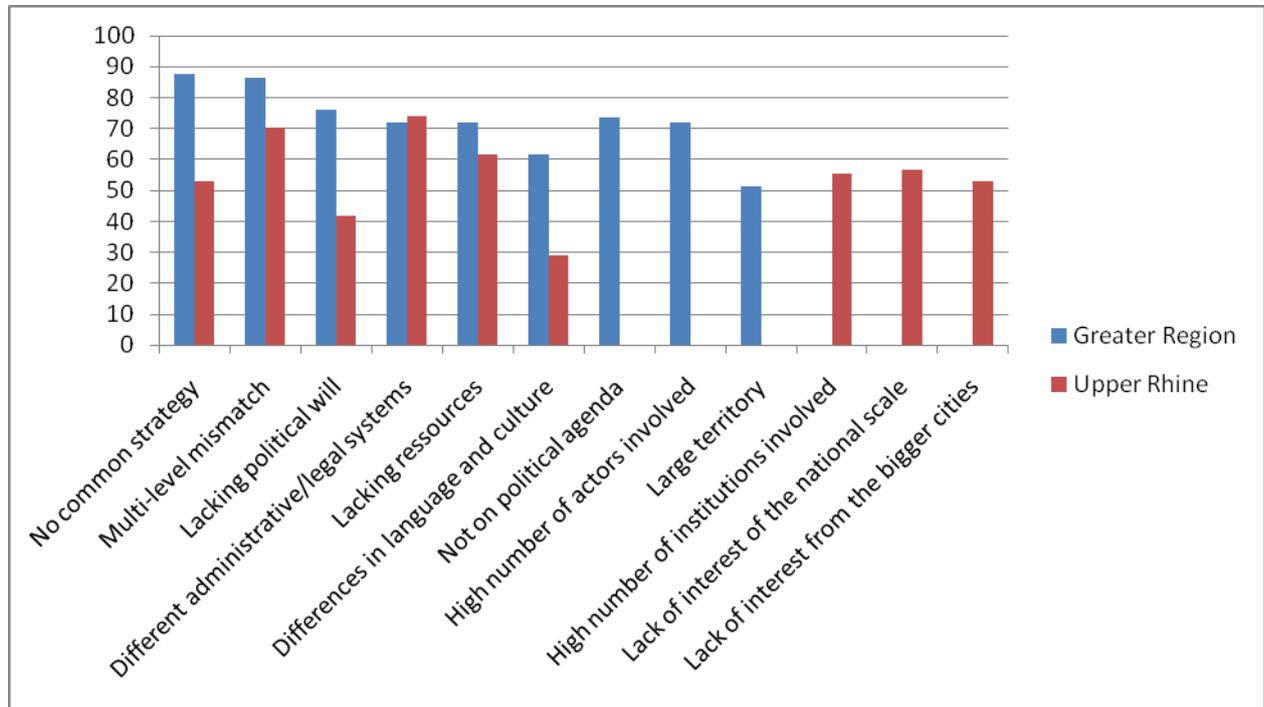
## **16.2 Main results – comparing the two case study regions**

The material of the two Delphi rounds in both case study regions is rich. Its potential has been exploited in the framework of the strategy building processes. The following charts give an overview of the main findings, combining both regions.

### **Barriers to cooperation**

Firstly, cross-border cooperation meets important barriers that play a crucial role also in processes of the CBPMR establishment. For both case study regions, the multi-level mismatch plays a very important role, bringing with it significant differences in administrative and legal systems (cp. the chapter on institutional mapping, chapter 13). The case study regions – bringing together three respectively four countries – mention this aspect as being the (second) most important problem. For the Greater Region, one should mention the lacking strategy that is regarded as a barrier. Considering the high rate of support for

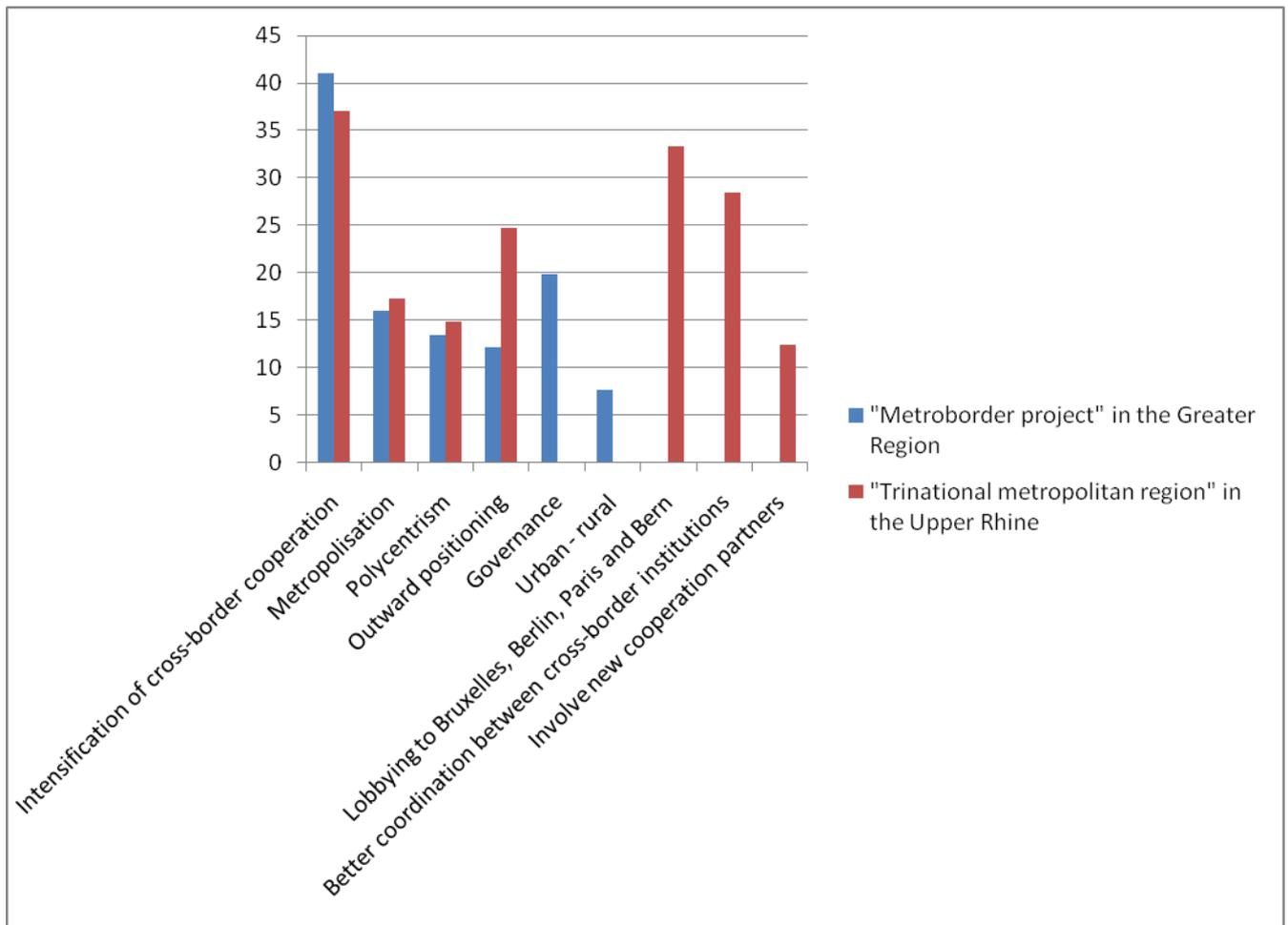
the CBPMR concept, it is clear that there is an opportunity to overcome this barrier. For the Upper Rhine region, the difficulties associated with putting cross-border concerns on the national agenda, in particular, are considered to be important.



**Fig. 20** Most important barriers to cross-border cooperation (Delphi Study, n=156 in the GR; n=81 in the UR)

### Concretising the metropolitan ambitions

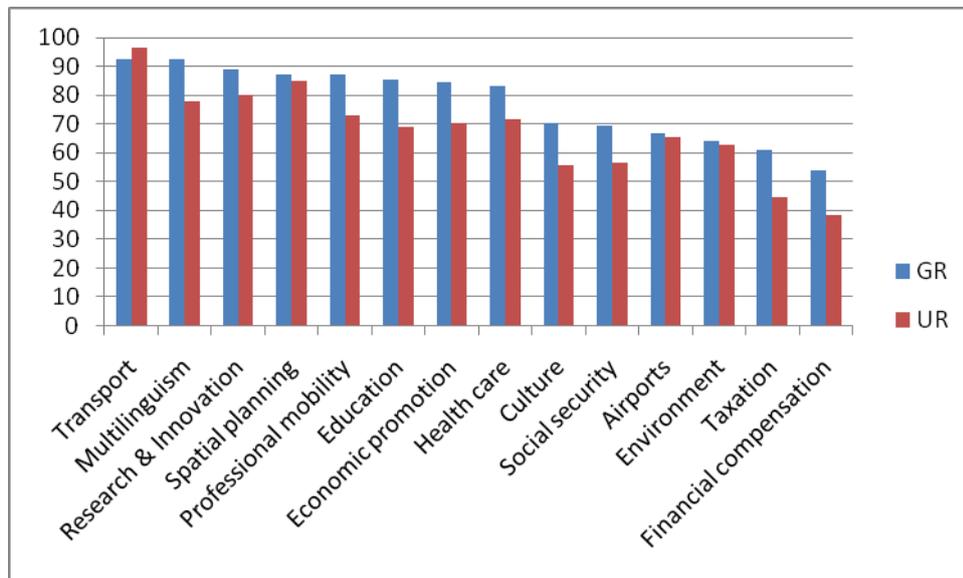
As the will to establish a CBPMR is currently seen as very strong, the challenge of concretising these ambitions has to be taken. For both regions one can state that the experts do not have very concrete visions of how to implement a CBPMR (cp. Fig. 21). The metropolitan projects are primarily seen as a tool in order to improve cross-border cooperation in general, beyond specific CBPMR concerns. With regard to more definite conclusions there is less consensus found amongst the experts, and few results help to provide more definite visions in terms of either metropolitanisation or polycentricity. Comparing the two case study regions, one very clear difference can be noted: the Upper Rhine region is more concerned with *outward* positioning in terms of visibility and European or national lobbying, while the Greater Region's experts give greater weight to the strengthening of its *internal* governance.



**Fig. 21** Most important aspects for the implementation of the metropolitan ambitions in both case study regions (Delphi Study, n=156 in the GR; n=81 in the UR)

### 16.2.1 Policy priorities

When it comes to concrete policy concerns, the overall picture shows interesting similarities between the two case study regions (Fig. 22).



**Fig. 22** Most important policies for increased cross-border cooperation (Delphi Study, n=156 in the GR; n=81 in the UR)

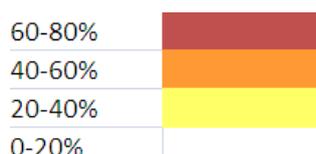
### 16.2.2 Policy priority 1: the transport sector

In the second Delphi round, further details are obtained on policy priorities: the experts in both regions have been asked to detail, which mode of transport should be increased, and for which area (cp. Fig. 23). Though the transport situation differs significantly between the two regions, the results are astonishingly similar: the main focus is on public transport within the perimeter of the two case study regions, in particular in relation to the 'core spaces', i.e. the spaces near the borders. European rail connectivity for goods is an exception, as it is considered as more important in the Upper Rhine.

As mentioned above and more generally speaking, the Upper Rhine is more concerned with outward positioning and the Greater Region more with internal governance (see above, Fig. 21). Interestingly, this picture cannot be found for transport issues. Interestingly, this picture cannot be found for transport issues. With regard to transport, the internal organisation is seen as most pressing. The 'gateway functions' of the metropolitan status is at least not seen as being the most pressing bottleneck for future development. This pattern can partly be explained by the fact that transport on the interregional and European scales is

by definition organised in a cross-border manner, whereas intraregional transport patterns are much newer and less well established. The dynamic growth in cross-border commuting numbers heightens this tension.

		Passenger transportation				Transport of goods		
		Private transport	Public transport	Air transport	Road traffic	Rail traffic	Shipping	Air transport
Core centre of the GR*		Yellow	Red			Orange		
Agglomeration scale of the UR			Red			Yellow		
Complete perimeter	GR		Red			Orange		
	UR		Red			Orange		
European scale	GR		Yellow	Yellow		Orange		
	UR		Yellow	Yellow		Red	Yellow	
Intercontinental scale	GR			Yellow				
	UR							

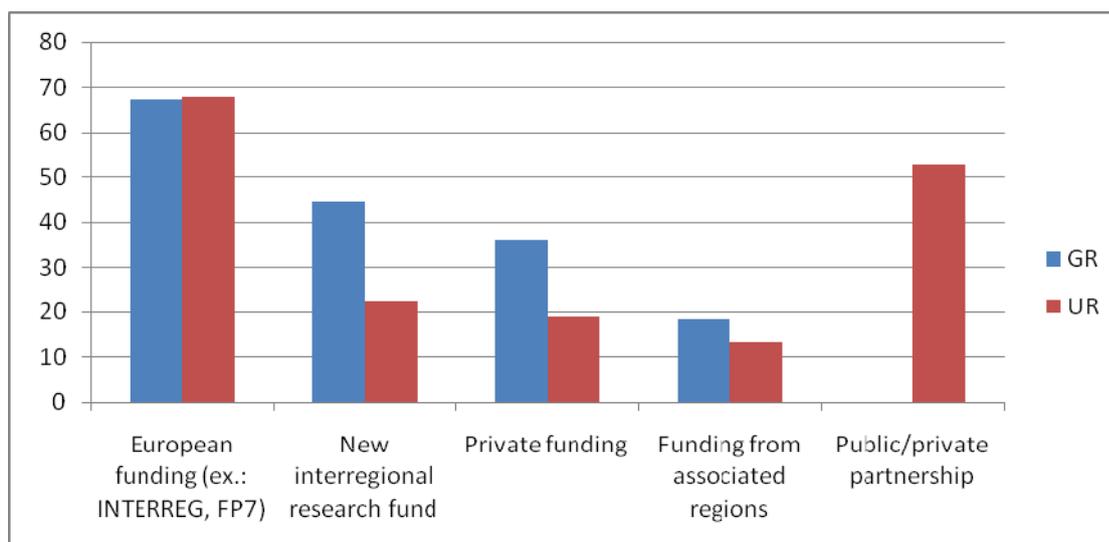


**Fig. 23** At which scale and for which mode of transport should the cross-border cooperation be intensified? (Delphi Study, n=119 in the GR; n=53 in the UR)

\* Refers to the space identified by the experts as in need of "particular attention with regard to cross-border cooperation" (see 0).

### 16.2.3 Policy priority 2: R&D

Research and development is generally seen as a key field for metropolitan development, as innovative capacity is seen as a major characteristic of metropolitan regions. Consequently, in both case study regions R&D is regarded as being a key policy priority. In the second Delphi round, this priority was taken into account in two ways. Firstly, institutional character was explored in more detail. In both regions, cross-border cooperation between the public and private sectors is seen as being more important than increased cooperation among purely public or purely private R&D facilities. Secondly, the potential funding sources have been specified in more concrete terms (Fig. 24). In both case study regions, European funding is considered as being most important; the Greater Region sees a new interregional research fund as another important opportunity, whereas the Upper Rhine stresses the potential of public-private partnerships.



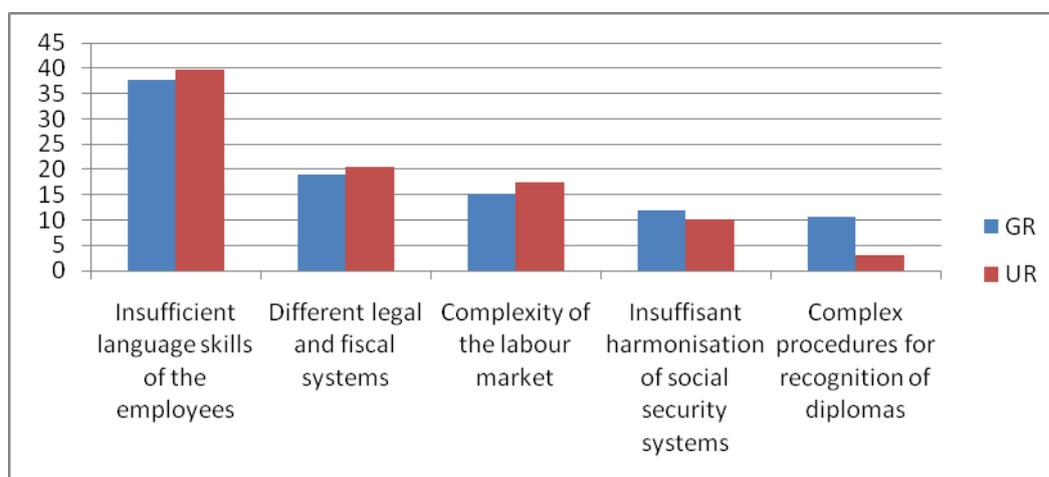
**Fig. 24** Which funding source do you consider to be most important for supporting cross-border research and innovation? (Delphi study, n=119 in the GR; n=53 in the UR)

#### 16.2.4 Policy priority 3: professional mobility

Professional mobility is regarded as one of the main potentials of CBPMRs.

Exploiting their potential as multilingual and multicultural conglomerates means to facilitate and increase cross-border professional mobility. Still, the barriers to overcome are considered to be serious, as Fig. 25 shows. Again, the differences between the two regions are not very large. Interestingly, insufficient language skills are seen as the main barrier, significantly more so than legal problems.

This assessment suggests public action is needed, as the education system as well as training opportunities are largely a public responsibility.



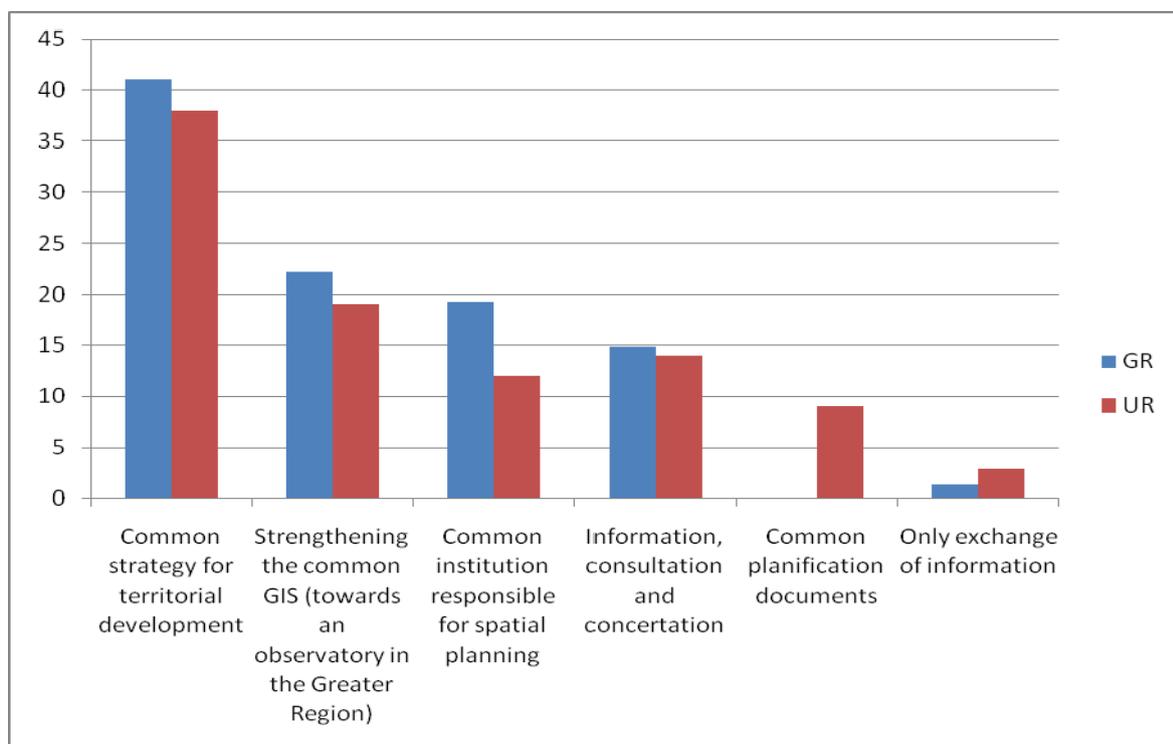
**Fig. 25** The two most important barriers to professional mobility (Delphi Study, n=225 in the GR; n=98 in the UR)

### 16.2.5 Policy priority 4: spatial planning

The fact that spatial planning is considered as a major policy priority for CBPMR development has to be seen in context. Firstly, the bottlenecks in cross-border transport are unlikely to be overcome solely by sector-specific cooperation in the transport policy; a more embedded and broader strategy is necessary.

Secondly, the overall importance of spatial planning to cross-border development must be stressed: in many cases of cross-border cooperation across Europe, spatial planning has been the driving force. Its cross-disciplinary nature is highly useful when exploring the cross-border potentials. Spatial planning is used to deal with complex settings and uncertainties – typical features, too, of cross-border cooperation.

Against this background, the 2<sup>nd</sup> Delphi questionnaire aimed to obtain a more concrete vision of the spatial planning sector (cp. Fig. 26). Cross-border cooperation is currently established in the form of a systematic exchange of information, consultation and cooperation in the GR, while in the UR an exchange of information is organised. Therefore, ambitions in both regions are very high: almost 40% of the responses favour a common strategy for territorial development. In the Greater Region, this can be explained by the current high levels of political dynamism and the importance of the various working groups, but also by some of the current projects, in particular the Interreg project 'GIS for the Greater Region' which is currently underway.

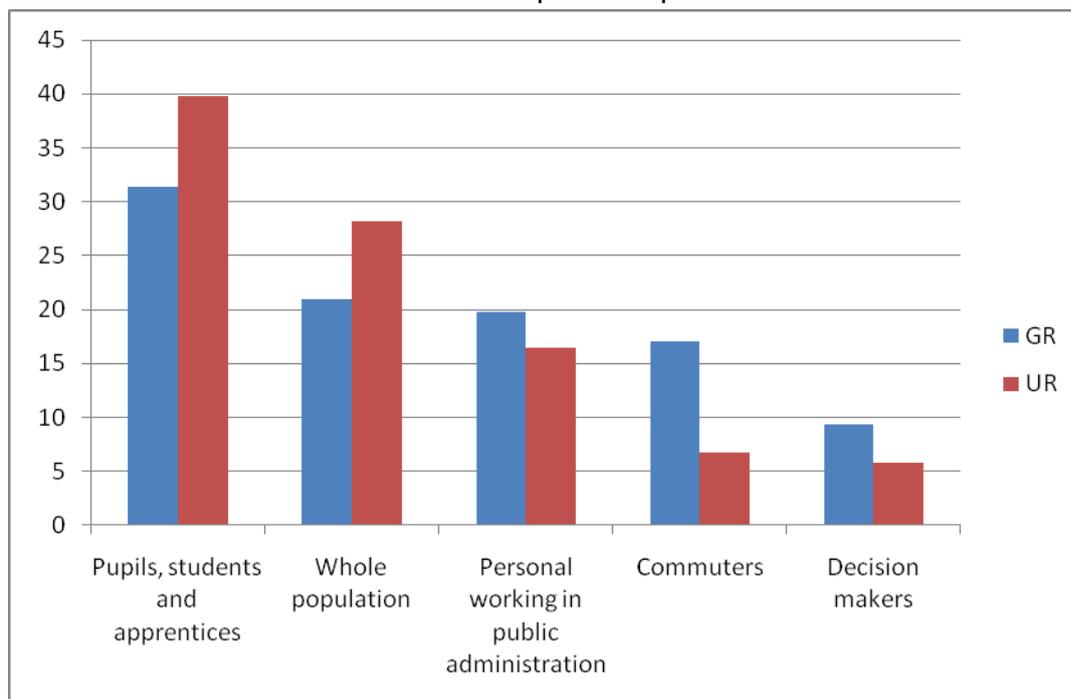


**Fig. 26** Which type of cooperation should be established over the coming ten years in order to improve cross-border spatial planning? Two priorities to be selected (Delphi study, n=229 in the GR; n=100 in the UR; number of responses)

Political competence for spatial planning is, traditionally, a sensitive issue as it touches on territoriality, a key component of sovereignty. It is therefore surprising that common strategy is seen as a leading priority. A common institution for spatial planning, even, is considered to be an option for future development. Despite all of the political, democratic, and organisational challenges such a vision involves, the enormous will to deepen the cooperation in this policy area must be stressed. Given the general political window of opportunity, cross-border spatial planning must be seen as a potential way of using this energy in order to concretise the political options.

### 16.2.6 Policy option 5: multilingualism

With regard to multilingualism, the focus – in both case study regions – is more on civil society than on cross-border professionals (Fig. 27). The slight difference between the two case study regions is that the Upper Rhine places greater emphasis on language issues for society as a whole than for professionals. In the Greater Region, greater potential is associated with, in particular, cross-border commuters and administrative and political professionals.



**Fig. 27** The target groups for multilingualism (Delphi study, n=258 in the GR, n=103 in the UR)

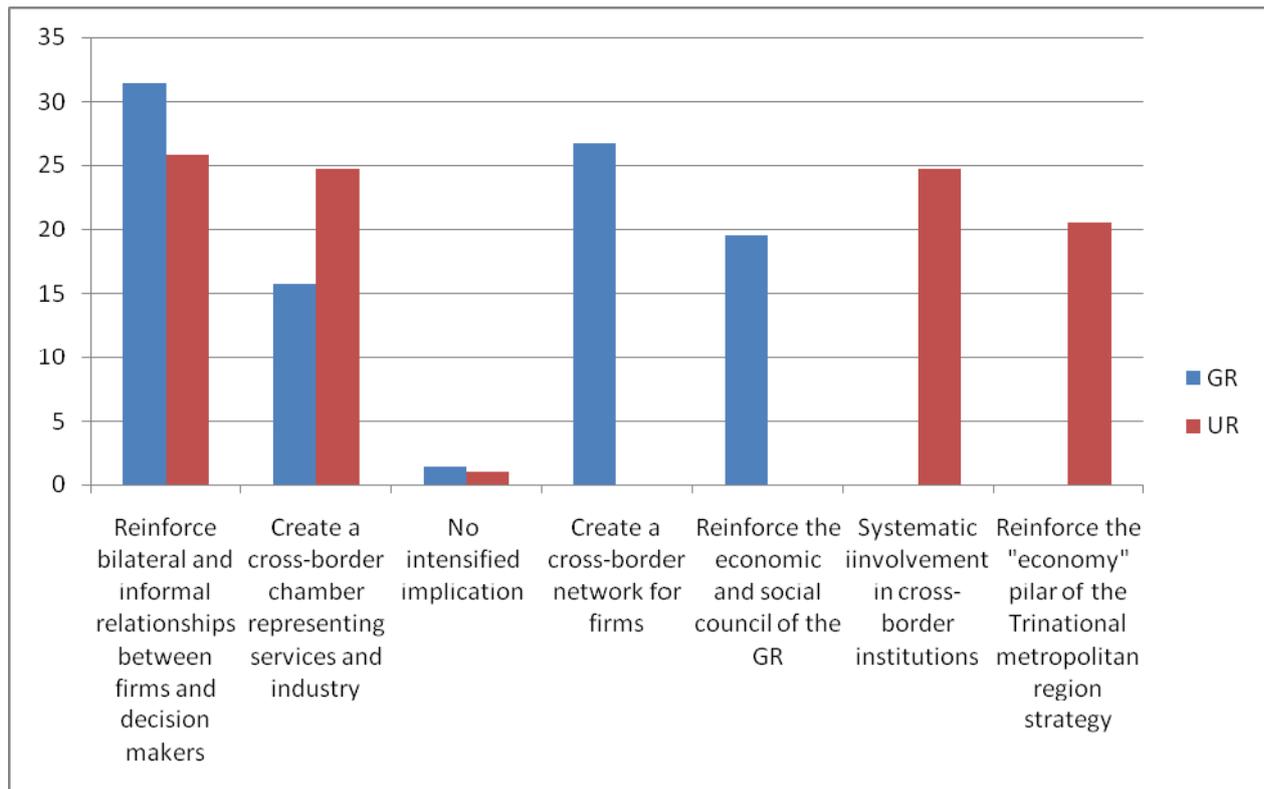
### 16.2.7 Institutional consequences

The institutional consequences of the metropolitan ambitions are manifold and not always easy to specify in concrete terms. However, some general trends can be identified:

- The basic feeling in both case study regions is that the longstanding and intensive experience of cooperation within the respective cross-border institutions is an important foundation, but that the 'output' is not yet sufficient, mainly due to institutional shortcomings.
- The Upper Rhine regions' experts see a clear need for a simplified structure, whereas in the Greater Region institutional strengthening is seen as desirable.
- The better involvement of the economic sector is seen as important in both case study regions. The Upper Rhine is a step ahead in this respect, as a 'pillar economy' has been established within the so-called Trinational Metropolitan Region of the Upper Rhine.
- Cross-border cooperation in both case study regions is a multi-level process. At the same time, the regional cooperation in form of the Upper Rhine Conference and the Greater Region Summit of the Executives is the driving force with regard to the metropolitan projects. These already include the municipal level in different forms. However, the experts do not consider the current situation to be optimal. The metropolises and the cross-border city networks in particular should be mentioned in this context.
- The European Union remains a major actor in relation to any cross-border ambitions, with regard to governance support as to financial funds.
- The (better) involvement of civil society is seen as an important aspect of CBPMRs, with regard to democratic legitimation and acceptance. However, this ambition is regarded as difficult, as many abstract and even technical questions have to be addressed over the long term. In particular, cross-border cultural activities in both regions have proven quite successful in this regard; however, systematic involvement remains a challenge.

### **16.2.8 Involvement of economic actors**

There is an overall consensus in both case study regions that joint economic success is a key political goal. In order to better exploit the cross-border potentials, stronger involvement of the economy is seen as a major priority. It is true that private economic actors have played a key role in different phases of the cross-border cooperation – for example, heavy industry was an initiator of the Greater Region; today, the local cross-border initiative Metrobasel is implemented largely by the local chemical industry etc. However, at the regional level the public sector remains the key player. Fig. 28 shows the major options for improving involvement of the actors. The graphic also shows that there is no easy option, but rather different strategies are seen as complementary, from enforcing bilateral cooperation to the creation of a multilateral platform.



**Fig. 28** How should the involvement of economic actors in cross-border cooperation be improved? Two options to be selected (Delphi study, n=210 in the GR; n=97 in the UR; number of responses)

### 16.2.9 Involvement of municipal actors

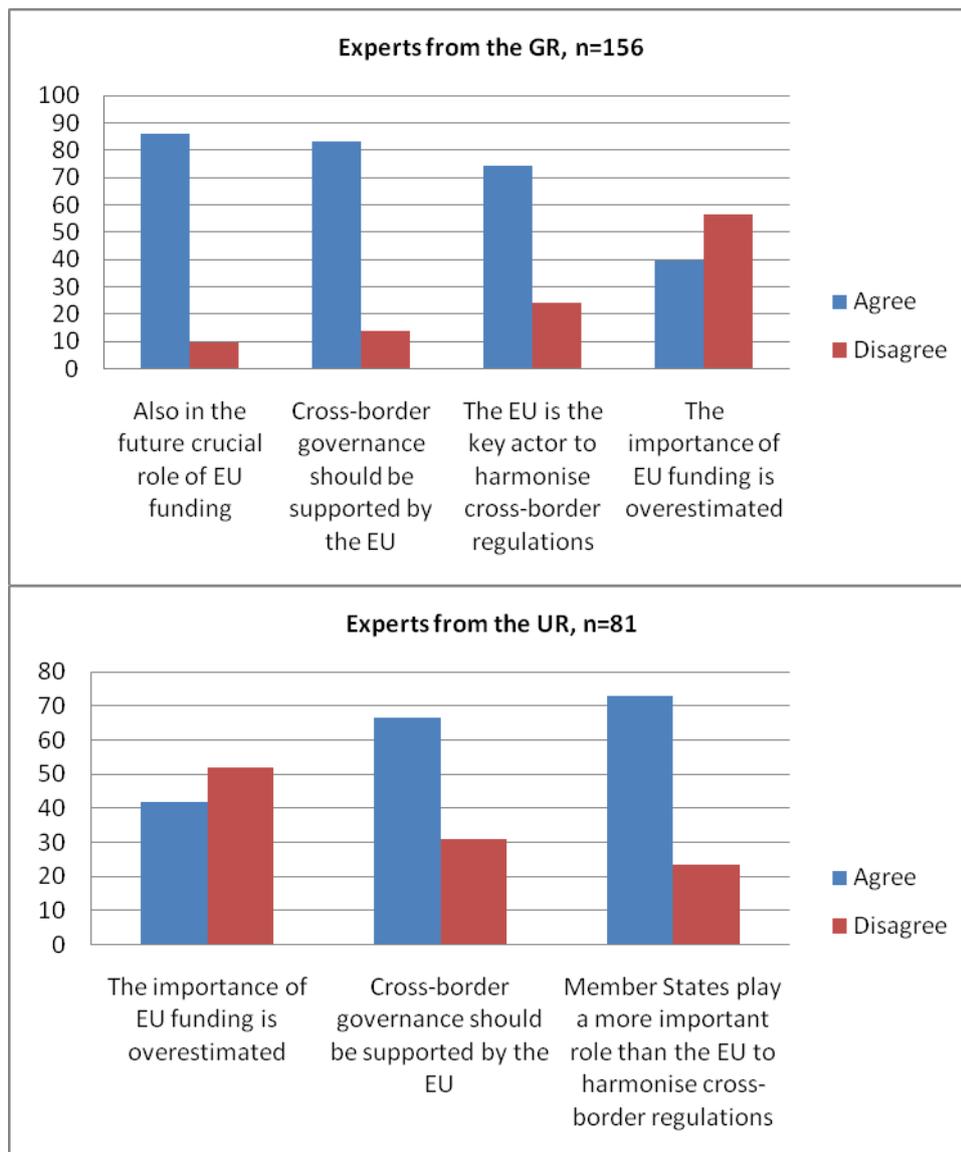
When debating strategies for CBPMRs, the role of the municipalities – in particular the more metropolitan ones – is an important issue. As they are the places with the highest economic activity and important political decision makers, their involvement is indispensable. At the same time, the governance system already has to cope with several multi-level challenges and with a large number of actors.

With regard to policy fields, 20% of the experts cite mobility and culture as priorities for the municipal actors, while 8% of the experts cite economy, tourism, education and research and citizenship.

Both in the Greater Region and in the Upper Rhine, more intensive involvement could be organised in form of increased institutionalisation of the existing platforms of municipal cooperation; that is, the Quattropole city network in the Greater region and the Eurodistricts in the Upper Rhine. Experts also consider that intensified links to instances of inter-regional cooperation such as the Summit of the Executives in the Greater Region or the Upper Rhine conference could be of relevance.

### 16.2.10 What role for the EU?

Though cross-border cooperation is always multi-level, the European Union is not directly involved in any of the cases. However, the EU has always been one of the most important driving forces behind cross-border development. The Delphi study shows that this role should be continued (Fig. 29). The overall message from these results is that the governance dimension has become at least that important as the funding dimension. Harmonisation is seen to be in the responsibility of the nation states and the EU. The increasing liberalisation of borders and the growing experience of cross-border cooperation have not reduced the high expectations towards the European level.



**Fig. 29** Future role of the EU – percentages agreeing with various statements

## 16.3 Focussing on secondary centres in the Upper Rhine Region

### 16.3.1 The urban perspective

This section contributes to analysing institutional integration in the Upper Rhine region by building on some results of the 2<sup>nd</sup> Delphi round with insights from expert interviews. Previous sections have already set out the relevance of the *Trinational Metropolitan Region Upper Rhine*, which covers the metropolitan intraregional level. On the inter-municipal scale, however, secondary centres too play a particular role.

The Upper Rhine is characterised by a polycentric urban structure. Analysing secondary centres postulates the existence of a primary pole. However, no centre plays a predominant role – e.g. no so called MEGA (metropolitan European growth engine) has been detected in the previous ESPON programme. Basel, however, has a global score which is much higher than those of the other FUAs (ESPON 1.4.3, p. 159-174; cp. also section 3 of this report). The overall score is 5.67, which is very close to that of Geneva, which is considered as a MEGA, and much higher than those of Strasbourg (3,87), Karlsruhe (3,78) and Freiburg (3,17), the main other FUAs in the Upper Rhine. The score is especially high for three functions: decision, transport and knowledge. First, Basel is home to some global life science firms (Novartis, Roche). Second, it is also a transport node and it has a good connectivity in terms of air, railway, and shipping networks. Third, it is a centre of innovation, with several public and private research centres.

The city of Basel has shown major ambitions for its development: it took the initiative to join with the neighbouring French and the German cities and territorial authorities to develop a metropolitan project. Since the first version was published in 2002, further propositions have been made. An urban planning agency has been created to translate the project into concrete action. The Trinational Eurodistrict Basel can be viewed as a governance structure seeking to coordinate the political orientations of the public actors at the level of the urban area of Basel. Since 2006, another project, Metrobasel, has been developed by the city's major businesses; this project also addresses the cross-border dimension, but it is more a tool of territorial marketing than of urban development. All the cities of the Upper Rhine have developed strategic projects in which they try to guide their future development; further Eurodistricts complete the institutional setting (cp. section 13.3).

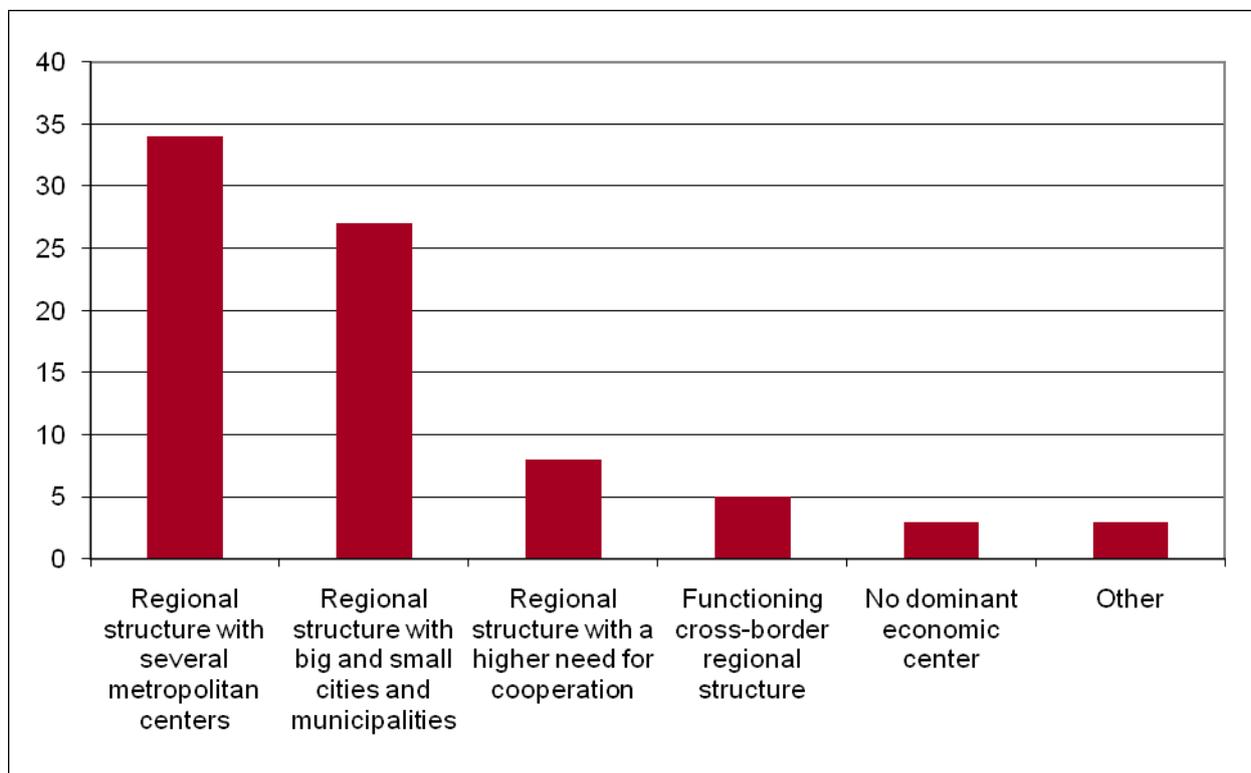
In this part, we explore how the public actors consider the concepts of polycentricity, cross-border dimension and metropolitan quality and how they are using them in their policies.

In this section, we explore how the public actors consider the concepts of polycentricity, cross-border dimension and metropolitan quality, and how they are using these in their policies.

The comments are based primarily on expert interviews with local authorities, completing the picture provided by the (second part of the) Delphi study of the Upper-Rhine valley. Due to the large number of actors involved, it was impossible to meet all of them within a short time. Therefore, we selected interview partners from each political level - regional and local, as well as from each country. The information collected in these 26 interviews allows us to better understand the issues and the strategies developed by the authorities.

### 16.3.2 Polycentricity

As mentioned by a large proportion of the actors, the polycentric structure means a region characterised by a diversity of urban centres, sometimes with several major cities, but where none is in a position to dominate the others (see Fig. 30).



**Fig. 30** The meaning of polycentricity for the actors in the Upper Rhine

Two types of information from the interviews help to build on this definition. Firstly, most of the cities believe that they are in competition with other cities to attract investors and entrepreneurs (*Standort*). However, at the same time the cities stimulate each other, especially when they have approximately the same size and the same competences.

Secondly, the secondary centres see themselves as production sites or services centres more than as decision-making places or innovation centres. They also feel that they are relatively quiet places, offering a large range of amenities for

the population of the city and its urban region. The “small size” is considered to be more of a benefit than a disadvantage.

With regard to their strategic development, the cities all try to reinforce their attractiveness, referring to the commercial, cultural, symbolic etc. quality. Most of the cities belong to urban networks in their own countries. Some of these link cities of the same size, while others network cities in relation to a shared theme such as sustainable development, urban planning, etc. Most of the cities also belong to European networks.

### **16.3.3 The cross-border dimension**

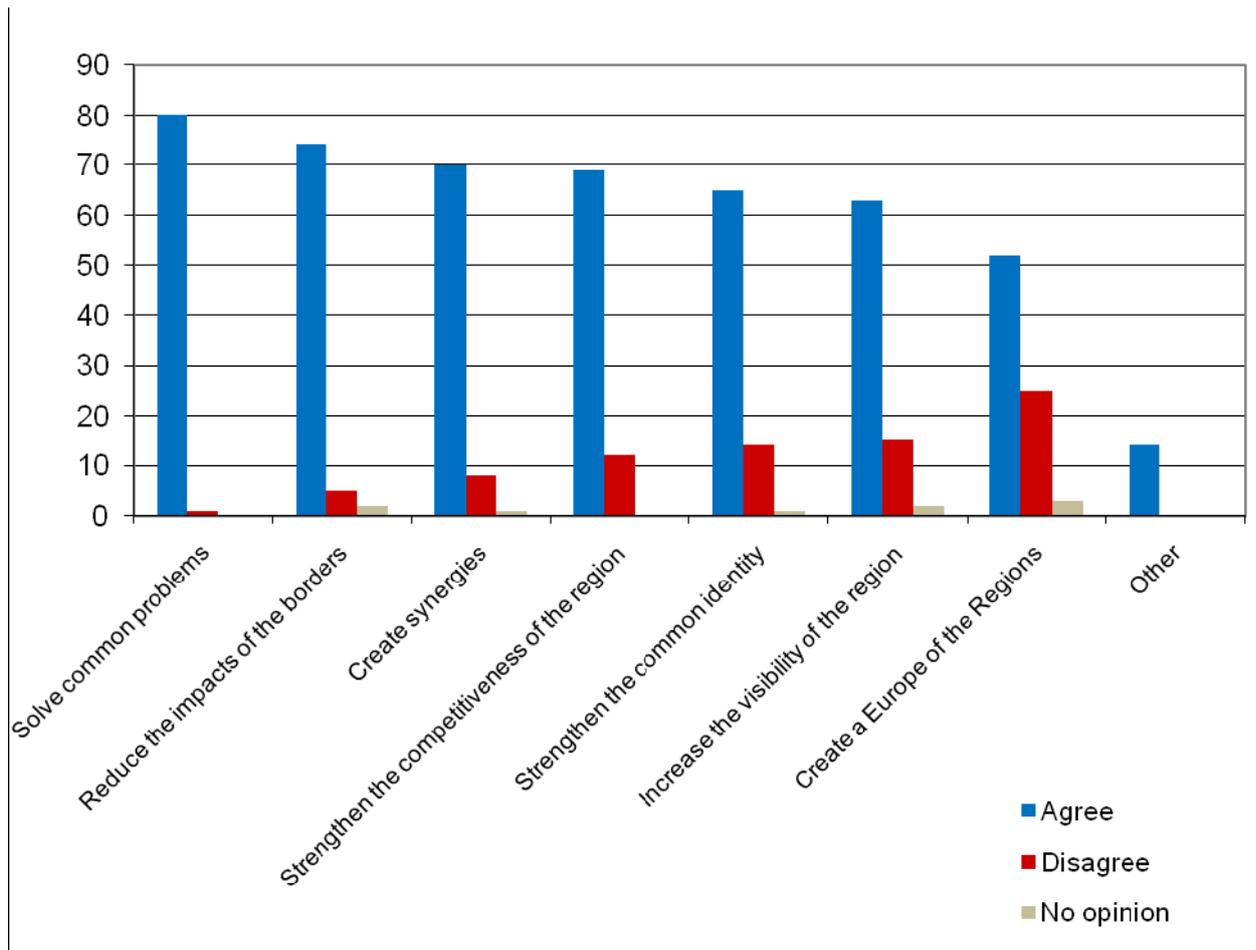
After the Delphi study specified the most important barriers to cooperation (see above, section 0), the interviews went into greater depth. The border was often said to have a dual character: it differentiates and separates, while at the same time also linking and bonding.

Several perspectives were put forward. Firstly, the border still represents some major differences - in terms of institutional and administrative systems and financial resources, but also of cultural systems. Language differences are becoming more important, which makes communication difficult and impedes the professional mobility. The use of languages (of the neighbouring country), intercultural knowledge and knowledge of the organisation of different national systems require skilled human resources.

Secondly, the cities and regional political institutions are in a peripheral location within the national territory and are far from the capital where the main political decisions are taken.

Thirdly, the border has lost most of its military functions and is less and less a physical barrier to mobility and interactions. The cross-border area now offers real potential for interaction.

Cross-border cooperation is considered to be a positive factor: it helps to resolve common problems and to reduce the consequences of the differences between the national territories (Fig. 31). The Upper Rhine region is seen as a common living space where the institutions share some interests. At the same time, the actors reflect on the level of cooperation and the efficiency of the cooperation in some fields. All the interviewed public actors are convinced of the importance of cross-border cooperation and they all belong to several cross-border institutions. The Upper Rhine Conference and the Eurodistricts are often mentioned but sometimes the actors are also involved in other formal or informal panels. The various Interreg projects, initiated and realised over the past 20 years, also play an important role. In particular, the cities are also developing partnerships at the international (European and global) level.



**Fig. 31** The main reasons for cross-border engagement

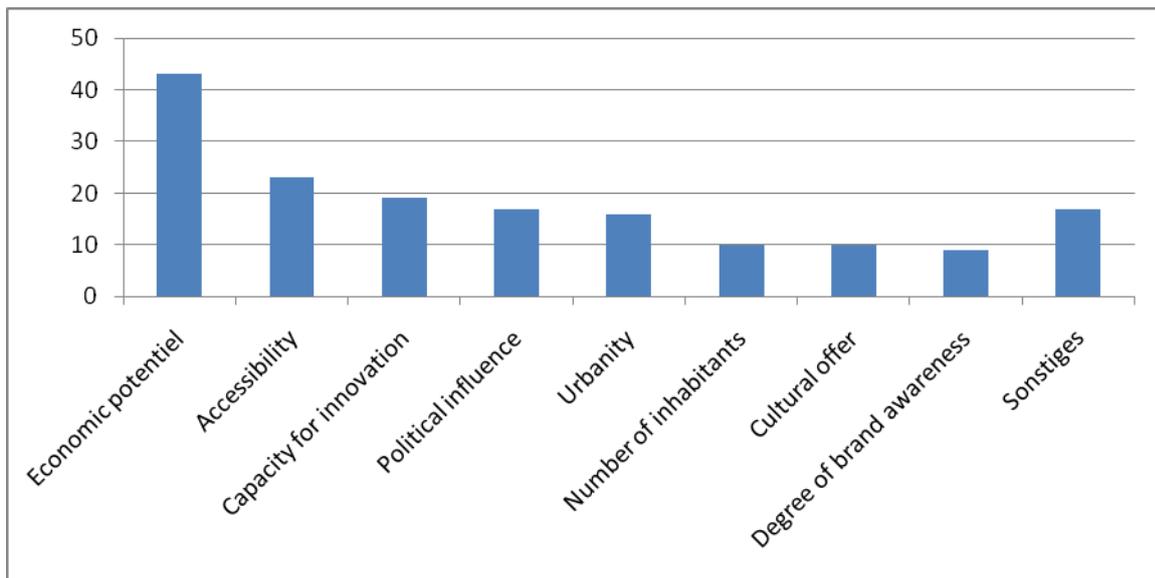
#### 16.3.4 Metropolitan quality

There is no single way to describe the concept of “metropolis”. Nevertheless, all the actors addressed see a metropolis mainly as an economic centre (see Fig. 32).

Several approaches were described in the interviews. First, the metropolis is seen as a centre with a high position within the urban hierarchy, a large city with several amenities (*Oberzentrum*). This functional approach is influenced by the theory of central places of Christaller and Lösch.

Second, a metropolis is a city where the citizens can have all their needs met. Third, the urban authorities refer to a “metropolitan project”, to be developed at the local level. These cities have the ambition of playing a role at the global or European level. Urban planning, city marketing and development of a system of governance are some of the components of this “metropolitan project”.

Finally, a metropolis is seen as an urban region which is able to organise a large area and which offers access to several types of “globality”. This means the presence of “global players”, international decision centres, innovation centres, nodes that open and connect to the world, and also the presence of symbolic functions.



**Fig. 32** Main features of a metropolitan area (Delphi study)

### 16.3.5 Outlook

The border is simultaneously both a barrier and a link, and this influences the political relations also between the cities. In the future, as at present, no one city will dominate the others within this cross-border urban network (see **Error! Reference source not found.**).

Another feature of the Upper Rhine valley is not only the proximity between the cities, but the short distance between the cities and the border. Most of the cities (and this is also true of the secondary centres) are located less than 30 minutes from a boundary. Their attractiveness could easily carry across border. Planning the border area and the urban areas near the border is considered as a main issue by the actors. When asked how polycentricity should evolve in future, the vision of most experts is that in particular the most important centres should further be developed without having a single dominant centre in the long term.

Geographical proximity combined with national differences open opportunities for secondary centres of approximately the same size which share common interests: they can exchange experiences. Improving political relations with other cities across the border is a way to gain access to an international dimension.

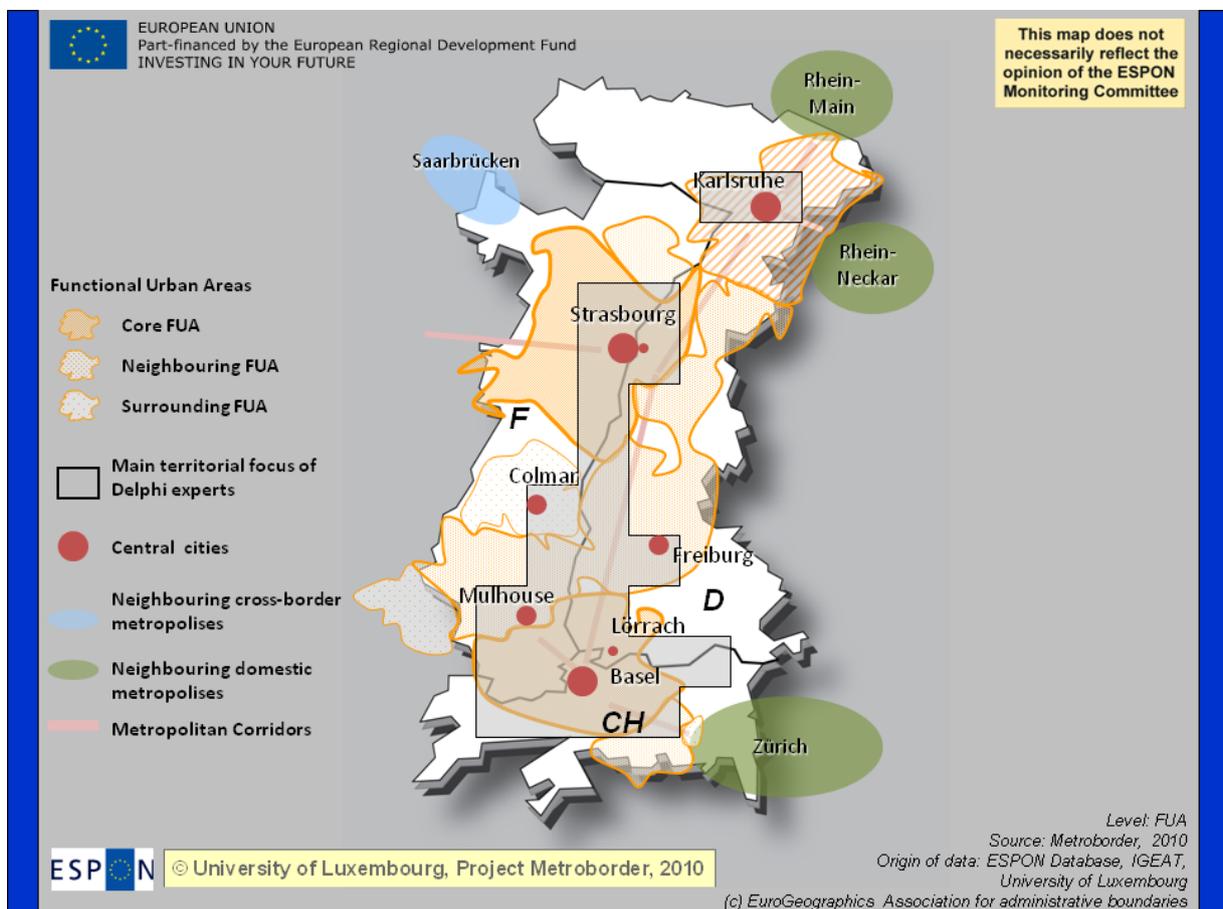
All the cities have developed multi-level partnerships which vary over time and space; these are with other cities, but also sometimes with other territorial authorities. Most of the links are informal and depend on mutual trust. A network of cities of the Upper Rhine Region is included in the Conference of the Upper-Rhine, but it is not institutionalised in the way that *Quattropole* is in the Greater Region.

## 17 Summary of the Upper Rhine situation

### 17.1 The territorial setting

The Upper Rhine region is a particular CBPMR because of its tri-national character. Compared to the other European CPMRSs, its polycentricity is quite balanced (having two truly cross-border cores with the Basel and Strasbourg FUAs and an important third player with Karlsruhe). The functional cross-border integration is particularly intense in the Basel FUA, being amongst the three most important cross-border commuting regions in Europe.

The status of the Upper Rhine as a CBPMR is clear: the synthesis map brings together the crucial results from the METROBORDER research.



**Map 36** 'CBPMR Upper Rhine': schematic synthesis map of METROBORDER results

The different information layers of the map are explained below:

- **Functional Urban Areas:** The Upper Rhine perimeter comprises two core cross-border FUAs (Basel and Strasbourg), with Karlsruhe as a third player with a cross-border character and with a high demographic and economic

weight. The neighbouring and surrounding FUAs match almost exactly the perimeter of the Upper Rhine conference.

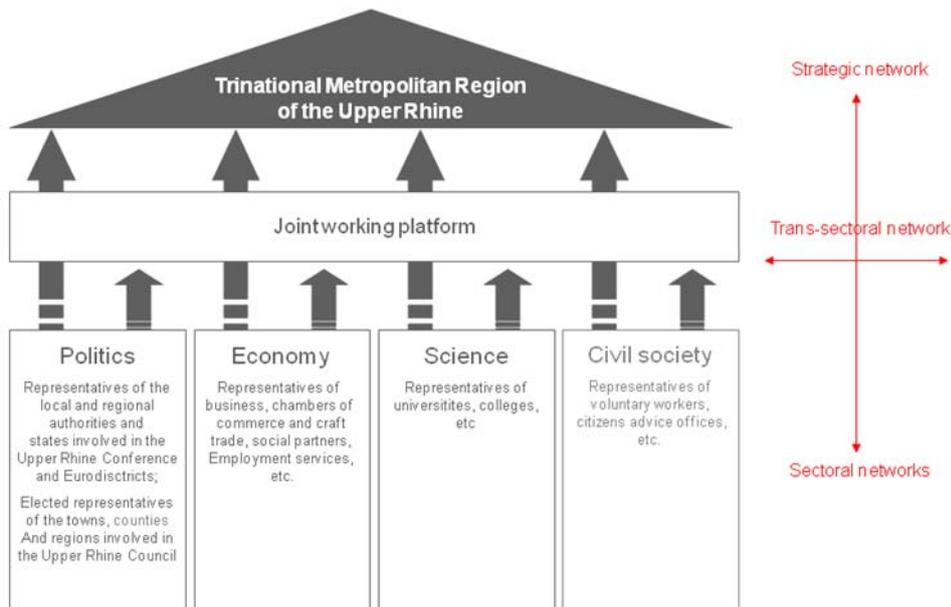
- **Central CBPMR cities:** The strongest metropolitan dimension within the Upper Rhine perimeter can be found in and around Basel, mainly due to economic factors. Strasbourg, too, has a clear metropolitan dimension, amongst others due to political indicators. Karlsruhe has a strong economic dimension, but Freiburg, Colmar and Mulhouse are also important centres, in particular in terms of demographic figures.
- **Institutional focus:** Political will was measured by the Delphi study – in the map, the perimeter represents the area that more than 45% of the experts consider as particularly important. This picture reflects the overall acceptance of the Upper Rhine perimeter. At the same time, the northern part (around Karlsruhe) is seen as part of this setting, but in a more ‘careful’ way – this is, in a way, going very much parallel to the functional analysis.
- **Metropolitan corridors:** The metropolitan corridors of the Upper Rhine are dominantly oriented along the Rhine valley. The problem in this region is – differently to the Greater Region – not so much the linkages to external metropolitan regions but more the internal bottlenecks.
- **Neighbouring CBPMRs and domestic metropolises:** The Upper Rhine is positioned ‘in the shadow’ of the ‘Pentagon’ metropolises, namely Zurich, Rhine-Neckar (Stuttgart), Rhine-Main (Frankfurt). At the same time, the Upper Rhine is part of corridor of CBPMRs in Western Europe, not very far to the Greater Region and Geneva.

## 17.2 Governance and the “Trinationale Metropolregion”

The METROBORDER project has shown that the Upper Rhine region is characterised by strong cross-border flows, such as cross-border commuting, as well as a well-developed cooperative structure. In this regard, the Upper Rhine is often considered as an exemplary cross-border region.

The actors involved in cross-border cooperation in the Upper Rhine have decided to go a step further and better position the region as a model for cross-border cooperation and development by establishing the so called “Tri-national Metropolitan Region of the Upper Rhine”.

The objectives of the project are multiple. According to the results of the Delphi study, the two main goals are the intensification of cross-border cooperation on the one hand, and lobbying in Brussels, Berlin, Paris and Berne on the other (see appendix, chapter 15). In order to achieve these objectives, the actors have established a new cooperative structure:



**Fig. 33** The “Trinational Metropolitan Region of the Upper Rhine” – current overview

One should mention the institutionalised involvement of the business and science sectors, as well as of civil society, in the cross-border cooperation. We must stress here that the four pillars of the “Tri-national Metropolitan Region of the Upper Rhine” do not show the same degree of institutionalisation. While the “politics” pillar can be considered as being over-institutionalised, there is a need to consolidate the organisational structures within the “economy” and “science” pillars. Finally, the “civil society” pillar represents a real challenge in terms of institutionalisation. This pillar is characterised by a lack of structure.

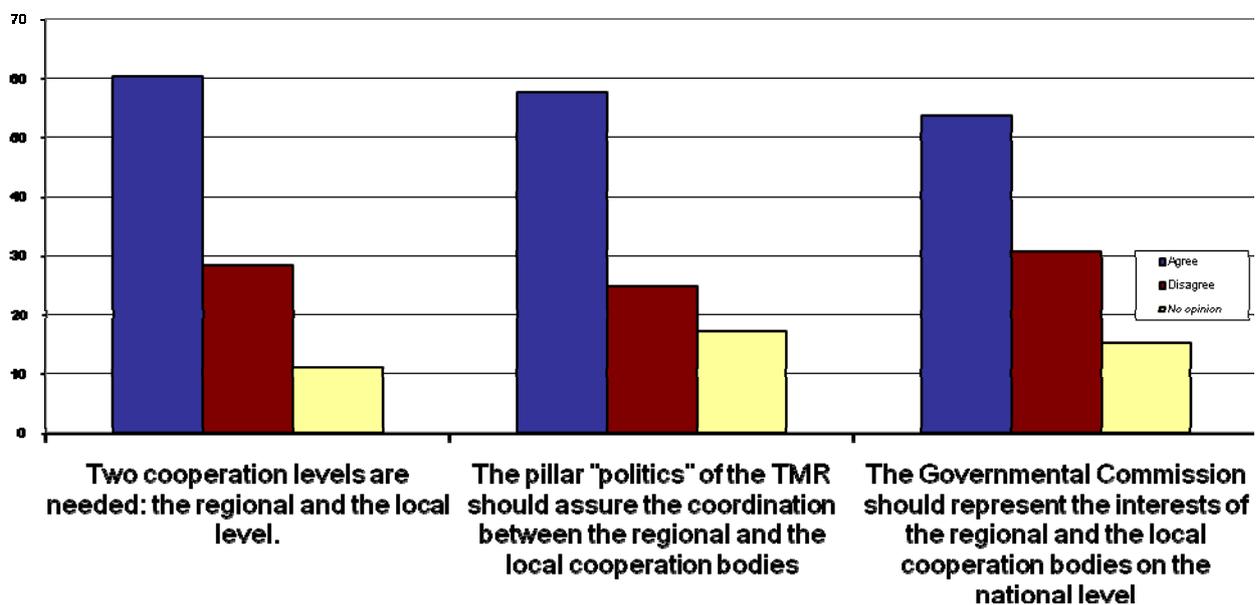
At the same time, the actors in the Upper Rhine are working on the definition of tri-national strategies within each pillar, as well as of a common strategy for the whole “Tri-national Metropolitan Region of the Upper Rhine”. The overall strategy focuses on the following action areas: multi-level governance, competitive and sustainable development, knowledge economy, and civil society.

### 17.3 Selected findings of the Delphi study

The starting point for the strategy building in the Upper Rhine was the Delphi study (cp. chapter 16): About 84% of the experts see a need for a rapprochement of various cooperation bodies within the pillar “politics”. Even if a majority of the actors involved in cross-border cooperation in the Upper Rhine considers the simplification of the cooperation structures on the political and administrative level necessary, the question does not seem to be addressed in a coordinated manner. Indeed, the project “Trinational Metropolitan Region of the

Upper Rhine" focuses way more on the question of institutionalisation and concretisation between the four pillars. Therefore, it was decided to dedicate the strategy building in the framework of the project METROBORDER to this complex question.

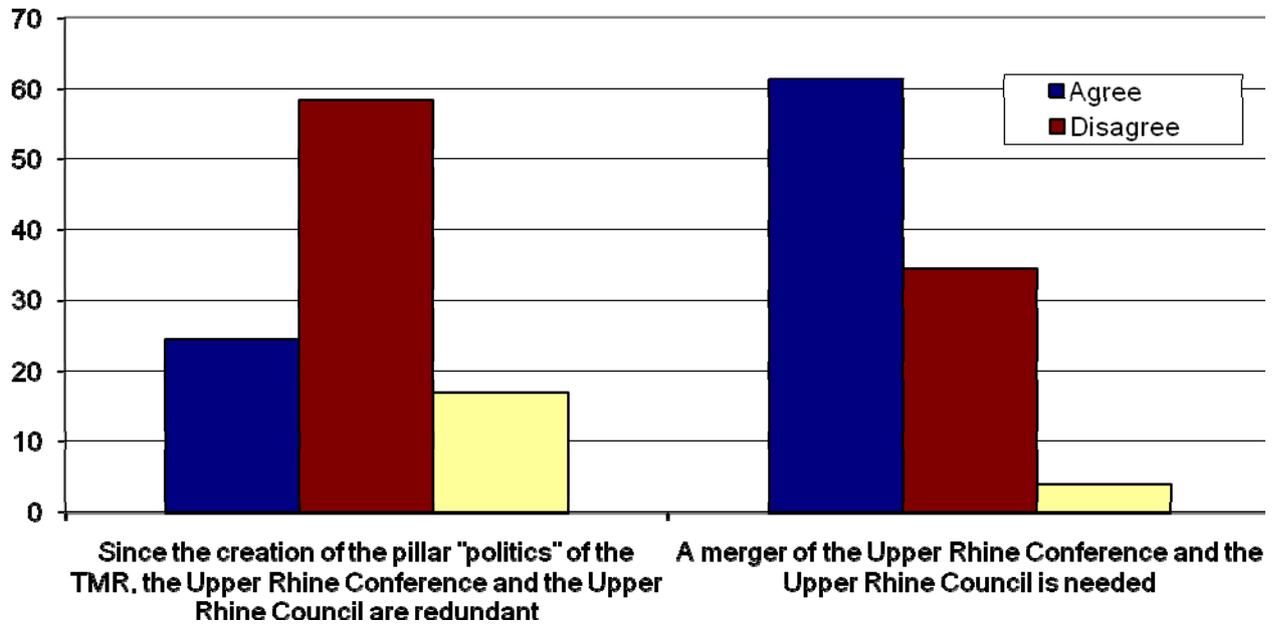
Based on a few striking results of the Delphi study (see chapter 16), three different scenarios for possible simplifications of the cooperation structures within the pillar "politics" were developed. The idea was not to present realistic future trends, but way more visions in order to boost the discussion. The three scenarios were presented to the regional stakeholders on the occasion of a workshop held on September 14<sup>th</sup>, 2010. The stakeholders were asked to criticize the scenarios and to further develop them.



**Fig. 34** Arguments for governance simplification in the Upper Rhine (I) - Results of the Delphi study

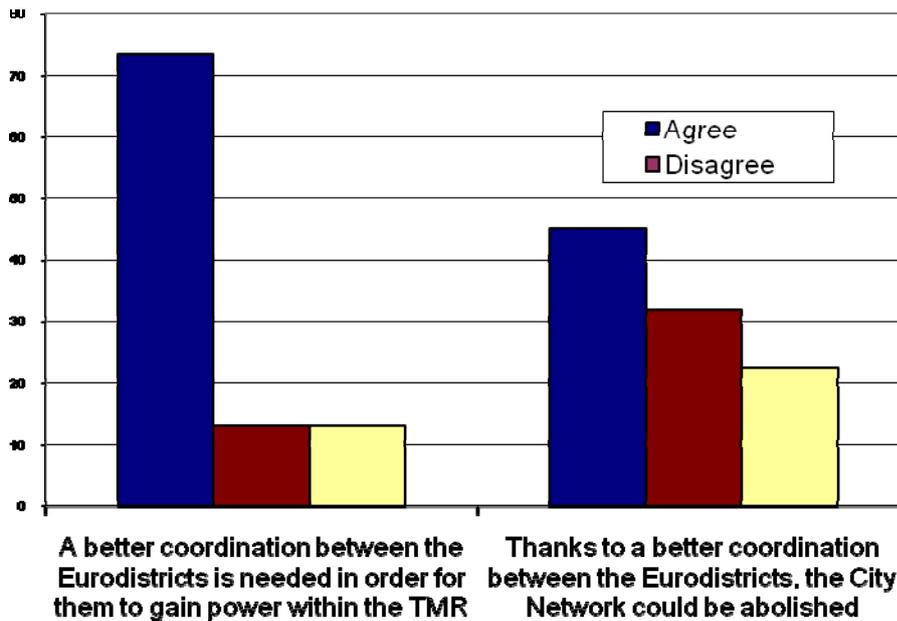
The actors involved in cross-border cooperation in the Upper Rhine consider that the pillar "politics" should cooperate mainly on two levels: on the regional level with the Upper Rhine Conference and the Upper Rhine Council and on the local level with the Eurodistricts. While the pillar "politics" should contribute to improve the coordination between the regional and the local cooperation bodies, the Governmental Commission should better represent the interests of the cooperation bodies of both levels in Berlin, Paris and Bern. Subregional cooperation areas, such as the RegioTriRhena, seem to become less important. This can be understood as a need to concentrate the efforts only on the principal cooperation areas and to avoid a dispersal of the available resources.

Despite the creation of a new regional cooperation structure, the pillar “politics”, the Upper Rhine Conference as well as the Upper Rhine Council still play an important role. This shows that the pillar “politics” is considered more as a coordinating structure than as a real cooperation body. Despite their importance, the experts see a need to merge the Upper Rhine Conference and the Upper Rhine Council. This shows the will of many actors to increase the democratic legitimacy of the cross-border cooperation.



**Fig. 35** Arguments for governance simplification in the Upper Rhine (II) - Results of the Delphi study

On the local level, it seems that the Eurodistricts would gain influence in the “Trinational Metropolitan Region of the Upper Rhine” if they would better work together. But the experts do not believe that the Eurodistricts can replace the City Network. Indeed, the Eurodistricts and the City Network do not fulfil the same function: In opposition to the City Network, the Eurodistricts clearly represent territorial cooperation bodies.



**Fig. 36** Arguments for governance simplification in the Upper Rhine (II) - Results of the Delphi study

#### 17.4 Scenarios

The findings of the Delphi study presented in the previous chapter built the basis for the three scenarios. They were further developed by the regional stakeholders on the occasion of a workshop held on September 14<sup>th</sup>, 2010. The scenarios we want to present here are the results of this common work.

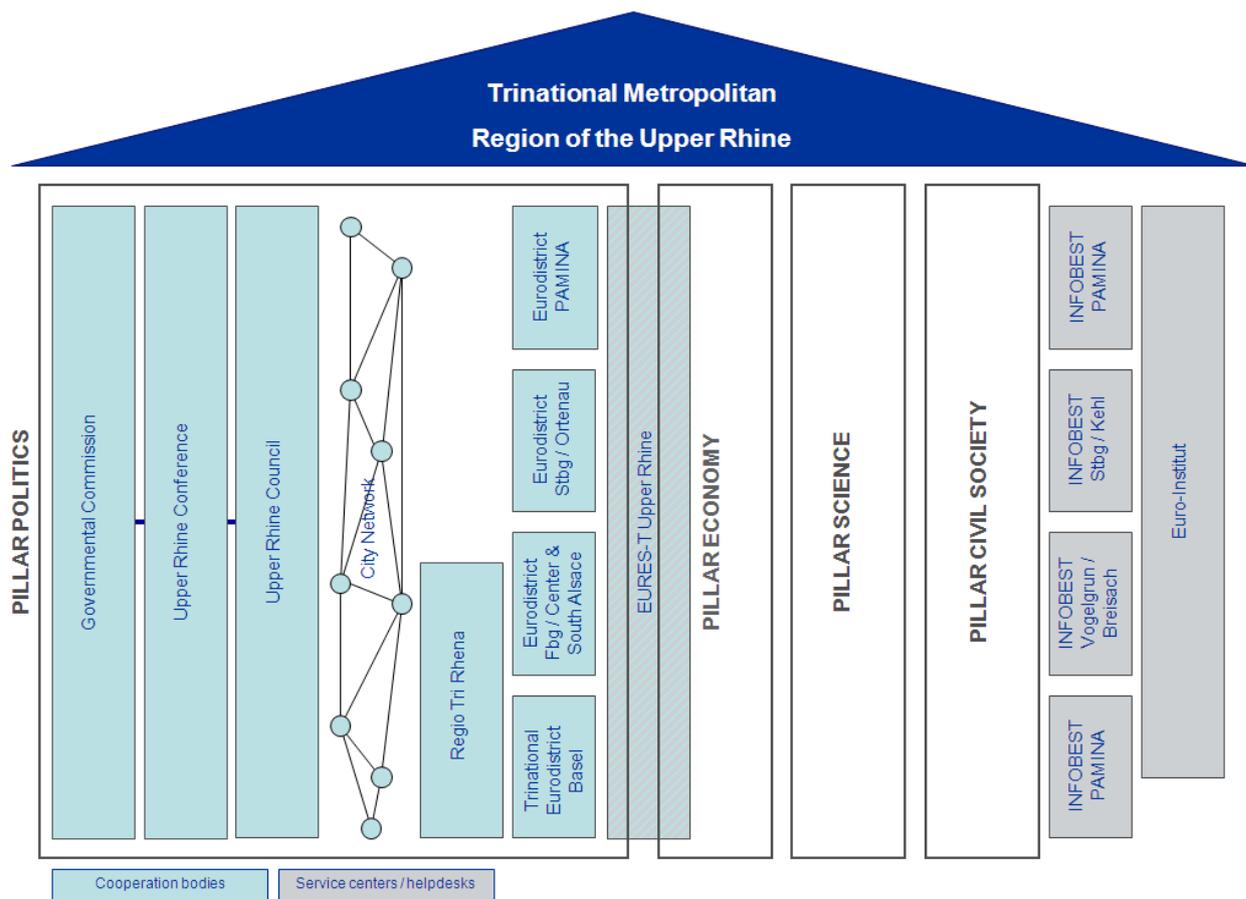
The simplification of the cooperation structures is not a goal on itself. It would also contribute to:

- improve the efficiency of the cross-border cooperation,
- enhance the transparency of the cooperation system and the visibility of the cross-border region,
- increase the democratic legitimacy of the cross-border cooperation.

##### 17.4.1 Scenario 1: Multi-level cooperation (status quo)

The scenario "Multi-level cooperation" reflects the actual situation. Its main characteristics are:

- Pillar "politics": long tradition of cooperation and over institutionalised cooperation structure.
- Pillars "economy" and "science": well functioning cooperation networks (e.g. BioValley, EUCOR and NEUREX) and low institutionalised cooperation structure.
- Pillars "civil society": low involvement in cross-border matters and lack of cooperation structure.

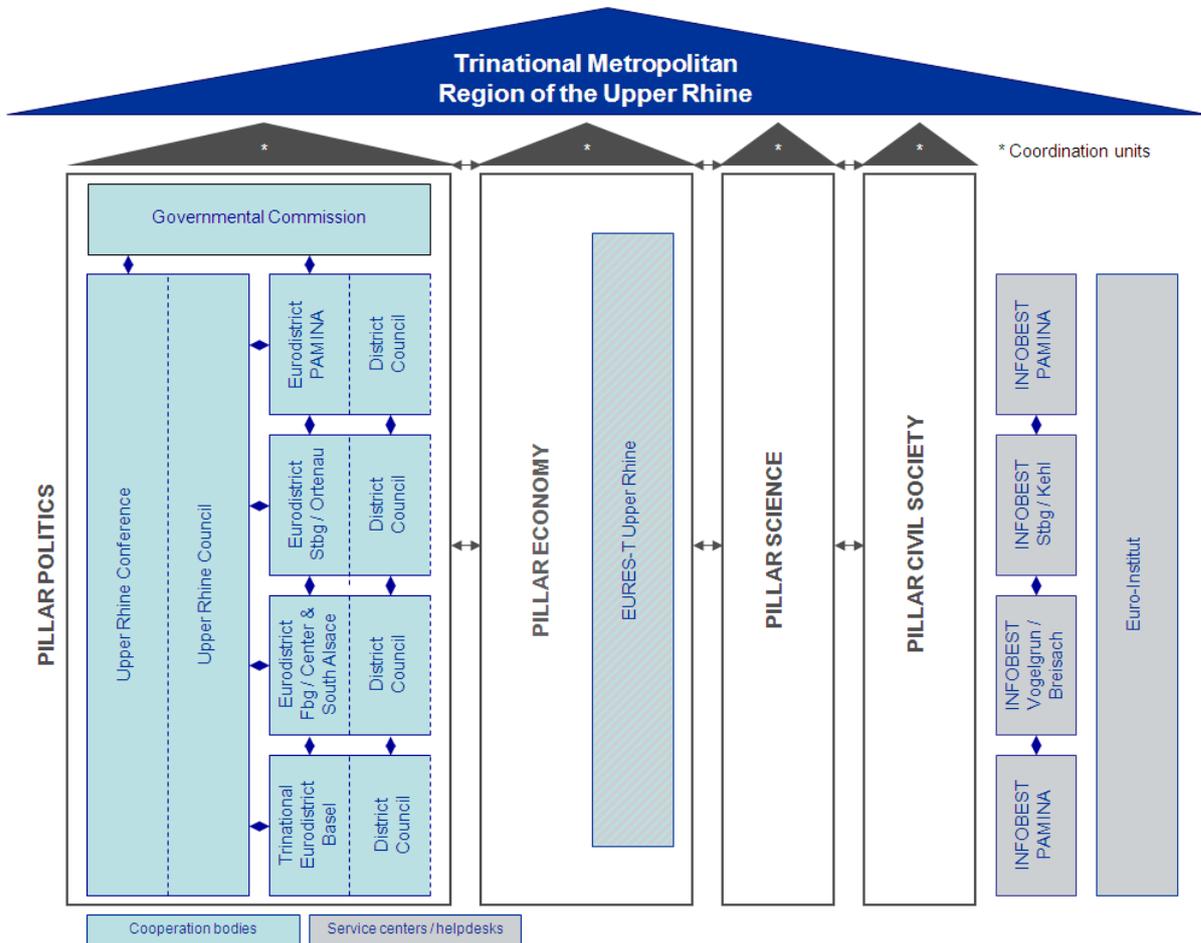


**Fig. 37** Scenario 1 – “multi-level cooperation”

Strength	Weaknesses
<p>Fully developed multi-level cooperation system with a national, regional and local governance-level;</p> <p>Involvement of all cooperation actors: politics and administration, economy and science, civil society;</p> <p>Cooperation in all relevant thematic areas: Economy and labour market, education and youth, research and innovation, spatial development and environment etc.</p>	<p>No clear division of work between the different cooperation bodies;</p> <p>No binding common development strategy</p> <p>No coordinated inward and outward positioning;</p> <p>Lack of transparency and therefore lack of population acceptance.</p>

### 17.4.2 Scenario 2: Two-level cooperation

The scenario "two-level cooperation" presents a realistic development alternative (Fig. 38).



**Fig. 38** Scenario 2: "Two-level cooperation"

Its main characteristics are:

Pillar "politics":

- Two cooperation levels: regional level with the Upper Rhine Conference together with the Upper Rhine Council and local level with the Eurodistricts together with so called District Councils.
- Integration of the Upper Rhine Council in the Upper Rhine Conference (as Upper Rhine Parliament)
- Creation of a District Council in each Eurodistrict (as District Parliament)
- Close cooperation between the Upper Rhine Conference and the Eurodistricts
- Representation of the interests of the Upper Rhine Conference and the Eurodistricts on the national level by the Governmental Commission

- Abolishment of the RegioTriRhena
- Abolishment of the City Network

Pillar "economy":

- EURES-T Upper Rhine a center of excellence for cross-border mobility
- Integration of EURES-T Upper Rhine in the pillar "economy"

All pillars:

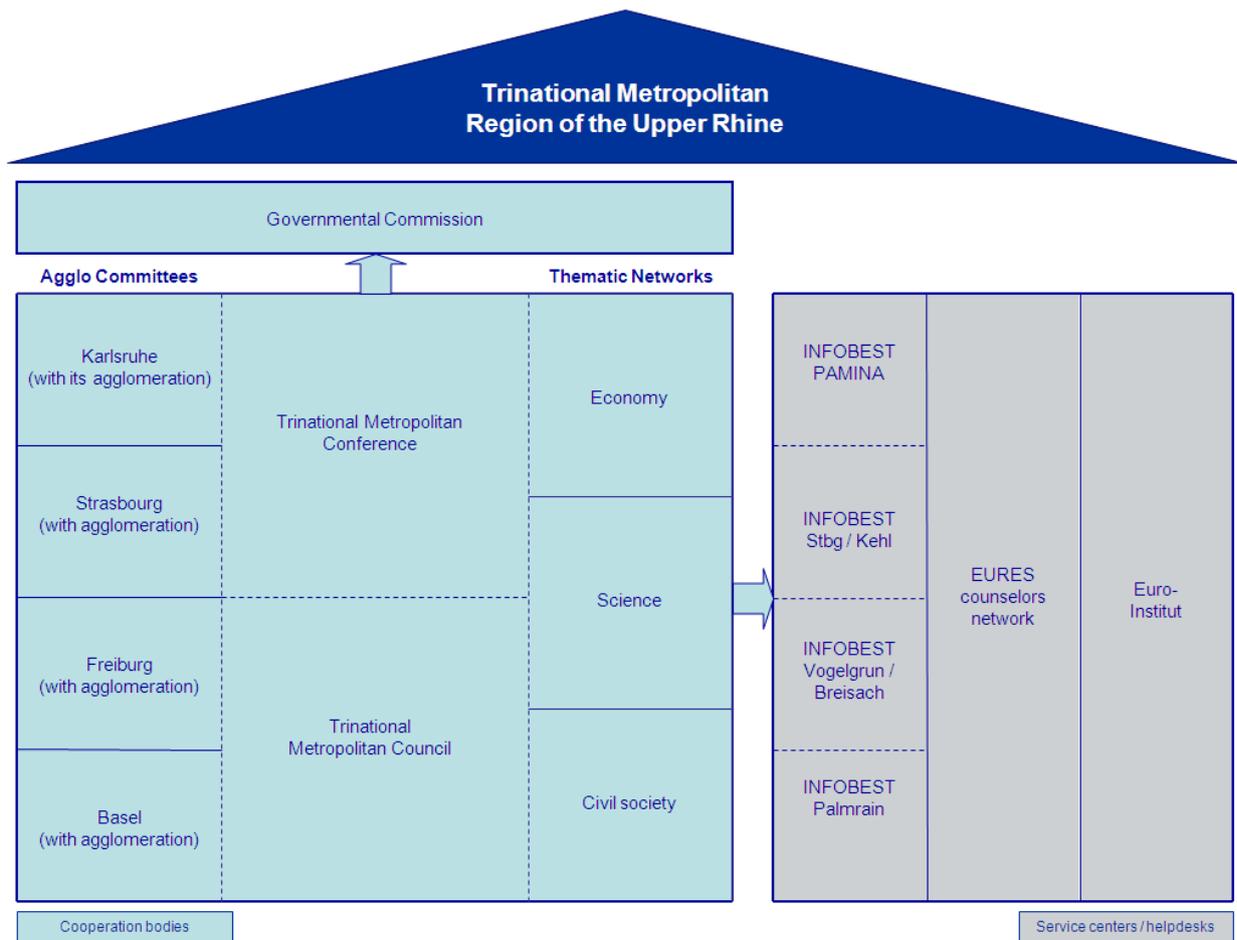
- One coordinator for each pillar, close cooperation between the coordinators and the pillars

Strength	Weaknesses
Close cooperation and clear division of work between the regional and the local cooperation bodies	No guarantee for clear organisation structures within the pillars "economy", "science" and "civil society"
Better cooperation between the pillars	No binding common development strategy
Enhanced transparency and higher population acceptance	No coordinated inward and outward positioning
High democratic legitimacy	

### 17.4.3 Scenario 3: Integration

The scenario "integration" represents way more a vision than a realistic development alternative. Its characteristics are:

- Creation of a single cooperation structure: Trinational Metropolitan Conference
- Creation of a Trinational Metropolitan Council as Upper Rhine Parliament
- Integration of the bigger cities with their agglomerations in the Trinational Metropolitan Conference as Agglomeration Committees
- Abolishment of the Eurodistricts and the City Network
- Integration of the pillars "economy", "science" and "civil society" in the Trinational Metropolitan Conference as Thematic Networks
- Representation of the interests of the Trinational Metropolitan Conference on the national level by the Governmental Commission
- Integration of the different helpdesks (e.g. INFOBESTs and Euro-Institut) in one information centre



**Fig. 39** Scenario 3: "Integration"

Strength	Weaknesses
One cooperation structure with a close cooperation as well as a clear division of work between the actors Institutionalised cooperation structure within the Thematic Networks "economy", "science" and "civil society" Possibility to define a common development strategy Coordinated inward and outward positioning Transparency and population acceptance Relatively high democratic legitimacy	Lost of autonomy of the different cooperation bodies and actors A single, but complex cooperation structure

The discussion with the regional stakeholders showed how complex it is to want to change the established governance system. We want to point out two crucial questions which the regional stakeholders raised:

- What should be the starting point of this process? The cooperation bodies, the cooperation areas or the cooperation fields?
- Can such a process be successful without transferring competences to the cooperation bodies, without giving the cooperation bodies an own budget and without providing the cooperation bodies with manpower?

### **17.5 Outlook**

As mentioned above, simplifying the cooperation structures in the Upper Rhine is a necessity as well as a challenge. It will take time and a great deal of convincing will have to be done. Together with the other results of the project METROBORDER, the revised scenarios which were presented in the previous chapter will be once more presented and discussed with the regional stakeholders in the framework of the Upper Rhine Conference and the Eurodistricts. But in order to lead to real results, the actors involved in cross-border cooperation will then have to pursue themselves this process.

## 18 Summary for the Greater Region

### 18.1 Why a CBPMR strategy for the Greater Region?

At the European level, the Greater Region is an outstanding 'cross-border metropolitan polycentric region' (CBPMR): in no other place in Europe, or perhaps in the world, is there such a high density of national borders combined with such a high degree of cross-border integration. The unique internationalism and the strong functional integration in the central part of the Greater Region highlight its potential to be the 'laboratory of Europe'.

Moreover, the Greater Region is not just a polycentric settlement system, but also comprises a metropolitan area of European and global significance, despite its relatively small cities. Further exploiting the potentials of the CBPMR is a coherent strategy with few alternatives in the long run.

The development of the Greater Region has to take into account its overall strengths and weaknesses. In greatly simplified terms, the most prominent strength of the Greater Region is its role as a metropolitan region of European relevance, despite its relatively small agglomerations. This visibility results both from the strong embeddedness of the Functional Urban Area (FUA) of Luxembourg FUA in the global economy and from the Greater Region's complementary polycentric structure.

The complementarities of the polycentric system comprise several economic sectors that differ between the involved regions; the diversity of retail offers make people cross borders regularly; the labour markets and the real estate markets show significant differences; and the underlying domestic regulation systems are distinct either. These differentials are the driving forces of cross-border development: The remarkably high degree of cross-border integration is both the precondition and the outcome of the smart exploitation of differentials by residents as well as by economic and political actors.

The approach of strengthening the cross-border metropolitan polycentricity helps to further develop complementarities.

Several constraints and weaknesses must also be considered. The overall challenge for the Greater Region is to ensure that the 'critical mass' is attained in terms of urban agglomerations and metropolitan functions. The sheer territorial size of its cooperation perimeter does not compensate for the small size of the cities and the still limited metropolitan quality of the economy. This argument also plays a crucial role with regard to accessibility issues and the capacity of influencing political agendas. Only when cooperation and combining the different assets of the partners involved, the Greater Region can maintain and perhaps expand its current role.

With regard to governance, the purely intergovernmental and hardly institutionalised character has to be further developed as – among other factors – the ‘multi-level mismatch’ must be better addressed.

Without enhanced cross-border development, sustainable spatial development is difficult to attain. For example, only an intelligent transport infrastructure can reduce environmental problems, and only the efficient use of public budgets – avoiding double spending on either side of the border – can be regarded as economically and socially sustainable. Avoiding unsustainable development due to border effects can be seen as a major contribution towards cohesive territorial development.

More generally speaking, the main argument for a CBPMR strategy is that a *laissez-faire* approach is not appropriate to address the highly dynamic cross-border integration. This cross-border dynamic has positive and negative effects, and both have to be addressed and accompanied.

Problematic developments – like transport problems or uneven developments in housing, just to name two examples – have to be addressed in a systematic cross-border manner. With a *laissez-faire*-approach, border effects would persist on an arbitrary basis. Bilateral ad-hoc solutions will not be sufficient in all cases. The positive effects – in particular the economic dynamic and the growing international character – have also to be backed in a strategic manner. Better integration of the regional economies can profit from strategic support; joint political lobbying in national capitals and at the European institutions will be more efficient; and if the region wants to profit from the diverse qualifications from the border regions’ citizens with regard to language skills, intercultural experience and their particular qualifications background, there is still potential to be exploited.

It is true that cross-border integration and development cannot be ruled in a top-down manner. But it should be accompanied in a strategic way to make sure that the metropolitan border region remains a place of a good quality of life.

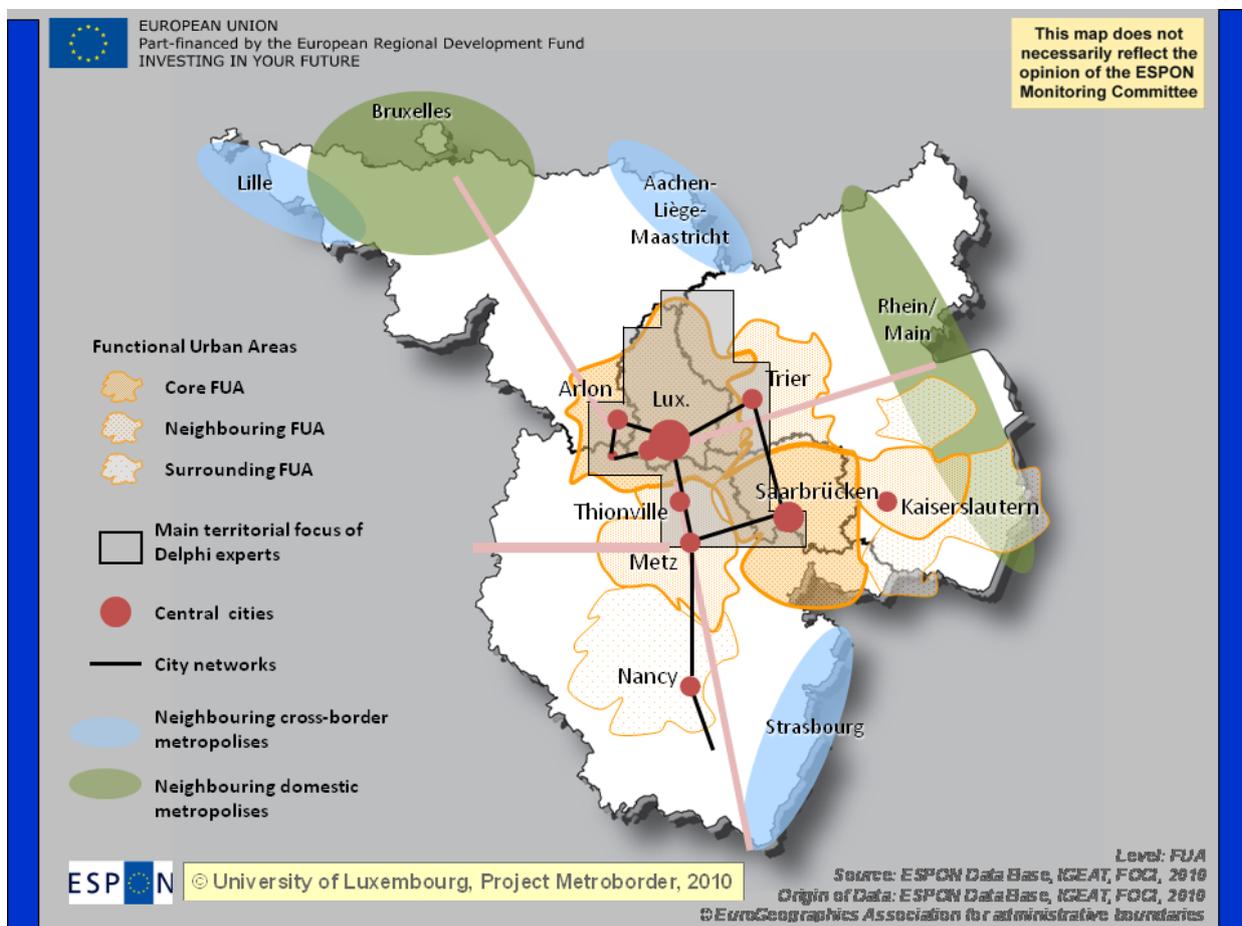
## **18.2 Which perimeter for the CBPMR?**

The spatial configuration is a particularly sensitive issue within the Greater Region, as it is known for being extremely large without having – apart from administrative and institutional constraints – any especially convincing reasons for this perimeter. The current territory is not an outcome of explicit political reflection. In a process that brought together the relevant institutions involved in regional cooperation, each institution brought with it its territory – resulting in a huge ‘pooled’ territory which is frequently criticised.

The potential perimeter of the *cross-border polycentric metropolitan region* within the framework of the well established cross-border cooperation ‘Greater Region’ is a complex issue: obviously, there cannot be *the* correct spatial delimitation. Depending on the policy and the political project, the territory will differ largely. Transport problems, economic cluster initiatives, and cultural

ambitions will not always share the same territorial scope. However, the METROBORDER project has shown some evidence that the metropolitan basis does not extend to the outer borders of the Greater Region. This does not mean that only actors should be involved who would cover a smaller core area, the opposite: Involving the regional level remains the key actor for the most important policies of cross-border metropolitan ambitions. But there obviously is a difference between the institutional perimeter and the political spatial focus which can be smaller.

Bringing together the territorial evidence from the METROBORDER project gives some indication of the spatial configuration of the CBPMR project within the Greater Region. The schematic Map 37 gives a simplified overview of this setting.



**Map 37** 'CBPMR Greater Region': schematic synthesis map of METROBORDER results

The different information layers of the map can be explained as follows:

- **Functional Urban Areas:** The Greater Region comprises two Functional Urban Areas (FUAs) with a cross-border dimension – the Luxembourg FUA including Arlon on the Belgium side and the Saarbrücken FUA including Sarreguemines on the French side. Having two metropolitan cross-border

FUAs touching each other is unique within Europe. They can even be regarded as a bipolar metropolitan cross-border corridor. Within this bi-polar structure, Luxembourg is the much more metropolitan area in economic terms; Saarbrücken has the larger urban centre in demographic terms. Jointly with the neighbouring and surrounding FUAs of the Sillon Lorrain and Trier in particular, we see important evidence for a *metropolitan polycentric cross-border* core space of the Greater Region. One should stress that the Functional *Urban Areas* are not restricted to urban spaces in the narrow sense but instead they comprise also large morphologically rural areas whose labour market is influenced by a metropolitan central pole.

- **Central cities:** The overall polycentric structure of the Greater Region's core space is represented by the settlement structure. Here, we see four types of centres within the core space, reflecting 1) the outstanding economic importance of Luxembourg, 2) the demographic size and political importance ('Landeshauptstadt') in the case of Saarbrücken, 3) the urban centres of the neighbouring FUAs (e.g. Thionville, Trier), and 4) the centres of the surrounding FUAs (in particular Nancy) whose profiting from the CBPMR status depends largely on the respective political will to cooperate.
- **Focus of Delphi experts and city networks:** The political will has been analysed by the Delphi study; in the map, the perimeter shown represents the space considered by over 40% of experts to be particularly important. This core space covers all national frontiers and the cities near to the borders. The fact that political action might focus on a certain core area does not mean that the institutional setting should be changed or reduced in order to only cover this area, as pointed out above. Instead, the existing institutional structures have to be considered as a good basis for developing strategies resulting from the Metroborder study. This is in particular true for the city networks that link important cities of the core space of the Greater Region.
- **Metropolitan corridors:** The ambition of establishing the Greater Region as a *cross-border polycentric metropolitan region* is linked to the situation regarding infrastructure. The most important links to the surrounding metropolises are of particular importance. Whereas Paris is comparably well connected, the Brussels connection, and also the Rhine direction and the Strasbourg/Basel link, are not yet adequate. Focussing political attention on these links is, as also indicated by the Delphi study, doubtless a useful approach.
- **Neighbouring cross-border and domestic metropolises:** The spatial setting of the Greater Region CBPMR cannot be understood without paying attention the surrounding metropolises. The Greater Region is enclosed within a series of metropolises, two of them domestic ones (Brussels region, Rhine valley/Frankfurt) and three of them cross-border metropolitan areas (Lille, Aachen-Liège-Maastricht and Strasbourg-Kehl).

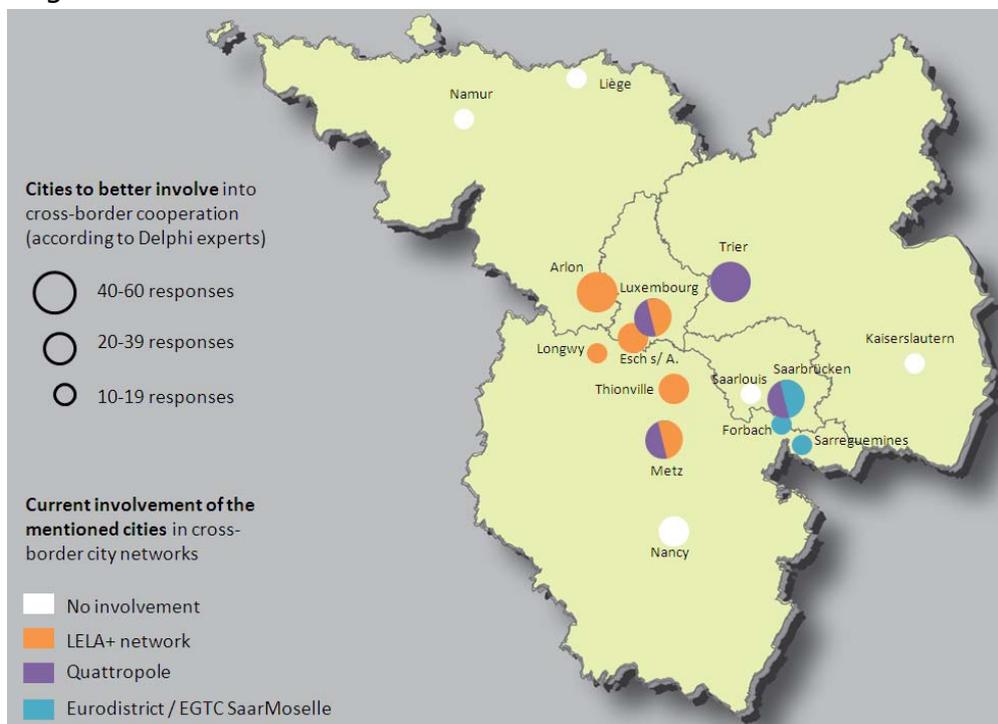
### 18.3 Governance: the political setting of the Greater Region

Cross-border cooperation in the Greater Region dates back to the early 1970s and can be regarded as providing a solid basis for future cooperation. Its strength can be seen in the involvement of the decision-makers at the top political levels and the many years of experience.

The institutional cooperation in the form of the 'Summit of the Executives of the Greater Region' is complemented by a variety of further institutions, some of them closely linked to the Summit (such as CESGR and IPR).

At the same time, the challenges are obvious as the involvement of four national backgrounds multiplies the border effects in political terms. In particular, the 'multi-level mismatch' must be seen as a major bottleneck in terms of cross-border cooperation, meaning that different and sometimes incompatible allocations of competences in many spheres occur on either side of the border. The current organisation is not ideal for the overcoming of these multi-level mismatches, as the approach is mainly based on a rotating intergovernmental system ('presidencies of the Greater Region's summit').

The second challenge is to involve the municipal level in the most adequate way. With the City networks, but also with the Eurodistrict and Euregio the Greater Region has established cross-border institutions on the local level.



**Map 38** Which cities should be more involved into the cross-border cooperation? (results from Delphi study)

Map 38 shows which cities already involved in cross-border networks, should, according to the addressed experts of the Delphi study, be even more involved in the cooperation. The map not only illustrates the political request of involving the municipal level in a tight way; at the same time, the range of already institutionalised cross-border cooperation on the local level gets very obvious.

The third challenge is to activate the private sector for cooperation and to ensure the adequate involvement of the municipal and metropolitan actors within the interregional cooperation.

Some of the main results of the Delphi study regarding governance can be summarised in the following bullet points:

- The experts of all countries involved agree that cooperation has to focus on a core area of the Greater Region.
- The priorities with regard to the policy focus are clear – transport, spatial planning and R&D are the key areas.
- The currently-established EGTC (European Grouping of Territorial Cooperation) can be seen as an important steppingstone towards a governance framework that complements the current structures. There is a strong will to establish a strong EGTC in the medium term.

## 18.4 Strategic options

### 18.4.1 Developing options

The research results from METROBORDER deliver clear arguments, stating that the strategy for the Greater Region to further develop as *cross-border polycentric metropolitan region* is a promising and virtually indispensable vision. The challenge now is to *concretise* this pathway.

Combining the territorial analysis and the results from the Delphi study, there are good arguments to develop the general dimensions of action that will be introduced in the coming sections. Though the dimensions are presented separately, they actually can serve as *complementary* contributions to an overall strategy.

In order to inspire the process of making the vision concrete in political terms, we afterwards will give illustrations by means of specific actions which could soon be placed on the agenda.

### 18.4.2 “Economic metropolis”

The aim of further developing as a cross-border *economic metropolis* focuses on an economically prosperous region, being well connected to the globalising economy.

The METROBORDER functional analysis shows that the overall economy is organised in a polycentric way, but that the metropolitan economy is largely

based on knowledge-intensive services in the core area around Luxembourg. Cross-border functional integration is well advanced, illustrated most clearly by its having the highest number of cross-border commuters in Europe. Compared with other cross-border or domestic metropolitan regions, the Greater Region has quite small centres. This is associated with vulnerability. A joint strategy of exploiting the assets of the polycentric structure helps to safeguard the critical mass necessary to compete in the European metropolitan arena.

### **Internal focus**

From the internal perspective, cross-border cooperation has to develop synergies and complementarities. The role of the public sector in this is threefold. The first task is to initiate and support cross-border economic activities at the regional level. Secondly, unsustainable public investment in domestic and intra-regional frameworks must be avoided when similar efforts are being made on the other side as well. Thirdly, the facilitation of the cross-border economic activities has – in the long run – major implications in terms of a multilingual and multicultural workforce, infrastructure investments etc. that have to be addressed either.

Involving economic actors in the cross-border cooperation within the Greater Region is one of the most urgent issues with regard to governance in general. Despite the CESGR and the various institutionalised networks (e.g. Chambers of Commerce, CICM, business associations etc.), a strong transnational/supra-regional platform seems to be lacking. Not only the semi-public institutions such as the Chambers of Commerce need to be linked – perhaps even more important is the involvement of entrepreneurial decision-makers from key sectors. The latter need to be identified and invited to participate.

### **External focus**

The external focus aims to position the Greater Region more prominently on the map of the globalised economy. Cross-border cooperation helps to achieve a critical mass in order to be able to compete with well established metropolitan regions. The international character of the Greater Region makes it a gateway to the European Single Market.

In general terms, it must be admitted that the economic metropolitan quality of regions is not easy to 'govern' as the processes involved are complex and of long-term character. Still three spheres of activity have to be considered (see Fig. 40). Firstly, the region has to be supported in order to be an attractive *location* for investment. One can assume that all actors involved are already concerned with improving the Greater Region's location factors, in particular the municipal and regional domestic authorities. A joint strategy could help to better exploit the complementary structure. In particular, only strategic spatial planning for the Greater Region can overcome bottlenecks (such as those in transports) and obtain the full support of national and European institutions.

Secondly, only with cross-border cooperation is the *marketing* and 'branding' of the Greater Region feasible: The attractive assets of the region have to be communicated.

Thirdly, improving the positioning the Greater Region as economic global node is a further challenge. This supports the economic dynamic in knowledge-intensive sectors that can be seen as drivers for cross-border regional development and most economic dynamic.

Field of action	GR as 'attractive location'	GR as 'brand'	GR as 'global node'
Kind of action	<ul style="list-style-type: none"> <li>Joint improvements and communication of location factors (for the region and its municipalities)</li> </ul>	<ul style="list-style-type: none"> <li>Territorial marketing</li> </ul>	<ul style="list-style-type: none"> <li>Attracting new firms and actors with decision-making capacity</li> </ul>
Typical instruments	<ul style="list-style-type: none"> <li>Joint lobbying in national and European institutions with regard to transport issues, labour market regulations etc.</li> <li>Joint cross-border spatial development</li> <li>Establishment of 'guichet unique'</li> </ul>	<ul style="list-style-type: none"> <li>PR activity in diverse media</li> <li>Cross-border umbrella platform for associations and chambers</li> <li>Joint trade fair presentations</li> <li>...</li> </ul>	<ul style="list-style-type: none"> <li>Joint acquisition trips with high ranking politicians and entrepreneurs (missions)</li> <li>...</li> </ul>

**Fig. 40** Objective "economic metropolis" with an external focus – potential fields of action

### 18.4.3 "Laboratory of Europe"

The "laboratory of Europe" perspective develops the potential of the extraordinarily international and multicultural Greater Region. This concerns primarily two spheres.

Firstly, the citizens ("civil society") from the different sub-regions experience Europe – in terms of its internationalism – much more than most other European citizens do. The cross-border commuters and the citizens in settlements located directly at the border in particular can be assumed to have the most intensive experience of internationalism and intercultural life. This is due to the liberalisation of the borders and the rapid and dynamic functional integration. Still, the potential is not being fully exploited – multilingual abilities especially remain incomplete. Education is the major policy factor in this regard. Exploiting this potential requires further adaptation of public facilities (e.g. cross-border use of schools) and new flagship projects (multi-national education infrastructure, Greater Region holiday camps etc.).

Secondly, the *political sphere* of the Greater Region has to deal with cross-border mismatches in many dimensions on a daily basis. The Greater Region has longstanding experience in cross-border cooperation, and has – in a complex environment and over a period of exceptional economic development – achieved some good results. However, the purely intergovernmental organisation with its rotating presidencies remains a relatively cautious one. This question of supra-regional structures is a sensitive one, but worth discussing this as a potential complement to the existing structures.

#### **18.4.4 “Mobile and accessible region”**

Efforts to improve the transport situation serve two purposes. Firstly, functional integration will be significantly supported. Only efficient transport infrastructure allows a sustainable development that avoids excessive energy consumption, emissions, and time waste.

Secondly, transport infrastructure has high potential to be a shared symbol. This can be illustrated with other European examples: the Öresund region is well known mostly because of its spectacular tunnel-bridge construction crossing a sea border; the bridge between Strasbourg and Kehl is famous, at least now that President Obama has recently crossed it; the fast boat trip between Vienna and Bratislava (Twin City Liner) is one of the most attractive touristic cross-border highlights in Europe; and Basel / Mulhouse airport is famous for its position much closer to Basel but within French territory. These projects, to name just a few, are certainly heavy infrastructure investments, but this effort pays dividends not only in terms of accessibility but also in terms of visibility, identity, and reputation. The challenge facing the Greater Region is all the larger as the numerous sub-regions do not meet at any single point which would be the perfect location for a joint symbol. However, the potential for both connectivity and for symbolism is obvious.

The “mobile and accessible region” aims not only at improving transport issues, but also at facilitating professional mobility.

In fact, professional mobility is given relatively consistent attention within the Greater Region, as illustrated by the recently established task force for cross-border commuters. These efforts have to be continued. There is no alternative to the step-by-step dismantling of barriers in social security etc. A joint Greater Region employment centre with job offers from all regions and with specialised training in language and intercultural skills could have some potential.

#### **18.5 Specific actions**

The next steps towards the establishment of the Greater Region CBPMR have require, firstly, reflection on governance issues (*institutionalisation*). In particular, a stronger supra-regional mandate should be envisaged in the

medium term. Moreover, the involvement of economic actors and of municipal decision makers should be considered.

Secondly, the cross-border cooperation must pay greater attention to more concrete, visible projects and outcomes (*concretisation*). This is true for technical reasons, but also because of the symbolic dimension of cross-border cooperation in the Greater Region which is yet to be exploited. The policies of transport, spatial planning and education can be regarded as being the most promising in terms of developing such concretisation over the short and medium term. The concrete actions must take into account that cross-border cooperation cannot offer political answers to all political problems at hand but rather must concentrate on particular areas.

The following sections set out examples of actions that are promising from an academic perspective. The concretisation and implementation is, of course, object to the political debate.

#### **18.5.1 Fostering economic cooperation: the 'automotive platform' as an example**

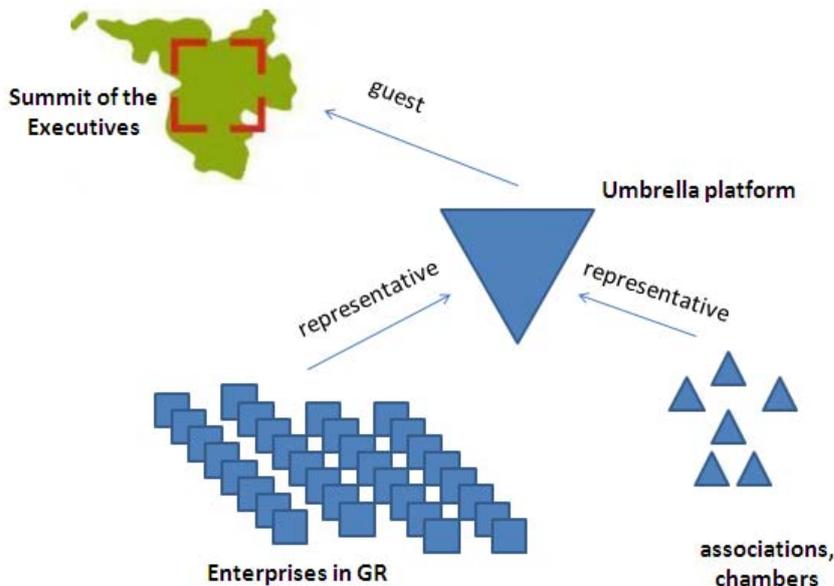
The automotive industry is an excellent example of a) linking the economic sphere more closely to political cooperation and b) developing interregional synergies and complementarities.

Production and R&D-activities are present in all parts of the Greater Region, even if they rarely cooperate. The potentials of a regional cross-border cooperation in certain supply chains can be explored at the example of this sector. This is demanding an in-depth study, analysing and exchanging on the sector specific potentials from interregional cooperation.

In addition, politically-initiated cluster initiatives have been established domestically on either side of the borders (for the parallels to the Upper Rhine cp. ADIRA 2010). Linking these structures is highly promising and is a good example of the establishment of a "network of networks". Similar ideas can be applied to the fields of logistics, ecotechnology and materials science R&D.

A joint strategy needs to be developed in the form of a pilot project bringing together economic actors from all sides of the borders and from both the semi-public and the private arenas. A pilot scheme should be developed for one selected sector.

In addition, the project could allow the testing of governance-related constellations. Exploring potential in a project with restricted scope (just one sector) and limited time frame (pilot project) is a pragmatic approach. The setting could be developed as shown in Fig. 41, possibly supported by the respective presidency of the Greater Region Summit.



**Fig. 41** Governance setting of a potential “network of networks” pilot project for economic issues

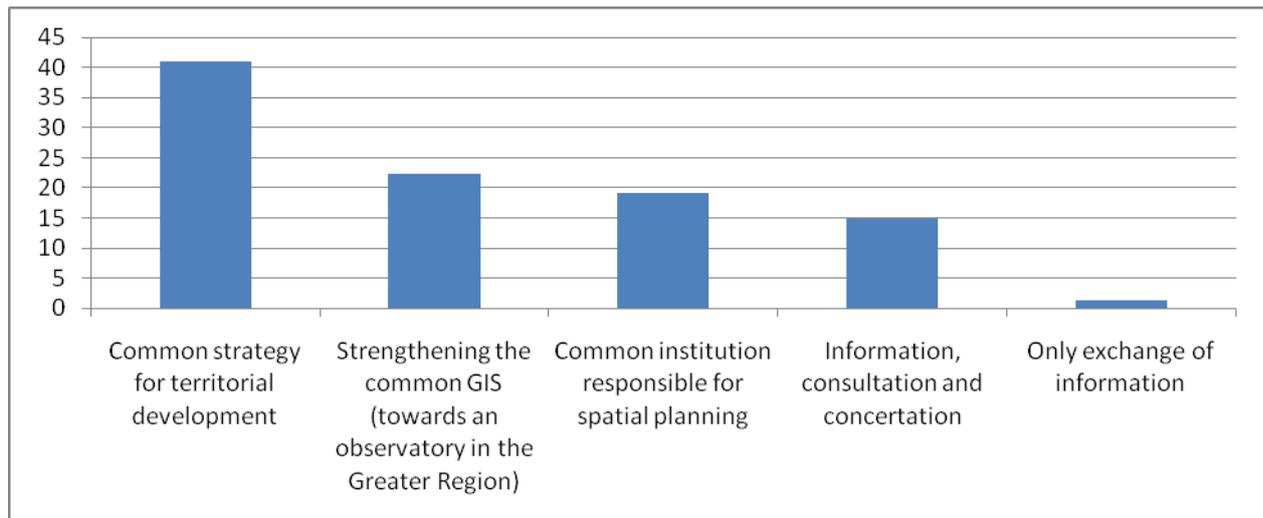
### 18.5.2 Closing knowledge gaps: Territorial Observatory

It is well known that national borders give rise to various statistical problems. This is true for research at the European level and also in the Greater Region, with its four countries and diverse statistical multi-level mismatches. Obviously, trying to overcome these problems is part of its role as a ‘laboratory of Europe’. Closing these knowledge gaps is of particular importance not only for academic, but in particular for political reasons:

Safeguarding the success of the region requires sophisticated strategies. The ESPON project METROBORDER, relying mostly on European data, is a first step, but further steps using regional data and knowledge must follow. The “GIS of the Greater Region” INTERREG project which is now starting is, undoubtedly, a step in the right direction. Further upgrading to a *Territorial Observatory*, as currently under discussion, is a promising idea.

In the Greater Region, as well as in other cross-border regions in Europe, spatial development policy has been a driving force for progress in cooperation. If this policy is to go on playing this role in the Greater Region, improved knowledge of territorial assets is important.

There is strong evidence that the political will behind this policy is currently considerable: the Greater Region’s position paper on the European Commission’s Green Paper on Territorial Cohesion, as well as the high degree of political support revealed by the Delphi study, should be noted in this regard (**Fig. 42**).



**Fig. 42** Vision of GR Delphi experts for the future spatial development (as %; n=229)

### 18.5.3 Governance: towards a strong EGTC

The Greater Region has long-standing experience in cross-border cooperation, and has, in a complex environment and over a period of exceptional economic development, achieved good results. However, the intergovernmental, rotating organisation of the regional cooperation is considered as sometimes slow kind of organisation and not always efficient in terms of output. This situation reminds of early European integration. If the Greater Region does take the challenge of being the “laboratory of Europe” seriously, the institutional consequences would be the development of a supra-regional level.

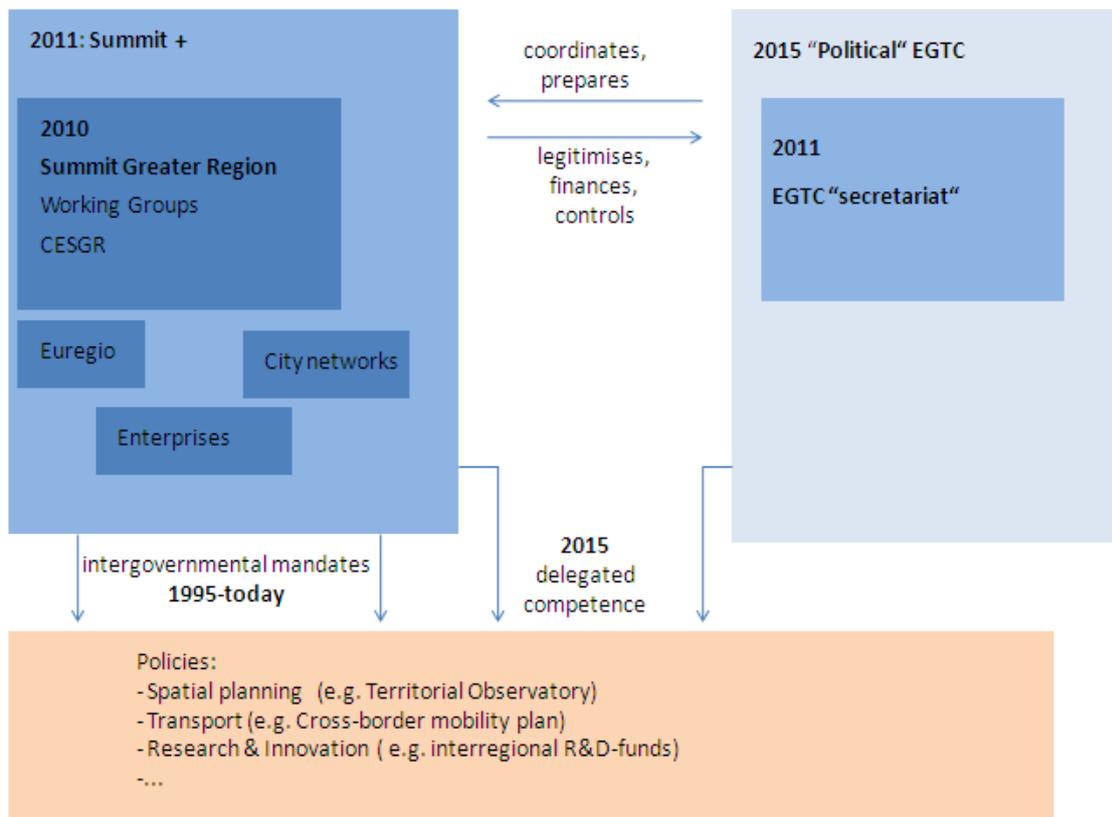
Ways must be explored of developing more inclusive and also transparent and democratic governance.

The EGTC Greater Region currently being established, which is primarily a technical secretariat, can be seen as a first step in this direction. It could serve as an incubator for a strong political EGTC. In concrete terms, the most pressing issues should be addressed by the EGTC, in particular spatial planning, transport and research & innovation (for details on EGTCs in general, see section 15).

At the same time, the experts show a certain degree of consensus on how to better involve the municipal level – large cities and smaller centres – and the economic world. Fig. 43 offers a diagram of how to involve further actors and create a supra-regional level. The current EGTC is taken as a starting point for political powers which need to be arranged with the formally legitimated institutions.

In a next step, the delegation of clearly defined tasks is to be defined (cp. Fig. 43). The Delphi study has revealed a surprisingly strong will for a strong political EGTC, in particular with regard to spatial planning, transport and research & innovation.

If this vision is to be pursued in the political sphere, the composition of the Greater Region Summit must be examined. Linking economic and municipal actors more closely to the Summit structure should be debated.



**Fig. 43** Governance perspective for the EGTC

#### 18.5.4 Territorial marketing: competition for a flagship project

The multinational character of the Greater Region is undoubtedly the most striking argument for an enhanced territorial marketing for the Greater Region. However, territorial marketing has not yet been established in the Greater Region as an important policy. Considering the unique structure of the Greater Region within Europe, its relatively low publicity and prominence is striking. The aim of territorial marketing is to create a common "brand" in terms of territorial marketing and economic promotion, in order to enhance visibility, influence and prosperity. Territorial marketing must consider whom it wants to address: external political actors, potential economic investors and civil society (both within and beyond the perimeter of the Greater Region) are potentially important target groups.

However, before printing flyers and designing internet pages, a common will and strategy about how to present the Greater Region must be developed. In this

respect, much could be learned from *domestic* joint metropolitan marketing strategies, where the major players have frequently been crossing municipal and regional borders in their marketing activities.

Territorial marketing can benefit greatly from large-scale flagship projects. The European Capital of Culture (2007) was a good step, but due to the project structure its visibility is time-limited. Creating a built flagship for the Greater Region is challenging, as the numerous sub-regions do not meet at any single point. A next step towards a joint flagship could be a competition between invited planning and architecture bureaus, consultancies and universities.

#### **18.5.5 Transport issues: the Greater Region mobility scheme**

Transport issues are regarded as one of the most pressing policies in the Greater Region. Many of them must be handled on the bilateral level as concrete investments and technical questions have to be dealt with, and the bilateral agreement between Lorraine and Luxembourg or the currently elaborated bilateral mobility concept between the Saarland/Rhineland-Palatinate and Luxembourg might be pathbreaking.

The metropolitan connectivity of the Greater Region shows considerable shortcomings also according to the Delphi findings. The interregional connectivity to Paris in the west can be considered as being relatively good. However, the slow connection to Brussels does not fit with the ambition of being a "laboratory of Europe"; the link to Strasbourg/Basel is seen as inadequate. The connections on the Luxembourg – Koblenz/Rhine Valley axis are picturesque but slow.

Against this background, a multilateral 'Greater Region mobility concept' is overdue. Addressing all these challenges on the bi-national level, seems not to be efficient. A Greater Region mobility concept should address the following issues:

- Joint planning procedures within the Greater Region
- Joint infrastructure concept (e.g. the different technical requirements, minimum speed for TGV or ICE etc.; Pendolino for faster inter regional connections);
- Joint operating strategies (in particular cross-border tariffs for public transport; development of synergies and complementarities with regard to airports).
- Joint political lobbying and funding strategies in order to improve metropolitan connectivity, i.e. connections to those metropolises at the fringes of the Greater Region's perimeter and beyond.

## 18.6 Remaining questions

The ESPON project METROBORDER has provided pioneering results for the understanding of the spatial configuration of European *CBPMRs*; it has illustrated the position of the Greater Region, and future strategic options are on the table. However, several interesting questions are not yet answered, and new answers lead to new questions. Both from the academic and from the political sides, further efforts must be made in order to improve the knowledge base for decision making. The following four aspects illustrate this need.

### Polycentricity

The notion of polycentricity comprises various dimensions and potential operationalisations. The Greater Region is, undoubtedly, organised in a polycentric way. Depending on the issue considered, however, the patterns of centrality differ significantly:

- In morphological terms, the polycentricity of the Greater Region is obvious, but this is not very meaningful.
- In demographic terms, polycentricity can be asserted with regard to the population numbers of the Functional Urban Areas, and, to a lesser extent, for the Morphological Urban Areas. With regard to population growth, impressive growth is linked to Luxembourg, whereas large parts of the German regions are losing population, and France and Belgium fall in between.
- In economic terms, the polycentricity depends on the indicators used. Measuring the presence of headquarters results in very different findings than counting the number of employees; mapping retail structures shows different results than mapping the banking sector or the automotive sector.

### Economy

The scientific and the political points of view agree on the outstanding importance of the economy to the success of cross-border cooperation and integration. In the framework of the METROBORDER project, we have seen the pattern of headquarter functions and metropolitan economy and we have focussed on the automotive sector.

The lack of relevant economic data is due in particular to the general statistical problems, but also to the particular sensitivity of data in a competing economy. The availability of sector specific flow data would be extremely helpful. A breakdown of available data to a finer scale is lacking and would be most welcome, too.

Investment of public money in cluster initiatives and the like could be more efficient if intra- and inter-regional value chains were better known so that cross-sectoral views could be applied. But a CBPMR strategy has to address both

sides: closing knowledge gaps, and also establishing a political strategy based on vision and courage.

### **Civil society**

Bearing in mind the complex challenges and often abstract notions of the CBPMR strategy – this abbreviation alone is a good example of this – it is not easy to create a popular strategy in the broad sense. Ongoing endeavours of this kind in the Upper Rhine ('pillar civil society') illustrate this well.

Still, the CBPMR idea is far from being an elite strategy. Improving the transport situation and facilitating the smart use of cross-border differentials are just two aspects that are potentially popular, but they must be 'sold' and debated – in particular from the political side.

The term *METROBORDER* has now been established to label the political project of a *cross-border polycentric metropolitan region* (in contrast to the Upper Rhine, where the label of the *Trinational Metropolitan Region* had already been institutionalised). It is true that the label METROBORDER does not comprise any geographical anchor, but, as the history of the first "Euregio" across the German-Dutch border has shown, a label indicating the idea of the cooperation can be a successful name.

These open questions from the academic and the political perspectives must not lead to scepticism towards a CBPMR strategy, but rather the opposite. Given the general added value of a METROBORDER vision, the further stages of implementation must meet the challenges of concretisation with considerable efforts. These challenges should be met, and the current political window of opportunity should be used. The parallel improvement of the territorial knowledge base should be part of this.

**19 Dissemination**

ESPON & other European programmes	
PAST EVENTS	
01-02.06.09	ESPON seminar, Prague (moderation of a table discussion on cross-border issues)
02-03.12.09	ESPON seminar, Malmö (presentation of the project)
05.11.09	ESPON workshop on "approaching new functional areas": presentation of the project, Luxembourg
12.02.10	URBACT workshop "Citylab on metropolitan governance": presentation of the project, Lille
10.06.10	ESPON seminar Alcalá/Madrid, Spain (presentation of the project)
06.10.10	Open Days 2010 Panel "ESPON provides regions with targeted analysis"
COMING EVENTS	
17.11.10	ESPON seminar, Liège/Belgium
PAPER DOCUMENTS ALREADY DELIVERED	
09.04.09	Inception report
28.02.10	Intermediate report
31.10.10	Draft final report
COMING PAPER DOCUMENTS	
31.12.10	Final report
WEB DISSEMINATION	
	ESPON page dedicated to the project (with reports) under <a href="http://www.espon.eu">www.espon.eu</a> webpage <a href="https://METROBORDER.uni.lu">https://METROBORDER.uni.lu</a>
STAKEHOLDERS (EU & consultation committee)	
PAST EVENTS	
09.01.09	Stakeholders meeting, Strasbourg
04.05.09	Stakeholders meeting, Brussels
05.05.09	Presentation of the project, organised by the Luxembourg Presidency of the Greater Region in the Committee of the Regions, Brussels
29.10.09	Workshop DIACT-MOT-METROBORDER: presentation of the project, Paris
10.03.10	Stakeholder Meeting, Walferdange/Luxembourg
11.03.10	Consultation Committee, Walferdange/Luxembourg
COMING EVENTS	

08.11.10	Stakeholder Meeting, Paris
January 2011	METROBORDER Final event (Basel)
<b>STAKEHOLDERS – GREATER REGION</b>	
<b>PAST EVENTS</b>	
03.03.09	Presentation of the project to the stakeholders of the GR,
22.04.09	Luxembourg
12.05.09	MORO Workshop (coordination with the German research project MORO), Aachen
25.06.09	Presentation of the inception report to the stakeholders from the GR (comité de suivi), Luxembourg
12.03.10	Bilateral BBSR/METROBORDER meeting, Luxembourg
13.07.10	Presentation of the intermediate report to the „comité de suivi GR“, Luxembourg
04.10.10	Workshop/Strategy Building with regard to Delphi Study - comité de suivi, Walferdange
	Workshop Strategy Building in general – comité de suivi, Walferdange
<b>COMING EVENTS</b>	
17.11.10	„comité de suivi Grande Région“, Walferdange
...	...
<b>STAKEHOLDERS – UPPER RHINE</b>	
<b>PAST EVENTS</b>	
19.02.09	Conference Metropolitan region Upper Rhine
26.02.09	Upper Rhine conference coordination committee
27.03.09	“Präsidium” Upper Rhine Conference
11.12.09	Plenum Upper Rhine Conference
14.09.10	Workshop Strategy Building, Regierungspräsidium Freiburg
<b>COMING EVENTS</b>	
02.12.10	12 <sup>th</sup> tripartite congress on “education research innovation”
Nov/Dec 10	Plenum Upper-Rhine conference

## SCIENTIFIC COMMUNITY

### Scientific conferences

22.09.09	EVARD, E.: Randlagen ,in der Mitte Europas': Grenzüberschreitende Metropolregionen als europäisiertes Handlungsfeld, Deutscher Geographentag, Vienna
20-22.05.10	HAHN, C.: "The Transition of the Automotive Sector as a Catalyst for the Mobilization of Regional Knowledge? The Case of the Greater Region SaarLorLux". Conference of the IGU Commission on the Dynamics of Economic Spaces: 'Industrial Transition? New Patterns of Production, Work, and Innovativeness in Global-Local Spaces'; Schloss
24.05.10	Wahn/Cologne, Germany CHILLA, T., E. EVARD: Putting cross-border regions on the map - Constructing regions of transnational cooperation.
23.-25.9.10	Regional Studies Association, Annual Conference, Pecs/Hungary WALTHER, O., SOHN, C., DECOVILLE, A.: Spatial integration in European cross-border metropolitan regions. Association for Borderlands Studies Conference, Veria, Greece
18./19.10.10	EVARD, E. : Région métropolitaine polycentrique transfrontalière : Mode(s) d'emploi ?, Colloque « Construire des ponts à travers les frontières : vers une cohésion territoriale en Europe ?, Conseil de l'Europe (en collaboration avec l'Université de Strasbourg et l'Info Institute de Kehl), Strasbourg
18./19.10.10	DECOVILLE, A., F. DURAND F. : Comparaison du processus d'intégration métropolitaine transfrontalière en Europe. Mise en perspective de dix cas d'étude. <i>Construire des ponts à travers les frontières: vers une cohésion territoriale en Europe</i> Conférence, Strasbourg

### SCIENTIFIC publications

CHILLA, T. ; E. EVARD, C. SCHULZ (2010): Metropolregionen in grenzüberschreitenden Räumen. *Geographische Rundschau* 62 (11): 22-30

CHILLA, T.; E. EVARD, C. SCHULZ (submitted): On the territoriality of cross-border cooperation - 'Institutional mapping' in a multi-level context. *European Planning Studies*

DECOVILLE, A., F. DURAND, C. SOHN, O. WALTHER (2010): Spatial integration in European cross-border metropolitan regions: A comparative approach. CEPS

Working Paper 2010/40. [www.ceps.lu](http://www.ceps.lu)

EVRARD, E. (forthcoming) : Région métropolitaine polycentrique transfrontalière : Mode(s) d'emploi ?, Colloque « Construire des ponts à travers les frontières : vers une cohésion territoriale en Europe ?, Conseil de l'Europe (en collaboration avec l'Université de Strasbourg et l'Info Institute de Kehl), Strasbourg

EVRARD, E., T. CHILLA (forthcoming) : Devenir une « Région métropolitaine polycentrique transfrontalière : représentations et ambitions politiques », Actes colloques Université de Haute Alsace, Mulhouse

**Table 13** Overview dissemination activities and strategy building

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