ESPON
EUROPEAN SPATIAL PLANNING OBSERVATION NETWORK

The role, specific situation and potentials of urban areas as nodes in a polycentric development

ESPON Project 1.1.1

Second interim report

March 2003

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1.1 SUMMARY

This is the second interim report of the project with the main **aim** to investigate the role and potentials of urban areas as nodes in a polycentric development. Furthermore, the general **objectives** are:
- To contribute to the identification of the existing spatial structure of the EU territory, in particular the degree and diversity of physical and functional polycentrism at different geographical scales
- To define concepts and to find appropriate territorial indicators, typologies and instruments as well as new methodologies to consider territorial information linked to polycentrism
- To detect territories most negatively and positively affected by the identified trends
- To develop possible orientations for policy responses, taking the diversity of the European territory into account, and considering institutional, instrumental and procedural aspects.

The following is a summary of the second part of the report, outlining the objectives, approaches, methods, concepts and preliminary results of the different work packages.

Work package 1: Critical Dictionary of Polycentrism
The focus of this work is on clarifying the concept of polycentrism and of the major notions linked to it. The **aim** of the Critical Dictionary of polycentrism is to provide:

- A comprehensive definition of polycentrism and of the major concepts, notions and expressions linked to it
- A critical analysis of these concepts and their usages

The **method** for defining the concepts is the use of a common 'writing rule' for each concept, meaning outlining how the concept is defined in the literature and development strategies, the territorial impact of the concept, how the concept is linked to other concepts and in some instances providing examples and maps. The concepts are grouped into three types according to their relative 'importance' in relation to the concept of polycentrism.

The main **result** thus far is a general framework of the dictionary and the identification of around 90 concepts and expressions related to polycentrism. The first chapter consists of a typology of polycentrism, describing morphological, relational, institutional and structural polycentrism etc, providing a number of hypotheses and models.

In a second chapter, the Critical Dictionary is organised into seven parts, addressing the following seven questions:

1. What are the ***elementary concepts*** that are necessary for the comprehension of polycentric spatial structures? Thus far definitions have been provided for the concepts of *metropolis* and *nodal regions*.

2. What concept ***processes*** underlie polycentric territorial structures?
Do these processes support or counteract the development of polycentric structures?
Thus far definitions have been provided for *concentration*, *polarisation* and *spatial diffusion*.

3. **What are the** *challenges* **to polycentric territorial structures?**
Thus far definitions have been provided for *spatial integration* and *sustainable development.*

4. In what ***contexts*** can the concept of polycentrism be said to be spreading? Thus far definitions have been provided for *centre-periphery* and *cross-border.*

5. What common conceptual ***spatial strategies*** have been developed to enhance polycentrism?

6. What are the ***ideal spatial types*** of polycentric configurations to be achieved? Thus far definitions of *gateway city* and *global cities have been forwarded*.

7. What are the ***European policies*** that enhance, or are linked with, polycentric objectives?

Work package 2: The Application of Polycentrism in Europe

Since the first Interim Report considerable progress has been made as regards Work Package 2. This Work Package concerns the application of the concept of polycentrism in policies. Interest here is particularly directed at (1) the diversity and/or homogeneity between the various ways the concept of polycentric development is being applied in policies in the EU27+2 and (2) the different levels of scale at which it is being applied. The policies that are being studied are policies that aim to create or sustain a polycentric organised territory.

The main **objective** of this work package is firstly to provide an overview of polycentric policies in all EU 27+2 countries. Secondly, based on this overview, the objective is to filter out the 'basic polycentric policy approaches'. The fairly ambitious aim of the work package is to name different families[1] of polycentric development policy approaches; an approach similar to the EU Spatial Planning Compendium (CEC 1997) that distinguishes between four spatial planning approaches[2] throughout the EU-15. As of yet, it is still too early to definitively identify possible definitions, however, in what follows a first indication is given of the qualitative indicators that will be used to distinguish between such approaches.

The most important **results** so far are a draft version of the introduction chapter to the report for WP2 and, based on that chapter, the development and dissemination (by mid-January 2003) of a questionnaire among the project partners. At the current time of writing completed questionnaires have been received from 16 of the 29 countries. Answers from the remaining countries are expected, with the exception of the Czech Republic and Slovakia.

This means that it is still too early to undertake a full analysis of the questionnaires. At first glance, however, and although varying in depth and detail, the answers to the questionnaire look promising in the sense that they give a reasonable idea of the application of polycentrism in the countries covered. However, policy documents and the secondary literature will complement the information gained from the questionnaire, particularly in cases where information from the questionnaire is deemed to be insufficient. To this end, an inventory of useful documents has been drawn up. In this second interim report, two examples of the application of polycentrism are described. The first example addresses national spatial planning policy in The Netherlands. The second example addresses a case in the UK at the regional level: the draft Regional Planning Guidance for the North West.

[1] It is possible, of course that in essence there are no significant differences in the followed approaches and that they all belong to the same family, only differing in terms of maturity.

[2] These are: the regional economic planning approach, the comprehensive integrated planning approach, the land-use management approach and the urbanism approach.

In the **final report** there will be a chapter covering polycentrism in policies for each of the 29 countries, of which three will be more detailed and further elaborated upon (see below). The latter is done in order to attain a better understanding of the possible rationales and political debates behind polycentric policies.

The intention for the final report is to draw conclusions on the main polycentrism discourses throughout Europe and to categorise countries around these discourses. In order to do this a number of qualitative indicators will be used. Below is a tentative list of such indicators.

Examples of Qualitative Indicators

Tradition	↔	New
Conceptual driven	↔	Regulations/Budget
National scale	↔	Local Scale
Cohesion	↔	Competitiveness
Territorial differentiation	↔	No territorial differentiation

The **approach** that has been chosen is firstly to provide an overview of polycentric policies in all EU 27 +2 countries, and subsequently then to provide an in-depth analyses of the application of the concept in a small number of nations having a long tradition in pursuing polycentric development (probably Germany, France and The Netherlands). The **method** that has been used is information gathering through a questionnaire and literature and policy document reviews. The questionnaires were completed either by the project partners themselves, or by national experts.

In order to generate comparable analyses of the polycentric policies in the different countries a general framework of analysis has been developed. It is based on the notions of policy theory and distinguishes between the three components that build a policy: (1) rationales behind a policy, (2) policy in practice, i.e. basically the means and instruments that are used to put the policy into operation and (3) context and history, which is thought to provide the legal, historical and organisational contexts in which policies are pursued. The questionnaires are also divided into these three levels of analyses.

In order to attain a better understanding of the context of the policies, each country section is complemented with a policy analysis based on policy documents, and the primary and secondary literatures. The focus of the work package (and thus of the questionnaire and the literature study) is firstly on national policies, where they exist, and secondly on policies at the sub-national level.

Concerning **data availability**, the inventory of policy documents and of the literature has shown that information covering Northwest European member states is readily available. There is however significantly less material available covering the other countries, including some of the Southern European and candidate countries.[3] This implies that some countries will be more thoroughly described in the final report than will others.

Work packages 3-4: Indicators and typologies

The indicators and typology of 1.1.1 are based on two building blocks: The first being the "list of FUAs" and second the typology of MEGAs. The first version of the "List of FUAs" will be presented at the Crete meeting (May 5), while the first version of typology of MEGAs will be presented in the TIR.

[3] A key issue for an eventual ESDP+ is to stimulate further discussion and development knowledge on spatial planning in general, and on polycentric development in particular at the European, national and regional levels.

The **aim** of establishing a "list of FUAs" is to identify functionally significant urban areas in Europe and to typologise these FUAs according to their strength, diversity and functional orientation. The main **result** thus far is a preliminary "List of FUAs", see chapter 2.3, annex 2. The FUAs of the different countries are divided into four categories: Urban network (polycentric), International level FUA, National/transnational level FUA and Regional FUA.

Regarding the **method** of establishing the "List of FUAs", the first stage is to identify all those FUAs that have more than 20 000 inhabitants in Europe. Information on the NUTS 3 regions in which these FUAs are located is also being collected. National experts either have, or will provide, this information.

The making of the "List of FUAs" is based on an analysis of certain features and functions of FUAs (presented in table 1).

Table 1: Features and functions of FUAs

	Feature / Functions	Measured variable
F1	Population	Population
F2	Industrial functions	Gross value added (sectors C-F)
F3	Tourism functions	Overnight stays in hotels (and similar)
F4	Transport functions	Airport (passengers), ports (container traffic)
F5	Knowledge functions	Location of University, number of students
F6	Decision-making centre	Location of TOP 500 companies
F7	Administrative functions	Administrative status of FUA (three different levels: 1) national capital; 2) province/regional capital; 3) no specific administrative status

In the first stage analysis has to be done on the NUTS 3 – level (data is better available and harmonised at this level). The value of that NUTS 3, where the main node of FUA is located, is utilised. If the FUA has several strong nodes exceeding NUTS 3 boundaries, all those NUTS-3 regions in question are included in the calculation. The data and definitions are provided by national experts.

At a later stage, genuine FUAs (or proxies, cf. SPESP) will be utilised as statistical units or estimations on the FUA level (using original data from the NUTS 3-level) are calculated.

The MEGAs will be grouped into: *global MEGAs, European MEGAs, strong MEGAs, potential MEGAs* and *weak MEGAs*. To a large extent our 1.1.1project relies on a 'bottom –up' perspective influenced by the notion of functional polycentrism. In this respect 1.1.1 is complementary to the CPMR study. However, 1.1.1 also has a strong commitment to the CPMR study. CPMR is expanded to cover the EU 27 +2 (the method is based on the ideas and method of the CPMR study, although simplified due to data-restrictions).

There are four building blocks here, namely 1) mass criterion 2) competitiveness 3) connectivity and 4) knowledge basis. Each of these building boxes consists of two variables or indicators. The typology of FUAs is based on indexes of these four building blocks.

Mass criterion	
Population 2001	NUTS 3
Gross domestic product 2000	NUTS 3
Competitiveness	
GDP per capita in PPP in 2000	NUTS 3
Location of TOP 1500 companies	NUTS 3
Connectivity	
Passengers (TOP 500 airports)	NUTS 3
Accessibility indicator (degree of polycentrism)	NUTS 3
Knowledge basis	
Educational attainment level of the persons between the age of 25-59 (as a % of total) 2000 High level of educational attainment	NUTS 2
R&D personnel % of employment	NUTS 2

Furthermore, a so- called 'third typology' of urban areas will also be used, identifying and measuring polycentrism in *size, morphology* and *connectivity* to create one comprehensive indicator of polycentrism.

European Urban Networking

The **focus** of this work is on conceptualising and mapping models of European urban networking with regard to polycentrism and with a particular focus on specialised and thematic networks. Many of studies have already been undertaken on European cities, their strengths, weaknesses and growth rates. The **objective** of this work however is to understand and show how the networks of exchanges and co-operation between urban areas shape the relations of society to space and reorganise territorial structures. Furthermore, the aim is to understand whether these reorganisations and trends are supporting or counteracting polycentric structures at the European and national levels.

The **main results** thus far are as follows:

- A brief presentation of the main models of European territorial integration by urban networks, models that were already highlighted and discussed in a previous study.[4] It is here concluded that the network between capitals currently constitutes the most dynamic engine of territorial integration at the European scale. Furthermore it is stated that the specialised and thematic networks, such as scientific networks, financial and aeronautic networks, are more likely to promote a less polarised and less hierarchical spatial organisation of cities, leading to a more polycentric structure. One of the messages is that spatial planning strategies need to be more focused on the networks rather than on the poles themselves.

- Presentation of the project's own empirical work on the European urban network through an analysis of specialised and thematic urban networks and the co-operation between them. Three aspects of networking are being studied:
  1) *Networking linked to scientific and university co-operation*, within the context of the following data sources:
  - University co-operation, in the sense of ERASMUS thematic networks (data collection in progress)

[4] Cattan N., Saint-Julien Th., 1998, *Modèles d'intégration spatiale et réseau des villes en Europe occidentale*, L'espace géographique, no 1.

- Student exchanges, in terms of exchanges within the ERASMUS programme (data on flows collected, but the total number of students still needed). The scope of the analysis is student exchanges between sub-national levels covering all of Europe – something that has not been studied previously. **Maps** that have been produced include:
  - The net flows of ERASMUS students on the city level showing that eight of the ten most attractive cities are major national or regional capitals, all ten are located in the Western part of Europe.
  - Orientation and volume of the flows of ERASMUS students where London and other British cities are the main "gainers".[5]
  - Top ERASMUS networks for example showing that among the ten major flows, six are polarised by Paris, three by Madrid and one by London and also that the connections between Paris and Madrid on the one hand, and Paris and London on the other, are quite symmetrical.
  - Major domination and dependence and with the use of graph theory identifying around 20 dominant cities.
- Scientific co-operations between research institutes taking place within the Fifth Framework Programme (negotiation ongoing to attain access to this database)

2) *Networking linked to trans-border and transnational co-operation*. The chosen methodology is to analyse the co-operation that occurs within the Interreg programmes. Thus far the scope has been limited to analysing co-operation within the Interreg IIA programme in the Franco-Belgian and the Franco-German-Swiss border areas. Each of the Interreg-projects have been analysed to identify a) the spatial scope of the project, b) the topic of the co-operation, c) the kind of partners/cities involved, and d) the results of the project. Thus far emphasis has been directed at mapping and illustrating the topics of co-operation (12 topics), and on the spatial scope of the projects in the typology of 'zonal' (concerning large cross-border areas), 'linear' and 'punctual' (concerning co-operation between 'distinct' areas, which is of particular interest for the development of polycentric structures). An example of the findings from the Franco-Belgian border is that projects on the topic of 'planning, economy and transport' are over-represented as 'zonal' projects and projects on the topic of 'training' are also over-represented as 'punctual' ones. As regards which cities are involved, a preliminary finding is that small and medium-sized cities are very active in setting up co-operative linkages within the Interreg programme and that these cities seem to have had an important role to play in the forming of a polycentric urban structure at the local and regional levels.
   The plan is to extend the scope to encompass co-operation within Interreg IIC, IIIB and IIIC. The next step will be to study the three areas of North West Europe, CADSES and the Atlantic Arc.
3) *Networking linked to air traffic*. The data used here has been retrieved from the ICAO database. **Maps** that have been produced include:

- Domination and dependence of major air flows 1990 and 2000. The maps show for example that of the four main dominant cities of 1990 (London, Frankfurt, Paris and Amsterdam) only two maintain their strong roles (London and Paris) in 2000.
- Leading air networks, which shows that the density of connections are still largest between the cities of the European axis, but also that the relations between the 'peripheral capitals'[6] are important. The increase in the number of passengers is highest between the peripheral capitals and the central capitals.
- Evolution of European air passengers 1990-2000, showing that several peripheral capitals, such as Lisbon, Madrid, Barcelona, Prague, Munich, Berlin and Warsaw are increasing their air traffic more quickly than the central capitals.

[5] This is calculated by the ratio: (students received – students sent)/(received + sent).
6 Capital in both economic and political meanings

- Gateways for Europe, showing that in terms of non-European passengers London, Frankfurt and Paris are the major European gateways, but that the relative percentage of non-European passengers is as high in peripheral capitals such as Madrid and Rome as it is in the central capitals of Paris, Zurich and Amsterdam.
- World air traffic and crossroads in 2000, for example showing that of the 15 strongest flows, five are European.
- Most important international-European air routes in 2000, clearly showing London as THE gateway between Europe and the rest of the world followed by Paris and Frankfurt. It should also be noted that Madrid appears to be a gateway to 'Southern' cities such as Havana and Buenos Aires.

For the **final report** the objective is to:
- Characterise the various forms of polycentrism at the national and European levels
- Evaluate the degree of polycentrism at the national and European levels
- Elaborate synthetic diagrams of networking
- Formulate concrete ideas to enhance networking and co-operation between urban areas at the national and European levels.

Work package 5: Territorial Governance

Work package 5 takes as its **starting point** the shift from 'government' to 'governance'. Many European cities and regions are either experiencing this shift from traditional model of hierarchical power to a system where power is shared and split between a variety of stakeholders, or realising that there is a need for such a shift to now take place.

Creating horizontal and vertical co-operation between various levels of government, as well as between government and non-public bodies, and achieving integration between disparate responsibilities has now become *the* central focus of effective governance. Co-operation between, and the harmonisation of these institutions is also necessary in order to develop their capacity to capture the opportunities that are embedded in, and arise from, the polycentric development of the European regions.

Promoting economic competitiveness in European polycentric urban regions needs both 'hard' infrastructure, such as an efficient transport and telecommunications network between and within the regions, and 'soft' infrastructure, including in particular an effective institutional network. The existence of effective governance relationships is an important prerequisite for developing and sustaining economically, socially and environmentally balanced regions across Europe.

The overall **aim** of the work package is to examine the extent to which both existing and changing governance relationships reflect and capture the functional complexity of polycentrism in Europe at various scales, as defined by work package 2. The main **objectives** are to:
- Provide a 'state of the art' review of the existing literature on key concepts and definitions regarding governance, partnership, institutional capacity, multi-level governance and 'good' governance, as well as typologies of administrative and legal systems in the European countries.
- Identify barriers and opportunities to the building of effective partnerships
- Identify and analyse the innovative institutional and partnership arrangements that are successful in responding to the dynamics of complex relationships in polycentric urban areas
- Develop partnership models for different scales of polycentrism
- Build upon and complement WP2, and provide inputs into the process of policy recommendations (WP6) concerning the influence of governance relationships in different types of polycentrism.

A combination of the following **methods** will be adopted:

- Literature review including academic literature, key European policy documents etc
- A series of questionnaire surveys of a sample of the existing partnerships whose focus is on spatial strategy-making. The survey will be undertaken at three spatial scales as defined by the project team. These include:
- inter-municipal co-operation at the level of Functional Urban Areas (FUA): one or two examples in each European country (underway, responses from remaining countries are expected by the end of April 2003)
- Inter-FUA co-operation at the level of polycentric regions: selected samples from the areas identified by the project team as typologies of national polycentrism (to be conducted)
- Trans-national co-operation at the European level: selected sample of the areas identified by the project team as typologies of European polycentrism using INTERREG projects as examples (to be conducted)
- A round table meeting / workshop with selected experts from the Commission and member states to discuss and test the outcome of the questionnaire results (to be conducted)

The **main results** thus far are as follows:

- A draft version of the literature review on the patterns of government structures in Europe (chapter 2) with a typology that divides the European legal and administrative systems into five families: the British family, the Napoleonic family, the Germanic family, the Scandinavian family and the East European family. The typology is based mainly on two factors: the differences in the constitutions of each country and the relationship between central and local government.
- A draft version of the literature review of the current academic debate on 'governance' and 'institutional capacity' (chapter 3) outlining the characteristics of effective governance relationships, 'good' governance and the role of policy intervention in building up effective and 'good' governance.
- A draft version of the literature review and an analysis of partnerships (chapter 4). This includes a summary of the benefits of partnerships, a distinction between different types of partnerships, the key requirements of effective partnership working, and analysis of the social, political and economic consequences of the growth of partnerships.

The review of the literature has shown that many European cities and regions have developed a variety of horizontal and vertical co-operative arrangements, either on single issues of mutual interests, or on wider strategic issues. It can therefore be argued that while current research may not be conclusive as regards the degree of functional polycentrism in different areas, evidence already exists of a degree of political polycentrism at various spatial scales. This is illustrated by the proliferation of institutional networks, partnership arrangements and governance relations.

The work already carried out within this work package also includes the dissemination of a questionnaire concerning partnerships between municipalities from two or more cities, focusing on developing or implementing a joint strategy for the spatial development of their own areas (see above). At the current time of writing, responses from 13 out of the 27 countries have been received. These responses cover either one or two examples of partnerships or networks. Preliminary results from five of the countries (DK, D, EL, I, NL) are outlined in section 6.3.

Work package 6: Policy recommendations - considerations and sketches

The idea of writing policy recommendations before the end of the project is to strengthen the policy orientation of the project. However, it should be noted that the policy recommendations in this second interim report are drafts, and thus that they are going to be revised as the project proceeds.

The **aim** of the policy recommendations is to enhance a polycentric European urban tissue. At this stage the recommendations concern the policy parameters of EU regional policy, particularly the Cohesion policy and the Structural Funds.

A number of **considerations** concerning current EU regional policy form the background of the policy recommendations. An initial consideration is that of the policy shift induced by the European Spatial Development Perspective (ESDP). Compared to the Structural Funds, the ESDP shifted the policy focus from assisting the development of regions lagging behind to catalysing the development of regional potentials. The general idea of the ESDP is to support the development of regions via the generative forces of the cities and to support polycentric development. Secondly, different interpretations of the concepts of centre, periphery and semi-periphery are discussed in relation to EU regional policy and institutional capacity building. Policies based on overall European 'centrality' or 'peripherality' are questioned since there are often great disparities within these 'central' or 'peripheral' regions. Moreover, the roles of medium sized cities and 'peripheral capitals' in spatial development and in international networks are emphasised. The recommendation for regional policy programmes is to focus on the *relationships* between cities.

The question of scale is also considered since fostering a polycentric structure at the European level may imply encouraging the further concentration of national development to the capital regions, which counteracts national policies aiming at balancing national growth and welfare.

The **policy recommendations** can be summarised as follows:

- That the EU regional policies focus on regions with development potentials and not just on regions lagging behind.
- That crucial development potentials are connected with cities developing international relations and with systems of cities suited to polycentric networking. Accordingly, EU regional policy programmes should be directed to *inter-urban* development strategies building on the complementary strengths of two or more cities and their potentials for strengthening international relations.
- That EU regional policies, as well as local regional development policies, should focus on the enhancement of specialised regional competencies.
- That EU regional policy should explicitly address the conflicting goals of European and National polycentrism.
- That the problems of matching EU programmes by sufficient institutional capacity should be considered, implying that capacity building should be taken as an aim for developing regional endowments.
- That as a starting point the following regional entities should be considered in regional policy-making, paying due respect to conflicting goals and concepts:
  Metropolitan Growth Areas
  European MESO regions of integration
  European Flows
  Regional polycentric systems
- That the partnership should be considered in order to keep the integrity of the development perspective.

Finally, as an example optional elements of a "programme for Regional Inter-City Relations" is drafted aiming at enhancing *regional polycentric systems*.

1.2 INTRODUCTION

Polycentrism (polycentricity, polycentrality) is one of the dominant themes of the ESPON programme. Following the European Spatial Development Perspective (ESDP), the promotion of a balanced polycentric urban system is one of the most frequently cited policy objectives of the programme. This concept bridges the different interests of the Member States and encapsulates the economic and social cohesion objectives of the ESDP, particularly as regards the need to encourage a more balanced competitiveness structure across the European territory. Two policy options are stated in support of polycentric development across the European territory (1) Strengthening of several larger *zones of global economic integration* in the EU, equipped with high-quality, global functions and services, including the peripheral areas, through transnational spatial development strategies, and (2) Strengthening a *polycentric and more balanced system of metropolitan regions, city clusters and city networks* through closer co-operation between structural policy and the policy on the Trans-European Networks (TENs) and improvement of the links between international/national and regional/local transport networks.

The main elements of the strategy are the global integration zones (of which the Pentagon is Europe's sole example) and the polycentric metropolitan regions. The idea is that by linking towns, cities, metropolitan regions and their hinterlands with each other via infrastructure and strategic cooperation, and by forming polycentric urban regions, the competitive potentials of these regions will improve and dynamic global integration zones can be formed. In so doing, the aim is to spread the benefits of good social and economic performance across the continent, while at the same time, strengthening Europe's global competitive position as a whole. In this way the polycentrism strategy it is hoped will achieve balanced competitiveness across the European territory.

The interest in polycentric development is fuelled by the hypothesis put forward in the ESDP that polycentric urban systems are more efficient, more sustainable and more equitable than both monocentric urban systems and dispersed small settlements. This hypothesis is based on the concept of central-place theory, namely, that different goods and services command catchment areas of different sizes (cf. Christaller, 1933) and on Lösch's (1940) theory of the optimal market areas of industries. It is supported by recent results garnered from economic geography showing that different constellations of the economies of scale and of spatial interaction costs lead to different spatial arrangements of production and consumption (Fujita et al.,1999).

However, the concept of polycentrism has thus far remained largely at the level of rhetoric without a precise operational definition. There exists neither a method to *identify* or *measure* polycentrism at different spatial scales, nor a method to *assess* the impacts of polycentrism (or the lack thereof) with respect to policy goals such as efficiency (competitiveness), equity (cohesion) and sustainability. It is therefore not possible to determine an *optimal* degree of polycentrism between centralisation and decentralisation or, in other words, between the extremes of monocentrality and dispersal. This makes it difficult to formulate well-founded policy recommendations as to which cities should be developed with priority.

Such recommendations, however, are the ultimate task of ESPON 1.1.1. It is therefore essential that ESPON 1.1.1 develops a clear concept of polycentrism and operational methods for identifying and measuring the existing polycentrism of the European urban system, predicting their likely future development and assessing the positive and negative impacts of different degrees of polycentrism at the regional, national and European scales.

In ESPON 1.1.1 the current pattern of polycentrism and the potential of urban regions to be nodes in a polycentric European urban system in the European Union, the twelve accession countries and Norway and Switzerland will be analysed at three spatial levels: at the regional and local level, at the national level and at the European level, including transnational urban systems. As units of analysis, functional urban areas will be defined in each country. Of these, the urban centres to be included in the analysis will be selected using criteria such as population size, economic activity, central functions and administrative status. The selected centres will be classified using a typology of global, European, national, regional and local importance. Furthermore, indicators will be collected and presented for the Metropolitan European Growth Areas (MEGAs). Furthermore, the analysis of functional polycentrism based on the relational logic of territories focussing on trans-border co-operations, air traffic and co-operations between universities will also be included.

1.3 CONCEPTS OF POLYCENTRISM

Key concepts related to polycentrism are urban agglomeration (UA), Functional urban area (FUA), the notion of different dimensions of polycentrism (morphological, functional, economic, political as well as various territorial dimensions of polycentrism), Metropolitan Growth Areas (MEGAs) and Transnational Regions of Integration (TNRI).

Urban Agglomerations (UA), which refers to contiguous build-up areas. There is no common definition of UA in Europe (the UN has the most common definition, but it is not standardised, also e.g. CORINE and N.U.R.E.C have information concerning contiguous build-up areas). Thus our only option is to look at the national definitions of UAs. The most important issue is to identify the core of FUAs (to pinpoint where the centroid of the FUA is situated). Secondly, the share of total population that lives in contiguous build-up areas can be used as an estimation of the urbanisation rate of country (this exercise has been carried out in project 1.1.2. where population is indexed based on rural population, the same map can be produced and indexed to urban populations). Population UAs are also however important factors in the analysis: it can be argued that only UAs that exceed a certain threshold level (e.g. 10 000) can be labelled urbanised areas. In 1.1.1 only the core of such UAs will be identified. Only those UA cores of that are centres of Functional Urban Areas (see below) that have more than 20 000 inhabitants are identified

Functional Urban Areas (FUA): UA/core municipality + adjacent commuting areas (fringe municipalities). FUA has no common European definition. Commuting data on the NUTS 5 level is a prerequisite for defining FUAs, but commuting data (according to Data Navigator) is available only available for this territorial level for Austria, Belgium, Denmark, Finland, France, Germany Luxembourg, Norway and Sweden. FUA has a national counterpart (functional urban region, travel-to-work-area, commuting catchment area, commuting zones or similar) in 18 countries (Austria, Belgium, Czech Republic, Denmark, Finland, France, Germany, Greece, Hungary (regional labour centres), Italy, Norway, Luxembourg, Netherlands, Sweden, Switzerland, Slovak Republic, Slovenia and the United Kingdom). Due to the lack of data, 1.1.1 uses national definitions of FUAs, or the closest available counterparts. FUAs that have a population of 20 000 inhabitants are considered urban.

FUA's are the building blocks of the polycentric region. Polycentric regions are established by two or more FUA's reinforcing each other. At two levels we are dealing with polycentric urban regions, the (sub) national level (national polycentric regions) and the trans-national level (cross-border polycentric regions).

Several definitions are offered for the concept of polycentrism. The classic definition of morphological polycentrism is that a region (1) consists of more than two cities that are (2) historically and politically independent (no hierarchy) and that (3) are in proximity to each other and (4) have a functional relation and are complementary to each other. However, the criteria are applied differently on the national and European levels. Furthermore, functional (systems of FUAs consisting of different specialised and complementary urban functions), economic (systems of FUAs highly integrated into the labour market, industrial clusters and trade) and political (systems of FUAs working together on joint strategies) polycentrism all have their own definitions (which also have regional, national and European levels). A further elaboration of polycentrism will be delivered to the TIR.

A major challenge of the study is the European-wide statistical examination and mapping of economic and functional polycentric regions. For this purpose indicators are needed to test whether e.g. divisions of labour have been established between cities within the potential polycentric regions identified in the morphological study. We are still considering how to do such an analysis.

Through the case studies the political dimension will be examined in a selection of urban polycentric systems. These case studies will include a brief analysis of the contextual backgrounds as regards the economic, functional and morphological aspects.

The concept of European Polycentrism was suggested by the CPMR study. The idea behind the study was to identify cities beyond the pentagon that could function as economic centres ("Metropolitan European Growth Areas (MEGAs)") and thus that were capable of competing with the pentagon.

Related to the MEGAs are the large transnational integration regions. Special interest is paid here to the INTERREG regions. These regions have not been defined as polycentric urban regions. However, in the context of the 1.1.1 it seems reasonable to comment on these regions, since if they are successful they might contribute to development beyond the pentagon – thus contributing to greater polycentric development.

Based on these considerations, two concepts are then relevant to European Polycentrism

- Metropolitan European Growth Areas (MEGA)
- Transnational MESO-regions of integration (TNRI)

Table 2: The key concepts of 1.1.1

UA **FUA** **MEGA** **TNRI**	Building blocks: Urban Agglomeration Functional Urban Area Metropolitan European Growth Area Transnational Regions of Integration Polycentrism - various territorial levels: regional, national, European - various aspects: morphological, functional, economic, political

1.4 EXPECTED RESULTS (TIR)

In the third interim report (August 2003) the following results will be presented:

(WP 1)
Critical dictionary of polycentrism
- concepts and notions related to polycentrism have been identified
- including the following categories: elementary (key) concepts, processes and/or logics, challenges for polycentrism, context concepts, spatial strategies, ideal spatial configurations identified, policies

By August 2003: a minimum of 50 concepts will have been elaborated (in the final version there will be 90 concepts)
Output: mainly text, abstract illustrations

(WP 2)
Polycentrism in Policies
Analysis of polycentrism in planning documents, policies and in practise in the ESPON countries
- examples of polycentric policies
- transnational visions
- Implications for EU Territorial Cohesion Policy

In August 2003: Draft report (mainly based on an analysis of the questionnaires) covering all ESPON countries
Output: mainly text, national summaries including maps from the existing cases (national or transnational)

WPs 3 & 4
Database and indicators (WP3), Typology and Mapmaking (WP4)

In August 2003: database (75% ready)
Output:
European (EU15 + AC + NC) maps (drafts) on
- Urban agglomerations (pointing cores, centroids)
- Functional Urban Areas
- Thematic maps (level and trend of development) (cf. CPMR)
- Summarising maps (cf. CPMR)
- National and European daily accessibility (on FUA level)

Maps on European Urban Networking (flow maps)
- air – flow data
- university networking (Erasmus exchange)
- INTERREG (trans-border networking, case studies)

Typologies of cities (presented also in map form)
- Second draft "List of FUAs" in Europe
- Typology of FUAs (5 main categories: global, European, national/transnational, regional, local)
- 'Identification of polycentrism'

(WP5)
Governing polycentrism

- focus on the local/regional level (case studies)
- Identify barriers and opportunities for building effective partnerships
- Identify and analyse the innovative institutional and partnership arrangements that are successful in responding to the dynamics of the complex relationships in polycentric urban areas

In August 2003: Draft report, tentative results (mainly based on an analysis of the questionnaires), literature review including both academic and policy documents as well as relevant project reports
Output: mainly text, case study maps and illustrations

(WP6)
Policy recommendations

- elaboration of policy questions
- draft recommendations
- preliminary ideas for inter-city programme (names not definite) for
    - Metropolitan European Growth Areas (MEGAs),
    - Transnational MESO-regions of integration (TNRIs),
    - Polycentric Urban Regions (PURs),
    - European Urban Functional Networks

In August: Draft report, summarising key findings so far from all WPs
Output: mainly text, possible draft programme maps

1.5 RESPONSE TO FIRST INTERIM REPORT

The following points were raised in response to the First interim report: (1) Linking of 1.1.1 to other projects (especially 1.1.2.) (2) the lack of a conceptualisation of polycentrism, (3) the lack of an identification of the documentary sources of spatial planning documents. Furthermore 1.1.1 was warned not to repeat the "failures" of the CPMR study, which were (4) national selection of FUAs included in the analysis and (5) the lack of transnational and cross-border analysis.

Our reactions to these points were as follows: Co-operation with other projects increased when the focus of these projects has been tuned and the preliminary results of the projects become available. In relation to 1.1.2 the links are close and practical in the sense that the two main partners of 1.1.1 ((CUDEM, OTB) are also members of the1.1.2 consortium. Furthermore, each organisation's project managers have taken part into each other's project meetings. The major part of the statistical work and the mapmaking is done in NORDREGIO, which of itself naturally increases co-operation. For instance, the definition of population living in urban/rural areas (defined nationally) serves both 1.1.2 and 1.1.1. The definition of FUAs (to be completed in May) will form the basis of 1.1.2. In addition, the managing persons of both projects are involved in other projects (outside ESPON), something that generally increases information flow in the ESPON context also.

This interim report pays particular attention to the conceptualisation of polycentrism (contribution by CNRS), and also to the identification of documentary sources of spatial planning documents (contribution by OTB).

The method developed to identify FUAs and MEGAs is based on objective criteria, and thus in 1.1.1 the subjective approach of the CPMR-study is avoided. Transnational and cross-border analysis is covered both in terms of the analysis of functional polycentrism and also explicitly in the form of transnational regions of integration (TNRI)

1.6 NETWORKING WITH OTHER TPGs

The following ESPON projects are of particular interest

1.1.2. *Urban-Rural relationship*
The ESPON project 1.1.2 is a thematic study dealing with urban-rural relations in Europe. It is based on the assumption that categories of urban and rural, as well as the relationships between urban and rural areas, are useful for analysing spatial dynamics in Europe. In 1.1.1. the most local level of FUAs (population of 20 000 inhabitants) is considered as the threshold between urban and rural areas.

1.1.3. *Enlargement*
Accession countries and their role in polycentric Europe as well as accession countries' urban areas' role as relays of development will be interesting topic. However, thus far there has not been systematic networking towards 1.1.3.

2.1.1. *Transport*
Co-operation with ESPON 2.1.1 will be important. ESPON 2.1.1 will develop model-based forecasts of socio-economic development in terms of population and economic activity in 1,321 NUTS-3 regions in the European Union and the accession countries plus Norway and Switzerland, under different assumptions about the macro trends indicated above.

2.1.2. *R&D-policy*
A certain number of indicators of R&D are used for the analysis of MEGAs. The challenge here relates to data availability, particularly on the territorial level from which the data is available (only NUTS 2). The exchange of data will take place in April-June 2003.

2.2.3. *Structural Funds in Urban Areas*
It has been noted that projects 1.1.1 and 2.2.3 on the territorial effects of the Structural Funds in urban areas are complementary, although 1.1.1 focuses in particular on developing regions/urban areas, while 2.2.3. focuses on restructuring/declining urban areas. However, both address European spatial development with a focus on urban areas, with 1.1.1 additionally providing information on the development trends of urban regions. Both also highlight the act of balancing between cohesion and competitiveness when it comes to the urban issue within the wider framework of European spatial policy.

1.7 SWOT ANALYSIS

Questionnaire

Relevant policy options for the polycentrism project found in the ESDP are:

(1) Strengthening of several larger zones of global economic integration in the EU, equipped with high-quality, global functions and services, including the peripheral areas, through transnational spatial development strategies.

(2) Strengthening a polycentric and more balanced system of metropolitan regions, city clusters and city networks through closer co-operation between structural policy and the policy on the Trans-European Networks (TENs) and improvement of the links between international/national and regional/local transport networks.

(3) Promoting integrated spatial development strategies for city clusters in individual Member States, within the framework of transnational and cross-border co-operation, including corresponding rural areas and their small cities and towns.

(4) Strengthening co-operation on particular topics in the field of spatial development through cross-border and transnational networks.

(5) Promoting co-operation at the regional, cross-border and transnational levels; with towns and cities in the countries of Northern, Central and Eastern Europe and the Mediterranean region; strengthening North-South links in Central and Eastern Europe and West-East links in Northern Europe.

(6) Expansion of the strategic role of metropolitan regions and "gateway cities", giving particular attention to the development of peripheral regions of the EU.

(7) Improvement of the economic basis, environment and service infrastructure of cities, particularly in economically less favoured regions, in order to increase their attractiveness for mobile investment.

(8) Promotion of an economic diversification strategy in cities that are too dependent on a single branch of economic activity, and support for the economic development of towns and cities in less favoured regions.

(9) Promotion of integrated urban development strategies sensitive to social and functional diversity.

(11) Promotion of better accessibility in cities and metropolitan regions through an appropriate location policy and land use planning that will stimulate the mixing of urban functions and the use of public transport.

(14) Strengthening small and medium-sized towns in rural areas as focal points for regional development and promotion of their networking.

(20) Promotion of co-operation between towns and the countryside aiming at strengthening functional regions.

(21) Integrating the countryside surrounding large cities in spatial development strategies for urban regions, aiming at more efficient land use planning, paying special attention to the quality of life in the urban surroundings.

(22) Promotion and support of partnership-based cooperation between small and medium-sized towns at a national and transnational levels through joint projects and the mutual exchange of experience.

1) In the light of the policy aims of the ESDP: What are the main **strengths** identified by your TPG?
   - Polycentrism (at the conceptual level) has strong and broad support in ESDP and in all Member States
   - Many countries in Europe (ESPON countries) still have a relatively balanced network of small and medium-sized cities, polycentric development is interpreted as a "lifeline" for these cities
   - The strong nodes beyond the Pentagon are notified in the form of the identification of pillars for European polycentrism (in terms of competitiveness) -> it is possible to identify and strengthen several larger zones of global economic integration
   - The Pentagon itself is not monocentric but genuinely polycentric

2) In the light of the policy aims of the ESDP: What are the main **weaknesses** identified by your TPG?
   - Overwhelming power of few major urban regions in Europe, further concentration of activities to these urban regions
   - "Kaleidoscope-effect": Balancing between monocentrism and polycentrism varies at different scales: e.g. In global competition it could be argued that the Pentagon should be strengthened in order to build a stronger European node in the global urban system. Moreover, strengthening national capitals would balance development at the European level even though it makes national systems more monocentric.
   - Some countries (e.g. Finland, Sweden, Norway, Estonia, Latvia, Lithuania) have only minor population potential and low accessibility compared to others in central Europe (as well as long distances between urban nodes within the country). This is a major challenge in terms of the development of transport networks.
   - Transnational and cross border co-operation is often characterised by a one-way relationship due to the development gaps between urban regions in EU15-countries and those in the candidate countries
   - There is no universal European definition of Functional urban areas. Delineating functional areas would be the first step in discussing the relationship between urban nodes and the rural areas functionally connected to them.

3) In the light of the policy aims of the ESDP: What are the main **opportunities** resulting from the identified framework conditions?
   - Solidarity and European integration are at the core of the polycentric project, which seeks to foster centres of competitiveness and development throughout the European area, thus offering its citizens credible prospects for success.
   - European competitiveness, the main issue addressed at the Lisbon Summit, constitutes the content of a polycentric project that invites public services to play a key role in boosting a number of major centres of development in Europe, in respect of priority issues such as R&D, innovation, human resources and accessibility, etc.
   - Cooperation - whether at the intergovernmental, interregional or interurban levels - also constitutes a basic value, aiming to ensure more coherent and efficient public service action, by bringing together economic or functional territories and institutional territories.
   - The polycentrism concept cannot, and should not, be elaborated in a uniform way, but will (have to) differ according to territorial circumstances (such as geographical location, the characteristics of the urban system etc) and policy goals
   - Continental Europe has changed in the direction of developing a more polycentric structure, increasingly emphasising Trans-European Networks (particularly high-speed trains)

4) In the light of the policy aims of the ESDP: What are the main **threats** resulting from the identified framework conditions?
   - polycentrism will remain an uncommunicative catchword. It will be challenging to conceptualise it so that it will be possible to win the confidence of the higher realms of power
   - if only capital regions are considered as "gateway cities" (e.g. in the accession countries) national structures will become increasingly monocentric. There has to be a good balance between European polycentrism (pillars for polycentric development in Europe) and a role for small and medium-sized cities (polycentrism within Member States, reflecting urban-rural partnership)
   - At the same time when specialisation (the explicit functional role of cities in the greater urban system) is emphasised it certainly does not support an economic diversification strategy. Small and medium sized cities in particular have to "gamble" in this sense - a more networked based structure is needed in order to build buffers between global economic fluctuation and the development of small and medium-sized cities.
   - The weight of the urban system of the EU 15 is outweighing those of accession countries

5) Looking back at questions 1) to 4): What are the 3-4 driving forces dominating the thematic sector? Please explain each driving force in one or two paragraphs.

In the context of polycentric policy, the main driving forces are:

1) "New regional development logic" including: interplay between various levels and recognition of role of cities in regional development, as well as recognition of the different development potentials of urban areas
2) Increasing specialisation and functional urban networking; interplay between competition and co-operation
3) Development of transport networks
4) Development of knowledge intensive functions and services

The driving forces are measured by the following indicators:

1) Strength and diversity of urban regions: population, gross regional (domestic) product, gross value added in industry, overnight stays in hotels (tourism),
2) Functional specialisation: location quotients (based on workplaces), productivity
3) Accessibility indicators (multi-modal), passengers (airports), container traffic (airport)
4) Location of universities, number of students, locations of TOP 500 companies, R&D employment & expenditure, educational level of population

6) Commencing on from a consideration of these driving forces please develop a typology that can be used to classify the European regions.'

The first stage in the making of the typology is to identify all those FUAs that have more than 20 000 inhabitants in Europe. Information on the NUTS 3 region level in which these FUAs are located is then collected. EUROSTAT/National experts provide this information. The making of the typology is based on an analysis of the certain features and functions of FUAs; which are (marked with F): F1Population; F2 Industrial functions (Gross value added (sectors C-F)); F3 Tourism functions (overnight stays in hotels (and similar)); F4 Transport functions (Airport (passengers), ports (container traffic)); F5 Knowledge functions (Location of University, number of students); F6 Decision-making centre (Location of TOP 500 companies); F7 Administrative functions (Administrative status of FUA (three different levels: 1) national capital; 2) province/regional capital; 3) no specific administrative status)

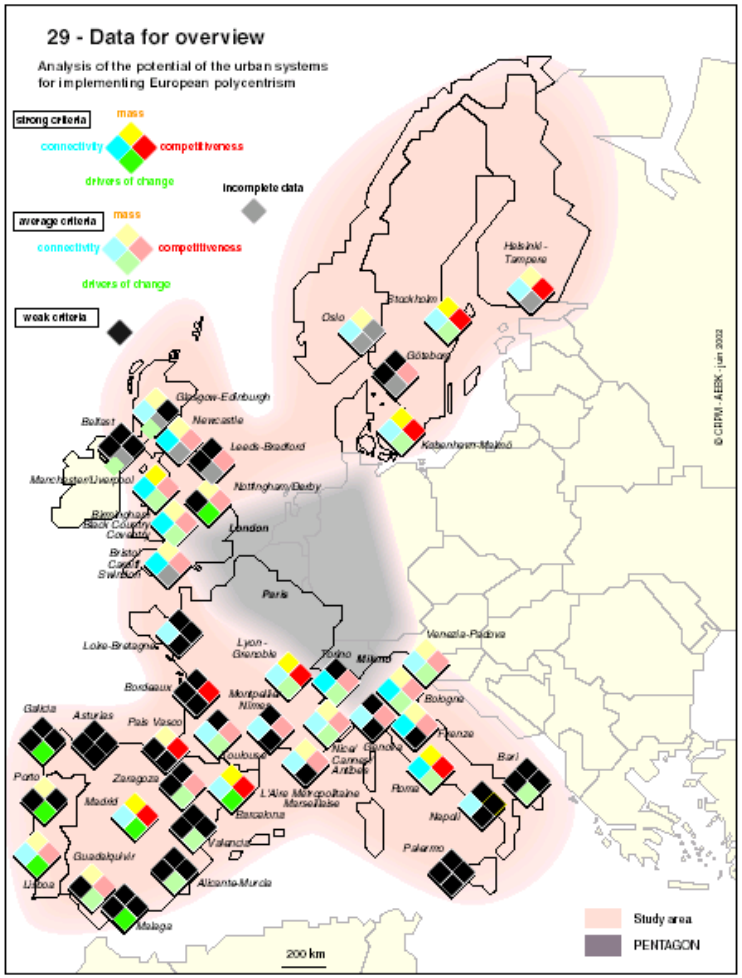
Initially, analysis has to be done on the NUTS 3 – level (data is better available and harmonised for this level). The value of that NUTS 3 information, where the main node of FUA is located is then utilised. If FUA has several strong nodes exceeding NUTS 3 boundaries, all those NUTS-3 regions in question are included in the calculation. The national experts provide relevant data and definitions. For the later stages (during 2003 and 2004) genuine FUAs (or proxies, cf. SPESP) are utilised as statistical units or estimations on the FUA level (using original data from the NUTS 3-level) are calculated.
The idea being that if a certain FUA fulfils the lowest threshold level at one or more of the previously mentioned functions (F1 to F7) it is included in the typology. Filling only one criteria at a certain level: one-sided FUA; filling all criteria at a certain level: diversified FUA. Various clear-cut threshold levels are applied. Five different categories are utilised in typology G = global, E = European, N = national, R = regional, L = local.

FUAs are placed within the typology according to the level (G, E, N, R, L) of each of function analysed and the number of columns (F1 to F7) it fills at a certain level. As a rule of thumb: average of level determines class (e.g. E, N, N, N, E, N, N = national FUA). Only G, E and N-levels are considered when defining many-sidedness (not R and L).

At later stages the typology based on the above mentioned driving forces is applied (4 different driving forces, three different levels (high = strong, intermediate = average, low = weak):

7) Please map the spatial pattern emerging from this typology of the main driving forces.

In the CPMR-study a typology and map of urban areas (comparative evaluation of the urban systems) based on 4 sets of criteria was produced. In ESPON 1.1.1 a similar method is used (though the visual look is somewhat different (using the ESPON template map), as well as the text in the legend)



8) Please prepare a data set that contains the data of the driving forces and the regional classification.

Datasets are being prepared.

9) Refer to the concept of sustainable development and regional competitiveness: Please describe on a half page how the spatial pattern and developments (or: innovative elements of policies – see example on the right) in your sector outlined above relates to sustainable development and balanced competitiveness as overall aims in the field of spatial development and EU policies.

The outcome of the ESDP is balanced competitiveness, a compromise between the periphery's interest in social-economic cohesion and the core's interest in global competition. To achieve this balanced competitiveness across the European territory, the ESDP promotes a polycentric development through transnational spatial development strategies. The current European urban system is seen as monocentric, in the sense that there is only one major urbanized area with sufficient mass and economic potential to be integrated into the global economy. Though several potential dynamic peripheral regions can be identified (such as Barcelona and the Øresund-region), the European urban space can still be understood then in terms of the monocentric paradigm. In this rationale, the area identified as periphery has some disadvantages in relation to the core. The first being increased travel and transport costs resulting from remoteness relative to the main centres of population and economic activity. The second, the absence of agglomerative advantages (external economies of scale) enjoyed by more central locations. Contingent causes are for example, the high cost of service provision, and low rates of entrepreneurship and innovation. The periphery will, under these conditions, lose even more economic activities and will see a decline in population. On the other hand, there is the danger of hyper concentration in the core, with negative side effects such as pollution, congestion and unaffordable land prices, which may result in a decline in economic potential. (Copus, 2001,p 540-544).

Fundamental changes in the geographical constraints to many economic activities, particularly to the key growth sectors, will mean that the economic potential of all regions (including those on the periphery in spatial terms) will become less closely related to location, and increasingly influenced by a variety of *a*spatial characteristics, such as the quality of ICT-networks or an attractive 'business climate', leading to an increasingly polycentric rationale as regards European space. While the traditional core-periphery rationale represents a one-dimensional view of Europe, polycentrism represents a more diversified view of Europe, taking account of more indicators: "It demonstrates a willingness to take a closer look at individual regions and to take account of their specific characteristics. Economic performance is just one dimension and judged as neither more nor less important than other characteristics" (Waterhout, 2001, p9).

10) Please name for both aims the three or four most important indicators that you use to measure and assess these trends

It would be relevant to look at the motors of change: e.g. population 1990-2000, gross domestic product 1990 – 2000 in order to find out what the general development trends have been.

In terms of regional competitiveness: gross domestic product per capita, R&D expenditure and labour force

11) Refer to sustainability and its economic, social and ecological dimension: Please give an intuitive assessment to what degree the spatial patterns in your sector comply with the three dimensions of sustainability.

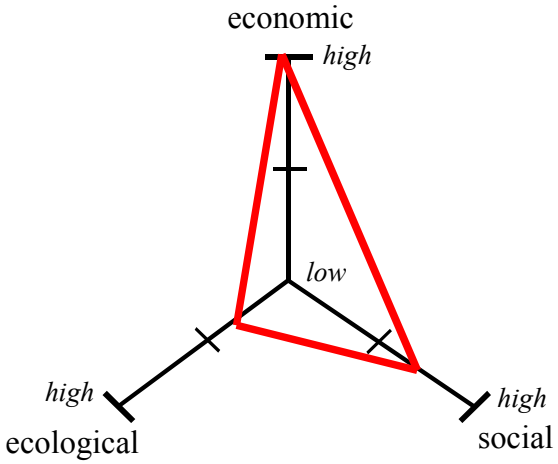


Figure 1: Dimensions of sustainability

PART TWO

2.1 CRITICAL DICTIONARY OF POLYCENTRISM - Proposal of a structure

2.1.1 A dictionary: what is the aim?

The decision was made to work on a thematic dictionary in order to produce a better understanding of the idea of polycentrism. The dictionary wants to clarify scientific ideas and bring the debate to common sense.

Therefore, our objective is to carry out

- Comprehensive definitions of polycentrism and of the major concepts, notions and expressions linked to it
- A critical analysis of these concepts, their usages and their territorial impact.

The object of this report is to present the structure of the dictionary. The definition of the general framework of the dictionary is the main achievement of this first period of work. Although the work has not yet been "stabilized" and is thus still in progress, we decided to provide an initial list of the major concepts as well as a first draft of some of the definitions used. However, **the definitions should be considered as provisional**. **They will be harmonized, deepened and illustrated with examples in subsequent reports.**

Around 90 concepts and notions related to polycentrism have been identified. Among the major ones are:
Polycentrism
Multi-nuclear
Monocentrism
Mono-nuclear

These 90 notions and concepts may be related to seven major questions, which range from spatial definitions towards a spatial planning comprehension of the concept. These range from the identification of elementary, basic concepts, to processes and policies.

Method

A common structure to each definition:
A common "writing rule" is used to define each concept.

Common/basic definitions and the various meanings in the literature
Territorial impact
Linkages with other concepts
Usages in development strategies (at least in European official documents)
Examples and maps (if real value-added)

Length of the definitions:
Three types of words / concepts are distinguished according to their relative "importance" regarding the concept of polycentrism.

Key concept: 4500 characters
Important concept: 2500
Basic notion: 1000

2.1.2 Polycentrism: seven major questions

2.1.2.1 Elementary concepts

What are the elementary concepts necessary for the comprehension of polycentric spatial structures?

Pole
Metropole
Multi-scalar
Scale

Urban network
Urban area
European Functional Urban Areas

We will thus attempt to explain how these concepts are necessary to understand and make more explicit the polycentrism. They will be discussed below.

2.1.2.1 Processes and/or logics

Spatial forms may be explained: they have regularities, distortion to regularities. Among these regularities we find, hierarchy, networking, and specialisation as strongly organized spatial distributions. We believe that they act as spatial logics and as such, that they contribute to the understanding of spatial patterns. Polycentrism is thus likely to be a kind of spatial pattern or structure: it may therefore be partly explained using those well known regularities:

Hierarchy
Networking
Specialisation

Most geographic or spatial forms are vivid, transforming, metamorphosing. They evolve in time and space processes are strongly orienting those modification. Among these specific space processes, one may mention:

Attraction
Concentration
Diffusion

Therefore, those logics and processes will be discussed in order to discover whether they support, or on the contrary, work against the outcome of polycentric structures.

2.1.2.3 Challenges to polycentrism

Why is the ESDP focusing so much on the idea of polycentrism? From our point of view, it is because polycentrism is opposed to the central-periphery or monocentric model, and that polycentrism is thought to better respond to a number of important EU objectives. We believe it important to understand these challenges, in order to discuss the fact that polycentrism is the right spatial response to them, and perhaps to find out it is not the right response.

According to the ESDP, polycentrism is the most promising way to achieve balanced and sustainable territorial development, better social cohesion, and a reduction in territorial disparities.

What are the challenges faced by polycentric territorial structures?
Balanced development / growth
Equity
Integration

Social cohesion
Territorial cohesion

Sustainable development

2.1.2.4 In what context is the polycentrism spreading?

In which economic and/or spatial contexts do the concept of polycentrism spread? We believe that the context has a relevance and is not neutral to the focus on polycentrism.

Centre-periphery
European megalopolis
Pentagone
European core region

Metropolisation

Transborder
Transnational

European construction

We will attempt to explain and discuss the links between the global, European – political, economical and social contexts and the focus of the major European spatial planning objectives on the polycentrism concept.

2.1.2.5. Spatial strategies

What common conceptual spatial strategies have been developed to enhance polycentrism?

Cooperation
Partnerships
Devolution

Endogenous development

Governance

We shall explain and discuss the efficiency and the territorial impact of the strategies.

2.1.2.6 Ideal spatial configurations identified

What are the ideal spatial types of the polycentric configurations to be achieved?

Gateway
Global city
Global integration zone

Euro-corridors

European Links of Urban Integration and Networking (ELUIN)
Functional urban region
Polycentric urban region (PUR)

City networks
Networks of capitals
Networks of specialised cities
Transnational Urban Regions of Integration (TURI)

We will attempt to explain and discuss the relevance of these types.

2.1.2.7 Policies

What are the European policies that enhance or are linked with polycentric objectives?

European regional policy (INTERREG, Objectives 1 and 2…)
TEN
European research policy

Thus far, only European policies have been chosen although in the most developed regions or countries they might not be of significant impact or importance.

2.1.3 Polycentrism: description and types

2.1.3.1 Polycentrism: two complementary aspects

Polycentrism has two complementary aspects:

1. Morphological, laying on the distribution of urban areas in a given territory
2. Relational, based on the networks, flows and cooperation between the urban areas of a given territory.

Morphological aspect

The observation of a system of cities automatically implies the observation of several nodes and centres. The urban pattern may be , either strongly or weakly hierarchical. Two extreme patterns can be identified as follows:

- *Mono -nuclear pattern*: one dominant city and several peripheral/dependant cities.
- *Poly- nuclear pattern*: no dominant city. Cities are similar in size.

Relational aspect

Relations, flows and cooperation, may be oriented in different ways between centres. Two extreme patterns can be identified as follows:

- *Mono-oriented*: relations are preferentially oriented towards one centre.
- *Multi-directional*: relations have no obvious orientation.

> ***Thus far, our main hypothesis is that polycentrism cannot, and should not, be linked a priori to a poly-nuclear, and weakly hierarchical pattern, nor should it be drawn from a multidirectional pattern of relations between cities. Poly-nuclearity and a weak hierarchy to the urban pattern is not a prerequisite for polycentrism***.

Nothing has been said thus far on characterisation of the centres, nor on that of their relations. It is however obvious that both specialisation of the centres, and specialisation of relations will have to be taken into account in order to deepen the study more fully.

2.1.3.2 Polycentrism: two main processes

Polycentrism results from two main processes.

1. Institutional, based on voluntary cooperation
2. Structural, resulting from "spontaneous" spatial development

Institutional polycentrism

Institutional polycentrism relies on co-constructions, cooperation, and on the willingness of people in territorial administrations to work together. It implies that localities will start to work together on various projects. In that context, polycentrism corresponds to "planified" strategies and actions.

The cities may, or may not be complementary with regard to urban functions. The functional complementarity is not a pre-condition for cooperation. What is important is that two or more cities develop projects in common in order to build thematic and joint projects, actions and strategies, to exchange knowledge, best practices etc…. and to share equipment and upgrade infrastructure (cultural, social, transport…).

Structural polycentrism

Structural polycentrism is related to the organisation of a territory i.e. to its spatial patterns. It is based on the joint observation of the spatial distribution of urban nodes and on the spatial orientation of flows in a territory.

Polycentrism may also be occurring through urban networking: from migrations (students, active population, commuters...), rail and air traffic, financial flows, information flows etc….

> ***Thus far, our hypothesis is that polycentrism is not only the result of voluntary strategies and actions. Polycentrism could occur spontaneously as a product of historical, economic, or spatial patterns.***

2.1.3.3 Polycentrism: different territorial scales

Polycentrism is a concept that can occur at different territorial scales, from the regional to the national and the European.

Connexity

Distant urban areas are connected through various types of relations:
a) co-operation directed towards the sharing of experiences, of methods, of information, participating in a development project ….
b) flows and exchanges such as

Examples regarding institutional polycentrism:

- URBAN programme led to a form of smooth cooperation, exchange of experience between distant cities around a thematic issue.
- INTERREG III B and III C tend also to encourage this form of cooperation as regards connexity in transnational areas.

Examples regarding structural polycentrism:

- Financial flows, telecommunications networks, exchanges of students, air traffic...

Proximity

As in the connexity case, close urban areas are linked through
a) co-operation between cities that aim at the sharing of equipment, projects, or policies : locating a university in one centre , a hospital in a neighbouring one, etc.. in order to allow inhabitants of both cities to use both facilities.
b) flows and exchanges such as daily commuters, telephone calls,

Examples regarding institutional polycentrism:

- *Interreg IIIA enhances trans-border cooperation.*

Examples regarding structural polycentrism:

- Travel to work,...

> ***Thus far, our hypothesis is that spatial proximity is not a condition of polycentrism. Urban areas can cooperate and exchange even if they are not in close spatial proximity. Urban Networking is not only dependent on spatial proximity: connexity networking is one of the major guarantees in the promotion of polycentric spatial organisations.***

2.1.3.4 Polycentrism: four main types

Combining the two aspects of polycentrism leads to the identification of four main types of polycentrism. Although, our hypothesis is that polycentrism is a process, it is plain that there is not one inescapable way to achieve this kind of structure, nor that there is one unique model of performance.

Integrated monocentrism

This defines a highly hierarchical urban pattern, combined with a strongly oriented flows pattern. All centres may, or may not be specialised, though the main one is rather diversified, the labour market may be locally organised, although they are dependent on the main centre.

Examples:

- *European scale: London and the European urban network as regards air traffic.*
- *National scale: Budapest and the Hungarian urban system, Vienna and the Austrian urban system…*
- *Regional scale: Madrid and the Navarre urban system.…*

Outcoming polycentrism

The spatial structure combines an urban pattern that is rather strongly hierarchical, and multidirectional flows. Some of the secondary centres could have developed a specific thematic competence that promotes them to the upper layer of the local or environing urban hierarchy. Those specific competences have induced the multidirectional pattern of the relations. This multidirectional pattern may be developed when the cities – either act in the same field, being competitors and/or develop complementary specialisations: research and production in electronics, aeronautics…, whisky or wine production and tourism – either share a project in common (INTERREG).

Examples:

- *European scale: specialized networks of cities in aeronautics, finance, based on university cooperation and exchanges, on INTERREG cooperation,.…*
- *National scale: Italy*
- *Regional scale: Greater London region, Parisian region, textile activity in the Po valley: Milan, Turin, etc*

Metropolitan polycentrism

This type of polycentrism describes a weak urban hierarchy with strongly orientated relations towards an upper level of cities that consequently act ***together*** as the main centres of the network.
One can label this as 'one level polycentrism', observed when the upper level of cities is developed through a poly-nuclear pattern.

It is not linked with the obvious types of specialisation, although one may argue that the upper layer of the hierarchy is specialized in rare functions, in rare activities, inducing several specific links and specialised networking.

Examples :

- *European level: political and economic European capital network*
- *National level: Spain with Barcelona and Madrid*
- *Regional scale: Lorraine (Fr) with Nancy and Metz, Tuscany (It) with Sienna and Florence*

Integrated polycentrism

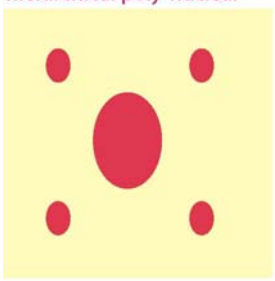
This type of polycentrism describes a weak urban hierarchy associated with multidirectional relations.

It may not as yet be observable at the European level. Though one may find that the German urban network responds to this description, or at the regional level, the Randstadt.

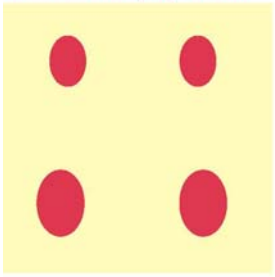
I. Polycentrism: two complementary aspects

MORPHOLOGICAL

mono-nuclear
hierarchical poly-nuclear

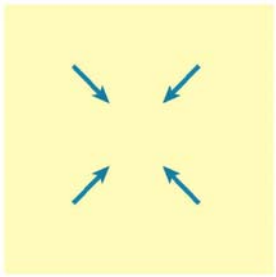


polynuclear
a-hierarchical polynuclear

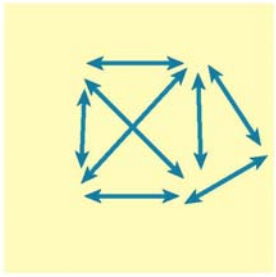


RELATIONAL

mono-directional

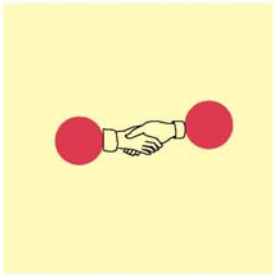


multi-directional



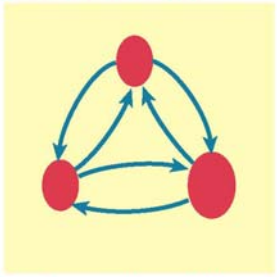
II. Polycentrism: two main processes

INSTITUTIONAL POLYCENTRISM



Polycentrism of cooperation

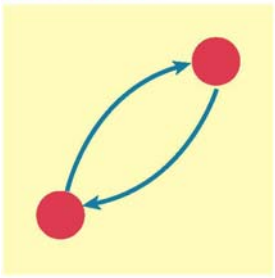
STRUCTURAL POLYCENTRISM



Polycentrism of flow

III. Polycentrism: different territorial scales

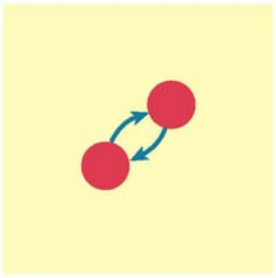
CONNEXITY



At national, transnational and European levels...

Examples: building thematic and joint projects, actions, strategies, exchanges of students, air traffic...

SPATIAL PROXIMITY

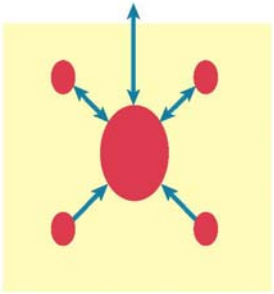


At urban, regional, and transborder levels...

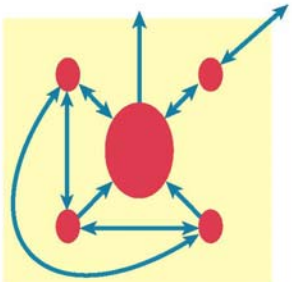
Examples: sharing equipments, upgrading infrastructures, commuters...

IV. Polycentrism: four main types

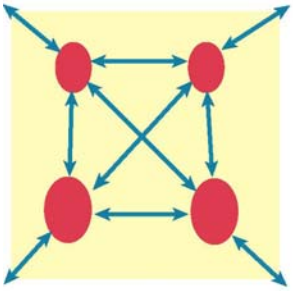
Integrated monocentrism



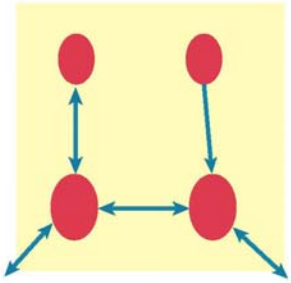
Outcoming polycentrism



Integrated polycentrism



Metropolitan polycentrism



2.1.4 Definitions: first drafts

2.1.4.1 Elementary concepts

Metropolis
Basic definition
The term "metropolis" generally defines the greatest centre of a whole group of towns. In practice, only the large towns enjoying easy accessibility, large size and a varied economic and human environment are defined as "metropolises". Their position, at the top of such urban hierarchies, has been constructed over time. However, the acceleration of the relative strengthening of their power over the last forty years can be linked too a wider global metropolisation process. For a small number of large towns which generally enjoy a very high status in the network of central spaces, this process has enhanced their ability to attract activities linked with primary entrepreneurial organisational functions, new activities for which the metropolitan market is a privileged place for experiment and activity, for which the immediate proximity of an adjacent wide and diversified conglomerate of companies is an advantage.
The space directly and tightly polarized by one or several metropolis is defined as a "metropolised space".

Links to other concepts
To designate the greatest *metropoles* that have become the major nerve centres of world economy, the term "global cities" has been proposed. It corresponds to the most advanced forms of what can be identified at present as the new form of worldwide centrality.

Territorial impact
There is open debate on a possible and progressive disconnection between the *metropoles* and their surroundings. This hypothesis does not appear to take into consideration the long-lasting territories and the systemic links between the centres and their peripheries. The various territorial systems continue to influence the shaping of economic, socio-spatial networks, "rooting" them into metropolises and the impact of *metropolisation* processes extends beyond their limits. On the contrary, the links deeply rooted in territories are shaping metropolitan spaces and intervene in their dynamics. Besides, metropolisation and sustainable development can become conflictual when the costs of concentration increase, and when it's socially and environmentally negative effects are inadequately monitored.

Development strategies
The metropolitan model is bound to disseminate in and around a certain number of large towns. But, contrary to other diffusion processes, the increasing dissonance between time and space that has accelerated globalisation, and thus the metropolisation process, is liable to contribute to the short-cut of a number of them. Too close to one another or hardly innovative enough to secure their position, or weakened by surroundings hardly integrated, some large towns are liable to miss this initial and highly selective accumulation in the first phase of spatial diffusion. At that stage, the polycentric territorial systems can be selective and at the origin of new hierarchies (hierarchizations).

Nodal region
Basic definition
A nodal region is an urban region in which power is inseparable from its position as a nerve centre within a diversified interregional, international…, network of relationships. A real pole, its capacities of accumulation, attraction and diffusion, are linked to its powerful concentration and to the complexity of its economic, social and territorial

internal structures. At the wider Western European scale , the Rhine region, the Randstad, the greater London region and the Ile de France are nodal regions. The nodal region is often structured around the capital cities (political or/and economic) of States and it enjoys structuring capacities able to expand far beyond the simple national framework. So is it for the region of Athens in Greece, Budapest in Hungary, Milan in northern Italy, Vienna in Austria, etc.

Territorial impact
Nodal regions are very important structuring elements of transnational spaces. They can be considered to be at the core of transnational planning procedures. These nodal regions are often equipped with polycentric – or on their way to becoming polycentric – territorial structures. They are the first regions on their way towards integration into networks expanding in the European integrated space.
They can therefore fulfil the functions of gateways for large parts of the European continental territory and be considered as strong assets in a polycentric territorial system.

Development strategies
The "euro-corridors" are nodal regions where development could be facilitated by a structuring axial dimension. The formation or the development of these regions should be supported by an efficient transport network facilitating the linear development of powerful and strongly interconnected poles.

2.1.4.2 Processes and/or logics

Concentration
Basic definition
Concentration defines the gathering of persons, activities or wealth in a central location and can be characterized at various scales.
More widely and still in spatial terms, the notion of concentration indicates the state of the development of unequal distribution on a territory. There is no theoretical definition of this notion, only methods of assessment based on the idea that the concentration of a population, observed at a certain level of administrative units, represents an intermediary state between two extreme theoretical distributions – the uniform distribution and the concentration at one unique location of the territory. The concentration is then assessed as a discrepancy between the distribution observed and one of the extreme theoretical distributions.

Links with other concepts
The results of these measures reveal that the concentration of the population tends to noticeably increase – whether at the regional level or at the national and European one. These increasing inequalities can be explained, in the context of competitions between urban centres and globalisation, by the attraction of the main poles for companies attempting to realise agglomeration economies and by the increasing speed of trade, resulting in a loss of accessibility to smaller centres.

Territorial impact
Contrasting systematically the process of concentration and the development of polycentrism would be too simplistic. If certain forms of the concentration of population or wealth result in the reinforcement of a central pole over peripheral centres (monocentrism), other forms indicate, on the contrary, a reinforcement of some peripheral poles and a relative decrease in influence of the central pole, enhancing a structure of polycentric nature.

Development strategies
The above -mentioned processes, closely linked to the current economic, technological and global context, it is unlikely that inequalities in the concentration of population and wealth decreases in the absence of planning policy. The solutions proposed by the SDEC to re-balance the "European core" and the peripheral regions go through the emergence of global economic integration zones and a transport policy aiming at rectifying the discrepancies in accessibility between these regions. However the consequences of this policy at infra-regional scales must be taken into consideration insofar as targeted support to the main poles of peripheral regions entail the risk of enhancing – within these regions – the process of the concentration of population and wealth.

Polarisation
Basic definition
Polarisation corresponds to all the asymmetric relationships linking a centre and its periphery and places the periphery in a position of dependence towards its pole. The territorial polarisations observed are two distinct subsets but not totally independent regarding their territorial organization. The first is linked to influential networks of urban centres structured according to a more or less hierarchical system of populated centres. The second indicates a polarised structure of exchange and influence between local zones of activity undergoing asymmetrical and differentiated relationships picturing the relationships between towns. The pole is a place of attraction and diffusion. It has the function of stimulation on the neighbouring space.

Territorial impact
In a polycentric territorial setting, the specialisations and complementarities of the centres' position them in a situation that enables several of them to exert the functions of poles. Their areas of polarisation can combine or interfere. The processes of polarisation could then enable several poles to dispose of stimulating capacities and favour asymmetric and intermingled structures.

Links with other concepts
The processes of polarisation are fed with pyramidal territorial networks (appearing with the populations' provision of goods and services), which the theory of places has shaped, more arborescent networks of relationships between companies, and networks of creation and innovation stimulating the great centres.
The theory of polarisation has attempted to assess the regional effects of these various complementarities. The polarised or multi-polarised regional space assumes the possibility of geographical, technical and economic interconnections.

Development strategies
The important means that the SDEC enjoys in order to promote a balanced development of the European territory relies on the power and diversity of the processes of polarisation.

"Motor region", "euro corridor", "global city" are many models constructed on the potentialities of polarization.

Spatial diffusion
Basic definition
Diffusion is the action – and the result of the action – that lets an object or a phenomenon within a system disseminate quite homogeneously or is transmitted. Diffusion and innovation are associated when the dissemination deals with something new and liable to invest in the system and therefore to transform it. The more complex the object is, the more the diffusion will be a decisive factor for this transformation due to the increase and/or expansion of the effects resulting from its adoption.

" Spatial diffusion" occurs in spatial systems such as polycentric systems. In these systems, the various centres liable to be either transmitting poles of innovation or relay poles of diffusion are accurately selected. Spatial diffusion covers both propagation processes and the backlashes that it produces in the spatial system.
Beyond the specific propagation channels of each phenomenon or the general ones intervening whatever the phenomenon is, spatial diffusion privileges two main channels: the channel of proximity focusing on nearby diffusion and the channel of the hierarchy of centres. In this case, diffusion tends to follow the downward trend of the hierarchy.

The largest centres are those more liable to instigate propagation, the middle-sized centres being its relay-poles. A polycentric regional context should increase the channels of diffusion insofar as the centres able to play the role of transmitters and relays in the diffusion of an innovation are more numerous, more diversified and better interlinked than in a more strictly monocentric structure.

Links with other concepts
In a polycentric regional system, the centres playing the role of the transmitters of a process of diffusion are similar to poles of development. According to the terminology of the theory of polarization, the relay-poles of this diffusion would be poles of expansion.

Territorial impact
The processes according to which spatial diffusion takes place clearly reveal the degree of integration of the territorial system and its workings on a more or less polycentric mode.

Development strategies
The attention given by the SDEC to "clusters", "polycentric metropolitan regions", "motor regions", is based on the capability of those polycentric structures not only to internally accelerate the diffusion of innovations but also to transfer them to the outside. In these various models, the strong territorial integration underlining these structures is a stake for the acceleration of the diffusion process.

2.1.4.3 Challenges to polycentrism

Spatial integration
Basic definition
The notion of integration defines a process of increasing interaction between the various elements of a territory carried out through increasing flows between these elements. Integration implies a strong capacity for spatial connections and must be understood from both static and dynamic viewpoints. At any given time, the level of integration is estimated in relation to the intensity of the links between the various elements of a territory. For some, a space is really integrated only if these inner links are more important than the outer ones. As a process, it is more the increase of the relationships in time that should be taken into consideration. The improvements in spatial integration can be promoted by spontaneous mechanisms. In this case, they partake in the process of the internationalisation of the exchanges. The networks of cities through which these exchanges are being strengthened and developed constitute the main territorial backing points. Integration can also result from increasing projects of voluntary cooperation. The phasing out of discrepancies due to material and non- material barriers is then made possible through the improvement of transport infrastructures and the adoption of legal and fiscal measures aimed at weakening the influence of inner borders.

Links with other concepts
Integration is tightly linked with the notion of cohesion. Unlike integration – a dynamics increasing interaction between geographical targets **-** cohesion organises these dynamics for the benefit of the entire spatial setting with a concern for equity. The integration process increases the potential for interaction between spaces and can benefit their

interdependence and therefore their cohesion. It can also create situations of dependence and domination enhancing spatial disparities and entailing the marginalisation of some spaces. While all the projects of territorial development are based on the requirement for reinforced integration, the European project is based on the double requirement of integration and cohesion.

Territorial impacts
Two models of spatial organisation can support a process of integration: a centre-periphery model where the centre is the motor of integration and a polycentric model of metropolises' networking when integration is carried out through a system of more balanced supports. When implementing this polycentric model at a European scale, integration would emit from the top and leaning in a privileged manner on interactions between capital cities (political, economical, cultural) – as the "bridgehead" of an inner diffusion of national urban systems. A less hierarchical integration can nevertheless be founded on specialised urban networks or on cross-border regional networks. At last, the projects of cooperation between cities or regions can strengthen one another with these dynamics.

The articulation between integration and polycentric model is not limited to the European scale. One of the main targets of spatial integration in fact dwells in the articulation of the scales: reinforcing interdependencies between already well connected places, rooting new peripheral territories in highly integrated spaces at the European scale and improving the relationships between cities and their region at a local scale.

Contexts and development strategies
Among the processes of European integration, the centre-periphery model appears to be the most "spontaneous". However, is it capable of ensuring the double request linked to the improvement of connexity : linking up places on the one hand, while strengthening the cohesion of a whole territorial setting on the other? It could only reach a target – if not of spatial equity – but at least of territorial harmony by operating a re-distribution from the core to the margins. The polycentric model, which responds to the aim of territorial balance, cannot be implemented without political voluntarism but is often presented as the model best adapted to a total integration of the European territory. But is this request compatible with the quality of the connection of the European space with worldwide networks?

Sustainable development

Basic definition
Sustainable development, according to the Brundtland Report definition (World Commission on Environment and Development, 1987), is a principle of action "that meets the needs of the present without compromising the ability of future generations to meet their own needs". Adopted by the General Assembly of the United Nations at the "Earth Summit" (International Conference of Rio on Environment and Development - 1992), a part of the preamble of the Treaty of Amsterdam (1997), ever present in the reports of the European Union, this concept has been regularly promoted as a major scope of territorial management since the end of the 1980s. It involves the conjunction of three elements: protection of the environment, economic development and social equity through the articulation of several time-scales (short and long term) and space-scales (from global to local). As such, it is partly related to criticisms raised since the end of the 1960s regarding the model of growth, putting more stress on qualitative than on quantitative improvement, but it is distinct from the principles of "eco-development" with its more all-encompassing character and wider dissemination in the global political and scientific spheres.

Links with other concepts
Sustainable development is very often associated with the notions of balance and balanced development. If either of these two expressions are used, balanced development can be more accurately defined as the territorial chapter of the general economic and social principles of sustainable development. It is in this case presented as a compromise between the spontaneous logics of development – which bear inequalities in the spatial dissemination of the economic potential, and more interventionist logics for balance that confront forms of excessive concentrations of populations and urban functions but which – if they were the only ones advocated – could be prejudicial to the dynamics of the economically strongest regions.

Territorial impacts
The appropriateness of a polycentric model of territorial organisation for sustainable development is asserted several times in the final report of the ESDP: at a European level, urban polycentrism could be the model that ensures at best the fair distribution of economic development and the reduction of territorial inequalities. Similarly, a fairer distribution of the flows of populations and merchandise is encouraged in order to relieve the traffic congestion on the central corridors and preserve the environment in the regions crossed by these corridors. At the scale of urban regions, the polycentric model is enhanced for the structuring of urban expansion around secondary poles in order to minimize land use by towns and help the development of public transport in urban peripheries. At each level, moreover, polycentrism would best respond to the prerequisites of sustainable development, granting a more important role to decentralized action.

Development strategies
In the political sphere, sustainable development therefore is a fundamental principle of action supporting territorial balance, whereas in the scientific sphere it is often presented as still a vague concept beset by numerous contradictions. The debate over the success of this concept deals in particular with the contents of these broad principles lacking proper norms: what can the operating scope of such an inclusive concept be? Can it go beyond the status of a label or be seen as anything more than the rhetoric of good intent? And at what time and space scale can these principles be implemented with efficiency? The principle of sustainable development which is regarded by some as basically contradictory and therefore useless is regarded by others as a principle enhancing those contradictions and promoting a debate: how can the economic efficiency of a connection to worldwide networks be ensured from and by the large metropolis' and at the same time encourage economic decentralization? At the scale of urban regions, how can we solve the contradiction between the will to minimize urban expansion for the purpose of the environmental preservation of cities and the will to promote social equity, often frustrated by measures of urban densification?

2.1.4.4 Contexts of polycentrism

Centre-periphery
Basic definition
The centre is a space distinct from the periphery by its concentration and the complexity of its various functions, which grant to it the direct or indirect power of attraction and domination among persons and entities. Traditionally, the centres benefit from better accessibility, which enhances their relative attractiveness. Centres are required for the maximisation of the proximities they can provide. The passage from centre to periphery undergoes a gradient of decreases in concentration, diversity and in the complexity of functions. This gradient generally also undergoes decrease in densities of land use and ground rent.

Territorial impact

Centre-periphery structures can be observed at various levels of the territory.

- At the local level of the towns and their rural surroundings. The main and secondary centres and their surrounding peripheries can be observed in every town, even in every part of a town, labour market areas or within large urban areas.
- Regional level: most often, a region is structured around one or more powerful centres, which all have peripheries.
- National level: a centre-periphery structure can determine the strength of the links between the various parts of a wider territory.
- European level: the first dimension of interregional differentiation dwells in the centre-periphery contrast that corresponds to a gap in wealth between the "central" region, a wide urban region called either north-western axis, "pentagon" or "golden triangle", and the peripheral regions. The designation of peripheral and ultra-peripheral regions appears with the territorial categories selected by the European Union for the allocation of the structural funds.

The contexts of the territorial integration of centres generally hold an intermediate position between two extremities. These extremities are, on the one hand, monocentrism with a strictly binary structure, and polycentrism on the other. In a polycentric territorial structure, the global dominating structure is never the one with centre-periphery asymmetries.

Links with other concepts

The processes of agglomeration linked with the research of positive externalities and accumulation tend to create a discrepancy between centre spaces and their neighbourhoods.

The differences that characterise a centre and constitute its centrality are of the nature of differentials of concentrated masses, degrees of complexity of the functions associated, potentials of attraction and related symbolic powers. In the long term, the strength of the centres is closely linked with the accumulated centralities a space is meant to exercise: economic, politico-administrative, commercial, cultural, etc.

Development strategies

The centre-periphery structures bear intra-urban and interregional, disparities.

Territorial policies have to reduce spatial imbalance due to the attraction and diffusion processes underlining it. These policies must also remedy the social effects that this imbalance could initiate in the field of territorial equity.

Cross-border

Basic definition

While the term border defines a neighbouring situation or position, the prefix "cross" – through / across – means a passage or a change. The word cross-border qualifies spaces or relationships of various natures, material links or non -material flows, crossing or encroaching upon a political boundary and linking two neighbouring spatial entities. Since the term implies spatial proximity, the number of spaces concerned is limited to those that have a common border (partners are therefore two or three nationalities at most).

Links with other concepts

The concept of cross-border is tightly linked to the concept of integration because it assumes a process of linkage of two spaces and of bringing them closer together. Cross-border integration therefore indicates the increasing interdependence, at an average scale, of two spaces, contiguous but separated by a political boundary. But Integration constitutes the ultimate step of cross-border relationships, which can often be limited to a mere cooperation. Integration and cross-border cooperation are stimulated by complementary relationships but also by differences on either side of the border: so

cross-border relationships are asymmetrical in most cases and can entail the domination of one space on the other. Besides, comparing the terms cross-border and transnational, it appears that while cross-border indicates relationships between contiguous spaces separated by a political boundary, transnational does not indicate this contiguity between the spaces or national partners brought together.

Territorial impact
The networks of cross-border cities joining spaces – often peripheral or marginalised in national spaces – can bypass the national bridgeheads and, like all the specialised networks, participate in the promotion of a polycentric logic, less hierarchical at a regional scale. They can also favour the articulation between regional and local scales through the constitution of (or proximity) networks. The notion of cross-border therefore *a priori* indicates polycentrism at a regional scale, based on the logic of spatial contiguity.

Contexts and development strategies
The existence and intensity of non -tangible cross-border flows (cross-border commuters, residential migrations, settlements of companies, etc.) depends upon the degree of openness of a boundary, but are also generated by the differences between neighbouring spaces. Material links need, on the contrary, a harmonisation and a homogenisation of the conditions existing on either side of the border (for example the size of land communication routes). Does the cross-border integration made possible through these relationships imply homogenisation or the maintenance of disparities between these neighbouring areas?

2.1.4.5 Ideal spatial configurations

Gateway city
Basic definition
For a given space, gateway-cities are poles in a system of relationships of which the distinctive feature is that all flows pass through them.
Attracting flows of all kinds – material or informational – from abroad, these gateway-cities also re-disseminate flows on the continent, as well as disseminating new flows themselves, these new flows being secreted by the development of the passage. This "gate"-like function is in favour of both the development of interface activities, which, in a highly competitive environment, must challenge a greater free flow, and the development of activities enhancing those flows.

Links with other concepts
The gateway-cities enjoy among the most favourable situations for the formation of poles of development. It is assumed that as regards the expansion of such poles, the diversification and the increasing complexity of their functions have everything to gain from the reinforcement of this inter- and intra-continental polarisation.

Territorial impact
Harbour-cities or some border cities have, more often than not, been the great gateways of national and continental territories. Following the development of air transport and the fast and massive flow of non-material commodities on the new networks, the models of gateway-cities have diversified and now new continentally based locations can fulfil this traditional role.
These indisputable advantages for the development of a greater territorial polycentrism are not definitely secured. With the improvement of the speed of circulation, the extension of the distances of commerce, the gradual elimination of national borders, these gateway functions have become extremely competitive. The towns concerned – or liable to become concerned – must attempt to diversify these functions and gain other activities that, in a very unstable context, can position them in a favourable competitive situation. These particularly demanding conditions appear to be more in favour of the

development of large metropolises, which themselves enjoy a relatively more advantageous position.

Development strategies
The attention given by the SDEC to the European "gateway-cities" is related to their potential development. In a polycentric territorial system, the Hubs, multi-modal platforms are many assets inevitably associated with the development of real gateway-cities.
However, they (the hubs and multi-modal platforms) do not guarantee the development of gateway-cities. This development requests that the advantages offered by the new gateway-cities be enhanced further than those strictly resulting from well-organised transport infrastructures.

Global city

Basic definition
The term "global city" has been suggested to designate what would be the latest form of world centrality in the context of globalisation (at the top, Tokyo, London, Paris, Sao Paulo, Hong Kong, Frankfurt, Singapore, Toronto, etc.) The concentration of direct foreign investments appears to be a sign of these new levels of networking. As the economies of urban areas are totally active for these nerve centres within a worldwide network, the activities, which are highly integrating innovations due to the pilot-role they have to play in the world economy – a permanent adaptation of the territories to globalisation, sometimes the necessity to sooth its brutal effects – tends to settle in these very large centres. These centres become very attractive for activities weakened by this new context and, in the new expansion of intra-metropolitan environments, looking for the means to deal with these new tensions. Today, global cities appear to be one of the best territorial forms of globalisation.

Territorial impact
The tight and powerful web between these global poles, at this global scale, display polycentric space. It evokes the archipelago in the sense that each of its elements makes sense only through the relationships structuring the whole web.
Questions remain over the manner in which these "global cities" still enjoy a polarization role in the territorial continuity or if they can polarize the world without their surrounding territories.

2.2 WP2: THE APPLICATION OF POLYCENTRISM IN EUROPE

2.2.1 Introduction: Objectives and Approach

Since the first Interim Report considerable progress has been made as regards Work Package 2. This Work Package concerns the application of the concept of polycentrism in policies. Interest here is particularly directed at (1) the diversity and/or homogeneity between the various ways the concept of polycentric development is being applied in policies in the EU-27+2 and (2) the different levels of scale at which it is being applied. The background to this study is the European territorial cohesion debate, which addresses the possibility of pursuing a polycentric development strategy at the EU level of scale.

The main objective of this study is firstly to provide an overview of polycentric policies in all EU 27+2 countries. Secondly, based on this overview, this study attempts to filter out the 'basic polycentric policy approaches'. Similar to the EU Spatial Planning Compendium (CEC 1997) that distinguishes between four spatial planning approaches[7] throughout the EU-15, this study has the ambitious objective of attempting to name the different families[8] of polycentric development policy approaches. As of yet, it is still too early at this stage to introduce possible definitions, however, in what follows a first indication of the qualitative indicators that will be used to distinguish between the various approaches is forwarded.

Although this Work Package is fairly independent in the ESPON 1.1.1 project relationships can be drawn to Work Packages 1 and 6. We hope to describe the policy interpretations of polycentrism in terms of the results of Work Package 1, which focuses on the theoretical interpretations of polycentrism. In so doing an attempt will be made to draw conclusions, not least with the European Territorial Cohesion debate in mind, while also contributing to Work Package 6.

As regards the overview of polycentric policies it should be noted that there are a number of influential circumstances that may affect policy interpretations of polycentric development. Note should however be made of the wide variety of administrations and of spatial planning systems in Europe. 'Spatial planning' as such is defined very differently throughout Europe as the EU Compendium shows (see also Annex 3 listing a selection of the relevant literature on spatial planning in Europe). Another influential factor may be the territorial organisation of a country. Presumably, the morphological setting in terms of urban structure will shape the policy makers' perception of problems. As a consequence polycentric development strategies will differ also, if not in terms of conceptualisation, than at least in terms of the instruments and means attached to them. A study such as this cannot neglect these contextual differences and will, albeit briefly, address them and their influence in the overall conclusions.

It should also be noted that the overview will not apportion attention equally to each and every single country that this project addresses. Due to time constraints and varying 'information density' per country (on which we will comment further below; see also Annex 3) it is simply not possible to present for each country equally detailed and well-informed chapters. As a consequence most country chapters, which will be about 2 or 3 pages each in length, will address the polycentric policies at a fairly general level only.

[7] These are: the regional economic planning approach, the comprehensive integrated planning approach, the land-use management approach and the urbanism approach.
[8] It is of course possible that in essence there may be no significant differences in these approaches, and that they all belong to the same family, only differing in terms of maturity.

Moreover, after some internal reflection on the part of the project team it was decide that it might be more valuable to do in-depth analyses of a small number of cases resulting in more elaborate chapters. Appropriate cases would be Germany, France and The Netherlands, which can be judged as the laboratories of polycentric development policies. The reasons for this are, amongst others, that these countries have long traditions in pursuing polycentric development, which provides the opportunity to describe the policy evolution and the debates behind them. Notwithstanding this however it should be remembered that the contexts in which these countries operate differ in terms of administrative organisation, territorial structure and spatial planning systems. Consequently, the approaches differ to a great extent and because of their maturity it is estimated that they can be considered as archetypes[9]. There is also a practical reason why these cases were selected relating to the, already mentioned, availability of information and knowledge.

As has become implicitly clear, in the first instance, our focus is directed at the national level. If there is no national polycentric policy to be found, then we move down to the sub-national or regional level. Moreover, to provide a fuller international perspective, we will address in brief the application of polycentric development in various transnational planning documents such as Vision Planet, the NWMA Spatial Vision and of course the ESDP and the CEMAT Guidelines.

The most important results thus far are a draft version of the introduction chapter of the WP2 Report and, based on that chapter, the development and dissemination (by mid-January 2003) of a questionnaire among the project partners. At the moment approximately fifty percent of the questionnaires have been completed by either the project partners, or by the national experts, who have been consulted for this purpose. As has become clear from the above, it is still too early to do a complete analysis of the questionnaires. At first glance, however, and although varying in depth and detail, the questionnaires look promising in a sense that they give a reasonable idea of the application of polycentrism in the member states.

Complementary to the questionnaires we will also undertake a policy analysis for all 27 countries based on policy documents, as well as the primary and secondary literature. Again, we are looking in first instance for policies at the national level, and then preferably to spatial planning policies or if they do not exist, to policies with spatial impact.

The final report is expected to be ready in August 2003. Its main findings will be disseminated in a number of ways, among others through a paper presentation at the EURA Congress in Budapest 28-30 August 2003[10]. In what follows we will discuss the progress already made and the main results collated thus far.

2.2.2 The Framework for Analysis

The introduction chapter of the WP2 Report, which is now ready in draft form, is entitled: 'The Diversity of Polycentrism: A Framework for Analysis'. This title is inspired by the hypothesis, as stated in the first Interim Report with regard to WP 2, that

[9] Recently introduced polycentric policies (inspired among others by the ESDP) may develop into new archetypes that are worth exploring. In addition, there may be well -established practices that we are not aware of that could also qualify as archetypal.
[10] An abstract (see: annex 1), which gives a good indication of the expected results of this study, has been submitted. Approval on the 15th of April by the conference organisation.

"…the polycentricity concept cannot, and should not, be elaborated in a uniform way, but will (have to) differ according to territorial circumstances (such as geographical location, the characteristics of the urban system etc) and policy goals."

2.2.2.1 The context of research: the European territorial cohesion debate

In order to find out about these expected differences this chapter was written and a questionnaire was extracted from it. The relevance of this research must be seen in the context of the ongoing territorial cohesion debate, which is largely inspired by the 'European Spatial Development Perspective' (ESDP). The ESDP has taken polycentric development as its key concept. It forms the bridging concept between the three objectives, the spatial development guidelines and the 60 policy options that the ESDP identifies. After the ESDP was approved in May 1999 the European Commission published the 'Second Cohesion Report' in 2001 that, inspired by the ideas of the ESDP, introduced the concept of territorial cohesion. Territorial cohesion was not new however, it had already made it into the EC-Treaty of Amsterdam, where it is mentioned in Art. 16 on Services of General Interest[11].

At the same time a new 'expert committee' was set up by DG Regio, this was the SUD (Spatial and Urban Development working group). It was attached to the CDCR (Committee for Development and Conversion of the Regions), which was also new, a monitoring committee for the structural funds. Formally the SUD advises the CDCR. In general, the officials who had been involved in drawing the ESDP now took a seat in the SUD[12]. At present, the SUD is attempting to operationalise the concept of territorial cohesion, and to this end it utilises, among others, the concept of polycentric development.

In the meantime moreover organisations such as the European Parliament[13] and the Committee of the Regions[14] have themselves spoken of territorial cohesion and the need for a more territorial approach in EU policy. Both organisations also stress the need of a polycentric European development.

In sum, what is happening at the moment is that a polycentric discourse is gaining ground amongst some of the important decision -making and advising actors in the EU. Designing an EU polycentric development policy, however, should, in order to become effective, take into account the various approaches throughout Europe by Member States and regions and see how to complement them and to create synergies.

2.2.2.2 The Framework for analysis

In order to generate comparable analyses of member states' polycentric policies in the first instance a general framework for analysis was developed. It is based on the notions of policy theory and distinguishes between the three components that build a policy: (1) the rationale behind a policy, (2) policy in practice and (3) context and history (See Table 3).

[11] For more information, see: Husson 2002 and Faludi (forthcoming).
[12] For an account of the making of the ESDP see: Faludi & Waterhout 2002. The Making of the European Spatial Development Perspective; No Masterplan! London, New York: Routledge.
[13] Rapporteur: Elisabeth Schroedter, Committee on Regional Policy, Transport and Tourism: Report on the first progress report from the Commission on economic and social cohesion. EP report (COM(2002) 46 – C5-0198/2002 – 2002/2094(COS)). PE 314.720
[14] CoR Studies E-6/2002, October 2002. 'Territorial Cohesion in Europe' (Draft Final Report)

Table 3: Policy elements and components

Rationales	Policy in Practice	Context and history
• Perceived present situation • Desired situation (overall objective) • Perceived problems • Strategy	• Instruments and means • Actors involved (co-operation) • Main political level of execution • Relation with higher / lower political levels • Related supporting policies / strategic alliances • Conflicting policies / opponents • Monitoring (Data?) / evaluation (strengths and weaknesses) • Possible (additional) solutions / instruments	• Historical context • Legitimacy / Legal framework / competency • Institutional / organisational / political embodiment (weak or strong?) • Language (terminology, concepts, visualisation)

As table 3 explains, the notion of rationale relates to the present situation as it is currently perceived, the desired situation and perceived problems and strategy to reach that desired situation. This category is important because it basically illustrates how polycentrism is being conceptualised and understood as a strategy. Diverse outcomes at the level of rationales point to different conceptions throughout Europe of the objectives of polycentric development. The second component, namely, 'policy in practice' is primarily about the instruments and means attached to the policy and how, and by whom, they are put to work. Differences in this category must of course be judged in relation to the first and third policy component. In general, different approaches might give valuable information and provide inspiration for designing a complementary EU polycentric development approach[15]. The third component, 'Context and History' should provide insight into the legal, historical and organisational contexts in which policies are pursued. Moreover, if detailed information can be provided about the use of specific terminologies, concepts and visualisations (i.e. whether a policy language has been developed) this should generate ideas about the extent to which polycentric policies are rooted in the respective 'belief systems' of actors in a country. Depending on the institutionalisation of a policy, terms and concepts may have different meanings to different people. If this is the case in Europe, it does not necessarily mean that different interpretations have to be brought into line with each other. They should however be appreciated and become understandable for others too.

Clearly, the policy components and elements listed in table 3 represent a sort of 'maximum' model. They will act as guidelines along which the country chapters will be structured. In fact, the chapters will be structured in the following order: context and history, rationales, and lastly policy in practice. In describing these topics it should be noted that not each and every single policy element, as listed in table 3, will be addressed, though they will be kept in mind.

[15] Some EU-policies do not interact very well with national/regional policies and the substantive priorities that have been formulated by the respective authorities. As a consequence the legitimacy of EU-policies can become the subject of some debate.

2.2.3 The policy definition of polycentric development

This research wants to review the application of 'polycentrism' in all its diversity. All policies that in one way or the other show elements, even remotely, of a polycentric approach are worth review (which does not mean that we are going to review all policies). However, in order to select appropriate policies we need to better understand what polycentrism means as a policy concept[16]. For this we have developed a working definition of polycentric policies indicating the basic elements of the concept. In our working definition polycentrism as a policy concept comes down to a policy that:

1. at the same time;
2. and at a certain level of scale;
3. with the use of policy means and instruments;
4. focuses on the development of at least two social-economic centres;
5. which are predominantly urbanised areas;
6. with functional and/or conceptual relationships between them;
7. in order to solve perceived problems.

In the need to become a little more specific as regards our working definition and the thoughts behind it, we note that polycentrism means, as indicated by the adverbial 'poly', (meaning more or much), and, thus that it can be contrasted with mono-centricity, (having to do with more than one 'centre'). Since we are working in the context of the territorial governance process, we interpret the word centre in terms of territorial structures. This means that we speak of 'centre' when a geographical place or location plays a certain 'central' function in social-economic life. Thus, being a centre has to do with the social-economic function of a place. Social-economic functions can be cultural, economic, educational, leisurely, political and so forth. In a polycentric area social-economic functions are spread out over the territory resulting in more than one centre. Polycentric policies aim at creating or sustaining a polycentric organised territory.

In this study we connote with urban areas. From a certain level of scale it is difficult to conceive of centres that are not linked or located in urban areas. At a local scale a conference centre somewhere in the woods at 5 kilometres distance from the nearest city may be considered to be independent and adding to the polycentric character of the local area. A view from one or two levels higher, let us say, from the regional level, will regard that same conference centre as part of the city and thus of the urban area. What this tells us is that in terms of urban agglomeration and higher levels very few specialised functions will be seen as being independent centres in the polycentric system. Therefore, in this study, which primarily focuses on the (sub)national level, polycentrism is primarily, not to say exclusively, considered to be a matter of urbanised areas, meaning towns, cities, metropolises and polycentric regions. This means that this study will only consider policies that relate polycentrism to the development of urbanised areas.

The level of scale plays an important role in this study and thus in our working definition of polycentric policies. Depending on the level of scale, an area can be judged mono-centric or polycentric. For instance, if we take for example the city of Amsterdam we will see that at a local and city regional scale the city can be considered polycentric. This has not always been so. Until the 1970s planning policies in The Netherlands followed the principle of 'city-forming', which concentrated on the development of the old historic city centres. During the seventies, when it became clear that there was literally and politically speaking, not enough room in the city centres to locate new firms and modes of transport, a new polycentric strategy was developed, which in Amsterdam has led to

[16] We do not intend to analyse the theoretical meaning of the concept. This is subject to Work Package 1.

centre developments in the South-East, the West and around the South Axis, all being locations with good car and public transport accessibility. At a regional and national scale however, the city will be considered mono-centric, respectively forming a node of the Randstad and the national polycentric system. At a transnational and continental scale the city is still recognised, as economic geography studies every now and then point out[17]. From a spatial planning point of view however, it is mostly the polycentric region Randstad as a whole that is considered, and not so much the nodes, including Amsterdam, of which it is constructed. The criterion for an urbanised area being regarded mono- or polycentric, relate to whether the social-economic functions of its centres are significant for the level of scale considered. In terms of judging a policy polycentric or otherwise, the notion of scale is perhaps less important. After all, a policy pursuing polycentrism at a local scale is just as polycentric as a policy pursuing polycentrism at for instance a transnational scale. However, as we are operating in a European policy making context it is important to differentiate between policies addressing different levels of scale. Obviously, their significance for designing a European territorial cohesion policy aiming at polycentric development will differ.

The background to a polycentric policy is always formed by a notion of some kind of a relationship between urbanised areas. These relationships can be either functional or conceptual, or both. In cases where functional relationships form the background, the policy will address its empirical necessity. When a conceptual relationship forms the background for a polycentric policy, this is mostly put forward through maps and visualisations that sketch a system or pattern of interrelated or connected urbanised areas. While in these cases there do not necessarily have to be functional relationships, it is the spatial vision or conceptualisation of an area that creates the, somewhat artificial, relationship. The functional and/or conceptual relationships that underlie a policy will influence the general strategy.

This strategy has to do with the overall problems that a policy has formulated. These 'problems' do not necessarily have to be formulated in a negative way but can also take the shape of opportunities. In fact they form the conceptualisation of reality behind the polycentric approach. In the European debate[18] Europe is considered as a centre and periphery, which creates a certain social-economic imbalance and at the same time makes the EU vulnerable in terms of global competitiveness, so the polycentric strategy addresses the creation of a more balanced European territory on the one hand and increased competitiveness on the other. As such then, a policy may address more than just one problem at the same time.

Again, this definition is very broad, it does however provide a certain foothold. Based on this research we intend to make it more clear -cut. And, as announced, if the results do not give us the ability to formulate one definition, we may end up with several policy definitions of polycentrism, each of which applies to a number of countries.[19]

2.2.4 The Questionnaire and other Sources

Based on the framework above, we formulated a questionnaire (see: Annex 2), which has been disseminated among the partners of this project. Table 4 shows how many of the questionnaires have been received at the current time of writing (14th March 2003).

[17] Amsterdam is mostly labelled as a sort of second level global city.
[18] See for instance: the ESDP and the Second Cohesion Report and from a more analytical perspective Davoudi (forthcoming) and Waterhout (2002).
[19] As already mentioned we see here relationships with Work Packages 1 and 6.

Table 4: Received questionnaires

Member State	Received number of questionnaires
1. Austria	2
2. Belgium	2
3. Denmark	1
4. Finland	1
5. France	Expected
6. Germany	1
7. Greece	2
8. Ireland	1
9. Italy	2
10. Luxembourg	1
11. The Netherlands	1
12. Portugal	?
13. Spain	?
14. Sweden	Expected
15. UK	2

Country (A. + O.)	Received number of questionnaires
16. Bulgaria	1
17. Cyprus	?
18. Czech Republic	Cancelled
19. Estonia	Expected
20. Hungary	1
21. Latvia	Expected
22. Lithuania	Expected
23. Malta	?
24. Norway	Expected
25. Poland	Expected
26. Romania	0,5
27. Slovakia	Cancelled
28. Slovenia	1
29. Switzerland	1

It has already become clear that we cannot expect to receive filled out questionnaires covering the Czech Republic and Slovakia. For unknown reasons the Czech and Slovakian experts who were addressed by our project team could not respond, or simply stated that there is no polycentric policy pursued in these countries anyway. Of course, this is an outcome too. With the help of the secondary literature we will try to come to a better understanding of the background to this.

As regards the received questionnaires we should note that their usefulness varies. Some of the completed questionnaires closely follow the questions and give a very detailed and informative overview of the policy under consideration, whereas other completed questionnaires follow their own interpretation of the questions and on occasion hardly give any useful information at all. In the latter cases we must then try to utilise the secondary literature available in order to present an adequate impression of the approach in the respective countries and regions. Due to limited time and in some cases to questions relating to the difficulty of access to information, we must, in anticipation on the final report, note that the country chapters will differ as regards detail and usefulness. With regard to sources other than

the questionnaires, we have made an inventory per country of relevant policy documents and of the secondary literature in hand (see: Annex 3).

What can be concluded then is that we are confronted with two challenges. Firstly due to the 'language problem', accessibility to policy documentation varies per country. As we depend on English, German and French documentation we run into difficulties if countries have no translations (into one of these languages) of their policy (summary) documents or an academic writing circle that publishes internationally. A second challenge is the varying documentation density per country in a sense that much has been written about most of the Northwest European Member States, but significantly less on the other countries including some South European and candidate countries. These two circumstances lead to a significant variety in information density per country, which is reflected by the inventory (Annex 3) and will thus be reflected in the final report.

In the first instance there is a striking difference between information access between the EU-15 and the candidate countries. Of the latter we have, until now, only found information, which has been generated in Interreg IIC projects such as Vision Planet and ESTIA. Part of the Vision Planet project was to develop a compendium of regional and spatial planning practices in the participating countries. Although valuable, we hope to uncover more in the way of policy evaluating literature for these countries. Notwithstanding this however, note should be made of the fact that significant variation also exists between the current EU-15 in terms of information density. [20]

2.2.5 Two Examples of the Application of Polycentrism

To give an idea of the results so far (and the future contents of the report) we give, based mainly on the questionnaire and not on any additional material, two examples of the application of polycentric development. The first example addresses national spatial planning policy in The Netherlands. The second addresses a case in the UK at the regional level: the draft Regional Planning Guidance for the North West. In each case it concerns 'policy in the making', which has not been approved thus far. It should be noted that the following cases have not yet been deeply analysed and therefore will at this stage perhaps make a somewhat incoherent impression. As such they remain to be adapted to the final format.

2.2.5.1 National Spatial Planning Policy in The Netherlands

Since the National Spatial Planning Policy is momentarily under revision, this example addresses the transition from current to future policy. In more concrete terms this concerns the transition of the Fourth National Spatial Planning Report (Extra) (Vino/Vinex) of 19991/1993[21], to the Fifth National Spatial Planning Report of presumably 2003.

The Vino/Vinex policies were an explicit reaction and rejection of the previous first to third spatial planning reports. The Vino/Vinex marks the end of a period from the 1960s to the mid 1980s of the decentralisation of jobs and population. The Vinex does not explicitly strive for a redistribution of the population across the country (like previous spatial planning policies did).

[20] A key issue for an eventual ESDP+ is to stimulate further discussion and development knowledge on spatial planning in general and polycentric development in particular at a European, national and regional level.
[21] The Fourth National Spatial Planning Report (Vino) was approved in 1991, but due to the installation of a new national cabinet soon superseded by the Fourth National Spatial Planning Report Extra (Vinex), which was approved in 1993. In fact the Vinex can be considered as an amendment and operationalisation of the Vino in terms of what principles should be taken into account for the organisation of new building sites and locations. In terms of national spatial strategy the Vinex follows the same strategy as Vino. Hence, we speak about Vino/Vinex when we address the national spatial planning strategy.

The policy starts from the notion that it should supply the demands of a region in terms of housing, jobs and services. (Note that Dutch spatial planning co-ordinates other sectoral policies such as transport, housing, economic development, agriculture as far as their spatial impacts are concerned)

Instead of decentralisation the Vino/Vinex reports introduced the idea of a 'national spatial main structure'. As regards spatial economic aspects of this main structure the carriers were:

- The Randstad
- The City Ring Central Netherlands
- Urban Nodes (in Dutch: *Stedelijke Knooppunten*)

Both reports, the Vino/Vinex as well as the Fifth Planning Report, take the same motto, which is: 'Regions under their own Steam'. The main idea is to keep the strong points strong and to re-inforce them while letting all regions use their own endogenous potential. For all policy choices that have been made this motto was the guiding principle. It forms a reaction to the economic recession of the 1980s, when the Dutch came to realise that the well- being of the country depended upon the well-being of its core areas and urbanised regions. Since the 1980s (international) competitiveness has become the buzzword and it was considered to be the task of, among others, spatial planners to contribute to that objective. It is interesting to note, that the introduction of the Urban Network concept at the European level during the Dutch Presidency in 1991 in The Hague, was directly linked to this discourse.[22]

In more concrete terms nine key principles were listed. Three of them are especially relevant to polycentrism, the first, relating to polycentrism at the national level connected to the spatial main structure, while the latter two relate to polycentrism at the city regional level, which will be discussed later:

(1) Use the endogenous potential of the regions;
(2) Clustering of housing, non-agricultural activities and services in 33 appointed and demarcated 'city regions' (in Dutch: *stadsgewesten*) as well as in rural areas (this expresses the main Dutch planning principle of keeping a strict divide between built up areas and open land).
(3) Spatial development should allow daily functional relationships such as living, working, recreation and care at the level of the 'city region'.

Financial support would be given according to four priorities, of which the first is relevant to polycentric development:

Promoting national competitiveness

- Promoting the international competitiveness of the Randstad (Amsterdam, Rotterdam, The Hague and Utrecht)
- Strengthen the position of the thirteen appointed Urban Nodes (*Stedelijke Knooppunten*)
- Strengthen the position of the main ports (gateways) i.e. the Ports of Rotterdam and Amsterdam, and Schiphol airport

As regards the thirteen 'Key cities' to be enforced, a sub-division was made according to the following policy categories:

- (inter)national: Amsterdam, Rotterdam, The Hague, Utrecht, Eindhoven, Groningen, Arnhem/Nijmegen
- euroregional: Enschede/Hengelo, Maastricht/Heerlen
- regional: Leeuwarden, Breda, Tilburg and Zwolle

Together, these thirteen cities and the corridors connecting them, which are more or less evenly distributed over the country, with clear gravity in the Western part of the Netherlands, form the so-called 'spatial-economic main structure' of the country. The policy is very much directed to keeping this 'main structure' in good shape and allocates budgets to that end.

[22] See for more information: Zonneveld 2000; Faludi & Waterhout 2002

Of course, an exercise such as this, to appoint Urban Nodes with the intention of concentrating national support led to much discussion. Two discussions in particular were crucial.
The first, best characterised as 'bottom-up' in nature was led by the provinces and larger cities. Initially, the Spatial Planning Agency had appointed only nine Urban Nodes, however, after lobbying and much political pressure eventually thirteen nodes were appointed. The other debate was triggered by the Ministry of Economic Affairs, which holds a different opinion to that of the Spatial Planning Agency on spatial planning strategy. In their view the national government should not try to prescribe where firms and economic development should be located, but only follow the market tendencies. So funds should not be allocated to previously selected locations. In the end, however, Economic Affairs did create a financial support mechanism that was exclusively directed at the Urban Nodes. This was judged by spatial planners to be one of the most successful examples of application of the Vino/Vinex.[23]

Further emphasis was put on what was termed the 'Central City Ring', which comprised of the Randstad and widened out in the directions Arnhem/Nijmegen and Breda – Tilburg – Eindhoven. This was a reaction to the recognition that the Randstad gradually expanded and that the latter cities more or less took part in this urban system, the Central City ring being regarded as the national economic core area. In this area emphasis is placed on full utilisation of its national and international potential, to improve the (international) accessibility of the port of Rotterdam and Amsterdam airport through developing high quality transport axes to Germany and Belgium and to enforce coherence between the cities on the ring.

Within the Central City Ring additional emphasis was put on the Randstad, being the only international competitive region in The Netherlands. Amsterdam, Rotterdam and The Hague are considered to be internationally significant cities, whereas Utrecht, the fourth Randstad-city, is considered to be of national importance. A crucial part of the Vino/Vinex was that the Randstad cities could qualify for extra support if they developed a joint strategy. So, here the governance dimension of policy was addressed. It turned out to be impossible however for the Randstad cities to agree upon a joint location strategy.

In the end, both the Randstad governance approach and the Urban Nodes approach of the Vino/Vinex are considered to have failed. The city region approach, however, has been quite successful in locating most of the new building sites within the boundaries of the 33 appointed city regions.

The Fifth Planning Report, now, in general takes a similar approach to that of Vino/Vinex. It also takes the 'national spatial main structure' as its point of reference. One difference, though it does not constitute a totally new policy direction, is that the spatial relationships in the Dutch territory are now viewed in their international context. The 'spatial planning vision' has been worked out in six development perspectives: (1) The Netherlands as a European region; (2) urban and rural; (3) Urban Networks; (4) Water; (5) North Sea and (6) Deltametropolis.

Most important in terms of polycentrism are the development perspectives 'Netherlands as a European region', 'Urban networks' and 'Deltametropolis'. They will be worked out in greater detail below. We start with the Urban Networks because they form the new foundation for national spatial planning policy and end with a special urban network the Deltametropolis.

From 'Urban Nodes' to 'Urban Networks'
The thirteen Urban Nodes of the Vino/Vinex have been replaced by the new concept of Urban Networks. This concept considers cities to function in relation to neighbouring cities in relative vicinity. So, an urban network is made up of a number of former 'stadsgewesten' and in some cases of some Urban Nodes. In terms of the ESPON 1.1.1 project this can mean either a Functional Urban Agglomeration or a Polycentric Region, or both, in the case that the functional urban regions are comprised of more than two Urban Agglomerations.

[23] See: Korthals Altes 1995

Six 'National Urban Networks' have been appointed:

1. **Groningen – Assen**
2. **Twente**: Enschede, Hengelo and Almelo in international co-ordination with the German cities Gronau, Osnabrück and Münster.
3. **Arnhem – Nijmegen**: Arnhem and Nijmegen in international co-ordination with the German cities Emmerich and Kleve.
4. **Deltametropolis**: Amsterdam, Rotterdam, The Hague, Utrecht, Almere, Amersfoort, Delft, Dordrecht, Haarlem, Hilversum, Hoofddorp, Leiden, Zaanstad en Zoetermeer.
5. **Brabantstad (Brabantcity**): Eindhoven, Tilburg, Breda, 's Hertogenbosch (Den Bosch) and Helmond.
6. **Maastricht – Heerlen**: Maastricht, Heerlen, Sittard, Geleen (as part of the cross-border urban network MHAL: Maastricht/Heerlen – Hasselt/Genk – Aachen – Luik)

In addition, eleven 'regional urban networks' have been identified at the recommendation of the provinces. In general, with the exception of Leeuwarden, the thirteen appointed 'Urban Nodes' of the Vino/Vinex are now part of the larger national urban networks.

The urban networks, whether regional or national, take the shape of a number of well - connected larger (but compact) and smaller cities, divided by open area. Urban networks differentiate from each other in terms of size and composition. Clearly, the Fifth planning Report focuses on urban networks as the most appropriate level to guarantee or pursue the best quality of life for its inhabitants in terms of living, employment, accessibility to services and recreation. Each urban network should supply a complete range of living environments and services that contribute to the well –being, in the broadest sense, of its inhabitants. The cities within an urban network should complement and enforce each other because together they are stronger. A thorough, and in principle voluntary, attempt at co-operation between the different city administrations and municipalities, as well as the provinces and other public organisations should be established. The agreements, however, should in the end not be without obligation. Presumably, funds will be granted not to independent cities but only to the Urban Network as a whole.

Within each urban network the municipalities have to agree on a long-term development strategy, with a co-ordinating role for the provinces and in the case of the Deltametropolis, for the state. For the allocation of the national budget long-term development strategies will be taken as a guide. All new urbanisation will be concentrated in the appointed urban networks.

The development of centres is considered crucial in urban networks. This will, according to the planning report, increase the so-called urban *milieu* and concentrate most important functions, which, due to sufficient critical mass will add to the vitality of the urban network.

The Netherlands as a European region

Two main objectives are identified: (1) to sustain specific spatial qualities of international importance and (2) to reinforce Dutch international competitiveness. The latter objective in particular displays a polycentric notion. The government wants to contribute to the facilitation of good connections between the national urban networks, including the various individual cities based on which those networks consist, and the Trans European Network and the international digital/internet networks. This involves the need to better connect the Dutch main infrastructure network to the TENs. It is thought that this will contribute to Dutch international competitiveness. Special emphasis is put on the connections between the international urban networks Deltametropolis, the Flemish Diamond, the Walloon cities and Rhein-Ruhr. In addition, the position of the two gateways Amsterdam Schiphol Airport and the Port of Rotterdam will receive extra attention. The government considers further growth important and will try to accommodate the development of these gateways in sustainable, environmental and risk reducing ways.

From Randstad to Deltametropolis
Deltametropolis is a new name for a combination of the Randstad and the Green Heart. Apart from that it should be emphasised that the change to Deltametropolis has much to do with questions of governance. Disappointed by the failed co-operation in the Randstad, the new name Deltametropolis marks a new start with regard to further attempts at co-operation between the former Randstad partners, including public as well as private actors.
The special status that comes with being 'internationally important' makes the Deltametropolis a different type urban network than the other five. In practice this difference is translated into a higher budget allocation. The most eye-catching proposal (which has already been around in one form or another since the mid-1990s) is to develop a so-called 'Deltametro'. A fast and frequent train connection between the main centres of the Deltametropolis, this also been termed the 'Rondje Randstad'.

To conclude, we can say that at the national level a consistent policy is being pursued in terms of polycentrism. The main ideas of the Vino/Vinex and the Fifth Planning Report are to stimulate growth in different parts of the country, based on endogenous potentials and with an emphasis on the western part of the country. This policy should lead to a certain territorial balance and increased international competitiveness for the Randstad or Deltametropolis in particular and to 'spin off' effects for the rest of the country.

2.2.5.2 Regional Planning Guidance (RPG) for North West UK

The initiating body is the North West Regional Assembly (consisting of representatives of local authorities in the North West region of England), but the RPG has to be approved by central government, which also takes into account the result of a formal public consultation of the RPG. The RPG approach itself is new. RPGs provide a broad spatial development framework / planning strategy for the region.

Polycentrism seemed to be a major (though essentially aspirational) aim in the previous draft version of the RPG (published in July 2000), which had a paragraph on polycentrism. That was the only reference to the concept and was later deleted from the current development version of the RPG (March 2002) and replaced with a 'bi-polar' strategy for the region to better reflect the reality of development in the region. We have decided to include this as an interesting example of alternative development strategies.

The policy aims to target the two Regional Poles by focusing major developments, such as expansion of international airports, in the city centres of Manchester and Liverpool.

The overriding aim of RPG is to promote sustainable patterns of spatial development and physical change.

The key objectives of the RPG are to:
- Achieve greater economic competitiveness and growth with associated social progress
- Secure an urban renaissance in the region's cites and towns
- Ensure sensitive and integrated development and management of the coastal zone
- Sustain and revive the region's rural communities and economies
- Ensure active management of the region's environmental and cultural assets
- Secure a better image for the region
- Create an accessible region

The previous version of the RPG regarded the region as 'polycentric'. This was defined in terms of the multiplicity of cites and towns. However, it was acknowledged that "the multi-centred nature of the region is a strength that has yet to be fully exploited, because the region's history and physical development have led to an unbalanced settlement structure". It was also stated that "the 2 large conurbations of Manchester and Liverpool are themselves polycentric"

and other town and cities are important retail, employment and service centres in their own right.

The revised version of the RPG, which incorporates the results of consultation and the central government's changes to the document, has omitted references to polycentrism and instead pursued a strategy based on 'bi-polar' development. The chapter on the spatial development framework for the region describes the urban structure of the North West Region as a 'bi-polar' metropolitan region in a coastal position with extensive rural areas. The two residential Poles consist of the city centres of Liverpool and Manchester/ Salford. They lie within a large swathe of highly urbanised land consisting of numerous towns, many of which have coalesced over time to form the North West Metropolitan Area.

Emphasis is placed on links with adjoining regions and links with Europe. For example, the strategy refers to the fact that the North West is at an important crossroads made up of firstly, the east-west routes that extend from Ireland through Liverpool and other North West ports and onwards across the Pennines to Europe via the North Sea and the Baltic ports to Scandinavia, the Netherlands, Germany, Poland and beyond (i.e. the North European Transport Axis (NETA); and secondly, the north-south M6 and the West Coast Main Line rail routes from Scotland to Europe via the Channel Tunnel and ports.

It also refers to Manchester and Liverpool as 'international gateway cities' whose economic success can facilitate the ESDP's aim of "achieving greater balance and polycentrism in Europe as a whole".

The policy also promotes co-operation in the INTERREG programme.

RPG is a non-statutory document, but its policies should be taken into account in all statutory development plans in the region. These plans will then influence the decisions made on the location and extent of all new developments in the region. RPG policies are also taken into account in the Structural Funds Programme for the area as well as strategies development by Regional Development Agencies. The latter has a budget allocated to it by central government to be spent largely on regional economic development.

The focus of monitoring is to assess the RPG's impact overtime on the objectives and policies it covers through targets and indicators. The monitoring system involves the use of general intelligence-gathering methods plus analysis of relevant data for the Region, undertaken by the Regional Intelligent Unit.

Each year an RPG Monitoring Report is published to show annual progress on a small number of indicators.
A major review is usually undertaken after 5 years.

Strength: RPG provides a strategic level for spatial development and can potentially co-ordinate and integrate other regional strategies as well as the spatial planning activities of the lower administrative tiers within the region.
Weakness: RPG has no statutory mandate and is not produced by directly elected regional government. This limits its influence. Because central government approval is needed, it often reiterates the policy guidelines produced by the government. Moreover, as politicians, whose interests focus mainly on their local constituencies and not on the region itself are instrumental in preparing it, its policies tend to be of the lowest common denominator type, designed simply to 'keep everybody happy'.

2.2.6 Initial Conclusions

The study will lead to 27+2 country chapters, three of which will be more detailed and further elaborated than the rest.

Due to the expected variety in information per country, they will have different weightings in reflecting on the policy application practices of polycentrism. In general what we intend to do is to draw conclusions on the main polycentrism discourses throughout Europe and to categorise countries around these discourses. For this we will use a number of qualitative indicators. In table 5 below a tentative list of these indicators is given.

Table 5: Examples of Qualitative Indicators

Tradition	↔	New
Conceptually driven	↔	Regulations/Budget
National scale	↔	Local Scale
Cohesion	↔	Competitiveness
Territorial differentiation	↔	No territorial differentiation

Important to note, as mentioned above, in drawing conclusions is the observation that countries work with different political systems, have a different territorial organisation and work with different regional and spatial planning policies. These differences will also be reflected in the conclusions as far as they have consequences for the application of polycentrism.

Furthermore the conclusions will be viewed in the context of the European Territorial Cohesion debate and judged on their implications for a future EU Territorial Cohesion Policy.

Annex 1: Abstract EURA-Eurocities Conference 28-30 August 2003, Budapest

1.

Title: Polycentric development policies in Europe

2.

The main objective of the paper is to identify the differences and similarities in the application of the concept of polycentricity throughout Europe. It will be based on the outcomes of a study carried out in the framework of the ESPON 1.1.1 project 'The role, specific situation and potentials of urban areas as nodes in a polycentric development'.

The polycentricity concept marks a paradigmatic shift in thinking on Europe's spatial and economic structure. Ongoing debates on a European territorial cohesion approach, which are reflected in for instance the European Spatial Development Perspective and the European Commission's Second Cohesion Report, emerge into a European discourse that replaces the core-periphery model of Europe and foresees a polycentric settlement structure cutting across the whole of the EU territory. Yet, policy implications for the use of the structural funds and in the long term perhaps even their allocation may be expected. However, in a European context the concept of polycentricity as such has never been defined very clearly. For instance, up until now no common ideas have emerged on which 'centres' are already (or have the potential to be) part of the European polycentric system.

Polycentric development as a policy concept is not new. Many countries and regions pursue polycentric strategies, or have done in the past. Against the backdrop of the ongoing European debate this paper will identify the various interpretations prevalent throughout Europe of polycentric development as a policy concept. Based on questionnaires, policy documents and on the secondary literature the paper will highlight the similarities and differences between the polycentric approaches followed by the present EU-Member States and the candidate countries.

Three levels of analysis will be used around which the paper will be structured. Firstly, using examples, we will look at the rationale behind polycentric policies. Secondly, we will look at the 'policy in practice', i.e. basically the means and instruments that are used to put the policy into operation. Thirdly, the historical and institutional context in which a policy is being pursued will be addressed.

The paper will conclude with an overview of different policy interpretations of polycentric development, and will show to which countries these interpretations apply, explain what the main variables are where differences occur. Based on this, and on the European spatial planning debate, attempts will be made to find a suitable definition of polycentricity for Europe.

3.

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4.
We see relationships to session 3 “Links between city development and EU-wide urban policy” particularly with the first sub-topic. Although we do not address urban policy as such, cities and urban networks play a key role in polycentric development policies. Future structural and cohesion policies will be directed at the development of urban centres. In order to be effective they should take the present strategies into account and try to facilitate them.

Annex 2: Questionnaire on Polycentricity

Questionnaire: Polycentricity in Policies

Please pick out at least two policies or projects/initiatives that in your view pursue polycentricity and answer (if appropriate) the questions below. Please select in first instance policies that explicitly address polycentricity. Start selecting at the national level and in case there are no such policies at this level, then move one level down to the sub national or regional level. (For further explanation see Annex)

General

1. Name of policy document:
2. To which level does it apply (national, sub-national, regional)
3. Date of introduction
4. Initiating body / bodies
5. Policy field / sector
6. Is polycentric development a major / subsidiary / incidental / indirect aim?

Rationales

Please give a brief description of the general objectives of the policy, using (in random order) the points below, and its relevance for polycentric development. Please make specific reference to the documentation that you include (see our request for 'Further information' below)

7. Could you give a little overview of the present situation in the territory the policy addresses?
   - Does the policy (or you) regard the territory as mono- or polycentric? (Please, describe in terms of for instance the dispersion of functions, settlement structure, scale, proximity etc.)
   - How does the policy (or would you) describe the geographical and economic position of this territory in a national, transnational and European context?
   - Are there any relationships or interdependencies between the different parts, regions or cities of this territory in terms of for instance complementary, co-operation and competition? How do they get visible, for instance: commuting patterns, shared use of certain social-economic functions?
8. Main concern and strategy of the policy
   - What is the desired situation?
   - How is this translated into objectives?
   - Which problems does the policy try to solve?
9. How does the policy influence polycentric development?

Policy in practice

Please give information regarding the way the policy is being executed.

10. Specific means, instruments, budget, regulations and policy concepts (in use or proposed) that are used to pursue polycentric development?
11. Are maps and / or other forms of visualisation used to illustrate the policy?
12. Which actors, parties and bodies are involved and / or addressed by the policy?
13. Method of monitoring and evaluating?
14. Strengths and weaknesses, missing instruments or solutions, possible role for the EU?

History of policy

Please give information, using the questions below, about the extent to which the policy is rooted in the present political and policy environment.

15. Could you describe the historical context? In other words, was there already some sort of 'tradition' of polycentric development strategies, or would you describe the present approach as relatively new?
16. Is the policy strongly or weakly embedded in organisations and political belief systems?
17. Has a certain language (terminology, terms and concepts, visuals) developed around the issue of polycentric development?

Further information
Please add written information in English, German, French or Dutch. We are thinking of policy summaries, (scientific) policy review articles, general information sheets, websites etc.

Annex 3: Key Sources

Key sources for polycentric development

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2.3 WP 3-4: INDICATORS AND TYPOLOGIES

The indicators and typology for 1.1.1 are based on two building blocks: Firstly, on the "list of FUAs" and secondly on the typology of MEGAs. The first version of the "List of FUAs" will be presented at the Crete meeting (May 5) and the first version of the typology of MEGAs will be presented in the TIR.

2.3.1 Listing the FUAs

In the Mondorf meeting in November 2002, 1.1.1 was informed that they should prepare a "list of cities", which would serve as part of a common platform for all research projects in ESPON. What this list of cities (criteria etc.) should include was left open (to be decided by 1.1.1.). Presumably the idea was to make a list of areas that can be considered urban in Europe (ESPON-countries). A more accurate name for this task would actually be a " listing of functional urban areas (FUAs)".

The goal of this task is to identify functionally significant urban areas in Europe. This should ensure that both cores of these urban areas are identified (also pinpointing where the core of urban area is located , i.e. giving certain co-ordinates to this location), and identifying in which municipality (NUTS 5) this core is located. In addition the definition of adjacent areas (which municipalities (NUTS 5) belong to which functional urban area) should be defined. Furthermore, these FUAs are to be typologised according to their strength, diversity and functional orientation.

2.3.1.1 Approach

In the first stage the idea was to identify cities (municipalities, NUTS 5) that exceeded certain population thresholds. Analysis started with the threshold of approximately 100 000 inhabitants, based on national definitions and data - in later stages the idea was to drop the threshold lower (in some countries a threshold of 90 000 inhabitants was applied). A list of cities based on this analysis (annex 1) was delivered to the Coordination Unit and to the various national experts. After feedback it was obvious that this approach was not appropriate, although this approach is good at pinpointing cores in which municipality centroids, the strongest cores of urban areas are located, the problem was that this listing would not serve as a common platform for other ESPON-projects.

At this point in the project design the approach to compiling the list of cities was changed so that the basic territorial unit in the analysis would be the functional urban area (FUA). However, this concept (or similar, e.g. functional urban region, travel-to-work-area, commuting catchment area, commuting zone) is not established in all countries in Europe, which presents a major challenge to statistical analysis and also in long term to the setting out of any kind of policy recommendations that would be applicable to functional urban areas.

Preliminary results relating to the "list of cities" were presented at the Lead Partner meeting on 26th February. Furthermore, typologisation of the FUAs was included on this list. At this point the national experts were asked to provide a national "list of cities", which would include classification of these FUAs to three different categories in terms of their functional role in their respective country (international, national, regional importance). All those urban areas that have 50 000 inhabitants or more were to be included on the list. Furthermore, those urban regions with an existing or potential polycentric structure where to be identified. In the typologisation process the following criteria were applied:

International level - FUA

- population (urban region) 5% or more of national population

- capital functions (administrative)
- "own" international airport (urban region not smaller than 500 000 inhabitants + airport more than 1 000 000 passengers 2001)

National / transnational FUA
- population (urban region) more than 200 000 inhabitants / core city population more than 2% of national value (no less than 100 000 inhabitants)
- specific national function (according to experts)

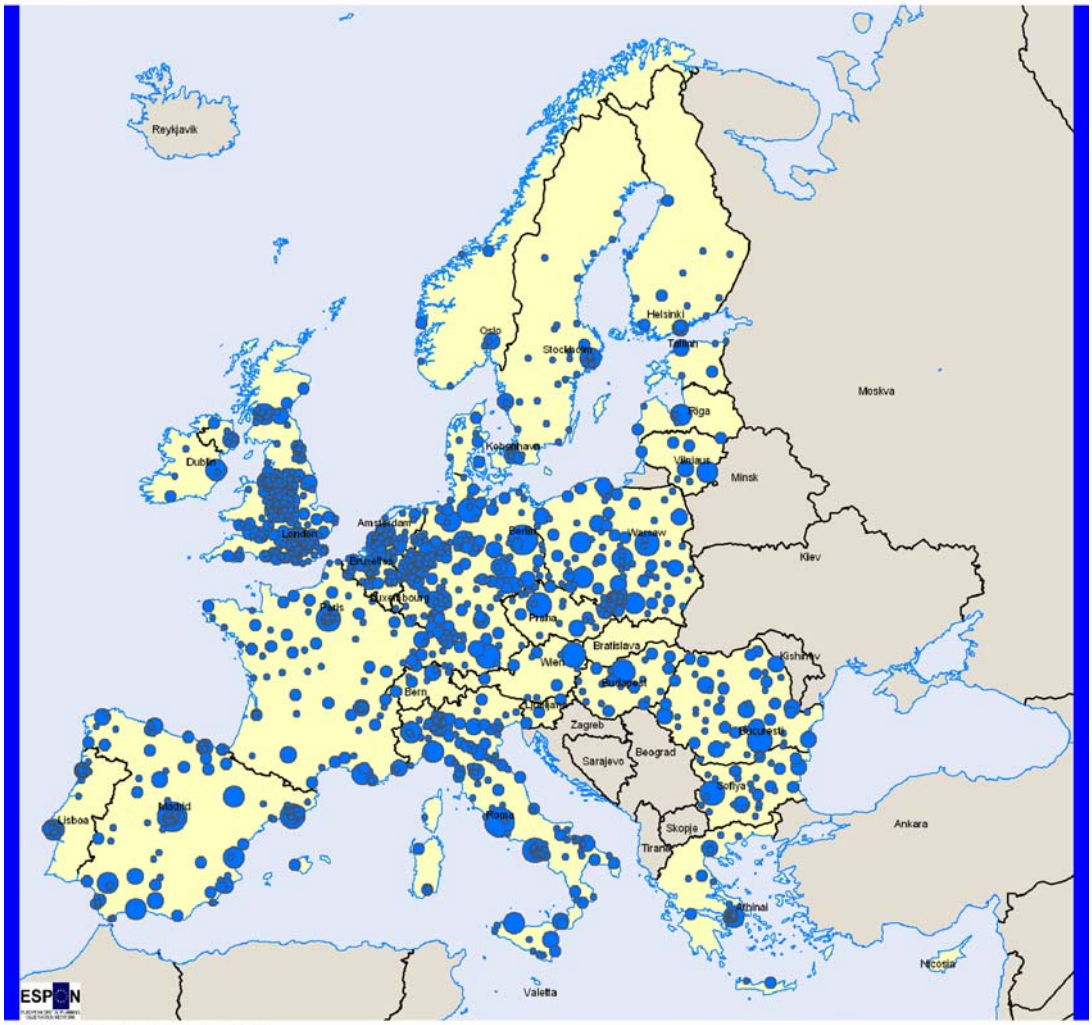
Regional FUA
- population 50 000 to 200 000
- specific regional function (according to experts)

Data was not available from all countries (e.g. the list for Germany includes only urban regions of over 100 000 inhabitants). Thus subjective opinions on categorisation where also included, and FUA with less than 50 000 inhabitants were included if the region in question played an important regional role according to the national experts. Results based on this analysis are presented as annex 2 (List of FUAs (March 2003). The weak point of this method is its subjective approach, which challenges international comparison. A more sophisticated method was therefore required.

After receiving feedback from the national experts, and after a meeting (11th March) with the CU, the commission, BBR the criteria (for selecting FUAs, including typologisation) were modified.

In principal, the ideas presented below follow the methodology presented in the 1.1.1. tender. In order to avoid reliance on the subjective approach, more quantitative variables and thresholds were introduced. However, urban systems have developed in their respective national context. Therefore analysis starts from the national level. In order to reflect the differing national contexts we use percentage-threshold levels from national value and national criteria. For typologisation, we have common European criteria & categories (presented in annex 3.)

European urban system



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Geographical Base: Eurostat GISCO

Population in 1,000 (1997)

- 50 < 100
- 100 < 250
- 250 < 500
- 500 < 1,000
- 1,000 < 2,500
- 2,500 < ...

2.3.1.2 The making of the "List of FUAs" – Features and Functions of FUAs

The first stage in the Making of the "List of FUAs" is to identify all those FUAs that have more than 20 000 inhabitants in Europe. Information on the NUTS 3 regions in which these FUAs are located was also collected. National experts provided this information.

The making of this "List of FUAs" was based on an analysis of certain features and functions of FUAs (presented in table 6)

Table 6: Features and functions of FUAs

	Feature / Functions	Measured variable
F1	Population	Population
F2	Industrial functions	Gross value added (sectors C-F)
F3	Tourism functions	Overnight stays in hotels (and similar)
F4	Transport functions	Airport (passengers), ports (container traffic)
F5	Knowledge functions	Location of University, number of students
F6	Decision-making centre	Location of TOP 500 companies
F7	Administrative functions	Administrative status of FUA (three different levels: 1) national capital; 2) province/regional capital; 3) no specific administrative status

In the initial stages analysis was to be done on the NUTS 3 – level (data is better available and harmonised to this level). The value of that NUTS 3 level data, where the main node of FUA is located is then utilised. If FUA has several strong nodes exceeding NUTS 3 boundaries, all of those NUTS-3 regions in question are included in the calculation. The national experts provided the data and definitions.

During the later stages genuine FUAs (or proxies, cf. SPESP) will be utilised as statistical units or estimations on the FUA level (using original data from the NUTS 3-level) will be calculated.

2.3.2 The typology of MEGAs

After the List of FUAs is completed (in May), Global and European-level FUAs will be labelled as MEGAs. (Metropolitan European Growth Areas). MEGAs (and only MEGAs not smaller, i.e. national and regional FUAs) are then typologised following the method applied in the CPMR-study. The idea here is to identify those urban areas that can be seen as "counterweights" to the Pentagon in future. The typology is based on core indicators. Additional indicators provide data on e.g. the development trends of FUAs (concerning demography and regional economy).

2.3.2.1 Core indicators

There are four building blocks here, namely 1) mass criterion 2) competitiveness 3) connectivity and 4) knowledge basis. Each of these building boxes consists of two variables or indicators. The typology of FUAs is based on indexes of these four building blocks (cf. CPMR-study)

Mass criterion

Population 2001	NUTS III	EUROSTAT
Gross domestic product 2000	NUTS III	EUROSTAT

Competitiveness		
GDP per capita in PPP in 2000	NUTS III	EUROSTAT
Location of TOP 1500 companies	NUTS III	TOP 1500 companies
Connectivity		
Passengers (TOP 500 airports)	NUTS III	Other source
Accessibility indicator (degree of polycentrism)	NUTS III	KLAUS
Knowledge basis		
Educational attainment level of the persons between the ages of 25-59 (as a % of total) 2000 High level of educational attainment	NUTS II	EUROSTAT
R&D personnel % of employment	NUTS II	2.2.3

2.3.2.2 Mass criterion

The mass criteria for FUA are measured in terms of demography and economy. The demographic weight (population) of an urban system constitutes an important factor in the settlement of people and activities. For both private and public-sector investments it naturally constitutes the most favoured indicator for choosing the location of certain services and facilities. Demographic criteria correspond more and more to human resources, i.e. that of being able to tap into a labour force that is large enough to offer sufficiently diversified skills. Mobility offers only a very partial response to reducing demographic disparities. However, it constitutes one of the main reasons for seeking a functional links between urban areas in order to form a more significant labour-market-area. Polycentrism is thus depended to a large extent on the mass criterion.

A comparable evaluation of the demographic weight of the FUAs remains a difficult exercise to undertake. The statistical criteria used by each of the European States are relatively divergent in the way that they take FUAs into account (Table 7).

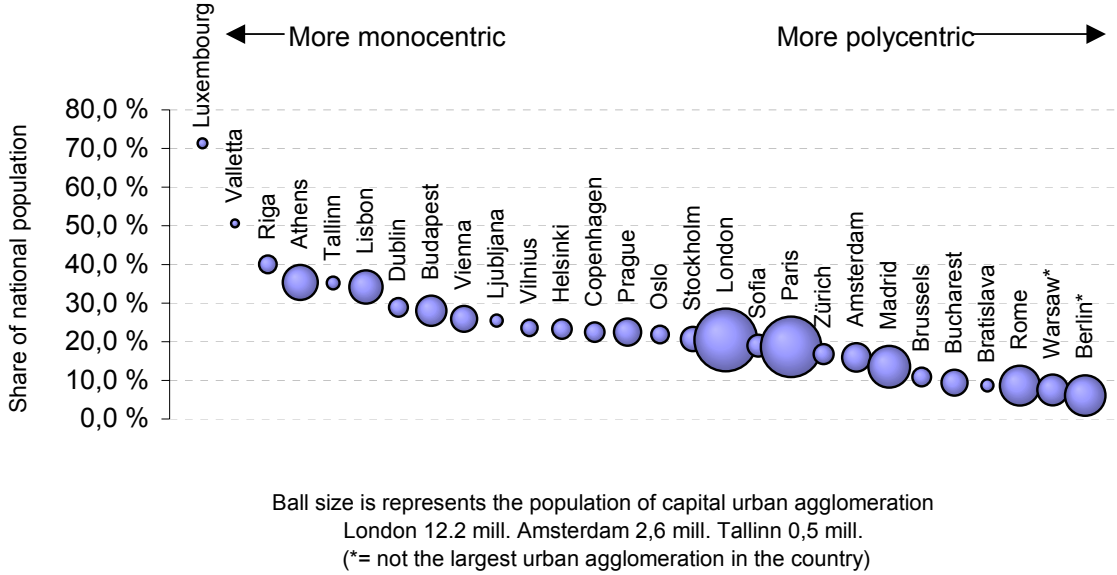
Table 7: Establishment of functional urban areas in ESPON-countries

Country	Functional Urban Area defined	definition
Austria	Yes	Local labour market districts, NUTS 4
Belgium	Yes	Local labour market
Bulgaria	No	
Cyprus	No	
Czech Republic	Yes	Local labour market microregions
Denmark	Yes	Commuting catchment areas
Estonia	No	
Finland	Yes	Functional urban areas, Sub-regions, NUTS 4
France	Yes	Employment areas, urban areas
Germany	Yes	Local labour markets
Greece	No/Yes	Typology of regions
Hungary	Yes	Regional labour centres
Ireland	No/Yes	Rural and peri-urban typology maps
Italy	Yes	Local employment system
Latvia	No	
Lithuania	No	
Luxembourg	Yes	Urban system, spatial planning areas

Malta	No	
Netherlands	Yes	Borders of quarters and vicinities
Norway	Yes	Economic regions, NUTS 4
Poland	No	
Portugal	No	
Romania	No	
Slovakia	No/Yes	Territorial system of ecologic stability
Slovenia	Yes	Functional regions for spatial planning
Spain	No	
Sweden	Yes	Local labour markets
Switzerland	Yes	Labour markets
United Kingdom	Yes	Travel-to-work-areas

In population terms it will be possible to describe how polycentric (define the degree of polycentrism) each NUTS 3 region (based on information on which NUTS 3 unit each FUA is located), country (see figure 2) and Europe is.

Figure 2 describes national situation in terms of polycentrism, reflected by the dominance of capital regions population as a share from respective national population. These figures are based on national definitions of urban agglomerations. Most polycentric countries are Germany, Poland and Italy.



Ball size is represents the population of capital urban agglomeration
London 12.2 mill. Amsterdam 2,6 mill. Tallinn 0,5 mill.
(*= not the largest urban agglomeration in the country)

Figure 2: Polycentrism in European countries – capitals (urban agglomeration) share of total population in each country

For the economic mass indicator we have selected GDP in millions of euro, since it is the most comparable and relevant indicator. The economic weight of a conurbation or urban system measured in GDP expressed in millions of euro also provides a major indication of a FUA's attractiveness and the density of economic relations that it generates. The denser the economic environment, the more likely it is to present favourable conditions for its development, thereby exploiting the phenomena of economic complementarity and size effects. Moreover, certain sectors such as the higher tertiary sector only develop massively once a certain threshold of economic activity has been reached in the surrounding area, these being key factors towards economic development and the innovation of regional productive fabrics.

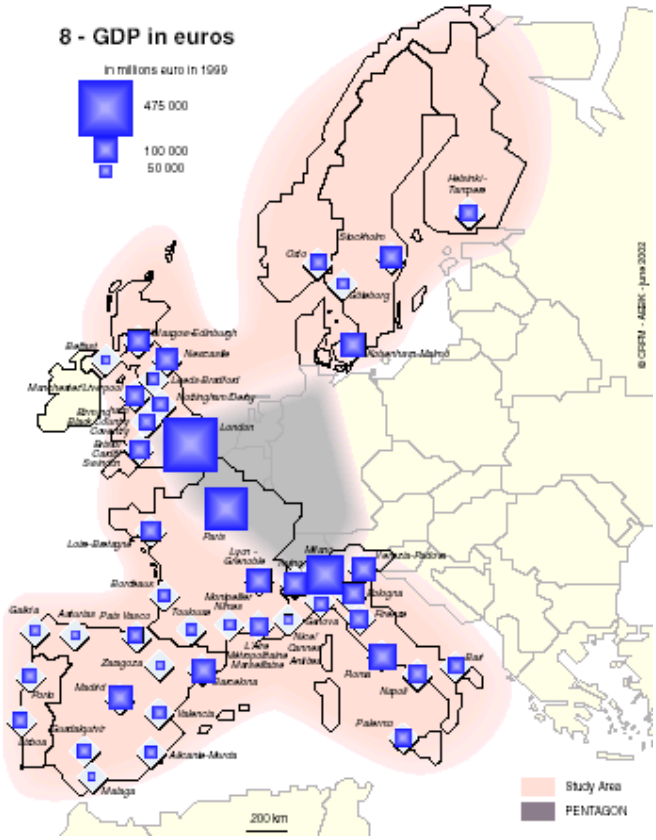


Figure 3: GDP (Source: CPMR-study)

2.3.2.3 Competitiveness

The capacity of an urban system to play a structuring role within its territory depends to a large extent on its competitiveness. The stronger this is, the greater and more effective will be not only its capacity to spread its influence, but also its ability to establish relations with other urban systems. Proximity between highly competitive urban systems or between very wide-ranging levels of competitiveness in a centre-periphery type relation would theoretically seem to provide the right conditions for making function-sharing easier.

The capacity for influence of an urban system is not solely dependent on its level of competitiveness and demographic weight, but also on its actual economic attractiveness for private investors. Other factors then, which are difficult to measure and compare, come into play in the individual choices made by firms. Owing to the complexity of any approach that consists of listing all of the conditions of attractiveness within a territory, for the purposes of this study we have chosen instead to examine its effects – in other words the distribution of the top European firms. In this regard, the degree of attractiveness of the urban systems included in the study should be read as an observation and not a potentiality, as the factors governing the establishment of companies are by nature likely to change over time.

The competitiveness of the FUAs is examined using GDP in ppp per capita and in the concentration of company headquarters of the top 1500 European companies.

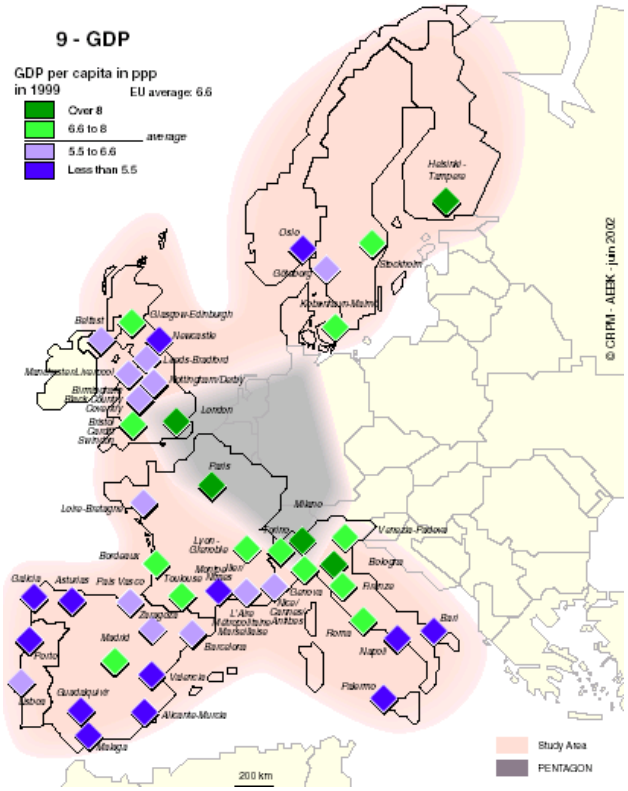


Figure 4: GDP per capita (Source: CPMR-study)

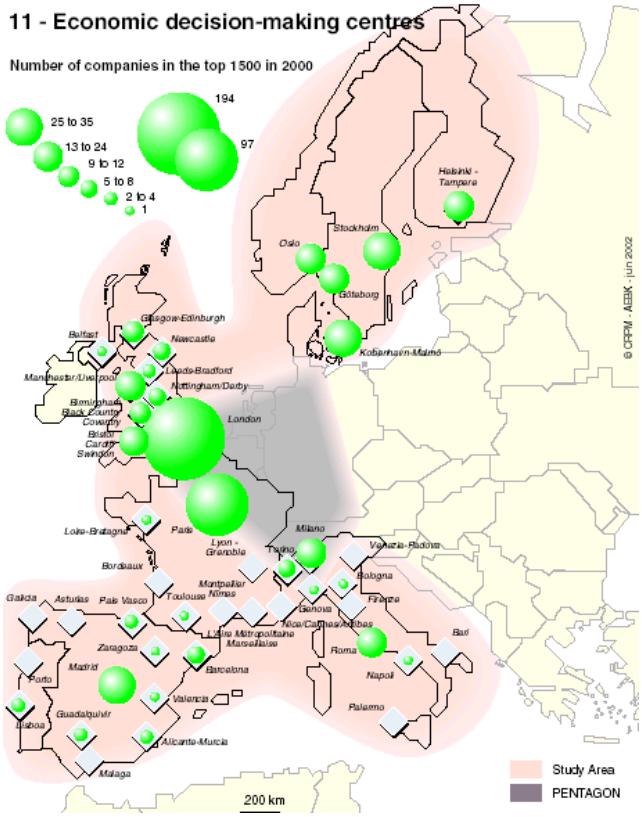


Figure 5: Location of TOP 1500 companies (Source: CPMR-study)

2.3.2.4 Connectivity

The connectivity of the FUAs constitutes one of the central factors of polycentrism. Any sharing of economic functions cannot be really effective unless accompanied by an efficient transport infrastructure and accessibility.

The location of passenger flows in major airports (with more than 100 000 passengers) in Europe in 2000 represents "the mass criterion" of connectivity.

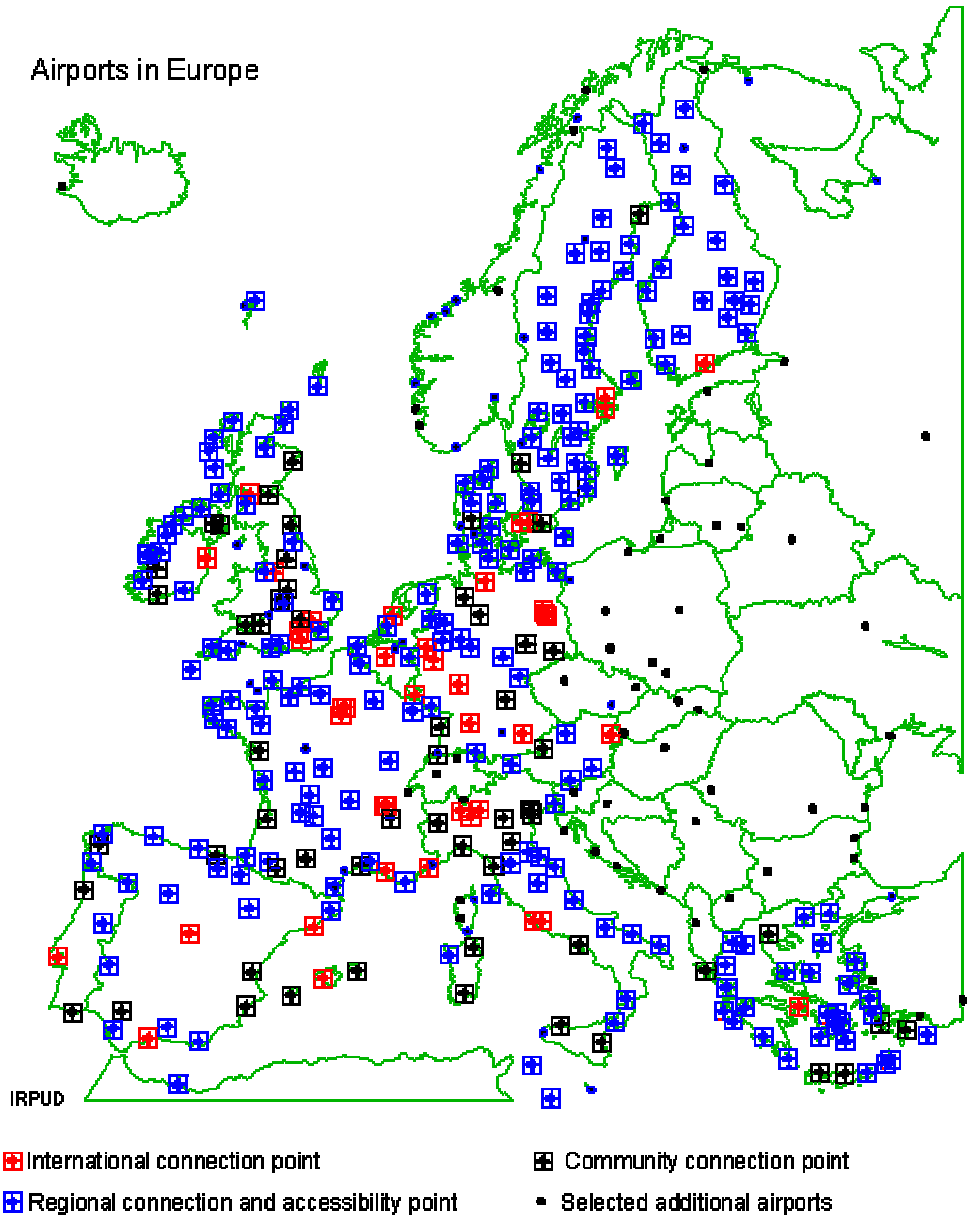


Figure 6: Airports in Europe. Source: IRPUD

2.3.2.5 Multimodal accessibility

The quality of transport infrastructure in terms of capacity, connectivity, travel speeds etc. determines the quality of cities or urban regions relative to other cities or urban regions. This competitive advantage of locations is usually measured as accessibility of which a general definition is that "accessibility indicators describe the location of an area with respect to opportunities, activities or assets existing in other areas and in the area itself, where 'area' may be a region, a city or a corridor" (Wegener et al., 2002). Accessibility indicators can differ in complexity. More complex accessibility indicators take account of the connectivity of transport networks by distinguishing between the network itself and the activities or opportunities that can be reached by it. These indicators always include in their formulation a spatial impedance term that describes the ease of reaching other such destinations of interest. Impedance can be measured in terms of travel time, cost or inconvenience.

The indicator to be applied here to the European urban system is based on the reference accessibility indicators proposed in the SPESP working group on 'Geographical Position' (Wegener et al., 2002). There, potential accessibility indicators by mode (road, rail, air) were developed. Potential accessibility is based on the assumption that the attraction of a destination increases with size, and declines with distance, travel time or cost. Destination size is usually represented by population or economic indicators such as GDP or income. Potential accessibility indicators measure the potential for networking and interaction a location has, not the real use of the potential. Although measuring opportunities for spatial interaction the indicators are expressed as values for locations and can thus easily be used in comparative analyses of the European urban system.

The modal accessibility indicators have been further developed in ESPON 1.2.1 to a multimodal potential accessibility indicator, thus expressing the combined effect of alternative modes for a location in a single indicator value. In this way, the multimodal accessibility indicator is superior to the accessibility by road indicator used in the CPMR study which did not reflect rail and air which are, however, most important modes when talking about locational advantages of cities and urban regions.

Figure 7 shows first results of applying the multimodal potential accessibility concept to cities with more than 50,000 population of the ESPON space. In the map cities are indicated in two ways. The size of the circle represents the size of the population. The colour of the circle reflects multimodal accessibility, i.e. a combination of road, rail and air accessibility in one single indicator. Light green reflects lowest values, dark red highest accessibility values. The map has to be seen as a very first outcome. The main purpose is to demonstrate the type of result that will be provided for the accessibility indicator.

It will be one of the tasks towards the third interim report to experiment with the indicator and its assumptions and to refine the underlying datrabase. The indicator will be calculated for the functional urban regions which will be defined by then. The result will be an appropriate indicator in the connectivity group of indicators describing the relative geographical position of cities in the European transport systems as one of the most important features of the European urban regions.

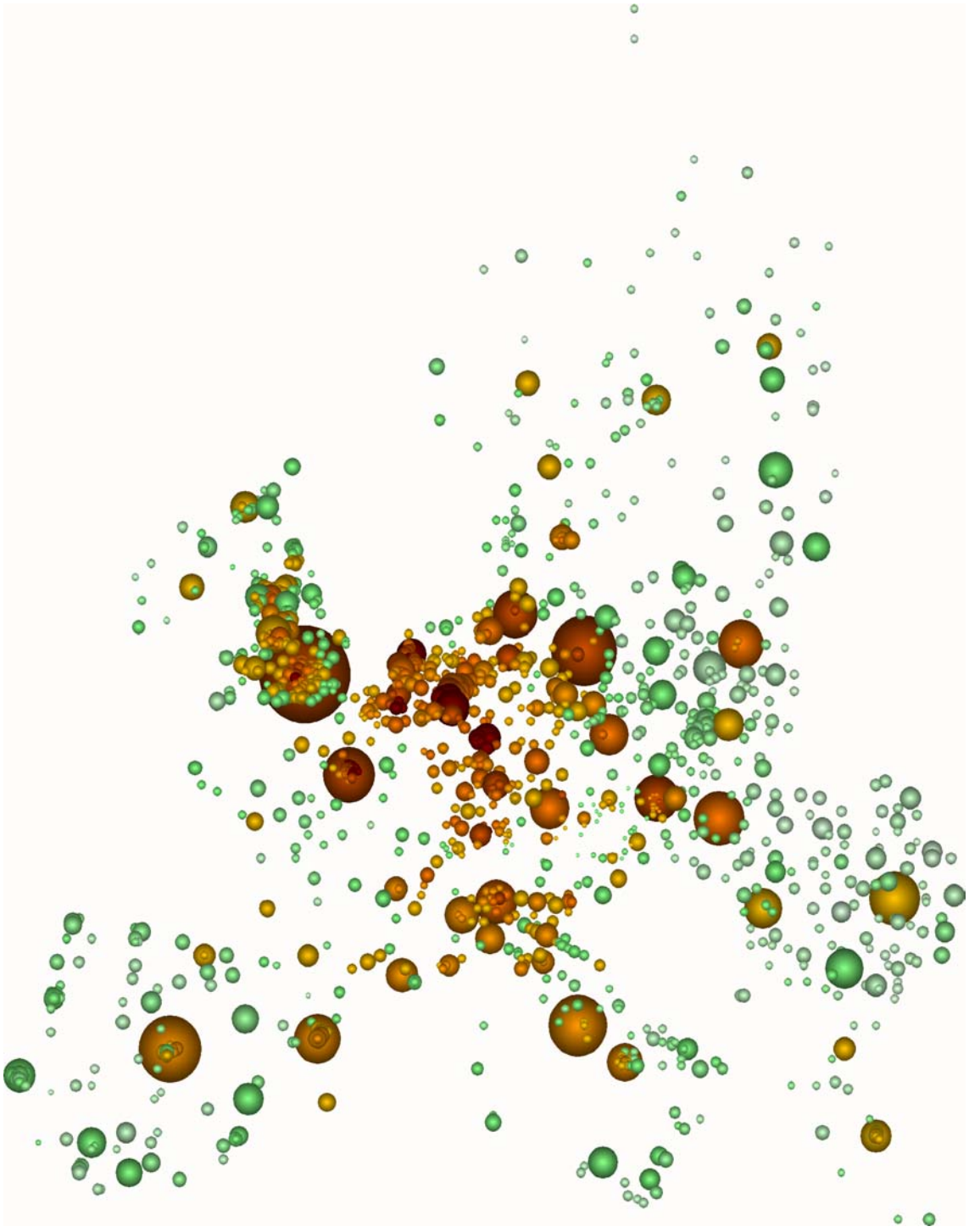


Figure 7: Multimodal accessibility of the European urban system (draft)

2.3.2.6 Knowledge basis

The knowledge basis is analysed on NUTS II level to data restrictions. In other words all MEGAs receive the value of NUTS II in which they are located, even though there obviously are major differences within NUTS II area. Two variables are measured: educational attainment level of the persons between the ages of 25-59 (as a % of the total) and R&D personnel (share of employed).

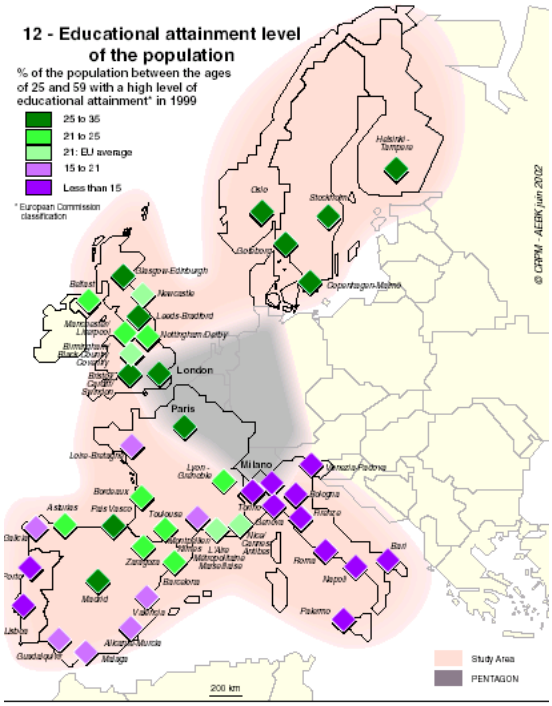


Figure 8: Educational level of population. Source: CPMR-study

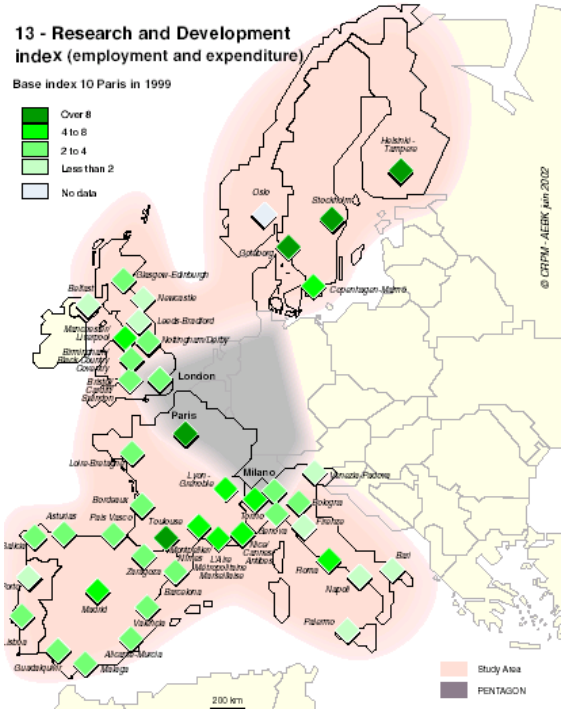


Figure 9: R&D personnel and expenditure (index). Source: CPMR-study

2.3.2.7 Additional indicators

Additional indicators consist of variables, indicators and information that will be needed / gathered by 1.1.1

Additional indicators	level	source
R & D expenditure per capita	NUTS II	2.2.3
Turnover of TOP 500 companies		national / other
Employees in TOP 500 companies		national / other
Population 1990	NUTS III	EUROSTAT
Gross domestic product 1990	NUTS III	EUROSTAT
Unemployment rates	NUTS III	EUROSTAT
Gross value added in service sector	NUTS III	EUROSTAT
Location of urban core (Urban Agglomeration) = pinpointing where the centroid of FUA is (coordinate)		national
In some countries:		
Commuting data	NUTS V	national

R & D expenditure *per capita* as well as the turnover and employees of TOP 500 companies completes the picture on competitiveness (using NUTS II in R&D). Population and gross domestic product values are also collected from the year 1990 in order to track the development trend of FUAs in terms of demography and economic development. The unemployment rates of MEGAs are an important factor in describing the characteristic of the development of FUAs. Gross value added in the service sector will complete the picture on the general functional orientation of FUAs (gross value added in industry was collected at an earlier stage in the process).

Furthermore, the location of the urban core (Urban Agglomeration) = pinpointing where the centroid of the FUA (co-ordinate) is very important in order to analyse the accessibility of FUAs. Commuting data is more challenging, only about one third of countries covered in ESPON produce regular data in this field. It will thus not be possible to find, or even to estimate, this data in all countries. For information on data availability on core and additional indicators see Annex 4.

2.3.3 Typologies

In terms of the typologies there will be three different variations

1. Based on the list of FUAs
2. A typology of MEGAs (the so called CPMR-typology)
3. An 'third typology'

2.3.3.1 "List of FUAs" – Typology of FUAs

The idea is that if certain FUA fulfil the lowest threshold level at one or more of the previously mentioned functions (F1 to F7) it is included on the "List of FUAs". Filling only one criteria at a certain level: one-sided FUA; filling all criteria at a certain level: diversified FUA. See various classification-levels in annex 3. Five different categories are utilised in the typology:

- global (G)
- European (E)
- national (N)
- regional (R)
- local (L)

Table 8: Example of the list of cities according to their functions

	F1	F2	F3	F4	F5	F6	F7	
City1	E	G	G	G	G	G	G	Diversified global FUA
City2	N	E	N	E	N	E	N	Diversified European FUA
City3		E		N		N		Fairly diversified national FUA
City4			N					Fairly one-sided transport oriented regional FUA
City5	N							One-sided industrialised local FUA

FUAs are typologised according to the level (G, E, N, R, L) of each of function analysed and the number of columns (F1 to F7) it fills at a certain level. The rule of thumb here is that the average of the level determines the class (e.g. E, N, N, N, E, N, N = national FUA). Only G, E and N-levels are considered when defining many-sidedness (not R and L).

The results of this approach will be presented to the ESPON meeting in Crete (5-6th May 2003).

2.3.3.2 Typology of MEGAs

Three different categories in each field concerning
- mass criterion (large, average, small)
- competitiveness (high, average, low)
- connectivity (good, average, poor)
- knowledge basis (high, average, low)

In all of these fields classification of MEGAs is done in the same way. The region with the best score is given the index of 10 and other regions are indexed in relation to that (summary index, also giving the ranking of MEGAs). In the next step, all MEGAs are grouped according to their position in this ranking: best, middle and lowest third. MEGAs receive "scores" according to their position in the ranking (highest giving the score of 2, middle 1 and low 0). In total, the highest score will be 8 and the lowest 0

MEGAs will be categorised in following way
8 points = global MEGAs
6 -7 points = European MEGAs
4 -5 points = strong MEGAs
2 -3 points = potential MEGAs
0 –1 points = weak MEGAs

2.3.3.3 'Third typology' of urban areas

The Draft Guidance Paper prepared by ESPON 3.1 (2003) proposed a three-level hierarchy of urban areas: the *macro* level (European core, European periphery, accession countries and neighbouring countries), the *meso* level (metropolitan areas, urbanised areas and non-urban areas) and the micro level (metropolitan areas, cities, towns and villages). It proposed that each NUTS-5 region be classified by its membership in the macro, meso and micro categories,

and that each NUTS-3 regions be assigned to one meso level group based on the characterisation of its NUTS-5 members.

The CPMR and ESPON 3.1. approaches are useful analyses and classifications of urban areas but they fail to provide a measure of polycentrism or of its effects. The typologies proposed by the CPMR study and the ESPON 3.1 Draft Guidance Paper neglect the *spatial* dimension of polycentric urban systems, i.e. the distance between centres at the same level of the urban hierarchy and between centres at one level and those at lower and higher levels as well as the functional relations between centres of the same or different levels. The networking analysis, however, concentrates only on the interactions between the centres at one level and ignores the multilevel functional relationships between higher-level and lower-level centres, i.e. the linkages between the cities and their peri-urban and rural hinterlands.

What is needed, then, is a methodology that integrates all dimensions of polycentrism: the size and endowment of cities (population, economic activity, human capital, higher education, cultural importance, administrative status etc.), their distribution over space and the interactions between cities at the same level and at different levels of the urban hierarchy.

A method to identify centres in the European urban system, to measure the degree of polycentrism of the urban systems of the member states of the European Union and of the accession countries, as well as of the European urban system as a whole is presented in what follows.

2.3.3.4 Three Dimensions of Polycentrism

The approach proposed here is to identify and measure polycentrism in a basic way by identifying three dimensions: *size*, *morphology* and *connectivity*:

- *Size*. The first and most straightforward prerequisite of polycentrism is that there is a distribution of large and small cities. It can be shown empirically and postulated normatively that the ideal rank-size distribution in a territory is loglinear. Rank-size distributions of cities in different European countries show that some of the countries have a predominantly monocentric city-size distribution (e.g. France), whereas other countries (e.g. Germany) have a historical polycentric urban system. A population rank-size distribution of European cities over 50,000 in population is presented in Figure 2. A first step in analysing the polycentrism of an urban system would therefore be to derive its population rank-size distribution. In addition other important measures of city size may be used, such as economic activity, human capital, higher education, cultural importance, administrative status etc.

- *Morphology*. The second prerequisite of a polycentric urban system is that its centres of equal size or rank are equally spaced – this prerequisite is derived from the optimal size of the catchment area or market area of centrally provided goods and services. Therefore, a uniform distribution of cities across a territory is more appropriate for a polycentric urban system than a highly polarised one where all major cities are clustered in one part of the territory. A second step in analysing polycentrism would therefore be to analyse the distribution of airline distances between cities of equal size or rank.

- *Connectivity*. The most difficult property of polycentric urban systems to measure is their connectivity. Ideally, the analysis would reveal functional relationships between cities of equal size or rank and between cities of different size or rank in the urban hierarchy.

Appropriate indicators of such interactions would be flows of goods or services, travel flows or immaterial kinds of interactions, such as telephone calls or e-mails. At the level of municipalities, information on such interactions is rarely available or considered an economic asset, as in the case of travel flow data held by private transport carriers or telecommunications data held by private telecommunications operators. The proxies used instead of such data could be infrastructure supply, i.e. the level of road connections (motorways, roads) or the level of rail service (number of trains) or air (number of flights) connections. The third step in analysing polycentrism would therefore be to analyse the quality of transport connections between cities of equal size or rank and between cities of different size or rank in the urban hierarchy.

With these three partial indicators of polycentrism, size, morphology and connectivity, a comprehensive indicator of polycentrism can then be constructed.

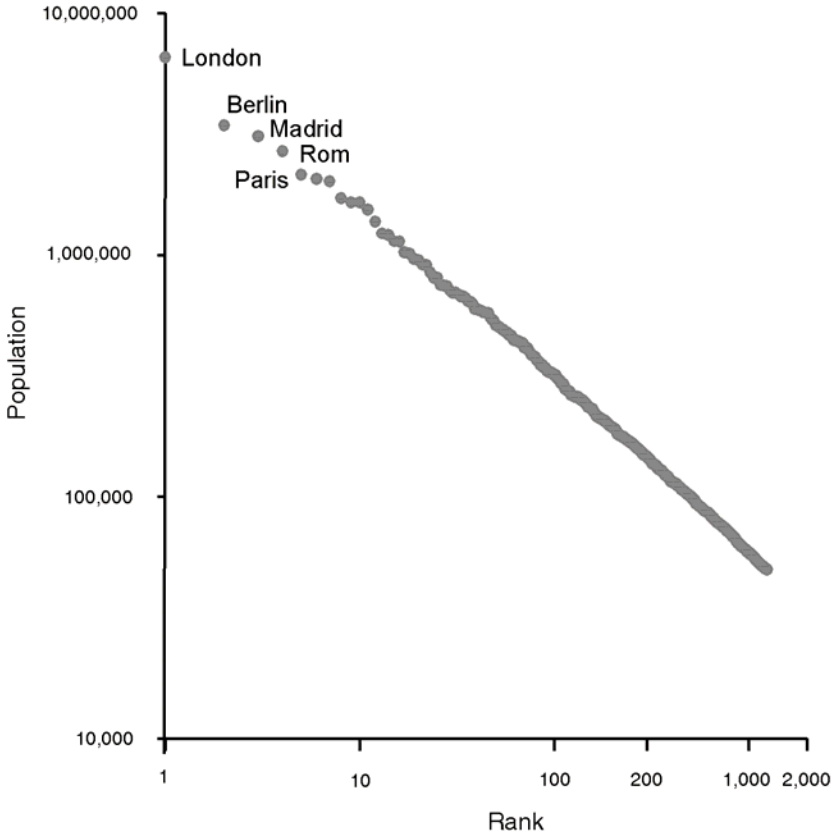


Figure 10: Rank-size distribution of cities over 50,000 population in EU-27

The proposed method is, in principle, independent of spatial scale. It can be applied both at the national and at the European levels; in fact an attempt should be made to link the two levels.

The proposed method differs from normative approaches to polycentrism in which the system of central places in a country, e.g. taken from a national planning document, is taken as given; instead the polycentric urban system is a *result* of the analysis.

There are innumerable ways of developing typologies of urban regions. Cities may be classified by their size, their location (coastal cities, port cities, border cities, etc.) their administrative function (national capitals, regional capitals, etc.) their economic function (global cities, financial centres, industrial cities, etc.) or by their function in the transport network (railway nodes, airport hubs, etc.). All of these typologies are of interest for certain purposes.

However, for spatial planning the most interesting aspect for the classification of cities is their position in the multilevel polycentric urban system.

The three partial indicators of polycentrism proposed above (size, morphology and connectivity), can be aggregated to a comprehensive indicator of polycentrism. The indicator will classify each country on a continuous scale of polycentrism and at the same time assign each city a place and level in the national and European urban hierarchy. It may also be possible to apply cluster analysis to verify and validate the polycentric urban system so derived.

The method can also be used to forecast the likely future development of polycentrism in Europe for different scenarios of urban growth and linkages between cities taking account of macro trends such as the enlargement of the European Union, the further integration of the world economy, the intensification of competition between regions and cities, the development of energy costs, transport technology and the further diffusion of telecommunications.

Scenarios for the socio-economic development of NUTS-3 regions in the European Union and the accession countries, plus Norway and Switzerland can be obtained from the results of ESPON 2.1.1 "Territorial Impacts of EU Transport and TEN Policy".

2.3.3.5 Policy Applications of 'third typology'

The indicator of polycentrism and the typology of urban areas can be used in various policy contexts.

One significant application would be to use the typology for the assessment of future TEN transport and telecommunications policies. The underlying hypothesis is that in a well developed and balanced polycentric urban system the interactions between higher-level centres are more intense and cover greater distances than those between lower-level centres or between higher-level centres and their subordinate lower-level centres, and that therefore higher-level centres should be connected by higher-level and faster transport and telecommunications links than lower-level centres. In the absence of true interaction data, the quality of the links can be used as proxies for the intensity of interaction; in this case the analysis contributes to the identification of polycentrism. In a reversal of this argument, the analysis can be used to examine whether the polycentric hierarchy of centres is supported by a corresponding hierarchy of networks.

On a more advanced level, the analysis of polycentrism can be used to determine the optimal degree of polycentrism with respect to policy goals such as efficiency (competitiveness), equity (cohesion) or environmental sustainability under different scenarios of macro trends such as the enlargement of the European Union, further integration of the world economy, the intensification of the competition between regions and cities, the development of energy cost, transport technology and the further diffusion of telecommunications. It is to be expected that the optimum degree of polycentrism will depend on the constellation of these macro trends.

It is particularly here that co-operation with ESPON 2.1.1 will be important. ESPON 2.1.1 will develop model-based forecasts of the socio-economic development in terms of population and economic activity in 1,321 NUTS-3 regions in the European Union and the accession countries plus Norway and Switzerland under different assumptions about the macro trends indicated above.

2.3.4 References and annexes

To be completed.

Wegener, M., Eskelinnen, H., Fürst, F., Schürmann, C., Spiekermann, K. (2002): *Criteria for the Spatial Differentiation of the EU Territory: Geographical Position.* Forschungen 102.2, Bonn, Bundesamt für Bauwesen und Raumordnung.

Annex 1. "List of cities", version 1 (based on population of core municipality)

country	name
Austria	**Vienna**
	Graz
	Innsbruck
	Klagenfurt
	Linz
	Salzburg
Belgium	**Antwerp**
	Brugge
	Brussels
	Charleroi
	Ghent
	Liège
	Mons
	Namur
	Schaerbeek
Bulgaria	**Sofija**
	Burgas
	Dobric
	Pleven
	Plovdiv
	Ruse
	Sliven
	Stara Zagora
	Varna
Cyprus	**Limassol**
	Nicosia, ROC
	Nikosia, TRNC
Czech Republic	**Prague**
	Brno
	Ceské Budejovice
	Hradec Králové
	Liberec
	Olomouc
	Ostrava
	Pardubice
	Plzen
	Ústí nad Labem
Denmark	**Copenhagen**
	Aalborg
	Frederiksberg
	Odense
	Århus
Estonia	**Tallinn**
	Tartu
Finland	**Helsinki**
	Espoo
	Lahti
	Oulu
	Tampere
	Turku
	Vantaa

France	**Paris**
	Aix-en-Provence
	Amiens
	Angers
	Argenteuil
	Besançon
	Bordeaux
	Boulogne-Billancourt
	Brest
	Caen
	Clermont-Ferrand
	Dijon
	Grenoble
	Le Havre
	Le Mans
	Lille
	Limoges
	Lyon
	Marseille
	Metz
	Montpellier
	Montreuil
	Mulhouse
	Nancy
	Nantes
	Nice
	Nîmes
	Orléans
	Perpignan
	Reims
	Rennes
	Roubaix
	Rouen
	St-Étienne
	Strasbourg
	Toulon
	Toulouse
	Tourcoing
	Tours
	Villeurbanne
Germany	**Berlin**
	Aachen
	Augsburg
	Bergisch Gladbach
	Bielefeld
	Bochum
	Bonn
	Bottrop
	Braunschweig
	Bremen
	Bremerhaven
	Chemnitz
	Cologne
	Cottbus

Darmstadt
Dortmund
Dresden
Duisburg
Düren
Düsseldorf
Erfurt
Erlangen
Essen
Esslingen am Neckar
Frankfurt am Main
Freiburg im Breisgau
Fürth
Gelsenkirchen
Gera
Gütersloh
Göttingen
Hagen
Halle/Saale
Hamburg
Hamm
Hanover
Heidelberg
Heilbronn
Herne
Hildesheim
Ingolstadt
Iserlohn
Jena
Kaiserslautern
Karlsruhe
Kassel
Kiel
Koblenz
Krefeld
Leipzig
Leverkusen
Ludwigshafen am Rhein
Lübeck
Lünen
Magdeburg
Mainz
Mannheim
Marl
Moers
Munich
Mülheim an der Ruhr
Münster
Mönchengladbach
Neuss
Nuremberg
Oberhausen
Offenbach am Main
Oldenburg

	Osnabrück
	Paderborn
	Pforzheim
	Potsdam
	Ratingen
	Recklinghausen
	Regensburg
	Remscheid
	Reutlingen
	Rostock
	Saarbrücken
	Salzgitter
	Schwerin
	Siegen
	Solingen
	Stuttgart
	Trier
	Ulm
	Wiesbaden
	Witten
	Wolfsburg
	Wuppertal
	Würzburg
	Zwickau
Greece	**Athens**
	Herakleion
	Kallithea
	Larisa
	Nikaia
	Patras
	Peristerion
	Pireus
	Thessaloniki
Hungary	**Budapest**
	Debrecen
	Györ
	Kecskemét
	Miskolc
	Nyíregyháza
	Pécs
	Szeged
	Székesfehérvár
Ireland	**Dublin**
	Cork
	Dún Laoghaire-Rathdown
Italy	**Rome**
	Ancona
	Andria
	Arezzo
	Bari
	Barletta
	Bergamo
	Bologna
	Bolzano

	Brescia
	Brindisi
	Cagliari
	Catania
	Catanzaro
	Ferrara
	Florence
	Foggia
	Forlì
	Genoa
	Giugliano in Campania
	La Spezia
	Latina
	Livorno
	Messina
	Milan
	Modena
	Monza
	Naples
	Novara
	Padua
	Palermo
	Parma
	Perugia
	Pesaro
	Pescara
	Piacenza
	Prato
	Ravenna
	Reggio di Calabria
	Reggio nell´ Emilia
	Rimini
	Salerno
	Sassari
	Syracuse
	Taranto
	Terni
	Torre del Greco
	Trento
	Trieste
	Turin
	Udine
	Venice
	Verona
	Vicenza
Latvia	**Riga**
	Daugavpils
Lithuania	**Vilnius**
	Kaunas
	Klaipeda
	Panevezys
	Šiauliai
Luxembourg	**Luxembourg**
Malta	**Birkirkara**

	Valletta
Netherlands	**Amsterdam**
	´s-Hertogenbosch
	Alkmaar
	Almere
	Amersfoort
	Apeldoorn
	Arnhem
	Breda
	Delft
	Dordrecht
	Ede
	Eindhoven
	Emmen
	Enschede
	Groningen
	Haarlem
	Haarlemmermeer
	Heerlen
	Leeuwarden
	Leiden
	Maastricht
	Nijmegen
	Rotterdam
	The Hague
	Tilburg
	Utrecht
	Zaanstad
	Zoetermeer
	Zwolle
Norway	**Oslo**
	Bærum
	Bergen
	Stavanger
	Trondheim
Poland	**Warsaw**
	Bialystok
	Bielsko-Biala
	Bydgoszcz
	Bytom
	Chorzów
	Cracow
	Czestochowa
	Dabrowa Górnicza
	Elblag
	Gdansk
	Gdynia
	Gliwice
	Gorzów Wielkopolski
	Grudziadz
	Jastrzebie-Zdrój
	Jaworzno
	Jelenia Góra
	Kalisz

	Katowice
	Kielce
	Koszalin
	Legnica
	Lódz
	Lublin
	Olsztyn
	Opole
	Plock
	Poznan
	Radom
	Ruda Slaska
	Rybnik
	Rzeszów
	Slupsk
	Sosnowiec
	Szczecin
	Tarnów
	Torun
	Tychy
	Walbrzych
	Wloclawek
	Wroclaw
	Zabrze
	Zielona Góra
Portugal	**Lisbon**
	Amadora
	Braga
	Coimbra
	Porto
	Setúbal
Romania	**Bucharest**
	Arad
	Bacau
	Baia Mare
	Botosani
	Braila
	Brasov
	Buzau
	Cluj-Napoca
	Constanta
	Craiova
	Drobeta-Turnu Severin
	Focsani
	Galati
	Iasi
	Oradea
	Piatra Neamt
	Pitesti
	Ploiesti
	Râmnicu Vâlcea
	Satu Mare
	Sibiu
	Suceava

	Târgu Jiu
	Târgu Mures
	Timisoara
	Tulcea
Slovakia	**Bratislava**
	Košice
	Prešov
Slovenia	**Ljubljana**
	Maribor
Spain	**Madrid**
	A Coruña (La Coruña)
	Alacant
	Albacete
	Alcalá de Henares
	Alcobendas
	Alcorcón
	Algeciras
	Almería
	Badajoz
	Badalona
	Barakaldo
	Barcelona
	Bilbao
	Burgos
	Cádiz
	Cartagena
	Castelló de la Plana
	Córdoba
	Donostia-San Sebastián
	Dos Hermanas
	Elx
	Fuenlabrada
	Getafe
	Gijón
	Granada
	Huelva
	Iruña
	Jaén
	Jerez de la Frontera
	L´Hospitalet de Llobregat
	Las Palmas de Gran Canaria
	Leganés
	León
	Lleida (Lérida)
	Logroño
	Málaga
	Marbella
	Mataró
	Móstoles
	Murcia
	Ourense (Orense)
	Oviedo
	Palma de Mallorca
	Sabadell

	Salamanca
	San Cristóbal de la Laguna
	Santa Coloma de Gramenet
	Santa Cruz de Tenerife
	Santander
	Santiago de Compostela
	Seville
	Tarragona
	Terrassa
	Torrejón de Ardoz
	Valencia
	Valladolid
	Vigo
	Vitoria-Gasteiz
	Zaragoza
Sweden	**Stockholm**
	Borås
	Gothenburg
	Gävle
	Helsingborg
	Jönköping
	Linköping
	Lund
	Malmö
	Norrköping
	Sundsvall
	Umeå
	Uppsala
	Västerås
	Örebro
Switzerland	**Zürich**
	Basle
	Berne
	Geneva
	Lausanne
United Kingdom	**London**
	Aberdeen
	Barnsley
	Basildon
	Belfast
	Birmingham
	Blackburn with Darwen
	Blackpool
	Bolton
	Bournemouth
	Bracknell Forest
	Bradford
	Brighton and Hove
	Bristol
	Bury
	Caerdydd
	Calderdale
	Cambridge
	Canterbury

Carlisle
Chelmsford
Cheltenham
Chester
Chesterfield
Conwy
Coventry
Crawley
Darlington
Derby
Derry (Londonderry)
Doncaster
Dudley
Dundee
Edinburgh
Exeter
Gateshead
Glasgow
Gloucester
Great Yarmouth
Halton
Havant
Ipswich
Kingston upon Hull
Kirklees
Knowsley
Lancaster
Leeds
Leicester
Lisburn
Liverpool
Luton
Manchester
Mansfield
Medway
Middlesbrough
Milton Keynes
Neath Port Talbot
Newcastle upon Tyne
Newport
North Tyneside
Northampton
Norwich
Nottingham
Oldham
Oxford
Peterborough
Plymouth
Poole
Portsmouth
Preston
Reading
Rhondda Cynon Taff
Rochdale

Rotherham
Saint Albans
Saint Helens
Salford
Sandwell
Sefton
Sheffield
Slough
Solihull
South Tyneside
Southampton
Southend-on-Sea
Stockport
Stockton-on-Tees
Stoke-on-Trent
Sunderland
Swansea
Swindon
Tameside
Thurrock
Torbay
Torfaen
Trafford
Wakefield
Walsall
Warrington
Wigan
Winchester
Windsor and Maidenhead
Wirral
Wolverhampton
Worcester
Worthing
Wrexham
York

Annex 2. List of FUAs (March 2003)

country	Urban network (polycentric)	International level FUA	national/transnational level FUA	regional FUA
Austria		**Vienna**		
			Graz	
			Linz	
			Salzburg	
				Innsbruck
				Klagenfurt-Villach
				St.-Pölten
	Rheintal-Bodenseegebiet			Feldkirch
				Dornbirn
				Bregenz
Belgium	Flemish Diamond	**Brussels**		
		Antwerpen		
		Gent		
		Leuven		
			Charleroi	
			Liege	
			Brugge	
				Namur
Bulgaria		**Sofia**		
			Varna	
			Burgas	
			Plovdiv	
			Russe	
				Stara Zagora
				Sliven
				Dobrich
				Blagoevgrad

country	Urban network (polycentric)	International level FUA	national/transnational level FUA	regional FUA
				Haskovo
				Pleven
Cyprus		**Nicosia**		
			Limassol	
				Larnaca
				Pafos
Czech Republic		**Prague**		
		Brno		
		Ostrava		
			Plzen	
			Olomouc	
				Kladno
				Karlovy Vary
				Děčín
				Chomutov
				Most
				Teplice
				Zlín
				Jihlava
				Frýdek-Místek
				Havířov
				Karviná
				Opava
				Poruba
				Přerov
				Ceské Budejovice
				Hradec Králové
				Liberec
				Pardubice
				Ústí nad Labem

country	Urban network (polycentric)	International level FUA	national/transnational level FUA	regional FUA
Denmark		**Copenhagen**		
			Århus	
			Odense	
			Ålborg	
			Esbjerg	
	Vejle-Kolding-Fredericia			Vejle
				Kolding
				Fredericia
	Holsterbro - Struer - Herning - Ikast			Holstebro
				Struer
				Herning
				Ikast
				Randers
				Holbæk
				Slagelse
				Næstved
				Viborg
				Horsens
				Haderslev
				Silkeborg
				Sønderborg
				Hjørring
				Åbenrå
				Svendborg
				Nykøbing-Falster
				Frederikshavn
				Skive
				Rønne

country	Urban network (polycentric)	International level FUA	national/transnational level FUA	regional FUA
				Ribe
				Ringkøbing
Estonia		**Tallinn**		
			Tartu	
				Kohtla-Järve
				Narva
				Pärnu
Finland		**Helsinki**		
			Tampere	
			Turku	
			Oulu	
				Lahti
				Jyväskylä
				Kuopio
				Pori
				Vaasa
				Kouvola
				Joensuu
				Lappeenranta
				Hämeenlinna
				Kotka
				Rauma
				Seinäjoki
				Rovaniemi
				Mikkeli
				Kajaani
				Salo
				Kokkola
				Mariehamn

country	Urban network (polycentric)	International level FUA	national/transnational level FUA	regional FUA
France		Paris		
		Marseille		
		Lyon		
		Nice		
		Toulouse		
		Bordeaux		
		Nantes		
			Lille	
			Toulon	
			Douai–Lens	
			Strasbourg	
			Grenoble	
			Rouen	
			Cannes	
			Valenciennes	
			Nancy	
			Metz	
			Tours	
			St-Étienne	
			Montpellier	
			Rennes	
			Orléans	
			Béthune	
			Clermont-Ferrand	
			Avignon	
			Le Havre	
			Dijon	
			Mulhouse	
			Angers	
			Reims	
			Brest	
				Caen

Le Mans
Amiens
Dunkerque
Perpignan
Limoges
Besançon
Nimes
Pau
Bayonne
Geneve(CH)-Annemasse
Poitiers
Annecy
Lorient
Montbelliard
Troyes
Saint-Nazaire
La Rochelle
Valence
Thionville
Angouleme
Boulogne-sur-mer
Chambery
Chalon-sur-Saone
Chartres
Niort
Calais
Beziers
Arras
Bourges
Saint-Brieu
Quimper
Vannes
Cherbourg
Maubeuge
Blois

Colmar
Tarbes
Compiègne
Charleville-Mézieres
Belfort
Roanne
Forbach
Saint-Quentin
Laval
Bourg-en-Bresse
Beauvais
Nevers
Creil
La Roche sur Yon 2vreux
Agen
Saint-Omer
Périgueux
Chateauroux
Epinal
Alès
Brive la Gaillarde
Macon
Elbeuf
Albi
Auxerre
Saint-Chamond
Fréjus
Bale (CH-Saint-Louis)
Carcassonne
Dieppe
Vich
Chalons-en
Champagne
Montluçon
Ajaccio

Bastia
Montauban
Cholet
Bergerac
Narbonne
Saint-Malo
Thono-les-bains
Chatellerault
Menton-Monaco
Montargis
Sete
Le puy en Velay
Romans -sur-Isere
Rodez
Alençon
Soissons
Vellefranche sur saone
Castres
Cluses
Haguenau
Lannion
Cambrai
Armentières
Montélimar
Moulins
Dreux
Aurillac
Sens
Saint-Dizier
Mont-de-Marsan
Lons-le Saunier
Arcachon
Vienne
Arles
Saintes

				Salon de Provence
country	**Urban network (polycentric)**	**International level FUA**	**national/transnational level FUA**	**regional FUA**
Germany	**RheinRuhr**	Essen		
		Düsseldorf		
		Cologne		
		Bonn		
			Wuppertal	
			Mönchengladbach	
				Bergisch-Gladbach
				Bochum
				Bottrop
				Dortmund
				Duisburg
				Gelsenkirchen
				Hagen
				Hamm
				Herne
				Krefeld
				Leverkusen
				Moers
				Mühlheim a.d. Ruhr
				Neuss
				Oberhausen
				Recklinghausen
				Remscheid
				Solingen
				Witten
		Berlin		
		Stuttgart		
		Hamburg		
		Frankfurt am Main		

München
Hannover
Bremen
Dresden
Leipzig

Aachen
Augsburg
Bielefeld
Braunschweig
Chemnitz
Darmstadt
Erfurt
Freiburg im Breisgau
Giessen
Halle/Saale
Hannover
Heilbronn
Karlsruhe
Kassel
Kiel
Koblenz
Leipzig
Lübeck
Magdeburg
Mannheim
Münster
Nürnberg
Osnabrück
Reutlingen
Rostock
Saarbrücken
Siegen
Ulm
Wiesbaden
Würzburg

Zwickau

Cottbus
Darmstadt
Erlangen
Fürth
Gera
Göttingen
Heidelberg
Heilbronn
Hildesheim
Ingolstadt
Ludwigshafen am rhein
Mainz
Offenbach am Main
Oldenbrug
Paderborn
Pforzheim
Potsdam
Regensburg
Salzgitter
Schwerin
Wolfsburg
more regional centres to be identified

country	Urban network (polycentric)	International level FUA	national/transnational level FUA	regional FUA
Greece		Metropolitan region of Athens (Attika) Metropolitan region of Thessaloniki (Salonica)		
				Patras Iraklion
	Larissa - Volos - Trikala			Larissa Volos Trikala
				Ioannina
	Kozani - Ptolemaes			Kozani Ptolemaes
				Lamia Corfu Kalamata Katerini Serres Rodos Khalkis Khania Veria Agrinio
	Drama - Kavala - Xanthi - Komotini - Alexandroupolis			Drama Kavala Xanthi Komotini Alexandroupolis

country	Urban network (polycentric)	International level FUA	national/transnational level FUA	regional FUA
Hungary		**Budapest**		
			not defined yet (included to list of regional FUAs)	Békéscsaba Debrecen Dunaújváros Eger Gyor Kaposvár Kecskemét Miskolc Nagykanizsa Nyíregyháza Pécs Sopron Szeged Székesfehérvár Szolnok Szombathely Tatabánya Veszprém Zalaegerszeg

country	Urban network (polycentric)	International level FUA	national/transnational level FUA	regional FUA
Ireland		Dublin		
			Cork	
				Limerick
				Galway
				Waterford
				Dundalk
				Sligo
	Letterkenny - Londonderry (N.I.)			Letterkenny
	Athlone - Mmullingar - Tullamore			Athlone
				Mmullingar
				Tullamore
	Tralee - Killarnay			Tralee
				Killarnay

country	Urban network (polycentric)	International level FUA	national/transnational level FUA	regional FUA
Italy		Rome		
		Milan		
		Naples		
		Turin		
		Bologna		
			Palermo	
			Genoa	
			Firenze	
			Messina	
			Catania	
			Bari	

Venice
Taranto
Bergamo
Livorno
Torre del Greco
Cagliari
Pescara
Busto Arsizio
Rimini
Pistoia
Salerno
Trieste
Padua
Prato

Desio
Verona
Cagliari
Como
Lecce
Parma
Modena
Varese
Ivrea
Reggio nell'emilia
Brescia
Vicenza
more regional centres to be identified

country	Urban network (polycentric)	International level FUA	national/transnational level FUA	regional FUA
Latvia		**Riga**		
			Daugavpils	
				Liepaja
				Jelgava
				Jurmala
				Ventspils
				Rezekne
Lithuania		**Vilnius**		
			Kaunas	
			Klaipeda	
			Šiauliai	
			Panevezys	
				Alytus
				Marijampole
Luxembourg		**Luxembourg**		
Malta	**Malta**	**Malta**		**Birkirkara**
				Valletta

country	Urban network (polycentric)	International level FUA	national/transnational level FUA	regional FUA
Netherlands	Randstad	**Amsterdam** Almere Amersfoort Delft Dordrecht Den Haag Haarlem Haarlemmermeer Leiden Rotterdam Utrecht Zaanstad Zoetermeer		
	Brabantstad		Eindhoven Breda Den Bosch ('s-Hertogenbosch) Tilburg	
	Arnhem-Nijmegen			Nijmegen Arnhem
	Twentestad			Enschede
	Groningen-Assen			Groningen
	MHAL			Maastricht *Aachen (Germany)* *Liege (Belgium)*
				Apeldoorn

country	Urban network (polycentric)	International level FUA	national/transnational level FUA	regional FUA
				Ede
				Emmen
				Zwolle
				Leeuwarden
Norway		**Oslo**		
			Bergen	
			Stavanger og Sandnes	
			Trondheim	
				Kristiansand
				Porsgrunn og Skien
				Drammen
				Tønsberg
				Haugesund
				Fredrikstad
				Tromsø
				Ålesund
				Hamar
				Arendal
				Moss
				Sarpsborg
				Bodø
				Molde
				Lillehammer

country	Urban network (polycentric)	International level FUA	national/transnational level FUA	regional FUA
Poland		**Warsaw**		
		Katowice (FUR)		
		Wroclaw		
		Lódz		
		Gdansk		
		Kraków		
		Poznan		
		Szczecin		
		Lublin		
			Koszalin	
			Bydgoszcz	
			Torun	
			Olsztyn	
			Bialystok	
			Zielona Góra	
			Kalisz	
			Opole	
			Czestochowa	
			Bielsko-Biala	
			Rzeszów	
			Kielce	
			Radom	
				Slupsk
				Elblag
				Pila
				Gorzów Wielkopolski
				Leszno
				Legnica
				Jelenia Góra
				Walbrzych
				Konin
				Sieradzki

				Wloclawek
				Plock
				Lowicki
				Piotrków Trybunalski
				Ciechanowski
				Lomza
				Ostroleka
				Suwalki
				Siedlce
				Biala Podlaska
				Chelm
				Zamosc
				Przemysl
				Krosno
				Tarnów
				Nowy Sacz
				Tarnobrzeg
country	**Urban network (polycentric)**	**International level FUA**	**national/transnational level FUA**	**regional FUA**
Portugal		**Lisbon**		
		Porto		
			Braga	
			Guimaraes	
	Famalicao - Santo Tirso		Famalicao	
			Santo Tirso	
				Coimbra
				Leiria
	Santa Maria da feira - Viano da Costelo (Spain)			Santa Maria da feira

	Sousa Valley		Parades Penafiel Felgueiras
Romania	Bucharest		
		not defined yet (included to list of regional FUAs)	Alexandria Arad Bacau Baia Mare Bârlad Bistrita Botosani Braila Brasov Buzau Calarasi Cluj-Napoca Constanta Craiova Deva Drobeta-Turnu Severin Focsani Galati Giurgiu Hunedoara Iasi Medias Onesti Oradea Piatra Neamt Pitesti Ploiesti Râmnicu Vâlcea Resita

Roman
Satu Mare
Sfântu Gheorghe
Sibiu
Slatina
Slobozia
Suceava
Târgoviste
Târgu Jiu
Târgu Mures
Timisoara
Tulcea
Turda
Vaslui
Zalau

Jiu Valley
Deva - Hunedoara -
Calan
Prahova Valley
Black Sea coast section
Eforie - Mangalia

Jiu Valley

Deva - Hunedoara - Calan
Prahova Valley
Black Sea coast section Eforie -
Mangalia

country	Urban network (polycentric)	International level FUA	national/transnational level FUA	regional FUA
Slovakia		**Bratislava**		
			Košice	
				Banska Bystrica
				Nitra
				Presov
				Zilina
				Martin
				Poprad
				Trencin
				Trnava
Slovenia		**Ljubljana**		
			Maribor	
	Koper - Izola - Piran			Koper
				Izola
				Piran
Spain		Madrid		**Madrid**
		Barcelona		
		Valencia		
		Sevilla		
		Bilbao		
		Málaga		
			not defined yet (included to list of regional FUAs)	Asturias
				Zaragoza
				la Bahía de Cádiz
				Alicante
				Las Palmas de Gran Canaria
				Vigo - Pontevedra
				Granada
				Murcia
				Donostia/San Sebastián

Valladolid
A Coruña
Santa Cruz de Tenerife - La Laguna
Palma de Mallorca
Córdoba
Pamplona/ Iruña
Castellón de la Plana
Tarragona - Reus
Vitoria/Gasteiz
Santander
la Bahía de Algeciras
Cartagena
Salamanca
León
Burgos
Almeria
Albacete
Huelva
Costa del Sol
Gran Canaria Sur
Costa Blanca
Logroño
Badajoz
Lleida
Ourense
Jaén
Santiago de Compostela
Girona
Lugo
Ferrol
Elda - Petrer
Palencia
Cáceres
Talavera de la Reina
Lorca

Ceuta
Guadalajara
Toledo
Manresa
Zamora
Ponferrada
Alcoy/Alcoi
Linares
Melilla
Ciudad Real
Torrelavega
Sagunto/Sagunt
Gandía
Sanlúcar de Barrameda
Segovia
Vélez-Málaga
Mérida

country	Urban network (polycentric)	International level FUA	national/transnational level FUA	regional FUA
Sweden		**Stockholm**		
		Gothenburg		
	Copenhagen-Malmö	Malmö		
			Uppsala	
				Helsingborg
				Linköping
				Örebro
				Västerås
				Kristianstad
				Norrköping
				Borås
				Luleå
				Falun
				Skövde
				Jönköping
				Gävle
				Umeå
				Karlstad
				Växjö
				Kalmar
				Sundsvall
				Halmstad
				Trollhättan
				Eskilstuna
				Östersund
				Karlskrona
				Uddevalla
				Skellefteå
				Nyköping
				Gotland
				Örnsköldsvik
				Varberg

country	Urban network (polycentric)	International level FUA	national/transnational level FUA	regional FUA
				Härnösand
Switzerland		**Zürich**		
			Geneve	
			Basel	
			Bern	
			Lausanne	Luzern
				St. Gallen
				Winterthur
				Lugano
				Biel (be)
				Thun
				Baden
				Fribourg
				Aarau
				Zug
				Vevey-montreux
				Neuchatel
				Solothurn
				Schaffhausen
				Chur
				Olten

country	Urban network (polycentric)	International level FUA	national/transnational level FUA	regional FUA
United Kingdom	**Greater London urban area includes (below):**	Greater London Urban Area		**London**
	Barking and Dagenham	Birmingham		
	Barnet	Manchester		
	Bexley	Leeds		
	Brent	Newcastle upon Tyne		
	Bromley	Glasgow		
	Camden	Belfast		
	Cheshunt	Edinburgh		
	Croydon	Liverpool		
	Dartford	Bristol		
	Ealing		not defined yet	Aldershot
	Enfield		(included to list of	Ashford
	Epsom and Ewell		regional FUAs)	Aylesbury
	Greenwich			Barnsley
	Hackney			Basildon
	Hammersmith and Fulham			Basingstoke
	Haringey			Bath
	Harrow			Bebington
	Havering			Bedford
	Hemel Hempstead			Birkenhead
	Hillingdon			Blackburn
	Hounslow			Blackpool
	Islington			Bognor Regis
	Kensington and Chelsea			Bolton
	Kingston upon Thames			Bootle
	Lambeth			Bootle
	Lewisham			Bournemouth
	Merton			Bracknell
	Newham			Bradford

Redbridge
Richmond upon Thames
Southwark
Staines
Sutton (London)
Tower Hamlets
Waltham Forest
Walton and Weybridge
Wandsworth
Watford
Westminster
Woking/Byfleet

Brighton
Burnley
Burton upon Trent
Bury
Cambridge
Cannock
Cardiff
Carlisle
Chatham
Cheadle and Gatley
Chelmsford
Cheltenham
Chester
Chesterfield
Colchester
Coventry
Crawley
Crewe
Crosby
Darlington
Derby
Dewsbury
Doncaster
Dudley (West Dudley)
Eastbourne
Eastbourne
Ellesmere Port
Exeter
Fareham/Portchester
Farnborough
Gateshead
Gillingham (Kent)
Gloucester
Gosport
Gravesend

Grays
Greasby/Moreton
Great Yarmouth
Guildford
Halesowen
Halifax
Halifax
Harlow
Harrogate
Hartlepool
Hastings
High Wycombe
Hove
Huddersfield
Huyton-with-Roby
Huyton-with-Roby
Ipswich
Islwyn Urban Area
Kidderminster
Kingston upon Hull
Kingswood
Leamington
Leicester
Lincoln
Littlehampton
Lowestoft
Luton
Macclesfield
Maidenhead
Maidstone
Mansfield
Margate
Middlesbrough
Milton Keynes Urban Area
Newcastle-under-Lyme

Newport (Gwent)
Northampton
Norwich
Nottingham
Nuneaton
Oldbury/Smethwick
Oldham
Oxford
Peterborough
Plymouth
Plymouth
Poole
Portsmouth
Preston (Lancashire)
Reading
Redditch
Rhondda
Rochdale
Rotherham
Royal Tunbridge Wells
Rugby
Runcorn
Sale
Salford
Scunthorpe
Sheffield
Shrewsbury
Slough
Solihull
South Shields
Southampton
Southend-on-Sea
Southport
St Albans
St Helens

St Helens
Stafford
Stevenage
Stockport
Stockton-on-Tees
Stoke-on-Trent
Stourbridge
Sunderland
Sutton Coldfield
Swansea
Swindon
Tamworth
Taunton
Telford
Thanet
Torbay
Torbay
Torquay
Wakefield
Wallasey
Walsall
Warrington
Washington (Tyneside)
Waterlooville
Welwyn Urban Area
West Bromwich
Weston-Super-Mare
Widnes
Wigan
Wolverhampton
Worcester
Worthing
York

Annex 3.

NB Threshold-levels presented in this annex are tentative only (to be tested)
E refers to value in Europe (= values of 29 ESPON-countries)
N refers to national value

CRITERIA

Category	Description	Criteria	note
Global (G)	Cities with global functions/importance	Population: 1% E Industry: 2% E Tourism: 2% E Transport: 2% E Knowledge functions: universities (Top university: criteria of top university is not defined yet) Decision-making centre: 10%E Administrative functions: EU - functions	
European (E)	Cities with European/transnational functions/importance	Population: 1 million inhabitants (FUA) Industry: 1% E Tourism: 1% E Transport: 1% E Knowledge functions, university (50 000 students) Decision-making centre: 5% E Administrative functions: national capital functions	

National (N)	Cities with national/meso-regional functions/importance	Population: 250 000 inhabitants (FUA) Industry: 5% N Tourism: 5% N Transport: 5% N Knowledge functions: university (5 000 students) Decision-making centre: 10% N Administrative functions: capital functions at lower than national level (~NUTS 2 or 3 level, according to national definition)	
Regional (R)	Cities with regional functions/importance	Population: 50 000 inhabitants (FUA) Industry: 2% N Tourism: 2% N Transport: 2% N Knowledge functions, university (less than 5 000 students) Decision-making centre: 5% N Administrative functions: local administrative functions (according to national definition)	especially important in urban-rural partnership

Local (L)	Towns with primarily local functions/importance	Population: 20 000 inhabitants (FUA) Industry: 1% N Tourism: 1% N Transport: 1% N Knowledge functions: no university Decision-making centre: (and business-services): less than 5%N Administrative functions: not relevant	This can be considered as the lowest threshold of urban area -> areas without even local level urban areas can be considered rural especially important in urban-rural partnership

Annex 4. Core indicators, data availability

	population	*gross domestic product*	*GDP per capita in PPP*	*Location of TOP 1500 companies*	*passengers (airports)*	*accessibility indicator*	*Educational attainment level of the persons between the age of 25-59 (as a % of total) High level of educational attainment,*	*R&D personnel % of employment 1998*
year	*2001*	*2000*	*2000*	*2001*	*2000*	*2001*	*1997*	*1998*
level	*NUTS 3*	*NUTS 3*	*NUTS 3*	*NUTS 3*	*NUTS 3*	*NUTS 3*	*NUTS 3*	*NUTS 3*
Austria	EUROSTAT	EUROSTAT	EUROSTAT	national	other source	other source	EUROSTAT	EUROSTAT
Belgium	EUROSTAT	EUROSTAT	EUROSTAT	national	other source	other source	EUROSTAT	EUROSTAT
Bulgaria	EUROSTAT	EUROSTAT	EUROSTAT	national	other source	other source	EUROSTAT	EUROSTAT
Cyprus	EUROSTAT	EUROSTAT	EUROSTAT	national	other source	other source	EUROSTAT	EUROSTAT
Czech Republic	EUROSTAT	EUROSTAT	EUROSTAT	national	other source	other source	EUROSTAT	EUROSTAT
Denmark	EUROSTAT	EUROSTAT	EUROSTAT	national	other source	other source	EUROSTAT	EUROSTAT
Estonia	EUROSTAT	EUROSTAT	EUROSTAT	national	other source	other source	EUROSTAT	EUROSTAT
Finland	EUROSTAT	EUROSTAT	EUROSTAT	national	other source	other source	EUROSTAT	EUROSTAT
France	EUROSTAT	EUROSTAT	EUROSTAT	national	other source	other source	EUROSTAT	EUROSTAT
Germany	EUROSTAT	EUROSTAT	EUROSTAT	national	other source	other source	EUROSTAT	EUROSTAT
Greece	EUROSTAT	EUROSTAT	EUROSTAT	national	other source	other source	EUROSTAT	EUROSTAT
Hungary	EUROSTAT	EUROSTAT	EUROSTAT	national	other source	other source	EUROSTAT	EUROSTAT
Ireland	EUROSTAT	EUROSTAT	EUROSTAT	national	other source	other source	EUROSTAT	EUROSTAT
Italy	EUROSTAT	EUROSTAT	EUROSTAT	national	other source	other source	EUROSTAT	EUROSTAT
Latvia	EUROSTAT	EUROSTAT	EUROSTAT	national	other source	other source	EUROSTAT	EUROSTAT
Lithuania	EUROSTAT	EUROSTAT	EUROSTAT	national	other source	other source	EUROSTAT	EUROSTAT
Luxembourg	EUROSTAT	EUROSTAT	EUROSTAT	national	other source	other source	EUROSTAT	EUROSTAT
Malta	EUROSTAT	EUROSTAT	EUROSTAT	national	other source	other source	EUROSTAT	EUROSTAT
Netherlands	EUROSTAT	EUROSTAT	EUROSTAT	national	other source	other source	EUROSTAT	EUROSTAT
Norway	EUROSTAT	EUROSTAT	EUROSTAT	national	other source	other source	EUROSTAT	EUROSTAT
Poland	EUROSTAT	EUROSTAT	EUROSTAT	national	other source	other source	EUROSTAT	EUROSTAT
Portugal	EUROSTAT	EUROSTAT	EUROSTAT	national	other source	other source	EUROSTAT	EUROSTAT
Romania	EUROSTAT	EUROSTAT	EUROSTAT	national	other source	other source	EUROSTAT	EUROSTAT
Slovakia	EUROSTAT	EUROSTAT	EUROSTAT	national	other source	other source	EUROSTAT	EUROSTAT
Slovenia	EUROSTAT	EUROSTAT	EUROSTAT	national	other source	other source	EUROSTAT	EUROSTAT
Spain	EUROSTAT	EUROSTAT	EUROSTAT	national	other source	other source	EUROSTAT	EUROSTAT
Sweden	EUROSTAT	EUROSTAT	EUROSTAT	national	other source	other source	EUROSTAT	EUROSTAT

Switzerland	EUROSTAT	EUROSTAT	EUROSTAT	national	other source	other source	EUROSTAT	EUROSTAT
United Kingdom	EUROSTAT	national	national	national	other source	other source	EUROSTAT	EUROSTAT

Additional indicators, data availability, continued.

	R&D personnel % of employment 1998	*R&D expenditure per capita*	*Population 1990*	*Gross domestic product 1990*	*Unemployment rates*	*Gross value added in service sector*	*Turnover of TOP 500 companies*	*Employees in TOP 500 companies*	*Location of urban core (Urban Agglomeration) = pinpointing where the centroid of FUA is (coordinate)*	*Commuting data*
year	*1998*	*1998*	*1990*	*1990*	*2000*	*2000*	*2001*	*2001*	*2001*	*2001*
level	*NUTS 3*	*NUTS 3*	*NUTS 3*	*NUTS 3*	*NUTS 3*	*NUTS 3*	*NUTS 3*	*NUTS 3*	*FUA*	*FUA*
Austria	EUROSTAT	EUROSTAT	EUROSTAT	EUROSTAT	EUROSTAT	NUTS 2	other source	other source	national	national
Belgium	EUROSTAT	EUROSTAT	EUROSTAT	EUROSTAT	EUROSTAT	EUROSTAT	other source	other source	national	national
Bulgaria	EUROSTAT	EUROSTAT	EUROSTAT	EUROSTAT	EUROSTAT	EUROSTAT	other source	other source	national	none
Cyprus	EUROSTAT	EUROSTAT	EUROSTAT	EUROSTAT	EUROSTAT	EUROSTAT	other source	other source	national	none
Czech Republic	EUROSTAT	EUROSTAT	EUROSTAT	EUROSTAT	EUROSTAT	EUROSTAT	other source	other source	national	none
Denmark	EUROSTAT	EUROSTAT	EUROSTAT	EUROSTAT	EUROSTAT	EUROSTAT	other source	other source	national	national
Estonia	EUROSTAT	EUROSTAT	EUROSTAT	EUROSTAT	EUROSTAT	EUROSTAT	other source	other source	national	none
Finland	EUROSTAT	EUROSTAT	EUROSTAT	EUROSTAT	EUROSTAT	EUROSTAT	other source	other source	national	national
France	EUROSTAT	EUROSTAT	EUROSTAT	EUROSTAT	EUROSTAT	NUTS 2	other source	other source	national	national
Germany	EUROSTAT	EUROSTAT	EUROSTAT	EUROSTAT	EUROSTAT	EUROSTAT	other source	other source	national	national
Greece	EUROSTAT	EUROSTAT	EUROSTAT	EUROSTAT	EUROSTAT	EUROSTAT	other source	other source	national	none
Hungary	EUROSTAT	EUROSTAT	EUROSTAT	EUROSTAT	EUROSTAT	EUROSTAT	other source	other source	national	none
Ireland	EUROSTAT	EUROSTAT	EUROSTAT	EUROSTAT	EUROSTAT	EUROSTAT	other source	other source	national	national
Italy	EUROSTAT	EUROSTAT	EUROSTAT	EUROSTAT	EUROSTAT	EUROSTAT	other source	other source	national	none
Latvia	EUROSTAT	EUROSTAT	EUROSTAT	EUROSTAT	EUROSTAT	EUROSTAT	other source	other source	national	none
Lithuania	EUROSTAT	EUROSTAT	EUROSTAT	EUROSTAT	EUROSTAT	EUROSTAT	other source	other source	national	none
Luxembourg	EUROSTAT	EUROSTAT	EUROSTAT	EUROSTAT	EUROSTAT	EUROSTAT	other source	other source	national	national
Malta	EUROSTAT	EUROSTAT	EUROSTAT	EUROSTAT	EUROSTAT	EUROSTAT	other source	other source	national	none
Netherlands	EUROSTAT	EUROSTAT	EUROSTAT	EUROSTAT	EUROSTAT	EUROSTAT	other source	other source	national	none
Norway	EUROSTAT	EUROSTAT	EUROSTAT	EUROSTAT	EUROSTAT	EUROSTAT	other source	other source	national	national
Poland	EUROSTAT	EUROSTAT	EUROSTAT	EUROSTAT	EUROSTAT	EUROSTAT	other source	other source	national	none
Portugal	EUROSTAT	EUROSTAT	EUROSTAT	EUROSTAT	EUROSTAT	EUROSTAT	other source	other source	national	none
Romania	EUROSTAT	EUROSTAT	EUROSTAT	EUROSTAT	EUROSTAT	EUROSTAT	other source	other source	national	none

Slovakia	EUROSTAT	EUROSTAT	EUROSTAT	EUROSTAT	EUROSTAT	EUROSTAT	other source	other source	national	none
Slovenia	EUROSTAT	EUROSTAT	EUROSTAT	EUROSTAT	EUROSTAT	EUROSTAT	other source	other source	national	none
Spain	EUROSTAT	EUROSTAT	EUROSTAT	EUROSTAT	EUROSTAT	EUROSTAT	other source	other source	national	none
Sweden	EUROSTAT	EUROSTAT	EUROSTAT	EUROSTAT	EUROSTAT	EUROSTAT	other source	other source	national	national
Switzerland	EUROSTAT	EUROSTAT	EUROSTAT	EUROSTAT	EUROSTAT	EUROSTAT	other source	other source	national	none
United Kingdom	EUROSTAT	EUROSTAT	EUROSTAT	EUROSTAT	EUROSTAT	none	other source	other source	national	national

2.4 EUROPEAN URBAN NETWORKING

2.4.1 Introduction

The main objectives of this paper are to provide some provisional results of our study on European Urban Networking with regard to polycentrism. This project is presented in four parts.

In the first part, we present the conceptual context of this work. Our hypothesis on European Urban Networking is explicitly developed with regard to the definition and approach of polycentrism.

In the second part, the main models of European territorial integration through urban networks are briefly presented. These models have already been highlighted and explained in more depth in a previous study [1]. In this paper, we explain why this work is of paramount importance from an operational point of view.

In the third part, a presentation of our empirical project on European Urban Networking – through the analysis of specialized and thematic urban networks and co-operations – is made.

A comprehensive list of indicators, images and maps on the specialized and thematic networks is provided and commented upon in part four. At this stage, all results should be considered as 'provisional'.

2.4.2 Conceptual context and background

We would like to underline that the majority of work on European cities was undertaken in order to produce knowledge on the cities themselves, to evaluate their strengths and weaknesses, and to estimate their growth rates. This means that a large majority of the studies on the European cities constantly produced and reproduced urban typologies.

Our objective in this work is to understand how the networks – of exchanges and co-operations – modify the relation between society and space and how they seek to reorganize territorial structures. On the other hand, we would like to discover whether these modifications and trends enhance, or to the contrary work against the forming of polycentric structures at the European level.

We place our study in the context of the relational logic of territories. Taking the M. Castells (1998) expression we would rather privilege the « space of flows » than the « space of places ». This hypothesis will help us to better understand the models of organisation and the dynamics of a given territory. As such, polycentrism is analysed through the capacity of cities to network i.e. their capacity to be included in multiple networks of relations.

[1] Cattan N., Saint-Julien Th., 1998, *Modèles d'intégration spatiale et réseau des villes en Europe occidentale,* L'espace géographique, n°1.

2.4.3 Models of European territorial integration through urban networks

2.4.3.1 The various forms of European territorial integration

The basic forms of European territorial integration are often reduced to two 'classical' models:

- The centre-peripheries model.
- The national urban systems model.

In both of them, European space is presented in a dichotomous way.

In the centre-periphery model, European space is reduced to one dominant centre with dependant or isolated peripheries. At this stage, we would like to present the centre not as the megalopolis that goes from London to Milan (i.e. the blue banana) but as a polycentric network of cities that includes London, Paris, Frankfurt, Amsterdam and Milan, and could perhaps, in the medium term, be extended to Berlin.

In terms of national urban systems, European spatial organization is seen through the major national centres that dominate secondary/regional centres, in a hierarchical structure.

To reduce the integration processes to these two models of structuration is to say that European spatial integration is limited, fragile and weak!

In fact, the structure of the European territory observed through urban networks is much more diversified than this. Two further integration models do however supplement the previous ones cited above:

- Specialized and thematic urban networks defined by a logic of production supporting territorial integration. The exchanges can be based on complementarities and cooperation between cities but they can also result from competitiveness between cities. The best examples of specialized networks are the scientific financial and the aeronautical ones.

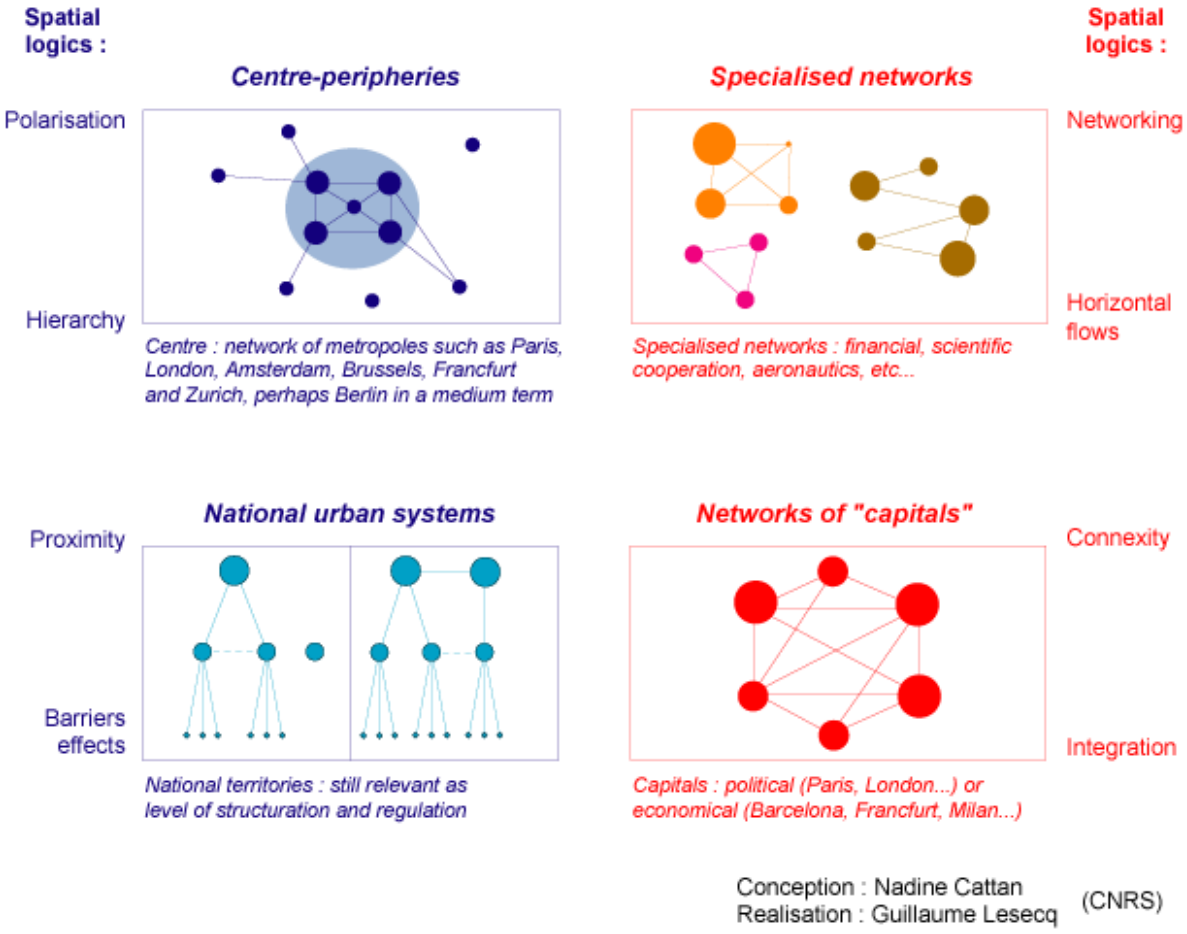
- Territorial integration is also issued from the "capitals" networks. The "capitals" are thus political and economic, central and peripheral.

One can say that these two types of networks support the connexity of the European urban networks because they intensify and diversify inter-urban linkages in Europe. Indeed, these kinds of networks are often less constrained by distance, hierarchy or political borders and barriers.

THE NETWORK OF CAPITALS NOWADAYS CONSTITUTES THE MOST DYNAMIC ENGINE OF TERRITORIAL INTEGRATION AT THE EUROPEAN SCALE. Related to the ESDP, the global integration zones that have to balance European growth should, at least in a first instance, rely on these capitals cities/regions and networks.

At the same time, we should be aware that SPECIALISED and THEMATIC NETWORKS and COOPERATIONS ARE THE MOST CAPABLE VECTORS TO DIVERSIFY FORMS OF URBAN NETWORKING AND TO PROMOTE A LESS POLARISED AND LESS HIERARCHICAL SPATIAL ORGANISATION OF CITIES, leading to a more polycentric structure.

Networks of European territorial integration



Source : N. Cattan, Th. Saint-Julien, 1998

2.4.3.2 Operational learning

How these conclusions make it possible to answer requests raised by spatial planners, and how allowance is made for advising and proposing development strategies that reinforce the cohesion and the integration of the European space in the context, and with the objective, of achieving a polycentric and sustainable development.

Two major points can be made here:

- The first is to say that the identification of a specific urban level defined by the criterion of size (mainly population to reach a minimum size) is not the best way to define an urban development strategy. Even where size remains relevant in the attraction of population, enterprises etc…. it does not constitute a comprehensive indicator. This is even more explicit when the challenges faced by the development strategies and planning issues occur on an international scale.

- The second message to be addressed to spatial planners is that they must understand that THE CHALLENGES FOR SPATIAL PLANNING STRATEGIES SHOULD FOCUS MORE AND MORE ON THE NETWORKS AND LESS AND LESS ON THE POLES THEMSELVES.

2.4.4 Specialised and thematic urban networks and cooperation

Our work on specialized and thematic networks and co-operation is directed by the two following questions :

- ⇨ How do specialized and thematic networks in Europe contribute to the emergence, or to the reinforcement, of new functional models of organisation?

- ⇨ How do these types of networking contribute to the outcomes of polycentric organisation at the European and national levels?

Three complementary networking dimensions will help us to answer these questions.

2.4.4.1 Networking linked to scientific and university cooperation

In the knowledge-based society, for territories across Europe, access to knowledge is a competitive factor at least as vital as their access to infrastructure goods. In that context, scientific cooperation and inter-university cooperation constitute very promising potentials to analyse news aspects of networking at the European level.

To analyse how universities cooperate, the data sources are:

- *University cooperation* in the context of ERASMUS thematic networks (collection in progress).

- *Exchanges of students* in the context of the ERASMUS Programme (collection achieved for flows but the total number of students in each of the European cities that participate in the ERASMUS programme is still needed).

To analyse the scientific networks we are in the process of negotiating access to the following database:

- *Scientific cooperation* between research institutes that occur in the context of the Fifth Framework Programme.

2.4.4.2 Networking linked to trans-border and transnational cooperation

The second aspect of networking is linked to INTERREG trans-border and transnational cooperation. From a polycentric point of view, these two kinds of cooperation are of paramount importance because they occur at all territorial levels and lead to the emergence of multi-scalar urban networks. The multi-scalar dimension of those networks of cooperation helps intensify the capacity of urban networks to integrate such that this becomes the major contribution to the enhancement of polycentrism.

Trans-border networks enhance synergies between cities that are in relative spatial proximity. In the context of INTERREG, these networks correspond to cooperation that could occur between cities from both sides of a political border. They are supported by INTERREG IIa and IIIa.

Transnational networks enhance synergies between cities that are relatively connected i.e. where spatial proximity is not a condition, or pre-condition, of the development of inter-urban cooperation. These types of networks are supported by INTERREG IIc, IIIb and IIIc programmes.

2.4.4.3 Networking linked to air traffic

The third dimension of networking is related to air traffic. As air traffic is a synthetic indicator of various societal trends (tourism, business trips….), it is thus a major indicator of European territorial dynamics.

It also provides an indication as to the spatial integration of Europe in wider world networks.
Many internal differentiations in the European space are related to the flows between Europe and the rest of the world. Air flows help us to identify the main European gateway cities and to determine whether they have developed preferential linkages with other specific world cities or world regional areas or whether, to the contrary, they are involved in various multi-directional world networks.

2.4.5 European Urban Networking: initial results and comments

2.4.5.1 European urban networking linked to university cooperation

The emergence of the knowledge-based society demonstrates the importance of access to information and to knowledge. Thus, for regional development and spatial planning, access to knowledge becomes as vital as access to transport infrastructures. During the last decade, several studies have analysed the territorial impact of university location. "It has become mainstream thinking that universities have to be responsive to local needs of learning and production and to take an active part in forming the institutional milieu of so-called *learning regions*" (N. Boje Groth, S. Alvheim, 2001).

In this context, the challenge of cooperation between universities is becoming a priority for the regional development strategies. In addition, university networking is becoming a major indicator as regards questions over the emergence of a polycentric structure for Europe's urban system.

Our initial results on university networking on the European scale concern the exchanges of students in the context of the ERASMUS programme. The majority of studies that have already analysed student flows in Europe did so at the national scale. Nothing has yet been done at the European level, i.e. no study has been undertaken covering all of Europe, analysing the whole matrix of exchanges between universities at sub-national scales.

Our objective is to study the flows of students in Europe with regard to urban networking. Thus, a huge amount of work on the data has been necessary to transform the ERASMUS files and to discern the urban location of the origins and destinations of the students concerned.

Methodology for identifying the location of student origins and destinations

ERASMUS files provide the university of origin and of destination for each student.
An ERASMUS institutional code identifies each university:

- 3 letters or spaces for the country
- 7 letters for the city
- 2 or 3 numbers for the institution (university, school, institute….)

At that stage of the study, we decided to locate each institution by its administrative address, note should however be taken of the fact that this system has some consequences on the final geographical location of a few institutions, mainly those located in the suburbs of large cities.

Cities' absolute attractiveness for ERASMUS students

The main questions in relation to polycentrism

- How do medium sized cities and regional capitals perform?
- Can the strengths/weaknesses of some cities be explained by regional/national urban structures?

Brief comments

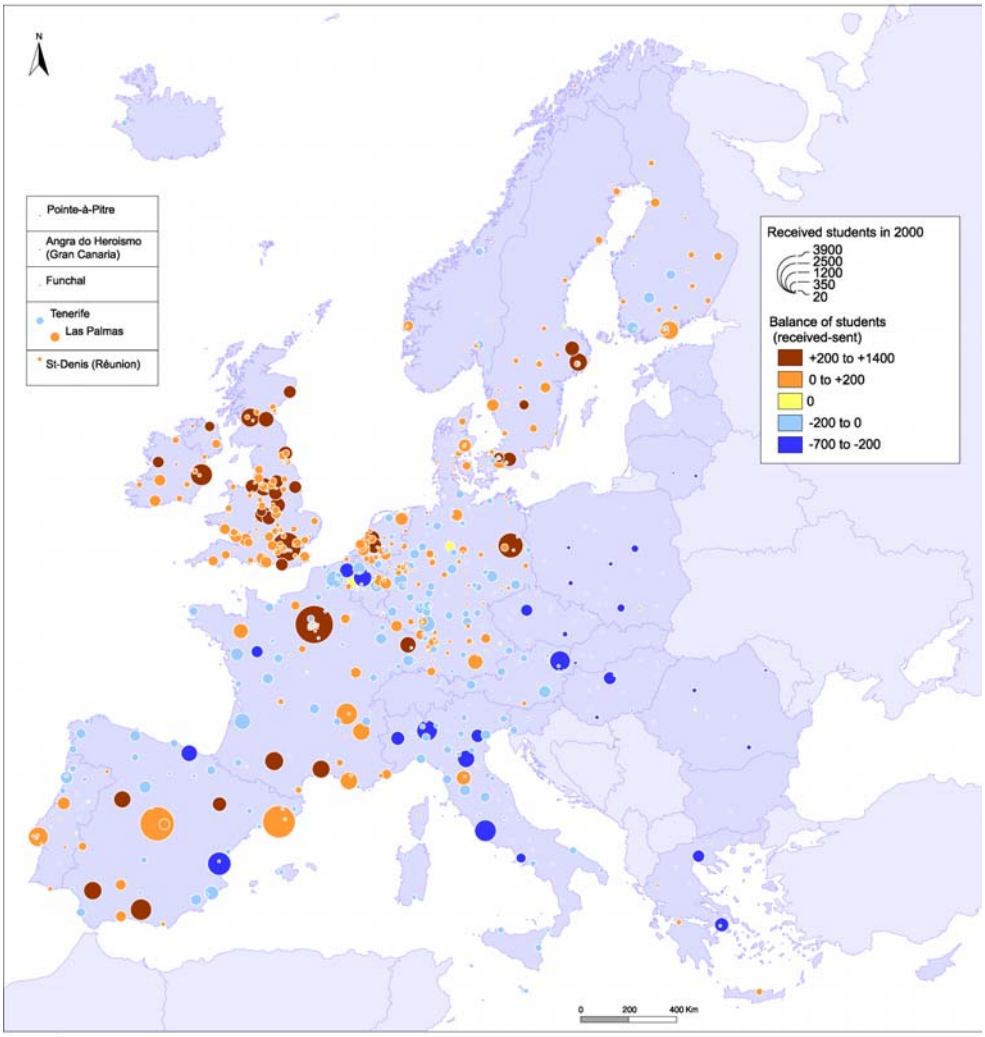
The map shows, for cities where at least one university participates in the ERASMUS programme, the balance of students, i.e. the differences between the students received by the city and those 'exported'.

Among the 14 most attractive cities, 12 correspond to the major national or regional capitals. All of these cities are located in the Western part of Europe. Although they are very attractive, Valencia, Roma, Milano and Wien send more students than they receive. London, Berlin, Dublin and Granada, respectively the 4th, 5th 7th and 10th most attractive cities, have a higher balance of students than Madrid and Barcelona, the 2nd and 3rd most attractive cities.

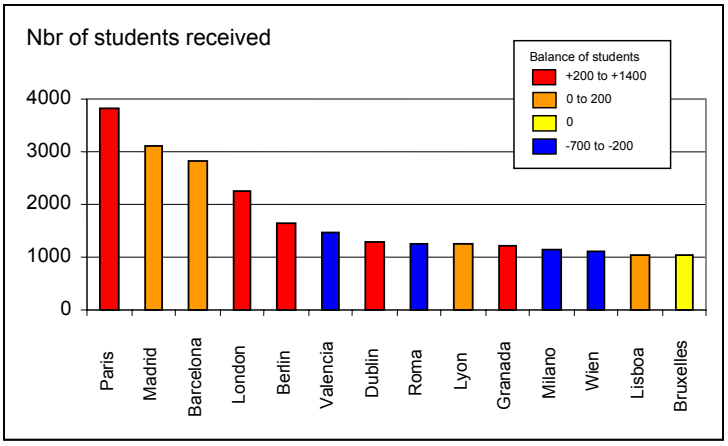
In general terms, all Swedish, Irish and British cities have a positive balance while Italian cities have a negative balance. By and large, a strong East – West differential is observed with regard to destination attractiveness. Except for Vienna, Rome, Milan, Athens and all of the central-eastern capitals, the other main capitals –political and economic - receive more students than they 'export'.

It is difficult, at that stage of the study, to provide a comprehensive interpretation of these results. Complementary measures thus have to be developed to secure those results and their interpretations.

CITIES' ABSOLUTE ATTRACTIVITY FOR ERASMUS STUDENTS



Source : Erasmus
© N. Cattan, G. Lesecq, CNRS-Géographie-cités, 2003



Orientation and volume of ERASMUS student flows

The main question in relation to polycentrism

- What is the asymmetrical degree of the student's networks for each cities?

Brief comments

It is not enough to reach a positive balance of students. It is also necessary to develop and maintain equilibrated relations with other cities.

Methodology for the calculation of the orientation of flows

The indicator calculated for the map on "orientation of ERASMUS student flows" enables us to measure the degree of asymmetry of student arrivals and departures. The index can be calculated quite simply. It corresponds to the ratio between

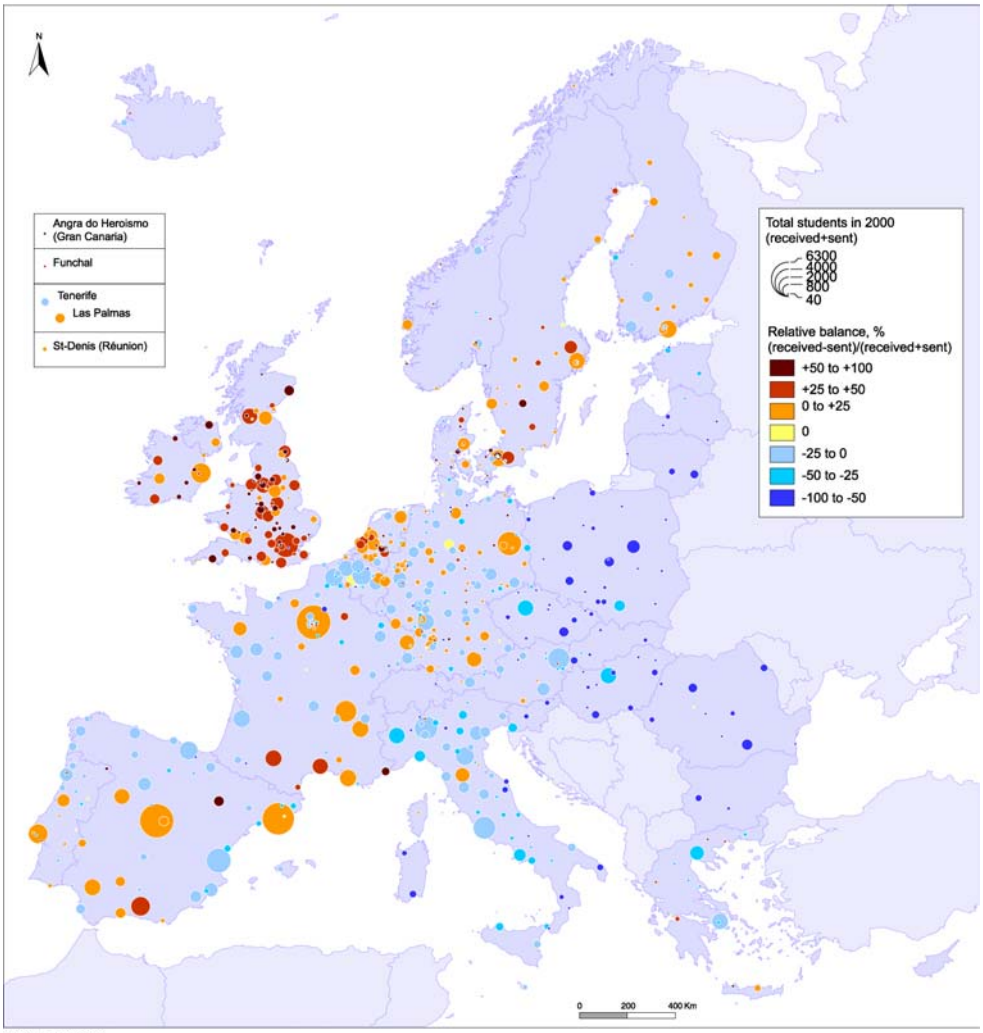
a) the difference between the students that arrive and those that leave a given city, and
b) the total volume of students (received+exported).

It is expressed as a percentage, varying from –100% to 100%. The closer the index is to 100, the greater is the asymmetry of the network; the closer it is to 0, the greater is the tendency to maintain links of the same intensity in both directions.

In relative terms, London and indeed most other British cities seem to attract more students than other European cities. A few French southern cities, some Spanish, Swedish and Irish cities also show a similar level of performance.

However, this index means that those cities have an important asymmetry between their arrivals and departures with regard to the total volume of students exchanged. In that sense, one can argue that this asymmetry is a sign of autarky, and that a better position is given by cities where the asymmetry is less evident, i.e. where the number of students received by a city correspond to an equivalent number of students exported. This equilibrium of exchanges can be considered as the best warrant of the existence of a real network, and is thus a very encouraging sign as regards the existence of polycentric networking.

ORIENTATION AND VOLUME OF ERASMUS STUDENTS FLOWS



Source : Erasmus
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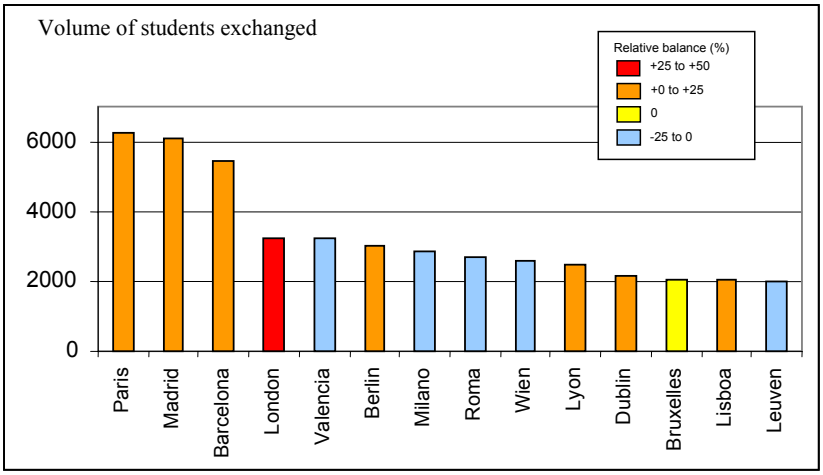


Top ERASMUS networks in 2000

The main questions in relation to polycentrism

- Do some poles polarize the network?
- Are the flows strongly asymmetrical, or are they symmetrical and multi-directional?
- Which models of networks draw the principal flows of students in Europe?

Brief comments

The main flows, those with more than 40 students, of the ERASMUS network show

- A polycentric structure at the Western European level that corresponds to the network of capitals.

- A very significant attraction towards Madrid, Barcelona and Valencia that could be partly explained by a heliotropism logic and partly by the image those cities provide.

- A very important attraction towards Paris and London

Among the 10 major flows, 6 are polarized by Paris, 3 by Madrid and one by London. It is interesting to underline the fact that two connections are quite symmetrical: they concern Paris and Madrid, on the one hand, and Paris and London, on the other.

Major domination and dependence

The main questions in relation to polycentrism

- What are the network structures that describe the major flows of students?
- Do the major flows highlight any privileged transnational associations?

Brief comments

Graph theory provides a simple tool to define the main structure of a given network. It gives an image of the main preferential direction of the major connections of each city. This leads to the identification of the main dominant centres of attraction and, contrarily, those that are dependent.

The methodology can be summarized as follows:

1. Identify the major flows sent from a city (A).
2. Verify that the city of destination (B) is « larger » than the city of origin (A): size is usually measured by the total number of received flows by the city of destination (B).
3. If the city of origin (A) sends its major flow to a city of destination (B) that is larger, THEN (A) is dependant on (B). On the contrary, if (A) sends its major flow to a city of destination that is smaller, THEN (A) is a dominant city.

The first impression given by the major flows is that of a network dominated by Paris. This monocentric structure is however supplemented by an important number of transversal flows linking cities at a meso-regional level and on a wider transnational scale. For example, Madrid has privileged linkages with cities located in Northern France, Belgium and The Netherlands. Major flows also show privileged associations between Italian cities and Spanish ones. Some trans-border flows can, in addition, be highlighted.

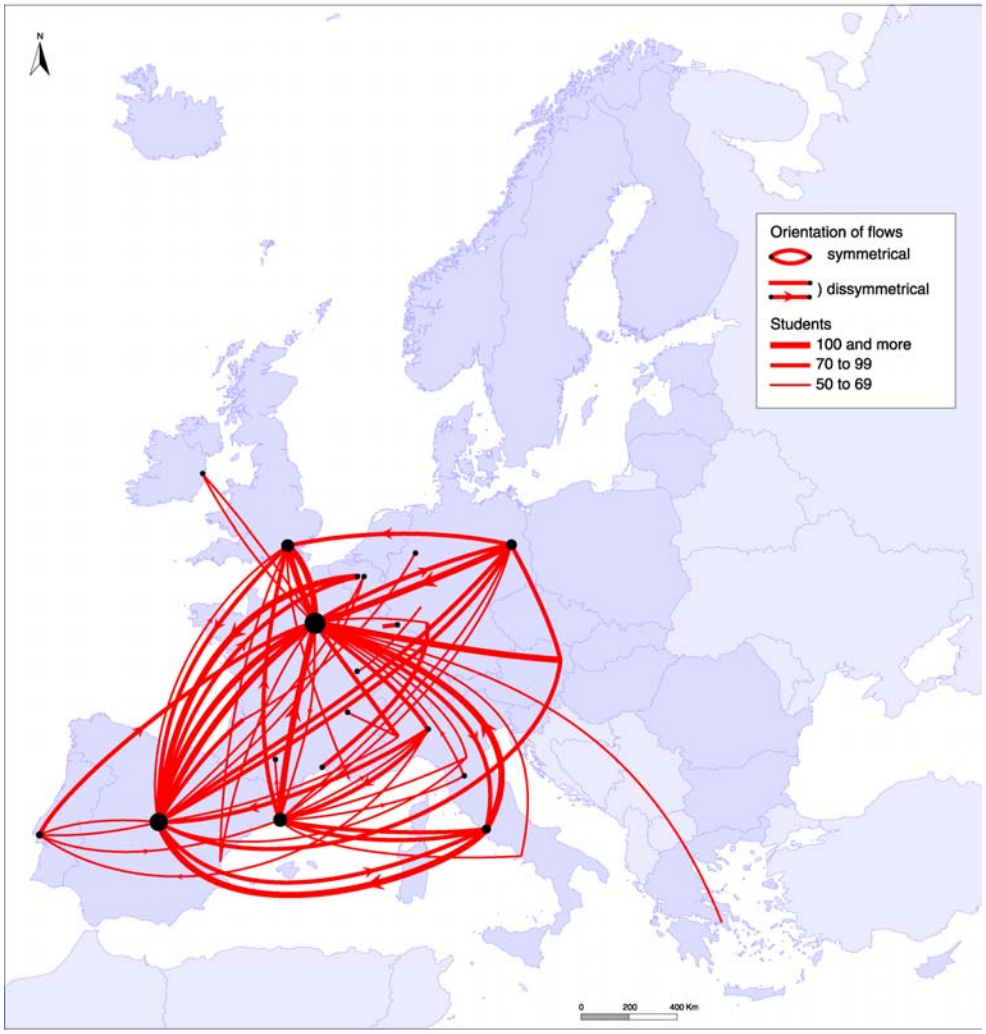
What is important to notice here is that the major flows allow us to identify approximately 20 dominant cities i.e. those receiving the first flow from at least one other city. Although the major domination and dependence structure is strongly polarized, the transversal links and the important number of cities receiving the first flow of one other city can be considered as a dynamic sign that supports the emergence of a polycentric structure of urban networking at the European level.

Conclusion

Those initial results should be secured through future analysis in order to better identify the processes that shape the networking processes. The next steps of our analysis should enable us to define the forms of polycentrism that are drawn from these networks. It should also help us to propose an evaluation of the degree of polycentrism.

In addition, our objective is to better highlight the privileged links that occur between these cities in order mainly to understand whether the transnational areas of cooperation, defined in INTERREG III B, such as the North West Area, CADSES etc, areas that could be called « small Europes », produce any preferential networking.

TOP ERASMUS NETWORKS IN 2000



Source : Erasmus
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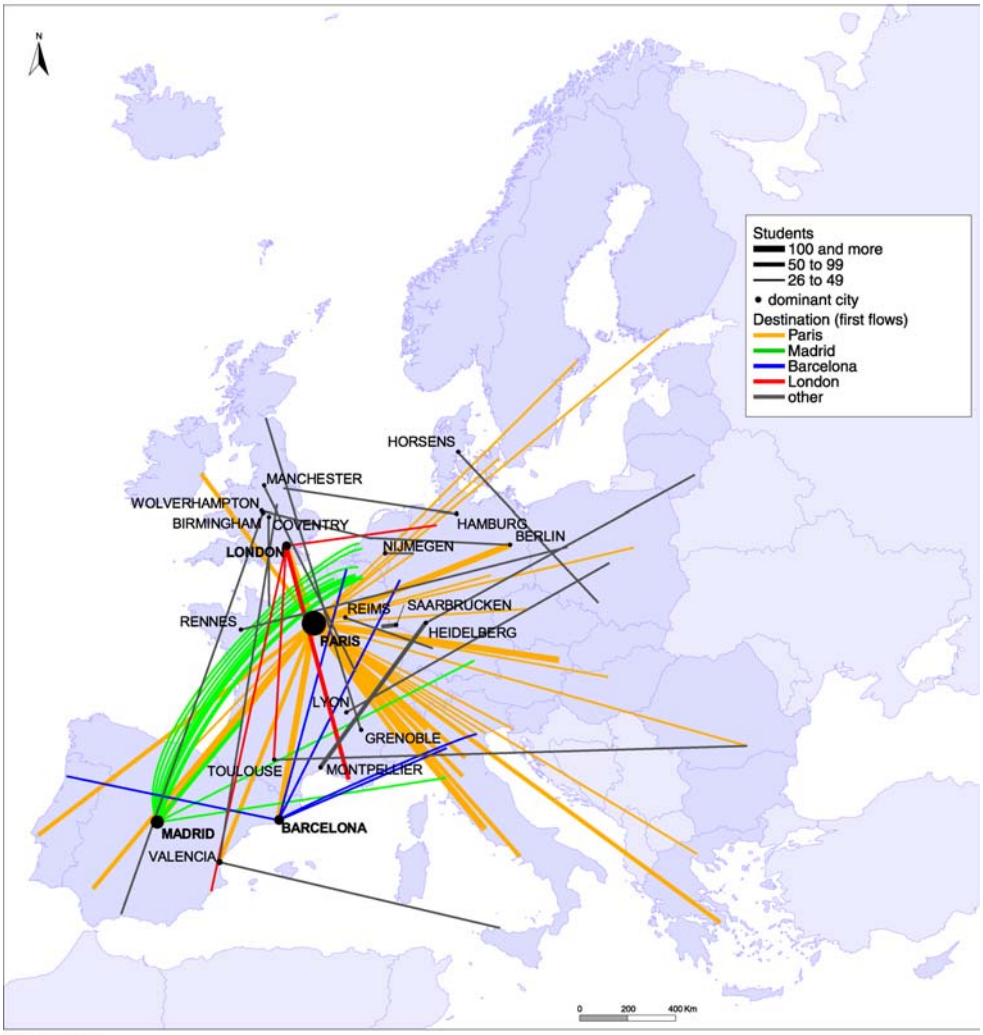
Link	*Rank*	*Students*
Paris > London	1	> 200
Madrid > Paris	2	
Paris > Madrid	3	
Berlin > Paris	4	100 to 200
London > Paris	5	
Barcelona > Paris	6	
Roma > Paris	7	
Wien > Paris	8	
Roma > Madrid	9	
Bruxelles > Madrid	10	

MAJOR DOMINATION AND DEPENDENCE
Major flows of students in 2000



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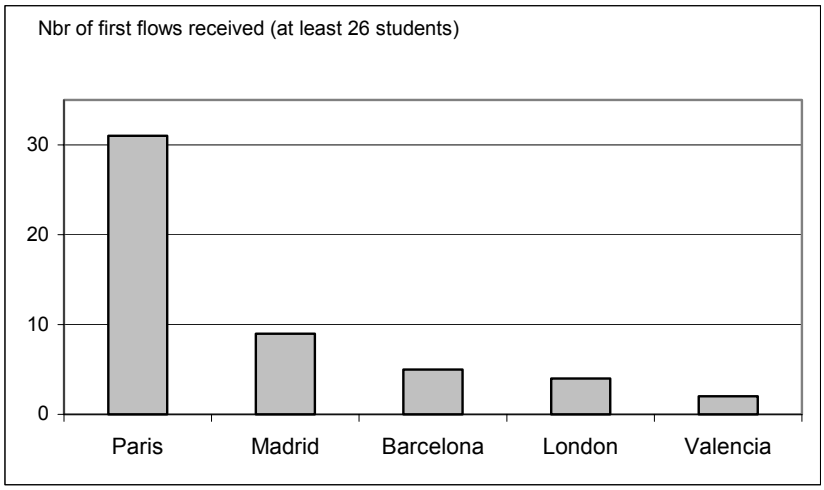


2.4.5.2 European urban networking linked to trans-border cooperation

a) Context

New relations between EU cities separated by borders have emerged during the last decades in the context of ongoing European integration. It is however not easy to have an overview of these relations because of questions over the availability of data: relations take different shapes among cities and countries; moreover they are led by different partners (e.g. local municipalities, administrations, civil society, associations, firms). For this topic, one of the only common EU data sources is the INTERREG CIP. INTERREG's main purpose is to foster cross border links; so a thorough analysis of INTERREG files can provide a picture of cross border urban networks.

The current work presents the methodology that has been designed to analyse the cooperation that occurs in the context of the INTERREG programme. The method is applied to the Franco-Belgian and to the Franco-German-Swiss border areas.

The **next steps** will be to enlarge this work to transnational areas i.e. to analyse in the same way, and with a comparable methodology, the cooperation that develops in the context of INTERREG II C, III B and III C. Our project will focus initially on three areas : North West Europe, CADSES and the Atlantic Arc.

b) Methodology

Based on INTERREG II A programmes (1994-1999), three trans-border zones have been taken into consideration:

- France-Flanders (73 projects)
- France-Wallonia (142 projects)
- France-Germany-Switzerland (Rhin Supérieur Centre Sud) (94 projects)

To analyse the types of networking that occur in INTERREG programmes with regard to a polycentric perspective, each project has been analysed within a set of common rules to identify a) the spatial scope of the project, b) the topic of cooperation, c) the kind of partners involved, d) the project results.

⇨ **Spatial scope of the project**

This category is one of the most important as far as polycentrism is concerned, because it allows for the selection of polycentrism-related projects.

The spatial scope may be of 3 kinds:

- **Zonal**. The project aims at fostering exchanges between people belonging to large areas (e.g. INFOBEST in the Franco-German border region, which aims at providing advice on cross border matters to all border people). It does not concern any urban network.
- **Linear**. The purpose of the project is to improve cross border connections (setting up trans-border public bus services, widening and maintaining canals…etc). To some extent this can be associated with polycentrism, for example when 2 municipalities work together on such a project. Nevertheless, these projects are not taken into account in the present paper, though they will be in the next steps of the work.
- **Punctual**. The project leads to the production of common output between well-localized partners. The very purpose of the project is to strengthen the links between them (and not to benefit people from a large area *per se* ☐ zonal). In this

paper, analysis will focus on punctual projects because they are immediately linked to urban networking issues.

⇨ **Topic of cooperation**

12 topics have been identified.

Planning	Environment	Training	Tourism
Economy	Culture	Research	Health
Transport	Agriculture	Vocational training	Information

These topics have been gathered into 5 categories.

Training	Cultural and Natural Environment	Planning, Economy and Transport	Tourism	Daily life (health, information)

⇨ **The types of partners involved**

The partners involved in the projects can be of different types:

- local municipalities
- national, regional or sub-regional institutions
- associations
- firms

⇨ **Project results**

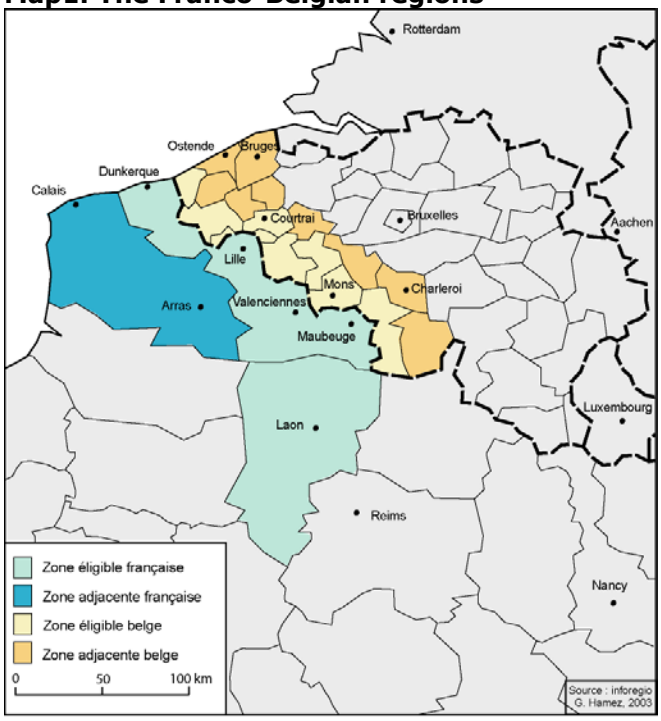
What are the main outcomes of the project?

- Drawing up of plans, papers, studies;
- information: networking, common marketing, common events, etc.
- working out a common structure (such as the INFOBEST);
- school, university and vocational training;
- setting up light common facilities (rambling paths, TV programmes, web sites and newsletters, etc.)
- setting up heavy common facilities (improving roads, restoring customs houses, etc.)

c) Initial results for the Franco-Belgian border

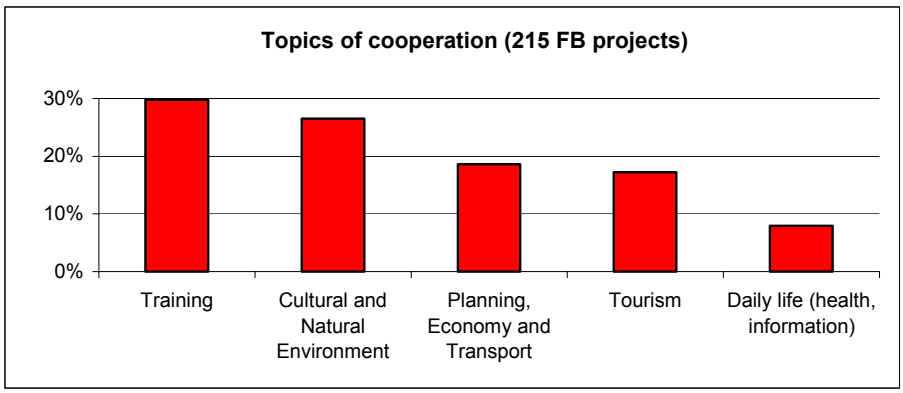
As regards the Franco-Belgian border (map 1), a brief view of the results can be provided. The total number of projects was 215.

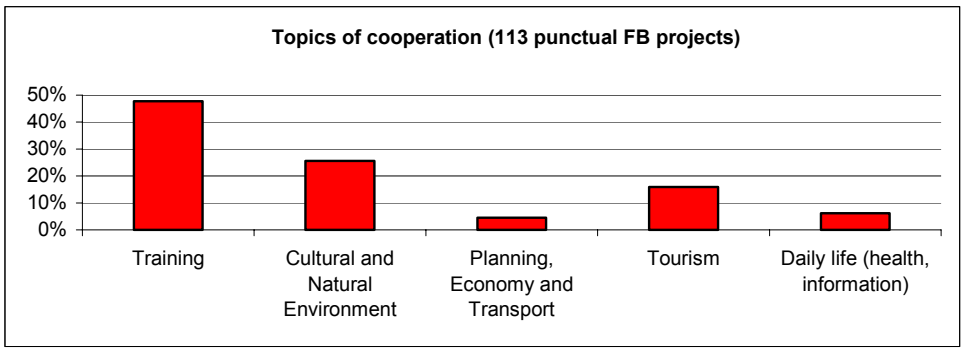
Map1. The Franco-Belgian regions



Spatial scope and the topic of cooperation:

The major portion of the projects concerned falls into the 'punctual' type category (53%). Then comes the 'zonal' type (40%), and finally the 'linear type' (7%). There is a relation between the projects' spatial scope and the topic of cooperation. We have observed that some topics are over-represented in the punctual type, and others are under-represented.





It is possible to analyse more precisely the topic specificity of various projects following their spatial scope, by means of a contingency table in order to highlight the over or under representation of each topic with regard to spatial scope (table 1). In this table, the topics of cooperation are crossed with the spatial scope. The figures in italics are calculated from the product of the margins divided by the total; the figures in bold are the difference between the observed figure and the theoretical one.

Table 1. Spatial scope and topics of cooperation

Observed *Theoretical* **Deviation**	**Punctual**	**Linear**	**Zonal**	**Total**
Training	54 *33,6* **20,4**	0 *4,8* **-4,8**	10 *25,6* **-15,6**	64
Environment	29 *30,0* **-1,0**	6 *4,2* **1,8**	22 *22,8* **-0,8**	57
Planning, Economy and Transport	5 *21,0* **-16,0**	7 *3,0* **4,0**	28 *16,0* **12,0**	40
Tourism	18 *19,4* **-1,4**	3 *2,8* **0,2**	16 *14,8* **1,2**	37
Daily life	7 *8,9* **-1,9**	0 *1,3* **-1,3**	10 *6,8* **3,2**	17
Total	113	16	86	215

Hamez

From table 1, we can infer that the topic of "planning, economy and transport" is over-represented for zonal projects, and under-represented as regards punctual ones. On the contrary, the topic of "training" is over-represented in the punctual projects.
In other words, the projects related to polycentrism (i.e. punctual type) are much more concerned with the topic of training than the global amount of projects, and far less concerned with the topic of "economy".

Analysis in terms of polycentrism: which towns are involved?

In this part, only the projects related to the punctual type are considered.
An initial overview of the number of projects per town is provided in figure 1. At first glance, 3 categories can be identified.

- 4 towns stand out and can be gathered into a *first class*: Lille (F), Valenciennes (F), Mons (B) and Charleroi (B). Each of these towns is involved in more than 24 projects.
- A *second class* is formed by towns involved in more than 5 projects but less than 11. There are 5 towns in this class, 3 Belgian (Tournai, Courtrai, Mouscron) and 2 French (Maubeuge, Dunkerque).
- A *third class* is composed of the 22 towns involved in more than 2 projects but less than 4. There are 10 French towns and 12 Belgian in this category.

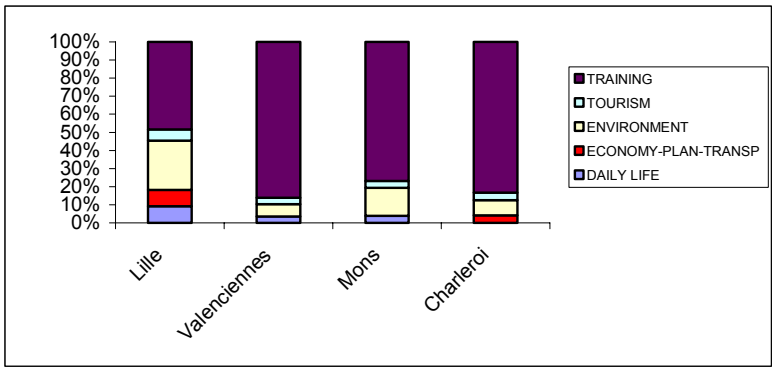
Further analysis could be made in respect of this data by means of a gravity model: the weight of each town would be valued following its population and its distance to the border. Then it could be assessed which towns are actually more involved in cross border interrelations than the model would lead us to expect, and which are under-represented.

Moreover, the border is linguistic between France and Flanders but not between France and Wallonia. The interest of such a model could be an evaluation of the linguistic factor weight in the INTERREG relations.

The different topics of cooperation between towns.

We consider here only the projects of the punctual type. Focus here is on the 4 cities involved in more than 20 projects.

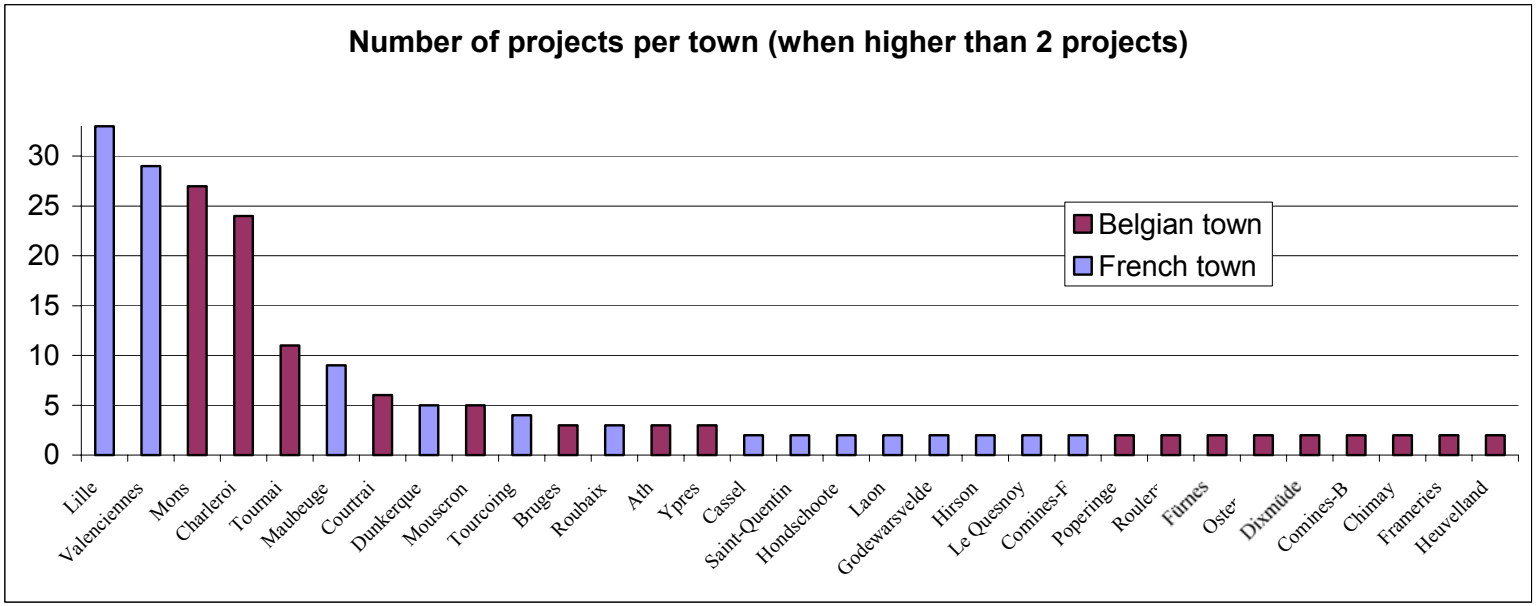
Topics of cooperation per town



There are few common points between the 4 cities. The only ones being:
- the topic of "training" is dominant in each city (more than 50%)
- the topic of "environment" is the second most important.

Huge differences do however emerge between the 4 cities as regards their topic-profile, particularly between Lille and the 3 others. Lille's profile is the most diversified; there are projects in each of the 5 themes. The 3 other cities are much more focused on projects in respect of training (more than 80% of the projects).

Figure 1. The towns involved in more than 2 projects.



At this stage, an explanation can be proposed as regards the size of these towns. There are around 1million inhabitants in Lille, against 206 000 in Charleroi, 92 000 in Mons and 59 000 in Valenciennes. Moreover, Lille plays the role of a regional capital and consequently provides a lot of services. On the contrary, the profile of the 3 other cities deals more with heavy industry than services. The weight of the "training" topic can thus be linked to the numerous institutions of vocational training in these cities.

Which couplets of towns?

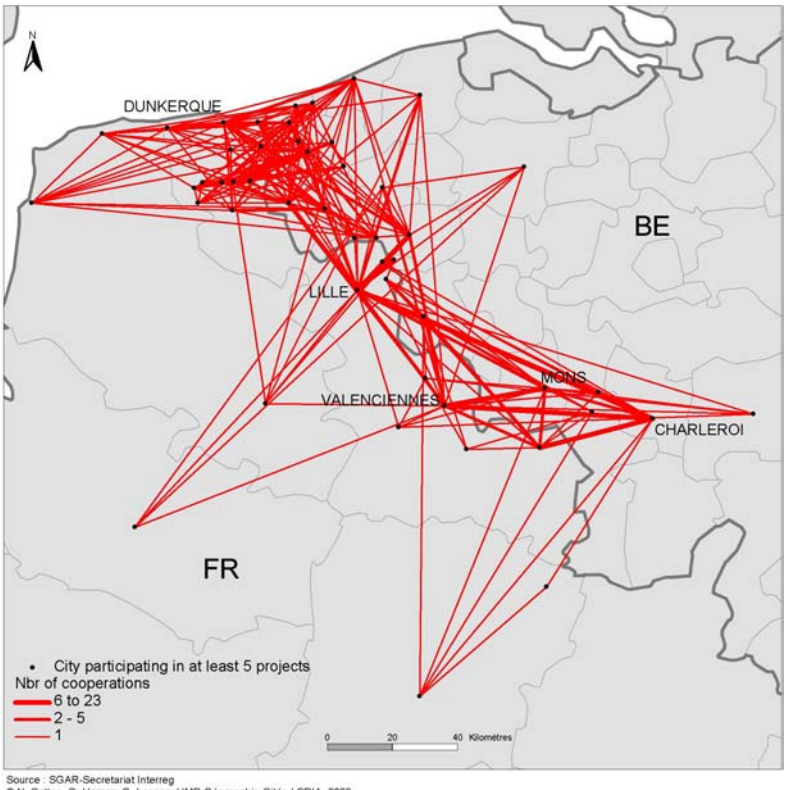
The 4 largest towns show very different networking profiles:

- Lille is the more diversified town in its exchanges, with links to 13 other towns (and a maximum of 24% of links with another town).
- Charleroi's profile is less diversified though it also looks eclectic: links to 6 other towns (and a maximum of 38% of links with another town).
- Mons' networking profile is more focused on a few other towns, particularly with Valenciennes (70% of its links).
- Valenciennes' profile also looks highly specialised: strong links with only two Belgian towns, Mons and Charleroi.

What is interesting to notice here is that a large number of such cooperative associations emerge between medium and small towns located in the Northern part the area. Although major cities gather an important number of projects, medium and small cities are very active in setting up cooperative projects in the context of the INTERREG programme. This dynamic contributes to the reinforcement of such trans-border urban networks.

As an initial conclusion, one can highlight the role of medium and small sized towns in the emergence of a polycentric urban structure and in networking at the local and regional levels.

FRENCH BELGIAN URBAN NETWORK IN INTERREG IIa



Source : SGAR-Secretariat Interreg
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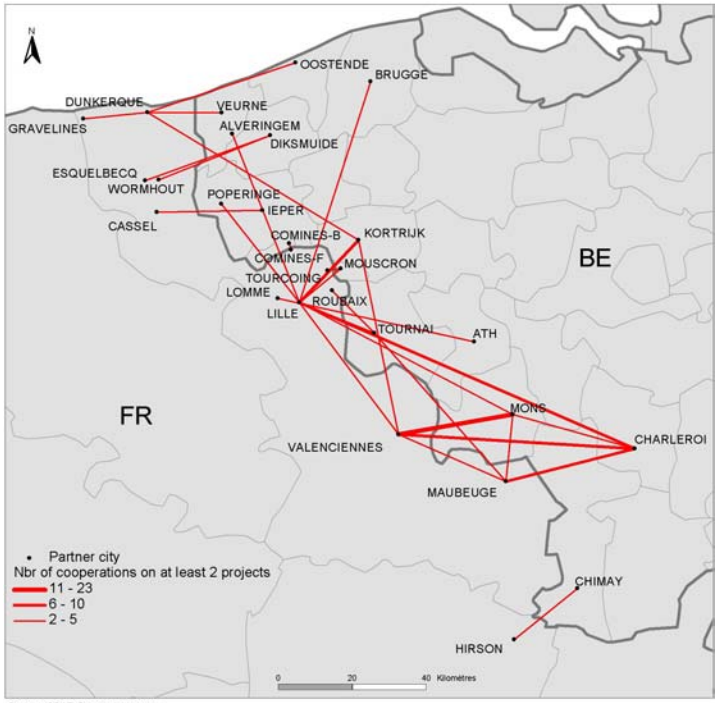
MAIN FRENCH BELGIAN URBAN NETWORK IN INTERREG IIa



Source : SGAR-Secretariat Interreg
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d) Initial results for the Franco-German-Swiss border

At this stage of the study, analysis of the Franco-German-Swiss INTERREG file is only beginning. Three INTERREG zones on the Franco-Germany-Switzerland border will be analysed in the final stage: Saar-Moselle, PAMINA and Rhin Supérieur Centre Sud.

The current work takes into account the Rhin Supérieur Centre Sud INTERREG programme and provides for this area the first provisional results.

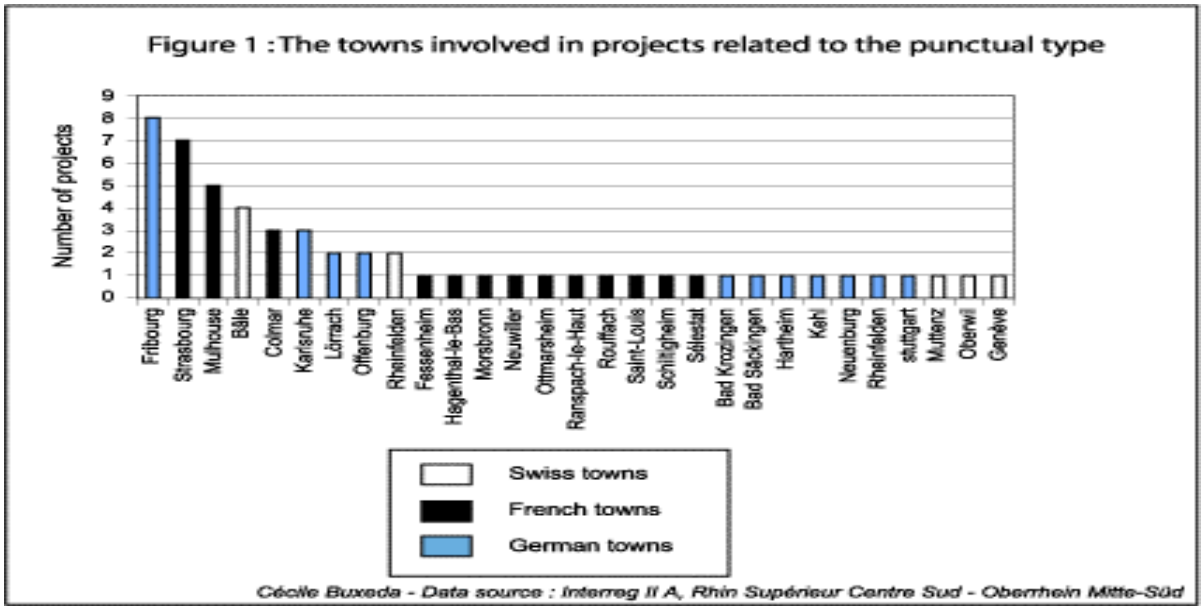
Total number of INTERREG projects: 94.

The same methodology was used here as for the Franco-Belgian zone to define the spatial scope of the projects. Contrary to the Franco-Belgian area, the major portion of the projects in this area were of the zonal type (70 %). Only 22 % are of punctual type and 8% of the linear type. Although relatively few projects were of the punctual type, we focused our analysis on the 21 projects related to the punctual type in order to provide a comparative set of results to those of the Franco-Belgian area.

Nevertheless, a complete analysis in terms of polycentrism has to take into account some of the projects of the zonal and linear types that could support the emergence of border urban networks.

Analysis in terms of polycentrism: which towns?

A first overview of the number of cooperative associations by town is provided in the figure 1.



Four towns were involved in more than 4 projects: Freiburg-in-Breisgau (G), Strasbourg (F), Mulhouse (F) and Bâle (S). Two towns involved in 3 projects can also be cited here: Colmar (F) and Karlsruhe (G). It seems that the most important towns of the zone are involved in INTERREG projects. A gravity model, as explained above, could better highlight the towns that are over or under-represented in the cross border interrelations and networks. The linguistic proximity between the Franco-German border regions –

German dialects are commonly used in Alsace - could partly explain some forms of INTERREG relations.

The different topics of cooperation between towns
The number of INTERREG projects of the punctual type in the Rhin Supérieur Centre Sud area were not sufficient in number to attain relevant results on the dominant topics of cooperation for each city. This analysis will be realized in a future step for the entire Franco-German area, i.e. Saar-Moselle, PAMINA and Rhin Supérieur Centre Sud. By and large, the initial impressions suggest that Colmar, Strasbourg, Mulhouse, Fribourg and Karlsruhe seem to have privileged topics of cooperation. These results remain however to be confirmed in light of further investigation.

Which couplets of towns?

Map 1 illustrates the importance of INTERREG networks of cooperation between couplets of towns. Again, only the projects of the punctual type are considered here.

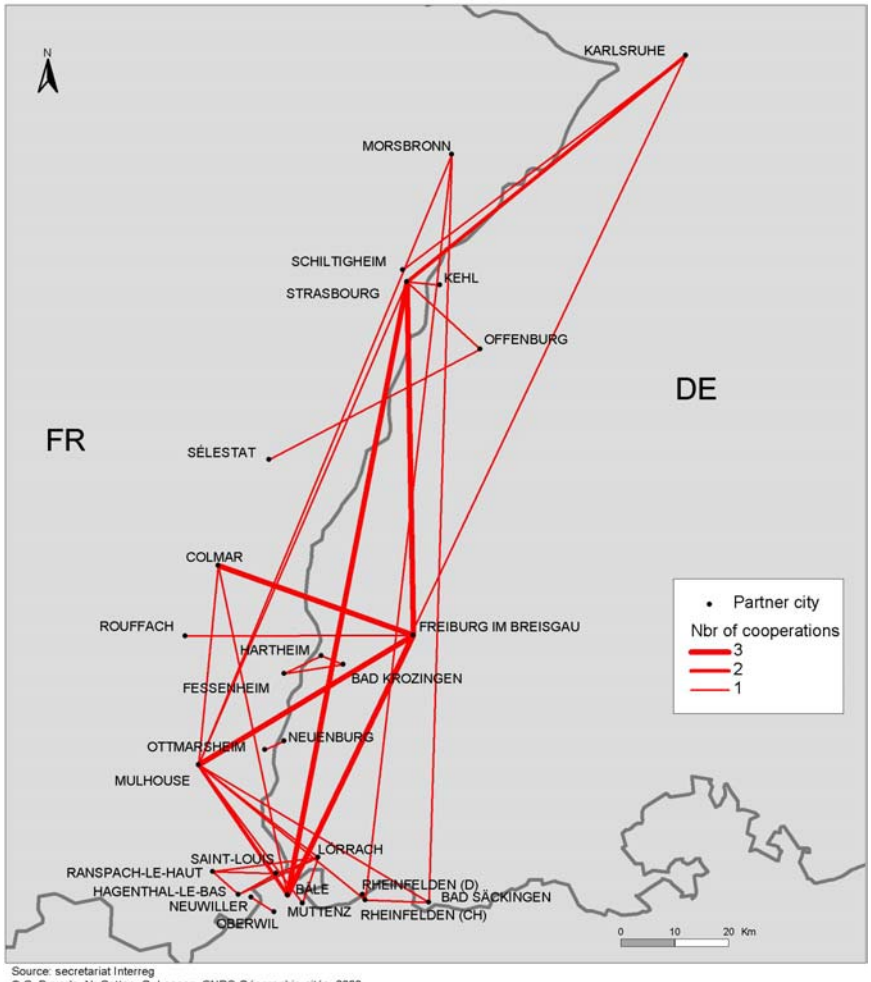
Strasbourg (F) and Mulhouse (F) are the more diversified or complete towns in their exchanges with more than 5 cooperative associations (respectively 6 and 9) with other French and German towns. But, one should notice that Mulhouse has important links (3 projects) with Fribourg (G) and Bale (S) whereas Strasbourg has several main relations with Fribourg (3 projects), Karlsruhe (2 projects) and Bale. The distance effect can help to explain these differences: Strasbourg being equidistant to Fribourg and Karlsruhe while Mulhouse is nearer to Fribourg than Karlsruhe. Fribourg has important relations with each principal Alsatian town (Colmar, Mulhouse, Strasbourg and Bale).

It is interesting to highlight that two main complementary types of networking can be observed here: the first linking the major cities of the area, and the second connecting medium and small sized towns. Both structures are polycentric.

e) Conclusion

The methodology that has been set up is very promising, and allows for a thorough knowledge of border city networks aspects and moreover of ***transnational urban networks.*** In addition, this paper is focused mainly on two dimensions of the projects: the topic of cooperation and the spatial scope. Interesting results are expected from the analysis of the 2 other dimensions, namely: "the kind of partners involved" and "project results".

RHIN-SUPERIEUR-CENTRE-SUD URBAN NETWORKS IN INTERREG IIa



Source: secretariat Interreg
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2.4.5.3 European urban networking linked to air traffic

Air traffic is a synthetic indicator of different societal trends. Consequently, it is an important vector of spatial integration that could occur at the European as well as at the world level. However, this dynamic of integration does not concern the various territories in the same way.

The objective of this work is to describe the models of integration that occur at the European level and moreover to highlight the role of Europe in the various global integration processes. This allows for a definition of the main European gateways for air traffic.

Our data comes from the ICAO database. A statistical test has demonstrated that the passenger flows between two cities are symmetrical. Over a one year period, there is no significant variation between the outward and the return flows. Consequently, our database on air flows is a symmetrical matrix. One remark should however be made here with regard to the flows that connect Italian cities: due to a lack of information from some important air carriers in the 2000 ICAO database, air flows connecting Italian cities to other cities have been taken from the 1996 ICAO database.

Domination and dependence

The main questions in relation to polycentrism

- ⇨ What are the dominant cities for air networking in Europe?
- ⇨ What are the main privileged associations at the meso-regional and European scales?
- ⇨ Can we identify huge differences in the evolution of the dominant structure defined by the major connections of each city over the last decade?

Brief comments

Graph theory provides a simple tool to define the main structure of a given network. It gives an image of the main preferential direction of the major connections of each city. This leads to the identification of the main dominant centre of attraction and those that are dependent.

The methodology can be summarized as follows:

1. Identify the major flows sent from a city (A).
2. Verify that the city of destination (B) is « larger » than the city of origin (A): size is usually measured by the total number of received flows by the city of destination (B).
3. If the city of origin (A) sends its major flow to a city of destination (B) that is larger THEN (A) is dependent on (B). Contrarily, if (A) sends its major flow to a city of destination that is smaller, THEN (A) is a dominant city.

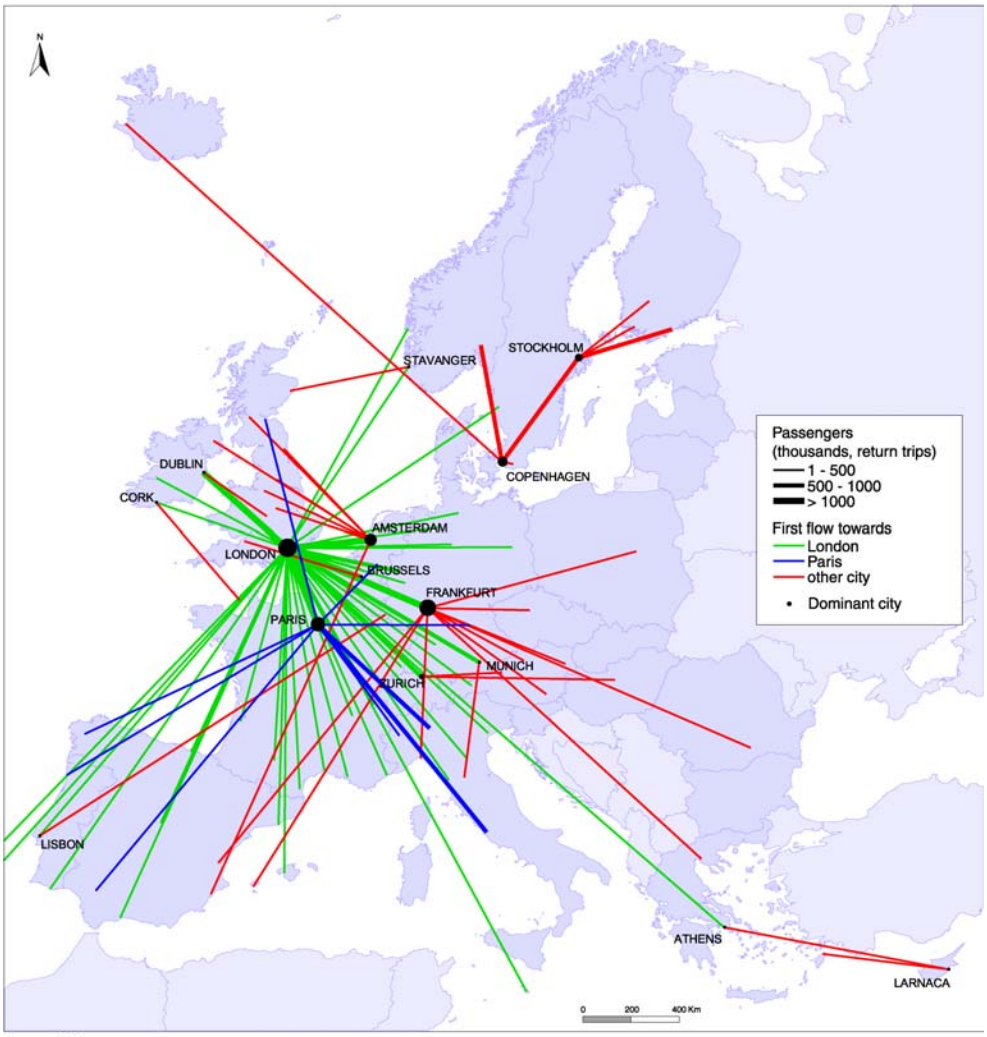
In 1990: there were four main dominant cities - London, Frankfurt, Paris and Amsterdam - in terms of the structure of air networks at the European level. Two dominant cities at the meso-regional level could also be identified: Copenhagen and to lesser degree, Athens. In terms of preferential links, Frankfurt is the gateway for all of the central European cities (except for Budapest), Paris attracts several southern European cities,

several British cities are dependant on Amsterdam, and London dominates all of the networks.

By 2000: the situation had changed markedly. Frankfurt had lost its privileged position as the gateway for the central European cities, while London and Paris had maintained their respective roles as dominant cities at the European level. In Northern Europe, Stockholm and Copenhagen consolidated their dominant role at the meso-regional scale.

By and large, it seems that the central theme arising from these networks shows that over the last decade we have witnessed a trend towards flow polarization around London and Paris, reducing the number of main central capitals from 4 to 2. It is as if, in 1990 the major air flows provided a more balanced image of the structure of the dominant European centres than does the one provided ten years later.

DOMINATION AND DEPENDENCE : MAJOR AIR FLOWS IN 1990



Source : ICAO
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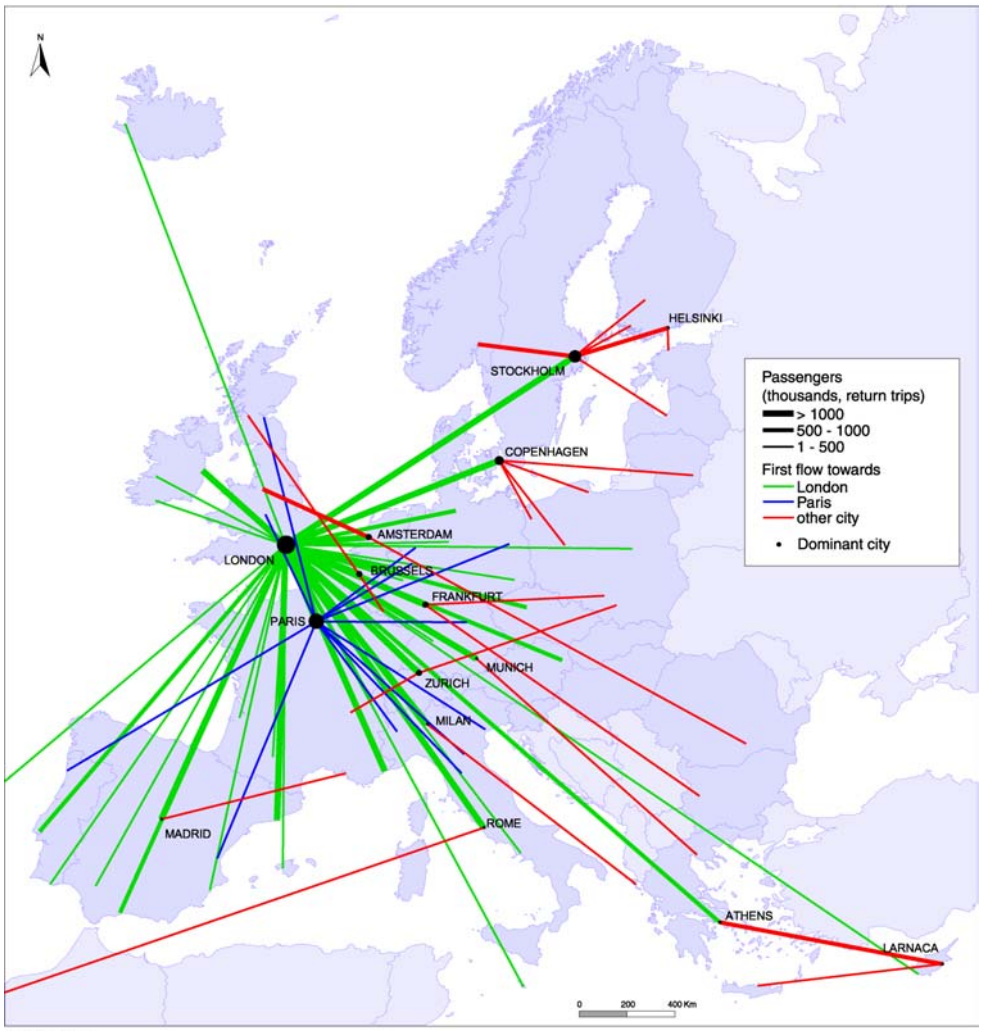
Dominant cities

Dominant city	*Number of dependant cities (≥ 2)*
London	45
Frankfurt	10
Paris	9
Amsterdam	7
Copenhagen	4
Stockholm	3
Zurich	2

DOMINATION AND DEPENDENCE : MAJOR AIR FLOWS IN 2000



Source : ICAO*
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Dominant cities

Dominant city	*Number of dependant cities (≥ 2)*
London	44
Paris	12
Stockholm	5
Copenhagen	4
Amsterdam	2
Brussels	2
Frankfurt	2
Zurich	2

* Due to a lack of information from some important air carriers in the ICAO files, 2000 dataset for Italy have been replaced by 1996 dataset

Leading air networks

The main questions in relation to polycentrism

- ⇨ Which networks are increasing faster than others?
- ⇨ How leading networks can support or enhance polycentric structures at the European level?
- ⇨ What are the major conclusions that can be drawn from these evolutions?

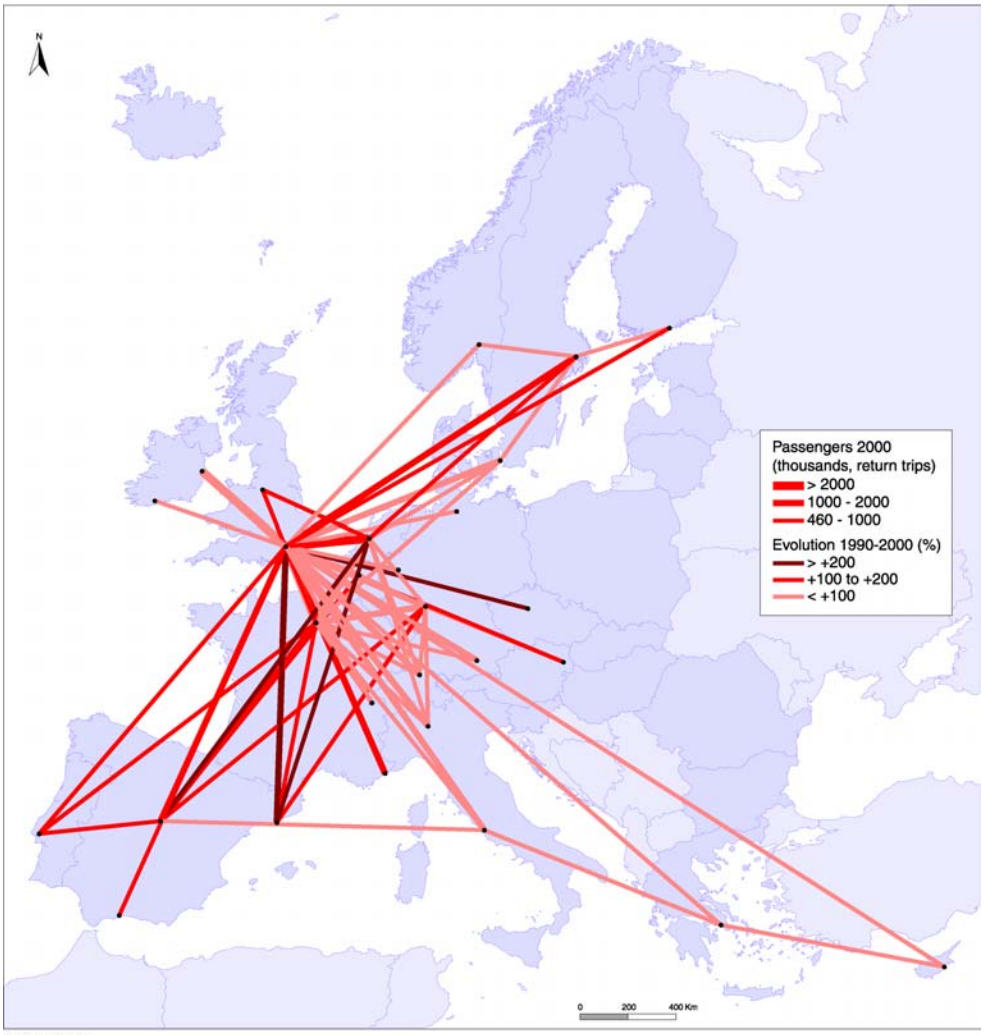
Brief comments

The map of leading networks, which corresponds to the relative evolution of the number of passengers between 1990 and 2000 on the main European networks, seems to confirm the impression given by the previous maps i.e. the reinforcement of the leading position of London and Paris in terms of increases in the number of passengers.

However the principal lesson provided by this map can be summarized as follows: the European centre-peripheries model cannot describe alone the complexity of the organization of European urban networks. The density of connections is still maximal between the cities of the European axis. But one should notice that the relations between the "peripheral" capitals –political and economic- are also important. In addition, the increased number of passengers is at its highest between the peripheral capitals and the central capitals.

These results then suggest that the integration of urban networks in Europe through air connections is increasing, even if this integration is still carried out according to a pyramidal mode. The leading networks are those that link peripheral capitals to central ones, in particular to London and Amsterdam (with more than 200%) and to Paris (more that 100%).

LEADING AIR NETWORKS



Source : ICAO*
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Due to a lack of information from some important air carriers in the ICAO files, 2000 dataset for Italy have been replaced by 1996 dataset

The Evolution of European air passengers

The main questions in relation to polycentrism

- ⇨ Are the highest increases in air traffic related more to the largest cities?
- ⇨ Does the dynamics of air traffic enable us to foresee the tendency of the better integration of other cities?

Brief comments

The localization of the principal airports highlights the major duality of European space: a centre with many peripheries. The comparison between the two giants is interesting: concerning the number of European passengers, London concentrates more than 35 thousand, while Paris reaches 20.

The evolution of air traffic shows that many peripheral capitals such as Lisbon, Madrid, Barcelona, Praha, Munich, Berlin and Warsaw are increasing their traffic more quickly than are the central capitals. This means that those cities are not only growing faster but that they are also becoming dynamic vectors of European integration. Do these strong increases let us predict a reduction of the urban inequalities with regards to air traffic?

Gateways for Europe

The main questions in relation to polycentrism

- ⇨ Where do the processes of internationalisation occur in Europe?
- ⇨ What are the main European gateways for air traffic?
- ⇨ How do cities perform in terms of air traffic internationalisation ?

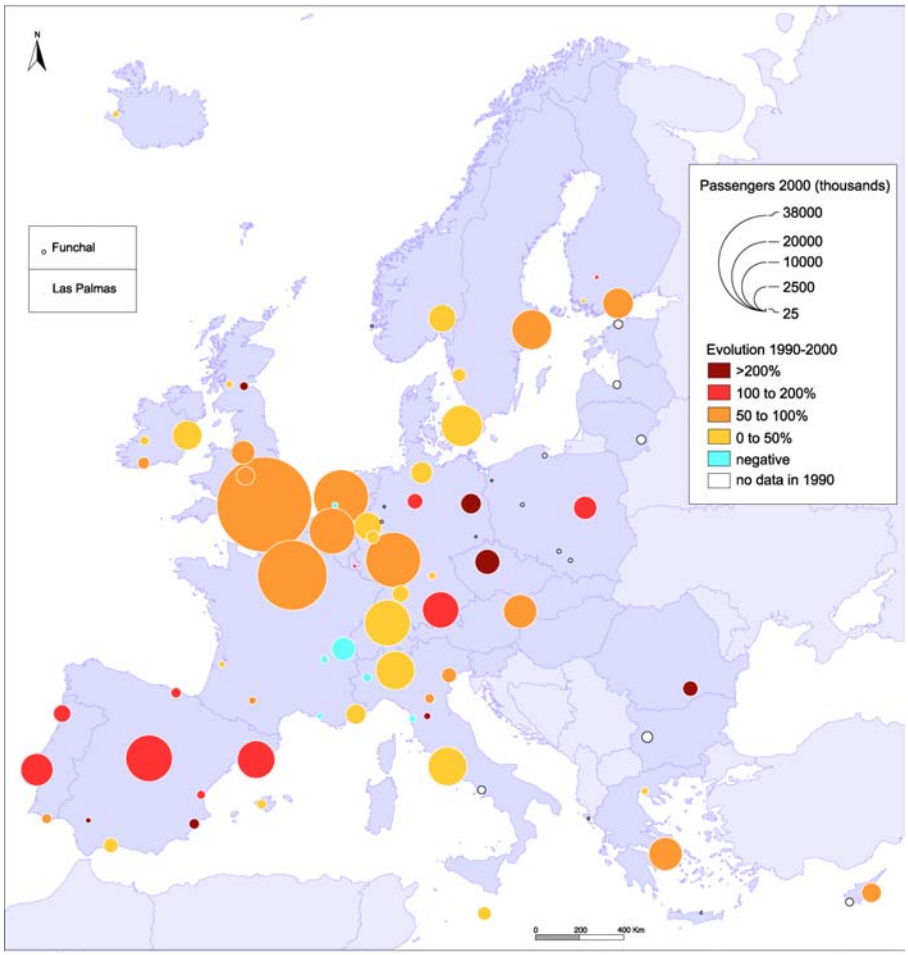
Brief comments

Cities are the points at which the internationalisation processes of a territory begin and materialize. Because of its relatively rapid capacity to reply in terms of supply and demand, air traffic is a relevant indicator in the quest to evaluate the international capacity of European cities.

The two maps of the "Gateways in Europe" consider the degree of international opening as a percentage of international (extra-European) traffic in terms of overall traffic (European and extra-European). The maps show that in terms of the number of extra-European passengers, three cities can be considered to be major European gateways, namely: London, Frankfurt and Paris. However, with more than 40% of extra-European passengers, London and Frankfurt have the highest degree of international opening. During the last decade, Amsterdam has however doubled its number of extra-European passengers.

What is important to note here is that Madrid and Rome share with Paris, Zurich and Amsterdam a similar percentage of extra-European passengers. This means that the peripheral capitals contribute actively to the integration of European space within an international network.

EVOLUTION OF EUROPEAN AIR PASSENGERS



Source : ICAO*
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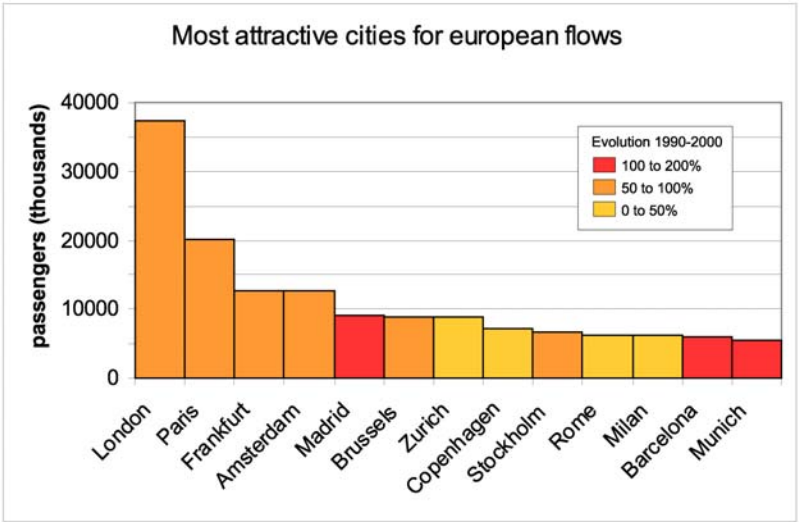
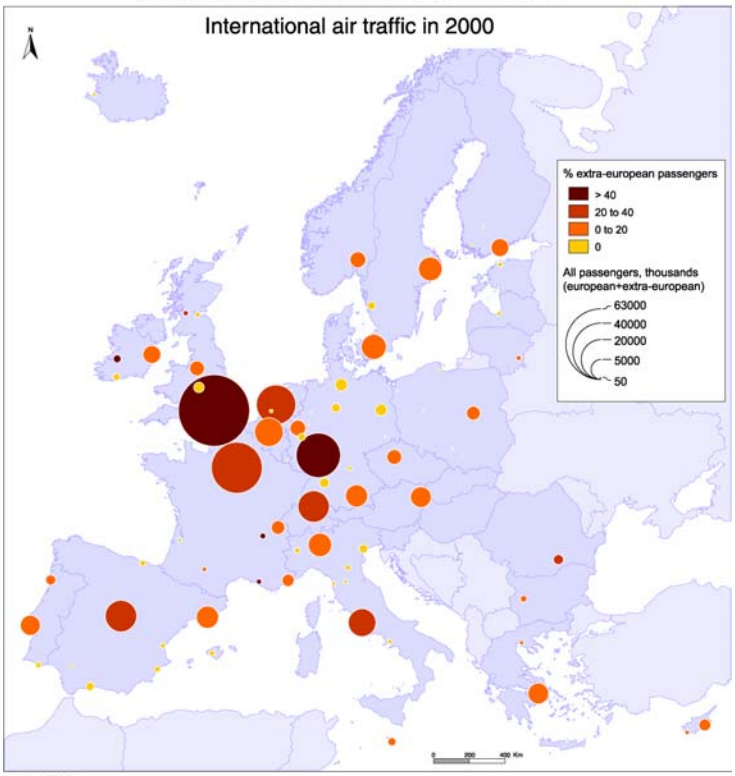


* Due to a lack of information from some important air carriers in the ICAO files, 2000 datas for Italy have been replaced by 1996 datas

THE AIR GATEWAYS FOR EUROPE



Source : ICAO*
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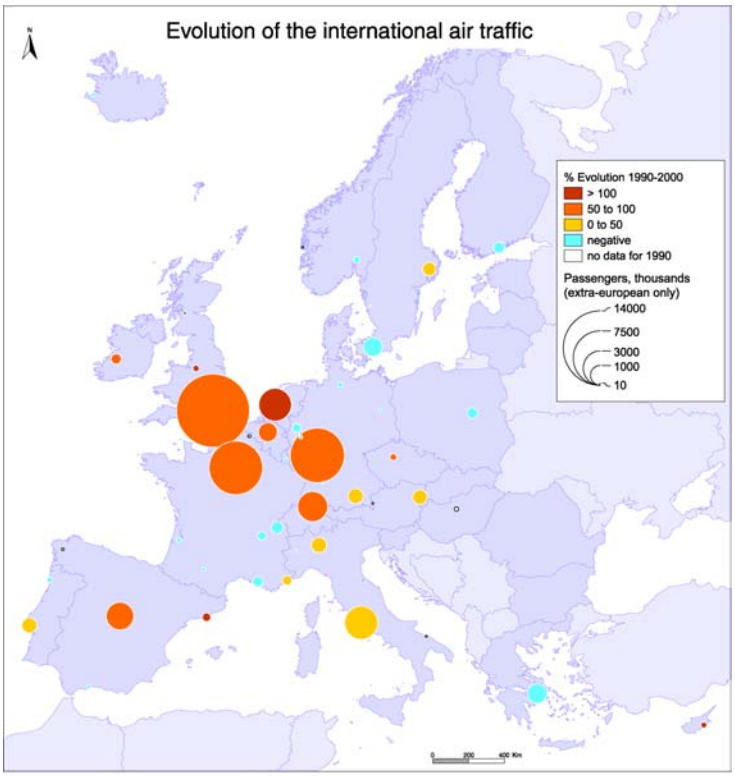

Source : ICAO*
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* Due to a lack of information from some important air carriers in the ICAO files, 2000 datas for Italy have been replaced by 1996 datas

World air traffic and crossroads

The main questions in relation to polycentrism

- ⇨ How Europe performs in the World system of exchanges?
- ⇨ Does the world air network draw a polycentric image of the world networking system?

Brief comments

Charting the major air links on a world level make it possible to highlight privileged associations between places. The world air traffic map shows that the majority of major international flows occur in the Northern hemisphere. Major flows go to and return from a few poles, reinforcing the North-South contrast. Those poles and world air crossroads can be identified to coincide with the principal *metropoles* that are the national capitals, such as London and Tokyo, or to important economic capitals such as New York.

It is interesting to note here that "regional" processes of integration are visible across different parts of the planet, mainly in Southern and Latin America and in South-Eastern Asia, showing the importance of proximity linkages and demonstrating that distance continues to play a role in networking processes.

By and large, one can say that the map of world air traffic shows a European metropolitan polycentrism structure in a World metropolitan polycentrism organisation. Among the 15 stronger flows, 5 are European. This means that Europe participates actively in the world system of exchanges.

Highest flows:

Link	*Rank*	*Passengers (return trips)*
London - New York	1	> 3 millions
Amsterdam - London	2	
Dublin - London	3	> 2 millions
Hong Kong - Taipei	4	
Paris - London	5	
Kuala Lumpur - Singapore	6	
Tokyo - Seoul	7	
Singapore - Bangkok	8	
Hong Kong - Bangkok	9	
Frankfurt - London	10	> 1,6 millions
Hong Kong - Tokyo	11	
Tokyo - Honolulu	12	
Hong Kong - Singapore	13	
Madrid - London	14	
Paris - New York	15	

Europe in the world system

The main questions in relation to polycentrism

- ⇨ What are the major European gateways?
- ⇨ What are the most significant air routes that link Europe to the rest of the world?

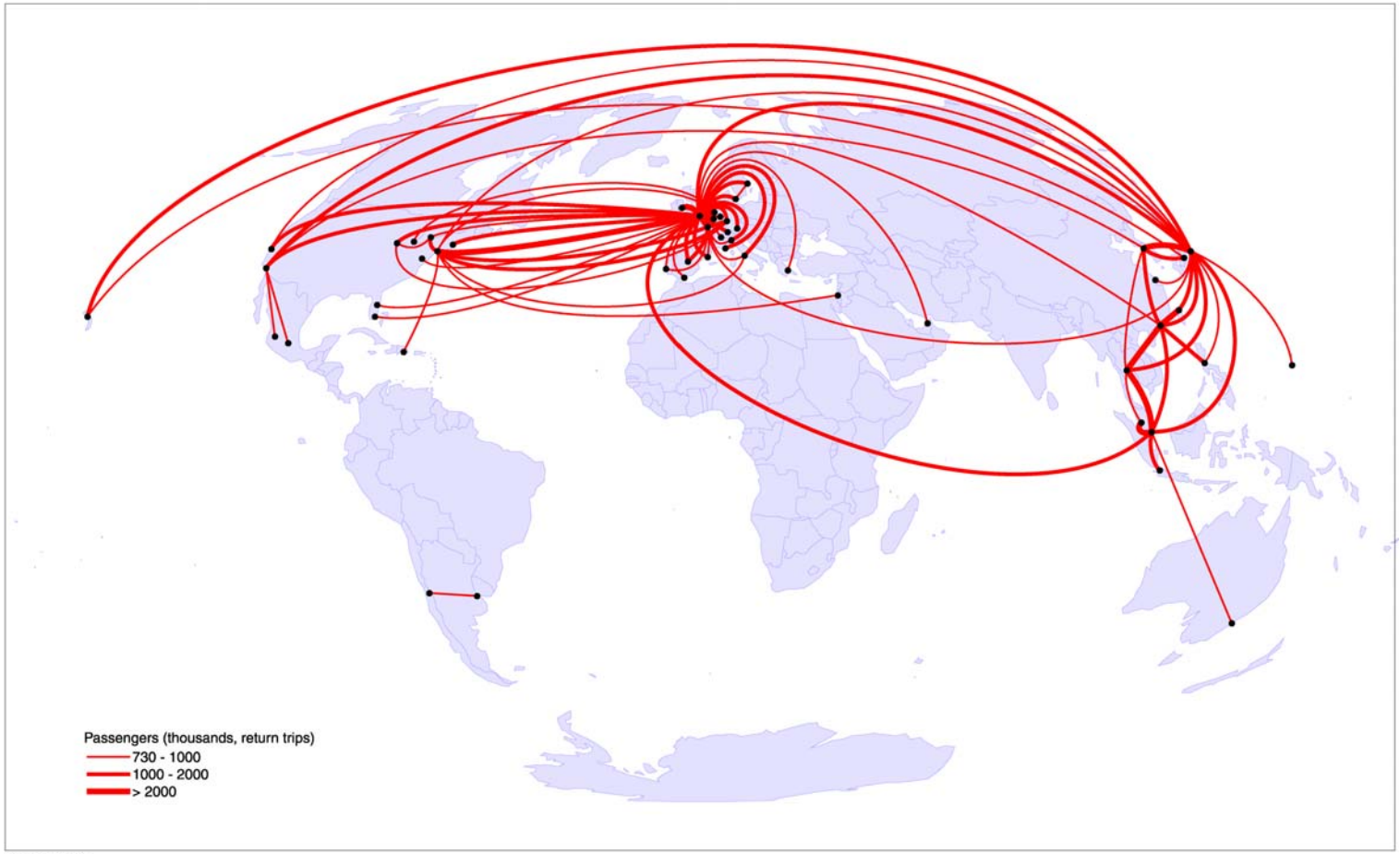
Brief comments

Many internal differentiations in the European space are related to the flows between Europe and the rest of the world. The most important international-European air flows help us to identify the main European gateway cities and to determine whether those cities develop preferential linkages with other specific world cities or world regional areas or whether, to the contrary, they are involved in various multi-directional world networks.

The most significant flows link European cities to Northern American and South-Eastern cities. The position of London as THE gateway between Europe and the rest of the world is manifest very clearly. More than the half of the 20 most significant flows that link Europe to the rest of the world are through London.

However, 2 other important gateways can be identified: Paris and Frankfurt. Note should also be made of Madrid to a lesser degree; however its connections are the only ones to show significant links with "Southern" cities i.e. Havana and Buenos Aires, due to historical, linguistic, etc. factors. Whatever the reasons are, Madrid could qualify as an alternative European gateway! Among the most important international-European flows, one should also notice the connections between three Italian cities and New-York.

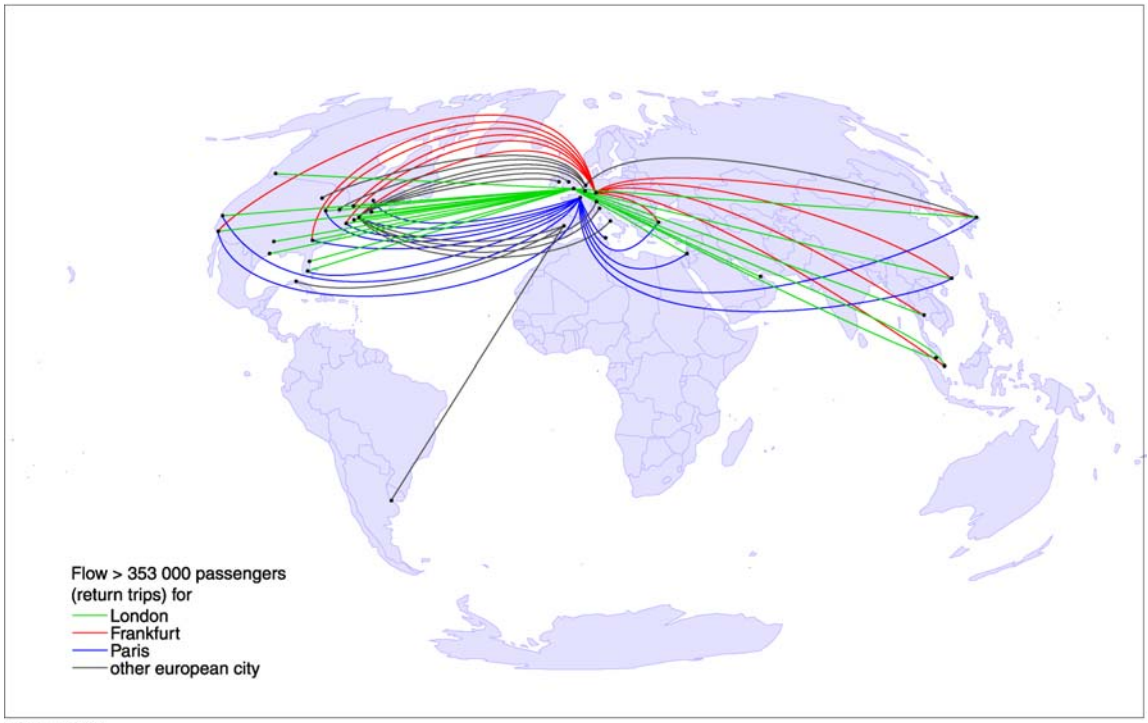
WORLD AIR TRAFFIC AND CROSSROADS IN 2000



Source : ICAO*

* Due to a lack of information from some important air carriers in the ICAO files, 2000 datas for Italy have been replaced by 1996 datas

MOST IMPORTANT INTERNATIONAL-EUROPEAN AIR ROUTES IN 2000



Source : ICAO*
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Link	*Rank*	*Passengers (return trips)*
London-New York	1	> 3 millions
Paris-New York	2	1 to 2 millions
London-Chicago	3	
London-Los Angeles	4	
Frankfurt-New York	5	
London-Boston	6	
London-San Francisco	7	
London-Singapore	8	
London-Tokyo	9	
London-Washington	10	800 000 to 1 million
London-Hong Kong	11	
London-Toronto	12	
Amsterdam-Detroit	13	
Rome-New York	14	
London-Dubai	15	
Amsterdam-New York	16	
Paris-Tokyo	17	
London-Miami	18	
London-Orlando	19	

* Due to a lack of information from some important air carriers in the ICAO files, 2000 dataset for Italy have been replaced by 1996 dataset

Conclusion

These results should be considered as provisional. The paper essentially remains work in progress, and further analysis and investigations will be undertaken to secure the interpretation and the explanation of these initial results.

In addition, we would like to better link this empirical study to our conceptual and theoretical thoughts on polycentrism and the related notions we are undertaking in ESPON 1.1.1, Work package 1.

Thus, for the final report, our objective are to

- ⇨ CHARACTERIZE THE VARIOUS FORMS OF POLYCENTRISM at the national and European levels
- ⇨ EVALUATE THE DEGREE OF POLYCENTRISM at the national and European levels
- ⇨ ELABORATE SYNTHETIC DIAGRAMS OF NETWORKING
- ⇨ FORMULATE CONCRETE IDEAS TO ENHANCE NETWORKING AND COOPERATION between urban areas at the national and European levels

2.5 WP5: TERRITORIAL GOVERNANCE

2.5.1 Introduction to WP 5

2.5.1.1 The Rational

Urban governance frameworks are changing as a result of globalisation and socio-economic restructuring across Europe. National boundaries are being over-run by economic activity, environmental change and technology. The linear top-down decision-making model is no longer working effectively and the borders between levels of government are becoming increasingly irrelevant. There is widespread recognition that a new form of governance, which involves working across boundaries within the public sector as well as between the public, private and community sectors is underway. Many European cities and regions are either experiencing the shift, or the need for a shift, from traditional models of hierarchical power to a system where power is shared between a variety of stakeholders. Governments are no longer the exclusive holders of authority. The discourses of the current governing bodies are peppered with terminologies such: civil society, partnerships, network, cohesion and integration. These transformations have led to a number of processes, the most visible being the multiplicity of actors and interests involved in decision-making and the fragmentation of responsibilities.

Creating horizontal and vertical co-operation between various levels of government as well as between government and non-public bodies, while achieving integration between disparate responsibilities has now become the central focus of effective governance. This is particularly the case with regard to the polycentric development of Europe. Promoting economic competitiveness in European polycentric urban regions needs both 'hard' infrastructure, such as an efficient transport and telecommunications network between and within the regions, and a 'soft' infrastructure, including in particular an effective institutional network. The existence of effective governance relationships is an important prerequisite for developing and sustaining economically, socially and environmentally balanced regions across Europe. The institutional structure and the nature of mechanisms for decision-making, co-operation and power partitioning can significantly influence the direction of a balanced European territory and the successful implementation of policy options. Moreover, while industry, businesses and households operate on the basis of functionally defined areas particularly in polycentric urban areas, governance institutions are often organised and operate on the basis of administratively defined areas such as communes, municipalities, boroughs or Kreise. In order to overcome the potential problems of such a mismatch, the ESDP emphasises the need for the building of co-operation and partnerships between towns and cities and their surrounding rural areas. Joint working arrangements that are capable of cutting across the administrative and sector boundaries are seen as effective ways of creating integration and co-ordination in the midst of diversity and the multiplicity of: actors, interests, powers, responsibilities and institutions. There is a need for effective harmonisation and co-ordination of the operation of these institutions in order to develop their capacity to capture the opportunities that are embedded in, and arise from, polycentric development of the European regions.

2.5.1.2 Aims and objectives

This Work Package examines the extent to which the existing and changing governance relationships reflect and capture the functional complexity of polycentrism in Europe at various scales, as defined by work packages 2.

The key objectives of this work package are to:

- Provide a 'state of the art' review of the existing literature on key concepts and definitions regarding governance, partnership, institutional capacity, multi-level governance and 'good' governance, as well as typologies of administrative and legal systems in European countries.
- Identify the barriers and opportunities to the building of effective partnerships
- Identify and analyse the innovative institutional and partnership arrangements that are successful in responding to the dynamics of the complex relationships in polycentric urban areas
- Develop models of partnerships for different scales of polycentrism
- Build upon and complement WP2 and provide inputs to policy recommendations (WP6) concerning the influence of governance relationships in different types of polycentrism.

2.5.1.3 Methodology

A combination of the following methods are adopted:

- literature review including academic literature, key European policy documents and other relevant project reports
- A series of questionnaire surveys of a sample of the existing partnerships whose focus is on spatial strategy making. The survey will be undertaken at three spatial scales as defined by the project team. These include:
  - inter-municipal co-operation at the level of Functional Urban Areas (FUA): one or two examples in each European country (27)
  - Inter-FUA co-operation at the level of polycentric regions: selected samples from the areas identified by the project team as typologies of national polycentrism
  - Trans-national co-operation at the European level: selected sample of the areas identified by the project team as typologies of European polycentrism using INTERREG projects as examples
- A round table meeting / workshop with selected experts from the Commission and member states to discuss and test the outcome of the questionnaire results.

2.5.2 Patterns of government structures in Europe

2.5.2.1 Introduction

There is a large body of literature on the commonalities and differences of the legal and administrative systems in various European countries (for example, Batley and Stoker, 1991; Bennett, 1993, Marcou and Verebelyi, 1993). However, despite the considerable variation in legal and administrative systems across Europe, there is a general consensus in the literature that European countries fall into five main categories (Zweigert and Kotz, 1987). Derived from cumulative histories, each type is based on distinctive, interrelated logics of political representation on the one hand and policymaking on the other. Emphasis is placed on two key factors: the differences in the constitutions of each country and the relationship between central and local government. The following account, which draws mainly on a review by Newman and Thornley (1996), aims to provide a brief summary of the five 'families' of the European legal and administrative system. These are labelled differently in various literatures but, following Newman and Thornley (1996), we group these as British, Napoleonic, Germanic, Scandinavian and East European.

2.5.2.2 The British family

British legal style evolved from English Common Law and the principle of precedent. This a system based on the accumulation of case law over time. With the exception of Ireland, it is unique in Europe and hence stands in isolation from legal practice in the rest of Europe. Another key distinction between the British system and the rest of Europe relates to the powers given to local government.

The British 'unwritten constitution' gives no special protection in law to local government. The scope of local authorities is defined by central government and if they act beyond their given powers, they will be confronted by the principle of *ultra vires*. This contrasts with the rest of Europe where the 'doctrine of general competence' applies. Here, local authorities assume a general power over the affairs of their communities and only when they are unable to do so do higher levels of government become involved. This principle of subsidiarity is particularly strong in Federal countries such as Germany.

Bennett (1993) describes the administrative system of Britain and Ireland as a dual system in which central government sets legal and functional constraints for local authorities and then plays a supervisory role. Stoker (1991) describes the relationship between local and central governments in Britain as an agency model where local authorities act as agents of central government carrying out its policies within a system of regulation, laws and centrally controlled taxation and financial allocations. The separation between the spheres of local and central government has led to what is called a dual polity (Batley, 1991) with little movement of politicians and professionals between the two tiers of government. In Britain, most local governments are currently administered through political committees with Mayors playing a symbolic role. However, where there is an elected mayor, he/she has a wider range of powers and responsibilities. For example, the Mayor of London has responsibility for strategic spatial planning for London. Given that the ethic of the efficient delivery of services has always been at the centre of 'good' local government in Britain, the units of government are fairly large as compared with some other European countries.

2.5.2.3 The Napoleonic Family

This family, which is the largest in Europe, originated in France before spreading to other, mainly Southern European countries.

The legal style uses abstract legal norms and involves greater theoretical debate than does the British style. Following the French Revolution in the early 19th Century, the French Code provided a comprehensive statement of new legal principles, "founded on the creed of Enlightenment and the law of reason…." (Zwegert and Kotz, 1987:88) and was spread across Europe through military expansion under Napoleon. However there has been considerable variation between different countries. For example, in Italy, the church remained an influential player. In Spain, laws developed in the Middle Ages were particular to different localities, which retained much of their influence.

Bennett (1993) traces the influences of historical development on the structure of local government and the level of power attributed to it. One of the key points highlighted by Bennett is the continuing significance of the nature of the commune as the basic building block of local administration in France, Belgium and Switzerland. This has led to the creation of numerous authorities at the lowest level where the identity of local administration is more closely related to the communities' sense of local identity. This is in sharp contrast to the British style where the emphasis is on the efficiency of service delivery and hence the creation of larger local authorities. Communes derived originally from the administrative structure of the Catholic Church. After the Reformation, the Protestant north and west adopted a new system of administration based on the nation-state with a corporate and professional orientation. In the Catholic south, nation-building occurred later and in some countries the establishment of democracy was delayed by dictatorship.

According to Bennett (1993), Britain and France are polar opposite in their paths to democracy. In France, the key issue for the democratisation process and government was the imposing of central authority on local government. This led to the establishment of the prefectoral system and a strong inter-governmental network. In Britain, the issue was to keep the local level subordinate to parliamentary sovereignty given that the local landed aristocracy had maintained their local patronage in the counties.

In the Southern European countries, where Napoleonic reforms introduced the prefectoral system, municipal officials have traditionally administered rules, yet lacked much of the legal authority or independent administrative capacity of the Germanic and Scandinavian families (Sellers, 2002). At the same time mayors have wielded greater influence over policy making at higher levels as well as over the implementation of those policies.

Authorities that have strong links between central and local levels have been categorised as 'fused' systems by Leemans (1970). Here a uniform system, established by central government, ensures central control over lower tiers. The department prefect is a civil servant from the central government who, in the past, appointed the mayor. "Within this system, local government is not simply the local agency of central government but contains local representation, albeit with strong central control" (Newman and Thornley, 1996: 33). France is an example of a fused system *par excellence*. Other countries including Italy, Belgium, the Netherlands, Portugal, Spain and Greece also have fused systems. However, recent changes, particularly in Spain and Belgium, have moved them

away from the fused system approach towards one better characterised as regional autonomy.

2.5.2.4 The Germanic Family

This legal family, which includes Germany, Austria and Switzerland, can be seen as a distinctive branch of the Napoleonic one. While they both share the legal approached codification, the Germanic family has no central power to impose a unified legal system, similar to that of England and France. Germany adopted Roman legal ideas and institutions in a more comprehensive way than other countries. This was then superimposed by the adoption of an abstract and highly intellectual codification after the Enlightenment. The German Code has had a considerable influence in eastern Europe and in Greece. While the Greek legal system is based on the Germanic model, its administrative style is basically Napoleonic.

A key feature of the Germanic model is the significance given to the written constitution (Basic Law). This sets out the powers of the different levels of government based on a system of federalism. Any changes in the balance of responsibilities require constitutional change. Within the federal system, central government shares much of its powers with the regions (Lander), which have their own constitutions and representatives, and are engaged in national decision-making. Each region has a different system for dealing with its counties (Kreise) and communes (Gemeinden). Free standing cities, such as Hamburg, combine the powers of the various levels.

In Austria, Landers have less power because of the country's legacy of (Austria-Hungarian) Empire, where a regional level worked as the agency of the Empire, and there was no general autonomy at the local level. Similar systems also existed in the former Czechoslovakia and in former Yugoslavia.

2.5.2.5 The Scandinavian family

The Scandinavian family which includes Denmark, Sweden, Norway and Finland, represents a hybrid system which lies somewhere between the Napoleonic and the Germanic models, but is clearly distinct from the British one. Historical conquests between Denmark and Sweden explain the common features of the Scandinavian countries. Despite common roots with German and French approaches, the Scandinavian legal style has developed its own path and has not been affected by 'scientification' of the codes as happened in Germany. In general, a more pragmatic approach has been adopted by Scandinavian lawyers. One of the key features of this style is its clarity and accessibility.

The administrative approach of this family is also a hybrid. On the one hand, there is a strong relationship between central and local governments similar to the Napoleonic model, with agencies of the central government operating at the regional level to implement national policy. On the other hand, self-government at the local level has remained a strong characteristic of the Scandinavian countries and a cornerstone of their constitutions. This to some extent stems from the far-flung nature of these countries and the strength of peasant politics (Newman and Thornley, 1996).

2.5.2.6 The East European Family

Following the political re-structuring of the former eastern European countries after the collapse of communism in 1989, there has been a significant process of reform and new laws and administrative systems have subsequently been put in place. Some of these developments have been influenced by the common historical roots with Austria and Germany. Sources of information on various administrative systems and governmental structures in these countries have proved more difficult to obtain at this stage. However, we aim to complete this section of the report and provide a fuller picture for the next Interim Report.

2.5.2.7 Formal government structures and responsibility for spatial planning

Although it is difficult to generalise about countries' constitutional arrangements, it is broadly true to say that most European systems are organised into unitary, regionalised or federal states. The following table shows which of these systems is dominant in the different EU member states.

Government Systems		
Unitary (with varying levels of decentralisation)	Power resides with the national government, although certain responsibilities may be delegated to government departments for specific territorial units or to local government.	Denmark Finland France Greece Ireland Luxembourg Netherlands Portugal Sweden UK
Regionalised	Power lies with national government and with tiers below the national level, and is apportioned through the constitution or by statute.	Italy Spain
Federal	Power is shared between national and 'regional' governments, with each having autonomy in some spheres, and each able to make law.	Austria Belgium Germany

Source: The EU Compendium of Spatial Planning systems and Policies

Constitutional arrangements determine, to a large extent, the respective power that different tiers of government have with regard to spatial planning. In unitary states, for example, it is a general principle that the national government makes the law concerning spatial planning and this is then applied throughout the country. However there is significant variation in the extent of delegation to lower levels. More complex still is the situation in 'regionalised' states where the relative autonomy of regions varies, some being more dependent on national government than others. Again differences arise between and within the federal states, the latter as a result of the autonomy of the 'regional tier'. Nonetheless it is possible to summarise briefly how responsibilities for spatial planning are divided between the national, regional and local levels across the EU, as illustrated in the table below.

Responsibility for Spatial Planning	
National level	All member states have some responsibility except for Belgium. The Austrian national government has only limited responsibilities. In Greece, national government has had sole responsibility and it holds most responsibility for the planning system in the UK, Ireland and Luxembourg.
Regional level	The Austrian Lander and the Belgium regions hold primary responsibility. The German Lander and Italian and Spanish regions have significant autonomy. The regional or provincial structure is important in The Netherlands, France, Denmark and Finland. It is much less important in the UK and Ireland and in the particular circumstances of Luxembourg.
Local level	Local authorities have the primary responsibility for regulating land use control and detailed plan making across most of the EU, but within a framework set and supervised by national or regional government. The role of local authorities is strongest in states that are unitary with a policy of decentralisation, such as Denmark, Finland and Sweden.

More recently, there have been changes in the structure of government in relation to spatial planning, mainly as a response to transnational and strategic developments. This is apparent in the expanding role of regional tiers as they take on responsibilities from national government, but also arising out of the need to provide a context, primarily at the regional level for bidding for European funding. Factors in addition to 'regionalism', which affect spatial planning, include the following:

- Changes at the central government level to improve the co-ordination of different sectoral policies, for instance in the creation of inter-ministerial committees in France, Ireland and Portugal.

- The establishment of city regions as regional public bodies, but often not as separate tiers of government, as with Greece in the operation of metropolitan planning organisations in the two largest cities.

- The reduction in the number of authorities with spatial planning responsibility within a member state, at the regional or local level. In the UK for example, area councils have grouped several small local authorities together.

- The increasing trend towards regionalisation where powers have been devolved down from central government, as with Belgium. Alternatively, as with Finland and Luxembourg where groupings of local authorities are co-operating to prepare regional plans.

It should, however, be noted that in a number of member states' government structures and the division of power and responsibilities have remained fairly stable, most notably in Austria, Denmark, Ireland and Sweden.
(Source: The EU Compendium of Spatial Planning systems and Policies)

2.5.3 Territorial governance

2.5.3.1 Introduction

This part provides a review of the literature as regards the current academic debate on 'governance' and 'institutional capacity'. The emphasis is on unpacking the meanings attached to these concepts, and the ways in which they are interpreted by different theoretical perspectives.

2.5.3.2 Territory as a new dimension in EU policy

There has been a rediscovery of the significance of place and territory in the discussion around local economic development, environmental sustainability and quality of life. This renewed interest in place is taking place in the context of the globalisation of the economy, technological advances in transport and telecommunications, the growing influence of multi-national corporations and a concern for global environmental problems. It is argued that as capital is becoming ever more stretched out and mobile, it is the place-specific qualities that are becoming the defining factors in its search for profitable production sites (Hudson). These developments clearly raise a number of challenges for the relationship between the state and society and for spatial planning systems in particular, not only because it is a major component of that relationship, but also because of its central concern with place-making and territorial development. In most western societies, spatial planning systems have traditionally provided a key arena within which economic, social and environmental concerns are played out over decisions on the use and development of land (Campbell, 2000; Davoudi et al, 1996).

This widespread recognition of the significance of place as a focus for integrating these key policy domains and the role of spatial planning as tool to achieve such integration has been recognised by the European Community. The European Spatial development Perspective (ESDP) promotes 'territory' as a new dimension of European policy and argues that by focusing on territory, a better integration of EU sectoral policies can be achieved. A major concern of the ESDP is "to reconcile the social and economic claims for spatial development with the area's ecological and cultural functions and hence contribute to a sustainable, and balanced territorial development" (ESDP, 1999:10). One of the cornerstones of its 'policy options' for achieving this three-fold objective is the promotion of polycentric development through spatial planning strategies. It suggests that, "the economic potential of all regions of the EU can only be utilised through the further development of a more polycentric European settlement structure". "A network of internationally accessible metropolitan regions and their linked hinterland", rather than a single dominant urban centre, is seen as "an essential prerequisite for the balanced and sustainable development of the local entities and regions" (ESDP, 1999, para 67, 70 & 71).

2.5.3.3 Governance matters

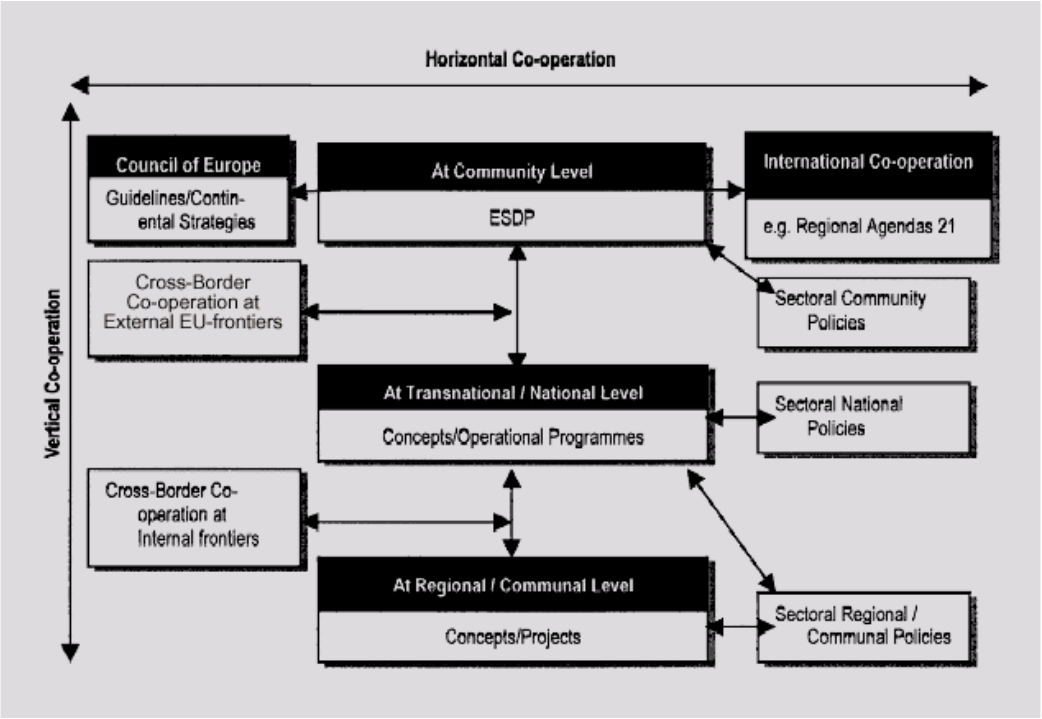
The importance of place to the substance of policy has reinforced the rational for localisation and local governance. Cities and regions, whether mono-centric or polycentric, are faced with the challenge of becoming economically more competitive, socially more cohesive and environmentally more sustainable. As theories of social ecology have shown, these developmental, environmental and distributive domains constitute the critical objectives of policy making (Liepietz,

1995). However, key to the realisation of this critical objective is the capacity of institutions and the relationships within and between them.

The importance of local institutional capacity and forms of governance has been emphasised in a wide range of literature. The local economic development literature in Europe emphasises the importance of institutional capacity in the economic competitiveness of localities (Amin and Thrift, 1994; Ashiem, 1996; Belussi, 1996). The literature on social cohesion highlights the significance of the active role of residents in community development (Duggan and Ronayne, 1991). The environmental literature puts emphasis on the involvement of stakeholders and citizen participation in environmental actions (CEC, 1990, 1992d). A common theme in all this literature is that institutional capacity is taken to be more than just the institutions of formal government. Instead, it refers to the overall nexus of social relations through which collective action for managing and promoting the qualities of places is undertaken (Healey, 1997)

2.5.3.4 Co-operation: a central thrust of the ESDP

The ESDP along with several other European, national and regional policy documents argues that, in the same way as clustering and networking play an important role in business competition and in the economic competitiveness of firms, cities and regions can also become successful if they develop associational structures in their social relationships. The ESDP states that, "in smaller towns in less densely settled and economically weaker regions, co-operation between urban centres to develop functional complementarity may be the only possibility for achieving viable markets and maintaining economic institutions and services" (ESDP, 1999: para: 76). It also emphasises that, "a pre-requisite [therefore] is the voluntary nature of the co-operation and the equal rights of the partners (op cit, para. 74). It is argued that by encouraging interaction between neighbouring cities and towns and by pooling together and sharing labour market and infrastructure facilities amongst them, economic innovation will be enhanced and functional synergies will be created (Priemus, 1994; Albrechts, 1998, Batten, 1995).



Source: ESDP, 1999:36

In short, the quality of governance relations matters if effective polycentrism is to be developed and sustained. If such synergies are to take place in European polycentric urban regions, there is a clear need not only for the 'hard infrastructure' such as an efficient transport and telecommunications network between and within the regions, but also for the 'soft infrastructure' including in particular the appropriate forms of institutional arrangement. The existence of effective governance relations is an important prerequisite for developing and sustaining economically, socially and environmentally balanced regions across Europe. The institutional structure and the nature of mechanisms for decision-making, co-operation and power partitioning can significantly influence the direction of a balanced European territory and the successful implementation of policy options. While industry, businesses and households operate on the basis of functionally defined areas particularly in polycentric urban areas, governance institutions are often organised and operate on the basis of administratively defined areas such as communes, municipalities, boroughs or Kreise.

It is in this context that the ESDP emphasises the need for building up co-operation and partnerships between towns and cities and their surrounding rural areas to enable the development of sustainable polycentric territories. As Sellers (2002:93) argues, "within an urban region that faces common problems, the multiple local jurisdictions that typically divide up the urban space often must co-ordinate with one another or come together in collective action. Throughout the advanced industrial world, urban and regional planning has emerged as one of the most important local means to this end".

Although there is a growing body of literature on governance and 'institutional capital', which provides a useful starting point for developing a conceptual framework to underpin such evaluations, it rarely tackles the methodological challenges of designing appropriate indicators for measuring these qualities. However, developing a conceptual framework for studying and evaluating the performance of governance requires the knowledge of what 'governance' means

and how it differs from 'government'. It also requires an understanding of the key challenges of governance.

The remainder of this part is therefore devoted to:

1. Providing an overview of the distinction between the concepts of 'governance' and 'government'
2. Examining the key challenge of governance
3. Developing a conceptual framework for examining the quality of governance relations
4. Reviewing current thoughts on what constitutes 'good' governance

2.5.3.5 The transition from 'government' to 'governance'

The concept of governance has found a central place in social science debate. As an analytical concept, it has emerged in a range of research fields including urban politics (Stoker, 1997), political economy (Campbell, et al, 1991; Hall 1996), and international and comparative politics (Hyden, 1992). The main focus of the debate has been on the transformation of the prevalent modes of governing advanced economies from *government* into what has come to be called *governance* (Jessop, 1995).

Across Europe, modern urban systems are characterised by complex patterns of interdependencies between actors, institutions, functional activities and spatial organisations. Controlling, managing or even steering complex, fragmented and often competing societal interests is beyond the capacity of the state as an agent of authority. City governments are no longer the key locus for the integration of urban relationships, but are now merely one of many actors competing for access to resources and control of the policy agenda (Davoudi, 1995). Stone (1986, 87) argues that, "as complexity asserts itself government becomes … more visible as a mobilizer and co-ordinator of resources". In this context, urban governance is defined as "the actions and institutions within an urban region that regulate or impose conditions for its political economy" (Sellers, 2002:9).

Various theoretical perspectives have tried to conceptualise this transformation and its outcome (Pierre, 1999, 2000; Peters 2000). For example, regulation theorists argue that the shift from government to governance is part of and a response to the wider process of socio-economic changes manifested in a move away from a Fordist mass production system and an established Keynesian welfare state towards 'post-Fordist' flexible specialisation (Jessop, 1995a&b; Piore and Sabel, 1984) and a relentless search for a new 'institutional fix' (Peck and Tickell, 1994a). They argue that the changes in the 'mode of accumulation' in the world economy demands transformation in the 'mode of regulation' (see Amin ed 1994, Harvey, 1989).

Jessop (1997) argues that, central to these developments is the profound restructuring of the state and its changing role in governing the relationships between society and economy. This partly relates to the twin trends within the changing economic structure, that of 'globalisation' and 'localisation'. As the organisation of economic activity becomes transnational and global, national governments are less able to control and influence the economic forces that act within their own borders. It is, therefore, suggested that the 'denationalisation of the state', or the 'hollowing out' process, has led to a continuing loss of state functions and to a shift of power upwards to supranational bodies such as the EU, downwards to special purpose bodies at the sub-national level and sideways to a

range of semi-public and semi-autonomous agencies (Jessop, 1995a&b; Rhodes 1997&2000).

On the other hand, it is suggested that the structure of post-Fordist economic activity - characterised as 'flexible specialisation', leads to a process of localisation whereby localities are more able to develop their own trajectories of economic development within this global system. As the study of small and medium-sized cities in Europe (Cameron, Davoudi et al, 1997) has shown, some localities and regions gain from this process while others lose out. One important factor in the way these localities respond to the processes of transformation is the capacity of their institutions and the quality of their governance relations in maximising opportunities and minimising threats.

These restructuring processes have marked a number of changes in the governing structures of cities and regions, including:

- A relative decline in the role of the state in the management of social and economic relationships
- The involvement of non-governmental actors in a range of state functions at a variety of spatial scales
- A change from hierarchical forms of government structures to more flexible forms of partnership and networking (Jessop, 1995, Marks 1996, Stoker 1997)
- A shift from provisions by formal government structures to the contemporary sharing of responsibilities and service provision between the state and civil society (Stoker 1991)
- The emergence of local / regional forms of governance as a result of mobilisation and the construction of scale-specific state policies and institutions (Brenner, 2000)

In summary, the outcome of these restructuring processes is a shift from 'government' to 'governance'.

Here, *government* refers to the dominance of state power organised through formal public sector agencies and bureaucratic procedures, and characterised by:

- Hierarchical organisation of responsibilities between different territorial (national and local) scales in Europe
- Sectoral separation of competencies between the various functions of the public sector
- Perceived distinction between politics (managed through representative democracy), professionals and experts (based on technical and instrumental rationality) and lay people
- Functional division between the roles and interests of public (state), private (market) and community (civil society)
- Universalist welfare state structure of service delivery

Governance, on the other hand, refers to overlapping and complex relationships that are increasingly replacing these neat and simple dividing lines (Judge et al, 1995, LeGales, 1998).

Healey et al, (2002), argue that governance, in its *descriptive* sense, directs attention to the proliferation of agencies, interests, service delivery and regulatory systems which are involved in making policies and taking actions. In its *normative* sense, governance is defined as an alternative model for managing collective affairs. It is seen as "horizontal self-organisation among mutually

interdependent actors" (Jessop, 2000:15). Here, government is not the only actors and indeed has only 'imperfect control' (Rhodes 1997:8).

In addition, there are multiple interpretations of the exact meaning of governance. Pierre (2000, p.3), for example, argues that governance has two meanings: one "refers to empirical manifestations of state adaptation to its external environment" and the other "denotes a conceptual or theoretical representation of co-ordination of social systems and, for the most part, the role of the state in that process". This latter interpretation is further sub-divided into two categories by Peters (2000) who distinguishes between a "state-centric" approach to governance where the focus is on the extent to which the state has the political and institutional capacity to steer society and economy through defining goals and priorities; and a "society-centred" approach where the emphasis is on co-ordination and self-governance manifested in public-private partnerships and networks.

Key to these approaches is that as the focus of debate shifts from government to governance, emphasis is placed more on process and less on institutions. Hence, Pierre (1997 PUG) defines governance "as a process through which local political institutions implement their programmes in concert with civil society actors and interests, and within which these actors and interests gain (potential) influence over urban politics" (Pierre, 1997:5). It is therefore imperative that governance as a process cannot be understood without also clarifying the normative framework within which governance occurs.

2.5.3.6 The challenge of governance

The move to governance has not only led to fragmentation of local governance, it has also led to the disruption of the established channels, networks and alliances through which local government is linked to the citizens and to businesses. It has resulted in the decay of established forms of political representation. Old networks are disintegrating, new ones forming, focusing on new arenas and different forms of representation (Stoker and Young, 1993). Thus, the challenge of governance is how to create new forms of integration out of fragmentation, and new forms of coherence out of inconsistency. As Stoker points out, governance is "a concern with governing, achieving collective action in the realm of public affairs, in conditions where it is not possible to rest on recourse to the authority of the state" (Stoker, 2000:93) at different time and spatial scales, how collective actors emerge from a diverse group of interest (Le Gales, 1998). A key concern is the availability of strategies of co-ordination to actors involved in the governing of a specific policy area.

In the context of polycentric urban areas, which are made up of a number of cities and towns that are historically and politically independent, actors are not only drawn from beyond the boundaries of the formal institutions of government and spread among public, private and voluntary sectors. They also spread across the boundaries of different political and administrative jurisdictions with little sense of a shared, place-based identity. Moreover, the policy objective with which they are preoccupied, i.e. the development of a spatial planning strategy which enables and enhances the development of polycentrism is highly complex, demanding, and dependent on the actions of a wide range of actors outside the public sector. All this leads to a higher degree of fragmentation and poses an even greater challenge for effective governance. In other words, in the context of polycentric urban areas, creating favourable conditions to meet the challenge of collective action is even more problematic.

Previously, following the work of Logan and Molotch, the literature, largely from the US, provided a powerful argument about the role of the growth coalition in creating the condition for collective action (Logan and Molotch, 1987). However, the narrow focus of this literature on economic growth is of little use in the complex and highly conflictual task of developing spatial planning strategies, which aim to strike a balance between economic, social and environmental goals. As Sellers (2002) argues, to assess how much of a difference urban governance can make requires an analysis of its role in all three areas of promoting growth, protecting environmental quality and remedying inequities.

For that, regime theory has provided a wider perspective. Following Stones' studies of urban regime formation in Atlanta (Stone, 1993), regime theorists have moved beyond a focus on the growth coalition and have focused instead on the formation of regimes whose remit is wider than that of economic growth and can include other shared purposes and common goals. From the regime theory perspective, the problem of governance, understood as the challenge of collective action, can be resolved by forming governing coalitions or regimes that are informal, stable, have access to institutional resources, have a sustained role in decision-making, and draw on actions from public and non-public sectors (Stoker, 2000). Substantive policy outcomes can be achieved if organisations from various sectors come to co-operate as a result of recognising mutual dependency in objectives, resources, power or knowledge (Bryson and Crosby, 1992).

2.5.3.7 The characteristics of effective governance relations?

The above discussion has established that the key challenge of governance is to create a condition that allows collective action to take place, or in other words, to make things happen, to get things done and to implement policies. For policy makers, therefore, the critical questions are:

- What are the key factors in the creation of such a condition?
- What are the key ingredients of a favourable climate in which collective action can flourish?

Many commentators have tried to identify specific sets of relationships for assessing the performance of governance and its capacity to act collectively. For example, Amin and Thrift (1995) coined the concept of 'institutional thickness' and argued that the nature of institutional relations is a significant factor in the economic and social health of localities. The concept refers to five main factors including:

- A plethora of civic associations
- A high level of inter-institutional interaction
- A culture of collective representation and coalitions which cross individual interests
- A strong sense of common purpose
- Shared cultural norms and values

Coffey and Bailly (1996) used the concept of 'innovative *milieu*', which was first developed in the French speaking world in the 1980s. This defines broadly based local *milieu,* which encompasses economic, social, cultural and institutional factors that affect the competitive advantage of cities. An innovative *milieu* is characterised by the following factors:

- A group of actors (firms and institutions) that are relatively autonomous in terms of decision making and strategy formulation

- A specific set of material (infrastructure), immaterial (knowledge, 'know-how') and institutional elements (authorities, legal framework)
- Interaction between local actors based on co-operation
- Self-regulating dynamics that lead to learning and to the ability to adapt to a changing environment

This approach emphasises the significance of the complex web of relations that tie different actors and agencies together. Here, territory is not seen as a 'container' but rather as a 'created space' that is both the result of, and a precondition for, learning (Malmberg and Maskell, 1997). It is an active resources rather than a passive surface (Coffey and Bailly, 1996).

More recently, Innes et al (1994) have argued that the capacity of governance initiatives to achieve a common goal, or to make a difference, depends upon the character and quality of three forms of capital and the ways in which they interact. These include:

- Intellectual capital (knowledge resources)
- Social Capital (trust and social understanding)
- Political capital (the capacity to act collectively)

Regime theory confirms the significance of these factors and makes a number of other factors which are seen as essential for a regime to achieve a sustained capacity to act and influence developments in key policy areas more explicit (Stoker, 1995). These include (Stone, 93):

- Composition of the governing coalition
- Nature of relations among members of the governing coalition
- The resources that members bring to the coalition

These perspectives lead to the conclusion that the following set of capitals are key to the success of a self-organising voluntary coalition in terms of its ability to act collectively and to develop the capacity to achieve its goals and objectives:

- Intellectual capital: knowledge resources that are socially constructed and flow among the actors

- Social capital: relational resources and the nature of relations between the actors

- Political capital: power relations and the capacity to mobilise resources and to take action

- Material capital: financial and other tangible resources that are made available to the actors and the coalition

Developing, sustaining and making use of these capitals, however, depends upon a number of factors as listed below. These factors can also be used to examine the quality of governance relations in a locality.

Intellectual capital. As argued by de Magalhaes and Healey (2002), building up intellectual capital depends upon:

- The *range* of knowledge available to the actors. In the case of a coalition that aims to develop a spatial strategy the range includes, for example, knowledge of the spatial structure of cities and regions, and the ways in which they

evolve, knowledge of socio-economic processes and their impact on spatial development, knowledge of the ways in which institutions operate, etc

- *Frames of reference* to make sense of the available knowledge. Knowledge can be used and interpreted in different ways by different people. To develop a shared understanding of the available knowledge, a common frame of reference between the actors needs to be developed in the process of co-operation

- *Transparency* in the flow of knowledge and the sharing of information

- *Learning capacity* of actors, which includes both the willingness to learn and openness to new ideas

Social Capital. The concept of social capital links to other concepts, most importantly to the concept of 'civic society' or 'civic virtues'.

These were coined by Putnam. His work, based on a longitudinal study of Italian regional institutions, showed that the presence of 'civil society' is a causal factor in explaining institutional performance and ultimately economic development (Putnam et al, 1993). Putnam argued that the civic context matters for the institutions to work, and defined civic virtues as encompassing "an active, public-spirited citizenry, by egalitarian political relations, by a social fabric of trust and co-operation" (op cit:15).

Using these ideas in the context of coalitions and partnerships, it is argued that creating and maintaining co-operation depends upon setting up relations based on:

- *Solidarity* among the actors

- *Relationships* which are based on loyalty and trust rather than hierarchy and bargaining

- *Mutual support* for the actions that have been agreed

- *Shared sense of purpose:* The most common form of achieving co-operation is by mutual self-interest. Selective incentives create the conditions for collective action. However, another form of achieving co-operation is through a deeply held commitment to a shared social purpose (Stoker and Mossberges, 1994)

Political capital. This is about the capacity to mobilise which depends upon:

- Intangible *Resources* that members bring to the coalition such as political popularity.

For actors to be effective, two characteristics are necessary (Stone 1986):

1. The possession of a strategic knowledge of social transactions and a capacity to act on the basis of that knowledge
2. Access to resources that make one an attractive coalition partner

- *Power relation* in terms of power *to* act rather than power *over* the action of others and the degree of *pre-emptive power*

Dyeberg (1997) argues that power can be seen as both the power to control the actions of others and as the power to act, to get things done. Power is seen as a

matter of social production rather than social control. "The power struggle concerns, not control and resistance, but gaining and fusing a capacity to act – power to, not power over" (Stone, 89b: 229). However, it is clear that in the social relations of governance processes, both forms of power exist and remain in tension. As Stoker (1995) suggests, beyond the surface of fragmented and disjointed interest group conflicts certain partnership between government and non-governmental actors may be formed that gives its members a pre-emptive occupancy of a strategic role.

The move away from a traditional model of hierarchical and mainly political power to a system where power is shared and split between a variety of political and non-political stakeholders has led to a further diffusion of power with multiple characteristics. Stoker (2000) identifies four types of power:

1 Systemic power which "is a matter of context, of the nature of or 'logic' of the situation" (Stone 1980:979 quoted in Stoker, 1995). It relates to the position of actors in society and to the socio-economic structure
2 Power of command and social control relating to the active mobilisation of resources: information, finance, reputation, knowledge
3 Coalition power which increases the capacity to bargain, not to control
4 Pre-emptive power, which relates to the power of social production. This needs leadership (not of individual nature, but rather within the context of a group of interests) for solving collective action problems and building up the capacity to govern

Although those with systemic and command power have the advantage in governance relations, they only do so if they turn that power into pre-emptive power, i.e. power to act as "a collective actor to guide the community's policy response to social change and alter the terms on which social co-operation takes place" (Stone 88:102).

Material capital. This relates to the tangible resources (financial and asset based) available to actors.

Assembling and blending resources is a daunting task. Even if a form of co-operation is developed, for a governing coalition to be viable in the long term, it "must be able to mobilise resources commensurate with its main policy agenda" (Stone 1993:21).

Institutional capacity

In their study of an urban regeneration project, de Magalhaes and Healey (2002) draw on the work of Innes and Booher (1999) on consensus-building processes and use the notion of 'institutional capital' as a conceptual devise for linking together the first three forms of capital.

Creating and enhancing new forms of governance and creating strategic capacity to capture new opportunities requires progress towards all four forms of capital. This is particularly important in relation to spatial planning aimed at promoting a polycentric Europe. Given the new condition of governance, the capacity of institutions to create new relationships for engaging in purposeful, collective action is key to the success or failure of cities and regions in taking advantage of the globalised economy. However, the conditions affecting capacity varies between different localities. As Healey (1998b: 1531) argues, " a key element of such capacity lies in the quality of local political culture some are well-integrated, well—connected, well informed and can mobilise readily to capture opportunities

and enhance local conditions. Others are fragmented, lack the connections to sources of power and knowledge and the mobilisation capacity to organise to make a difference". In short, in some governance relations and institutional arrangements the four forms of capital are well developed, while in others they are either non-existence or pre-mature. The question that then arises is thus whether, and how, policy intervention by the EU and/ or national states can help to develop such capacities.

2.5.3.8 The role of policy intervention in building up effective governance relations

While it might be argued that in the United State (where discussions on governance and urban regimes were pioneered), coalitions are 'natural', in EU countries government has attempted to actively steer processes of co-ordination and collective action across public private and voluntary sector boundaries. 'Steer' in the context of governance recognises that "government cannot impose its policy but must rather negotiate both policy and implementation with partners in public, private and voluntary sectors" (Stoker 2000:98), while the notion of a new 'operating code' is based less on government's authority to make decisions, and more on creating the conditions for a positive-sum partnership.

It is therefore argued that governments can establish a framework for effective collective action. In the UK for example, the election of a Labour government has accelerated the search for a 'modernised' form of government. As Harding (1998) argues, the UK's interest in regimes comes out of a growing awareness of the limits to direct action by the state and the need for partnership with other actors including the private sector and civil society. Similar attempts have been made in France and Spain to promote local coalition building.

At the local level, local government has an important role to play in promoting new forms of governance and enhancing local institutional capacities given that it is situated at the crossing point between the traditional vertical axis of power and public administration and the new horizontal axis of partnership between government, and the private and civil sectors.

At the EU level, research undertaken on the impact of the governance structure and institutional performance on delivery of the Structural Fund's SME policies in southern Europe concluded that an important factor influencing the degree to which EU policies can be implemented is based on the institutional capacity of the localities (Batterbury, 2002). Such capacity can be enhanced by the action of the European Union aimed at enabling local institutions to operate effectively.

Most EU policies are embedded in a system of multi-level governance where European, national and regional government all play a role. These mediate policy implementation through local governance structures. In many EU countries, the Structural Funds have effectively become a mechanism for regional capacity building, a role as important as the delivery of regional assistance itself (Grote, 1996). However, some regions have been more successful in adapting themselves to the requirement of policy, others have faced a difficult challenge, due to a number of the factors mentioned above. The problems are exacerbated when institutions are faced with achieving new policy goals. The concept of polycentric development, simple as it may look, is a complex one with the potential for being interpreted in different ways (Davoudi, 2002). The key to the successful application of this policy framework is effective governance relations and a capacity to capture opportunities offered by polycentrism.

Thus, it is important that a part of the EU resources are explicitly allocated to enhancing governance relations at a variety of scales and to the building up of institutional capacity by, for example, focusing on the four capitals mentioned above and using the tools identified below.

Another key issue is the need for flexibility and differentiation in policy delivery in a way that enables a better 'fit' between policy goals, local condition and institutional performance. This means that the Structural Funds, or indeed any other EU funding regime, need to be better adapted to suit different institutional cultures and capacities across the EU.

Recent attempts by the Commission to open up the policy-making process to a wider range of stakeholders involved in the shaping and delivery of policy (CEC, 2001) is thus a step in the right direction.

How external factors can stimulate co-operation?

Stoker (2000:99-104) identifies five tools for stimulating partnership and effective collective action, which have been used in UK urban politics since the late 1980s. He also identifies how each is associated with certain tensions and contradictions:

Cultural persuasions
Government can steer by using its 'moral' authority to promote and persuade others to work in partnership to solve problems and to take action. Here the key tension is the lack of legitimacy and the clash with the established 'norms' of public conduct.

Communication
Another way of bringing people together is to provide for an environment in which learning can be facilitated and encouraged through communication. However, a key dilemma is the limits to openness of the *fora* concerned, i.e. who should be included and who excluded.

Finance
Government can steer governance by subsidising partnerships. Financial incentives are strong motivators for partnership. Given the limited amount of public finance, the process of financial allocation is highly competitive. This in turn encourages short-term self-interested behaviour, which undermines the quality of co-operation. Another long term effect on building up strategic capacity is through the imposition of performance criteria that are part of the quantitative monitoring of the fund.

Monitoring
Government can also steer governance by setting up monitoring procedures to check the development of partnerships. It can also organise cross-institutional learning by identifying and disseminating best practice. However, as Rhodes (1997, in Stoker 2000) argues, such plans and performance reviews can create over-rigid procedures that can stifle innovation and undermine the development of social capital.

Structural reforms
Finally, governance can be steered through the appointment of new agencies consisting of multiple stakeholders. However, there are a number of tensions associated with this strategy. Firstly, is the issue of who is appointed to them. Secondly, how can they be held to account. Thirdly, how can the resulting fragmentation be put together.

2.5.3.9 What is 'good' governance?

As illustrated above, the concept of governance is a complex one. Urban governance is more than just the exercise of authority by government. It involves working across boundaries within the public sector as well as between the public, private and community sectors. Partnership and networking are the keys to success. Governance is not the same as government, and it is a process rather than a product. It operates at different levels and it is important to develop governance systems at the appropriate layer.

Although there has been a tendency to see urban governance simply in terms of urban management, i.e. the operation and maintenance of a city's infrastructure and services, it is increasingly recognised that governance processes are heavily politicised rather than simple managerial processes. As such, good governance is about a desired standard of practice for which common values or norms can be identified.

While there are dangers in trying to find one definition that can be used in all circumstances, key international organisations such as the United Nations Centre for Human Settlement (UNCHS) have tried to provide a definition that can work as a guideline to contextualise the implementation of good governance in various circumstances. This defines good governance as "an efficient and effective response to urban problems by accountable local governments working in partnership with civil society" (quoted in BSHF, 2002). The main characteristics of good urban governance are defined as follows:

- Sustainability: balancing the social, economic and environmental needs of present and future generations
- Subsidiarity: Taking decisions at the appropriate level with clear frameworks for the delegation of authority
- Co-operation: developing collaboration between spheres of government and shared competencies
- Equality of access in decision-making
- Efficient delivery of services
- Transparency and accountability
- Civic engagement and citizenship

These principles are similar to those proposed in the White Paper on European Governance (CEC, 2001), which identified the reform of European governance as one of its four strategic objectives in early 2000. The White Paper identifies the five principles that underpin good governance. These are: openness, participation, accountability, effectiveness and coherence. Each principle is important for establishing more democratic governance. They underpin democracy and the rule of law in the Member States, but they apply to all levels of government – global, European, national, regional and local as well as to polycentric governance.

Openness
The Institutions should work in a more open manner. Together with the Member States, they should actively communicate with regard to what the EU does and the decisions it takes. They should use language that is accessible and understandable for the general public. This is of particular importance in order to improve public confidence in complex institutions.

Participation
The quality, relevance and effectiveness of EU policies depend upon ensuring wide-ranging levels of participation throughout the policy chain – from conception to implementation. Improved participation is likely to create greater confidence in the end result and in the institutions that deliver the policies. Participation crucially depends upon central governments following an inclusive approach when developing and implementing EU policies.

Accountability
Roles in the legislative and executive processes need to be made more transparent. Each EU Institution must explain and take responsibility for what it does in Europe. Moreover, there is also a need for greater clarity and responsibility from Member States and all those involved in developing and implementing EU policy at every level.

Effectiveness
Policies must be effective and timely, delivering what is needed on the basis of clear objectives, an evaluation of future impacts and, where available, of past experience. Effectiveness also depends upon implementing EU policies in a proportionate manner and on taking decisions at the most appropriate level.

Coherence
Policies and action must be coherent and easily understood. The need for coherence in the Union is increasing: the range of tasks has grown; enlargement will increase diversity; challenges such as climate and demographic change cross the boundaries of the sectoral policies on which the Union has been built; regional and local authorities are increasingly involved in EU policies. Coherence requires political leadership and a strong measure of responsibility on the part of the institutions to ensure a consistent approach within a complex system. Each principle is important by itself, but they cannot be achieved through separate actions. Policies can no longer be effective unless they are prepared, implemented and enforced in a more inclusive way.

The application of these five principles reinforces those of

Proportionality and subsidiarity
From the conception of policy to its implementation, the choice of the level at which action is taken (from EU to local) and the selection of the instruments used must be in proportion to the objectives pursued. This means that before launching an initiative, it is essential to check systematically (a) if public action is really necessary, (b) if the European level is the most appropriate one, and (c) if the measures chosen are proportionate to those objectives.

While there is a high degree of consensus about the principles of good governance, as shown above, it is notoriously difficult to measure good governance. Attempts to develop proxy indicators to help identify current practice and opportunities for improvement have thus far had mixed success. Given that governance is an evolving process, it is also difficult to set up permanent indicators. As such, indicators should be used cautiously and circumspectly and evaluation should be undertaken over a long period of time.

The White Paper on European Governance concerns the way in which the Union uses the powers given to it by its citizens, and proposes opening up the policy-making process to encourage more people and organisations to become involved in shaping and delivering EU policy. It promotes greater openness, accountability and responsibility for all those involved. This process in itself will be a mechanism for building institutional capacity at various scales.

2.5.4 Models of partnership

2.5.4.1 Introduction

The concept of partnership has come to occupy a central place in the political economy of the redevelopment of urban areas and regions. Partnerships between the public and private sectors are now commonplace as vehicles for the development and implementation of strategies for local economic regeneration (Harding, 1989, 1990). Since the mid-1980s, there has been a steady growth in the number of formal and informal organisations, committees, bodies and forums that have a collaborative approach embedded in their structures. Such bodies have sprung up in the fields of education and training, housing, urban renewal and spatial planning. If the physical evidence of partnership is widespread, so too is its language. Policy-makers now talk in terms of a 'partnership economy', and the need for collaboration, co-operation and programmes of joint action between the public and private sectors in the regeneration of local economies.

Although it may be possible to identify a common environment or climate in which partnership bodies develop, it should be evident that there are particular characteristics to any local political economy that influence the form and style of partnerships in any one area. The need therefore is to disaggregate the concept in order to avoid an uncritical acceptance of the term and to unravel a complex phenomenon that superficially appears to be easily readable. Thus, we need to define our terms; we need to distinguish between its different forms in the urban and regional regeneration and spatial development of places; and finally, we need to look at some of the political, social, and economic consequences of the growth of partnerships.

2.5.4.2 Recasting the urban and regional policy 2.5.4.3 environment

Partnerships in the field of urban and regional development and spatial planning have come to occupy a prominent position on the agenda of urban and regional policy because of a specific political and ideological response to the regeneration of previously industrialised areas. In the UK, and across Europe, a broadly neo-liberal economic and political agenda has given rise to a form of urban and regional policy that although often *ad hoc*, uncoordinated, and pragmatic, has sought to combine state and market actors in the management of urban economic and social change.

During the 1980s and 1990s a raft of partnership initiatives were developed that coincided with a political perspective that emphasised policies for supply-side incentives and market-based solutions to urban and regional problems. Throughout the 1980s, this neo—liberal agenda found expression in the rhetoric of the 'inner city debate', the parameters of which were structured by notions of deregulation, the 'incentiv*ication*' of the private sector, and a consequent change in the institutional framework for tackling urban problems. It was the introduction of the concept of partnership as a policy style within this debate that gave impetus to the development of a more specific role for the private sector in the formulation and implementation of policy. During the 1990s, and more latterly however, a role has now been found for new community-based elements in partnership working, reflecting a subtle movement in political rhetoric and policy towards more communitarian or 'third way' thinking.

The ubiquity of partnership working implies that collaborative co-operation between state and market will generate benefits that a non-pooling of resources

would otherwise not produce. The benefits of partnership working have been variously described by a range of commentators as, building local consensus and capacity, unlocking land and development potential, place promotion and marketing and creating synergy (Bailey, 1995, Macintosh, 1992, Pierre, 1998). Box 1. summarises some of these points.

BOX 1. The Benefits of Partnership

Synergy creation	The 'pooling of resources' and the belief that more can be achieved by working in partnership than by working independently – the creation of internal synergy. The ability of the partnership to attract resources from the external political-economic environment – the creation of external synergy.
Transformation and consensus construction	The development of trust and mutual understanding and interdependence. Working methods and objectives are modified and agreed through co-operation – the 'mutual struggle for transformation'.
Budget enlargement	Partnership as a way to enlarge the limited public resources available to a local authority, and as a way to allow the private sector to reduce the economic risk of civic activity, or to receive elements of public subsidy.
Land and development potential	Public-private sector partnerships as a means to unlock complex land ownership patterns, particularly in large-scale development projects.
Place promotion	Partnerships as symbols of economic and social regeneration. Inter-sectoral consensus construction as a mechanism for image–building and local identity construction. The promotion of place and cultural capital to niche markets.
Co-ordination	The co-ordination of services, functions and infrastructures of previously extant authorities. Or, the co-ordination of new areas of activity either at the level of implementation or strategy development.
Confidence–building and risk minimisation, and the legitimisation of pro-growth politics	The development of pro-growth strategies as a mechanism to provide local political and economic stability to secure both private and public investment.

Given the shifts outlined above in the political and policy context of partnership development, it is appropriate to consider the rise of partnerships as an *approach* to tackling urban problems within a policy environment created by more specific policy measures of central government. The idea of partnership as an approach to, or method of, dealing with particular urban economic and social problems is important for two reasons. Firstly, the development of partnership is characterised by its piece-meal evolution rather than by formal design and implementation. Secondly, conceptualising partnerships as an approach or *process* allows us to begin to unpack the diversity and range of policy styles, organisational formats, and relationships that underlie the term, as well as revealing the interplay of ideology, politics and economics that structures those forms and relations. Any definition or understanding of partnership that seeks to take into account the contingency of factors that shape the partnership must go beyond identification of the actors involved and the issues around which the partnership is based. This means that we need to consider both the extent to which partnerships act as a focal point or a mediator of change, (whether political, economic, social or cultural), and the degree to which the fusion of state

and market, in and through partnership institutions, has the capacity to materially and discursively effect the well-being of particular localities.

This section has highlighted that public-private partnerships should be seen as an approach within the existing parameters of urban and regional policy environments. However, although it is possible to identify the context of partnership development such contextualising says little about the organizational forms partnerships assume, or the issues around which they coalesce. It is to a discussion of this that we will now turn.

2.5.4.4 Partnership as an institutional resource for collective action

Partnerships are arranged in a diversity of organisational formats that have been crafted by both central and local government, and by initiatives from the private sector - there is no easy way to classify them (Healy et al, 2002, 19). At one level, partnerships that appear to be private sector-led (TECs and UDCs in England and Wales) were in fact adjuncts of central government policy, if working at arms-length from their funding department. At another level, partnerships that have sprung from the private sector have received substantial support in terms of funding or advice from central and/or local government. Table 4.1 provides a typology of partnerships focusing on type, the process of mobilisation, the territorial coverage, partners, and purpose.

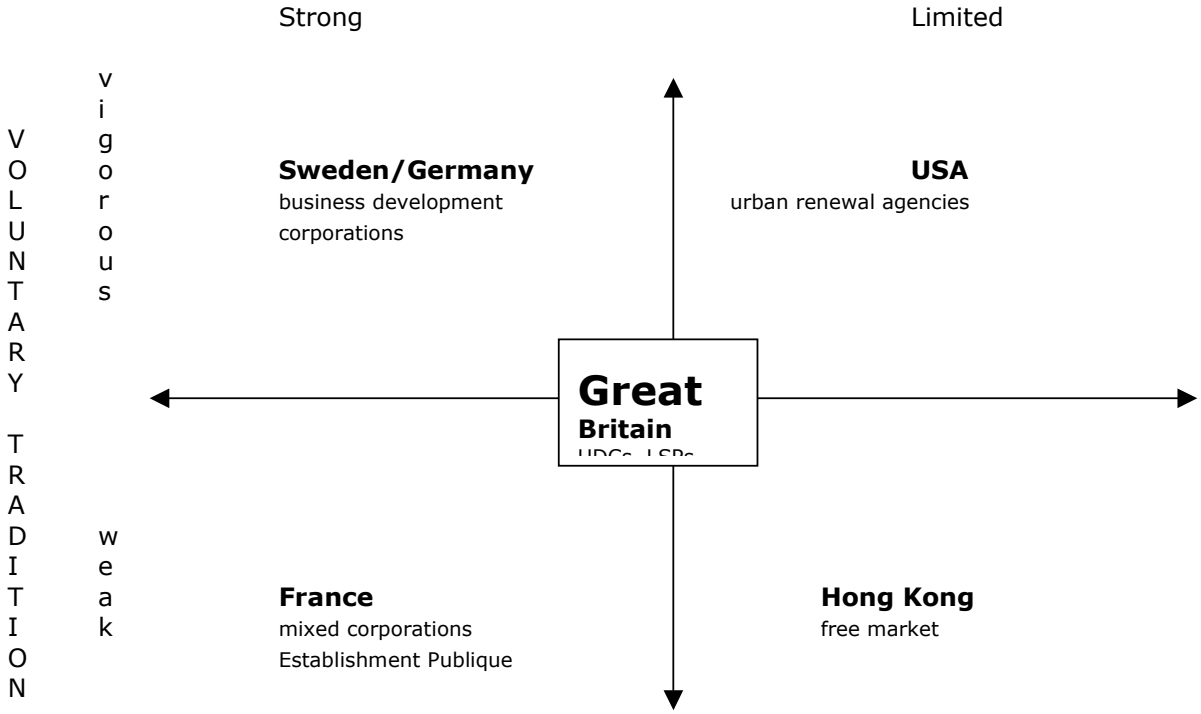
Table 4.1 Typology of Partnerships

Type	**Site of Mobilisation**	**Territorial Coverage**	**Partners**	**Purpose**
Development	Local	Single site or small area	Private developer Local authority Public agency	Joint development
Development Trust	Local	Neighbourhood	Community organisations Local authority	Community regeneration
Joint Agreement Company	Local, but may be response to national policy	Defined area of regeneration	Public, Private and Voluntary sectors	Strategy preparation – implementation through third party
Promotional	Local	Urban, Region	All sectors, but often private sector-led	Place marketing and promotion
Agency	National, Regional	Urban, Regional, sub-regional	Public sector-led with private sector, voluntary sector representation	Various – depends on lead agency terms of reference and objectives
Strategic	Regional, Local	Sub-regional, metropolitan	All sectors	Broad strategy development, accessing funding, agenda setting, consensus construction

Source: Adapted from Bailey et al, (1995, 30)

Across Europe, partnerships range in style and format from those that are partnerships of municipalities (Sweden) to public-private sector partnerships that are managed by local public officials and local authorities (UK/France). Different types of partnerships vary across territory, reflecting political systems, economic conditions, social composition and cultural heritage (see fig.4.1 below). As Savage (1998, 178) argues, "strong states with weak voluntary traditions produce partnerships dominated by the public sector…limited states with a tradition of vigorous voluntary action, produce partnerships dominated by the private sector. Between these two points, hybrid types of partnership are likely to arise."

Fig. 4.1 State, Society and Partnerships



Source: adapted from Savage (1998, 179).

At a very general level, European partnerships are likely to be either managed or dominated by the state, where public officials 'orchestrate action' and 'apply resources' (Savage, 1998, 182). In contrast, in the USA an approach to public-private sector co-operation has emerged where business is dominant, reflecting a local government system that is more permeable to private sector influence (Squires, 1989; Savage, 1998). In Canada, a more interventionist stance towards partnership working is evident, where, through its provinces, local government and the private sector work through 'mixed' and 'pluralist' partnerships (Savage, 1998, 183).

Clearly, despite this range of activity and partnership style and format, we need to be aware that forms of collective actions that aim to work within a partnership framework have input from more than one agency. This is not merely the semantic point that partnerships involve more than one partner, but that partnerships come in different forms. This acknowledged, it is still possible to devise a crude classification of the organisational forms of state-market interaction.

Table 4.2 outlines the broad dimensions or purposes of partnership. Partnerships are seen to be either deliberative/strategic or operational/instrumental in purpose. The former relates to partnership working that is operating a strategic or agenda setting level of policy development, while the latter is focused on partnership activity that is designed around the implementation or delivery of specific programmes of action.

Table 4.2 Dimensions of partnership

PARTNERSHIP ACTORS	**DIMENSIONS OF PARTNERSHIP**	
	Deliberative/Strategic	*Operational/Instrumental*
State/Market	✓	
Market/Community		✓
State/Community		✓
State/Market/ Community	✓	✓

Source: adapted from Jacobs (1992, 201).

The dimensions of partnership should be seen as lying at the ends of a partnership continuum, with the potential for movement and transition through dimensions as the partnership develops (see fig.4.2). So, for example, a partnership may begin as simple cooperation between state and market actors. but may then move to incorporate community elements within its structure. As its composition changes so its purpose may also change from strategic-agenda setting to localised implementation, or some combination of each (Balloch and Taylor, 2001, 6). Equally, partnerships may be seen as residing on a 'spectrum of commitment' of working arrangements that stretch from competition to co-ordination, and co-ordination to co-evolution (Pratt et al, 1998).

Fig. 4.2 The continuum of Partnership

The issue of partnership purpose or rationale is further complicated by the form of its origination or inception. There are essentially two variations on the theme of partnership. The first can be termed *imposed* partnership. The characteristic form here is the 'parachuting' of a development agency, quango, or institution of central government into a particular locality. In the UK, Urban Development Corporations in the field of economic regeneration and property and land development, and Training and Enterprise Councils and Compacts in the field of education, training and economic development have been prime examples. In contrast, the second approach has revolved around the construction of *organic* partnerships that draw on a range of institutions and individual actors. Such partnerships have variously been established to carry out specific physical development projects, undertake promotional or marketing campaigns, promote business and enterprise growth, or develop long-term strategies for local economic regeneration.

In practice, the distinction between the 'imposed' and 'locally inspired' forms of partnership is more blurred than has been suggested. Centrally imposed modes of partnership can intermingle with locally based initiatives, while local

partnerships are rarely composed of local individuals, organisations and resources. This picture is further complicated by two additional factors. First, within the second classification a distinction should be made between initiatives and projects emanating from the political and business elite, and those that are generated by, and based on, the needs of the community. There is a significant question mark over the degree to which the local community is represented or can find articulation within these new partnership structures.

2.5.4.5 Principles of partnership working

Irrespective of the mode of partnership there appears to be a consensus of principles within partnership philosophy in the development and regeneration of local economies. These can be characterised as recognition of the value of local initiatives; an awareness of the spatial causation and partial solution to identified problems; and the need to develop an 'enterprise culture' through business growth (Richardson, Moore and Moon, 1989,79). In terms of policy implementation, these principals have produced a number of responses from partnerships. For example (depending on the type of partnership), it has involved the rise of small business development policy, including the provision of general physical infrastructure such as business development sites, and the creation of business support and information services. It has also produced policies to improve the image of particular places and boost both local and non-local confidence in a locality's economy. Many partnerships have embarked upon a process of the sectoral diversification of their local economies through a movement away from a reliance on single sector industry, towards service industries, new technology enterprise and tourism. Another policy feature has been the creation of specific urban renewal projects, which illustrates both a spatial approach to the problems of urban decline and the need for focus or 'flagship' projects as catalysts for local regeneration activity (Bianchini et al, 1990). Finally, there has been a growth in policies designed to enhance local employment and training opportunities in order to make the labour force more competitive and a stronger local productive asset (Richardson, Moore and Moon, 1989,79).

Clearly, it would be wrong to assume that all partnerships in the field of urban and regional development are identical. Partnerships developed for specific development initiatives may have significantly different aims, methods of operation, structures, and resources from those that have been established to work on the image and promotion of a particular place. Equally, although partnerships have a broad remit to do something about the local economy, there will be differences in emphasis in how they do that something. Indeed, the format of a partnership will depend on a combination of factors within the local economic, social and political *mileux*. Moreover, the degree of interaction between partners will vary depending on the projects undertaken and the level of cohesion and consensus around aims and objectives. The capacity of any partnership to effect change will be dependent both on local as well as national and international economic and political circumstances. Conditions such as industrial structure, the effects of national policy, and local culture, will interact with such factors as infrastructural development, physical environment, and the ability of local institutions to produce strategies designed to accommodate structural economic and social transformation. In any particular location emergent forms of co-operation will be influenced by the inter-relation between these conditions, and the level of involvement of local and non-local inputs. What is apparent, however, is that for partnerships of state and market actors to approach a level of effectiveness certain sets of requirements are necessary. Box 2 below outlines the

requirements of effective partnership working (this information is drawn from Shucksmith, 2000,44).

BOX 2. Key Requirements of Effective Partnership Working

Adequate lead-in time	Time required to establish structures and relationships to be developed. Time for the identification of roles, responsibilities and understanding of the partnership environment.
Time, resources and training for community participation	Time, training and money required for the development of community capacity to participate in, and/or understand the partnership environment.
Recognition of different partners' cultures	The need for all partners to learn and appreciate the working practices and cultures of each partner.
Time and resources to build trust	Time to establish clear administrative procedures and development of good working relationships.
Stable programmes of adequate duration	Short time-limited partnerships often spend too much effort on establishing relationships and seeking future funding. There is a need to establish partnerships that are more enduring to allow for a more concerted focus on objectives and programme delivery.

2.5.4.6 Structure and process in partnership working

Politically, partnerships are about the management of change in the face of widespread structural economic transformation. On an ideological level, they represent an attempt to change the nature of local collective action in the formation and implementation of policy. What is important, is not just that partnerships have an ideological as well as political dimension, but that these dimensions converge within partnerships so that they become indistinguishable from each other.

Partnerships can be seen as operating on two levels - structure and process (Moore and Pierre, 1988). The structure is the organisational entity of the partnership such as a committee, local enterprise agency, or development company. In contrast, the process refers to the development of formal and informal linkages and networks between the individuals and organisations involved. Both the structure and process may vary between partnerships, but some combination of each is required for a partnership to be able to formulate and implement its policy objectives. The necessity for both an organisational structure and a developed network of contacts leads towards the notion of the 'realisation' that no one partner has the ability to achieve more on their own than they can in collaboration. *Mutual dependence* in its turn implies recognition of the need for, and the existence of, consensus, and ultimately, that partnerships need a level of consensus to be effective - consensus around the identification of a problem, and consensus around the ability to do something to remedy that problem. It is the movement towards a state of mutual dependence, and the development of a consensus approach to policy generation, that obscures the political and ideological dimensions of partnerships. In this way, partnerships can appear as the natural outcome of unmediated events, rather than the product of political and ideological conflict and choice. Thus, there is a tendency to lose sight of the fact that partnerships represent different things for different partners. Once a partnership has been formed there is a tendency for differences to be minimised, while all efforts are directed towards areas where there is a degree of common ground. As such, what is seen to be of primary importance is what

partnerships actually do, rather than how they achieve particular outcomes, or act as mediators of economic change.

The construction of consensus within a partnership is not, however, straightforward. Although the desires for common ground and mutual dependence are strong forces within partnerships, the values and views that partners hold are not necessarily equable. In other words, inputs from partners do not necessarily match. Behind the stated agenda of doing something about the local economy may be a range of agendas that stand in marked contrast to each other. These could revolve around how partners define regeneration (Richardson, Moore and Moon, 1989). For example, whether regeneration is to be set within a market or a more socially redistributive context, and whether there is to be a targeting of investment and policy, or a blanket approach; additionally, what are the criteria the partnership adopts for evaluating its impact, and what role is each partner to play? Within any public-private partnership the potential exists for a divergence between partners. In this way, partnerships are the site of potential conflict as well as a site of consensus construction.

At their core, partnerships represent a political and ideological response to economic change. Whether partnerships are developed locally or are developed as a result of central government imposition, they are the product of a climate conducive to combining both state and market resources in the wake of economic and social transformation and political fragmentation. The political, economic and social outcomes of partnership ventures will be influenced by this factor; however, this does not mean that they will necessarily be determined by it. Partnerships may well represent a neo-liberal form of urban and regional policy instruments, but a neo-liberal deregulated market driven policy outcome is not inevitable. What is of equal importance in shaping outcomes is who has the power to determine consensus, and where and how that consensus is achieved. The politics of partnership is about how the partners manage this process, seek to resolve their differences, and present their strategies to their wider communities as consensus policies for urban and regional renewal.

2.5.5 Polycentric governance in Europe

2.5.5.1 Introduction

As noted earlier in this report, the key to the development and promotion of polycentrism in Europe is the existence or development of effective institutional co-ordination and co-operation. In other words, effective political polycentrism is a significant part of effective functional polycentrism. The literature review has shown that many European cities and regions have developed a variety of horizontal and vertical co-operation instruments either on single issues of mutual interests or on wider strategic issues. We can therefore argue that while current research may not be conclusive about the degree of functional polycentrism in different areas, there is already evidence of a degree of political polycentrism at various spatial scales. This is illustrated by the proliferation of institutional networks, partnership arrangements and governance relations.

One of the key objectives of this work package is to examine the level and nature of this political polycentrism in different European countries. The aim is to provide a review of the scale and scope of partnership arrangements that cut across administrative boundaries and sectors and include governmental and non-governmental bodies. Our focus is on those partnerships and networks that have a wider place-based strategic remit.

2.5.5.2 Mapping institutional co-operation at different scales of polycentrism

In order to achieve this objective a series of questionnaire surveys will be undertaken during the course of the study, with the first set well underway. These will focus on recent and current institutional networking and partnership arrangements whose focus is on developing or implementing a joint spatial strategy for their area. The survey will be undertaken at the three spatial scales defined by the project team. These include:

1. Inter-municipal co-operation at the level of Functional Urban Areas (FUA)
2. Inter-FUA co-operation at the level of polycentric regions (PR)
3. Trans-national co-operation at the level of Europe as whole (PE)

For the first spatial scale*,* a questionnaire survey of a sample of current inter-municipal partnerships has been undertaken. The methodology used and the early analyses are outlined in Chapter 2.6.6.

For spatial scale two we will conduct a questionnaire survey of a sample of partnerships arrangements in polycentric areas consisting of three or more neighbouring FUAs, which are located either within one member state or across the border of two or more member states. The samples will be selected from the FUAs identified and classified by the relevant work packages of the project. The aim is to select at least one example from each typology of FUA. A questionnaire will be designed and sent to key partners in each sample through the relevant project team member. Progress on this survey depends upon progress made by the relevant work packages on identification of FUAs.

For spatial scale three, i.e. European polycentrism, we will carry out a similar approach, though it will be based on fewer samples of trans-national co-operation. The samples will be selected from relevant INTERREG projects.

At all three scales, the analysis will draw upon the survey results in order to:

- Examine the extent and nature of institutional networking (i.e. political polycentrism) at various spatial scales
- Identify barriers and opportunities to multi-governmental, inter-sectoral and cross-boundary co-operation
- Highlight examples of 'good practice' in developing and sustaining effective governance relations

2.5.6 Polycentric governance at the level of functional urban areas

Note: *The following section, marked with [] is an extract from an article published by Davoudi (forthcoming) in the European Planning Studies Journal. It has been reproduced here as a way of providing a historical context for the notion and definition of functional urban areas.*

2.5.6.1 Defining functional urban areas: a brief literature review

[Studies of functional urban regions can be traced back to the early 1970s when attentions began to move away from a concern with urban form *per se* towards a focus on social processes and urban functions. At the same time, the scale of observations and analyses began to focus away from individual cities towards the city region (or as Americans call it, metropolitan region). In Britain, the focus on the city-region was promoted first by Patrick Geddes who coined the word *conurbation* in his book: *Cities in Evolution*. He used the term to describe the transformation of geographical tradition of town and country (Geddes, 1915). Geddes' conception of the conurbation was primarily that of a planning unit; suggesting that for sensible planning it would be crucial to take into account the resources of the region in which the historic but rapidly spreading cities are situated. Later in the 1930s, the term conurbation was given a different meaning by Fawcett who … provided one of the earliest definitions of polycentric urban regions.

The next definition of conurbation came from the statisticians in the General Register Office (GRO) who, on the basis of the 1951 census, identified seven conurbations in Britain, which more or less corresponded with the ones delineated by Fawcett. They suggested that, "the conurbation generally should be a continuous built up area" with some consideration being given to population density (GRO, 1956: xv). On the other side of the Atlantic, the term *metropolitan district* was used as early as 1910 to describe urban agglomerations with a population of more than 200,000. But, the concept found wider connotation through the writing of N.S.B. Gras, an economic historian, who used the notion of *metropolitan economy* to describe fourteen centres in North America, using economic rather than spatial criteria (Gras, 1922). The concept of metropolitan area was formally adopted by the United States' Bureau of the Census in 1950 as *the Standard Metropolitan Statistical Area.* SMSA defined aerial units of a much smaller population size (over 50000) than that of GRO's conurbation. This

constituted the first key difference between them. The second major difference was the basis of their delineation. For SMSA functional integration played a key role in defining metropolitan areas, whilst for GRO such relationships played only a secondary role.

However, criteria similar to the ones used to define SMSA were later applied in Britain following a study of *Standard Metropolitan Labour Areas* (SMLA) in England and Wales (Hall et al, 1973). In practice, SMSA and SMLA consist of the historic city plus its commuting hinterland instead of being limited to the continuously built up area centred upon a particular city (Thomas, 1973). The SMSA and the conurbation (as used by British GRO in 1956) were both designed partly to distinguish the predominantly urban areas from the predominantly rural ones. Yet, the concept of city region (which is consistent with Geddes' original definition of conurbation and Gras' concept of 'metropolitan economy') moves beyond such distinction and covers not only the commuting hinterland of the city but also the whole area which is economically, socially, and culturally dominated by the city].

More recently, a study undertaken by the OECD (2002) defined a functional urban region (FUR) as a "territorial unit resulting from the organisation of social and economic relations in that its boundaries do not reflect geographical particularities or historical events. It is thus a functional sub-division of territories. The most typical concept used in defining a functional region is that of labour markets" (OECD, 2002:11).

Although there are some differences in the definitions used, the OECD study concluded that the rational underlying the delineation of functional regions remains the same, i.e. in most countries the definition is based "on the same principle as commuting conditions (OECD, 2002:11). Within that, however, it is possible to distinguish between two groups of countries: the first includes those countries that define FUAs as an area surrounding an urban centre (the OECD examples include Canada, France, Germany, Portugal, and the USA); while the second group is constituted by the countries that define FUA by using an algorithm or cluster analysis based on a combination of proximity, commuting thresholds, travel time, etc (one such example being the UK). Here, FUAs are constructed by using successive aggregations of adjacent territorial units (op cit). Although, the non-official and the shifting boundaries of FUAs often make the collection of data and the monitoring process very difficult, they provide a more meaningful delineation of territorial boundaries, one which represent functional interrelationships rather than administrative convenience.

2.5.6.2 Governance of functional urban areas

The OECD study also examined the relevance of functional delineation of regions on the basis of travel-to-work. It concluded that in many countries FURs are used as the basis for the examination and monitoring of socio-economic trends and territorial disparities, as well as for identifying regions in need of regional aid. However, official recognition of FURs as a unit for policy implementation varies considerably from one country to another. In some countries, such as Austria, Denmark and Switzerland, FURs are used as a framework for the implementation of policies relating mainly to the labour market and transport. In other countries, such as Finland, France, Germany, Italy and the UK, FURs are used for setting up criteria for receiving financial aid from national and European agencies but, it should be noted that support is not paid to FURs since they do not constitute administrative units. In Norway, the concept of FUR has played a significant role in the discussion on regionalism and regional policy. Examples of countries that

do not use FURs as their official units for policy implementation include: Portugal, Sweden and the Czech Republic (OECD, 2002).

With the exception of countries such as Austria, Denmark and Germany (who use FURs for labour policies) in most other European countries functional regions have no power over, or responsibilities for, making strategies or implementing policies. Similarly, no funding is provided for FURs, apart from in countries such as Austria, Denmark, Finland, the Czech Republic and Hungary (op cit).

Although the survey undertaken by the OECD does not include all European countries, it provides a clear indication that in most countries in Europe (as well as in Canada and the USA) there is no formal structure of governance operating at the level of FUAs. However, as mentioned above, there has been a proliferation of inter-municipal co-operation particularly among the constituent members of functional urban areas across Europe.

2.5.6.3 Preliminary analysis of a sample of the survey results

In order to examine the extent and nature of such co-operation, a questionnaire survey of a sample of current inter-municipal partnerships was undertaken. A questionnaire (see Annex 1) was sent to all members of the Trans-national Project Team working on ESPON Project 1.1.1 in early February 2003. Respondents were asked to provide at least two examples of inter-municipal co-operation. Given that most of the team members have responsibility to provide information for more than one European country, it was envisaged that full EU coverage (of 27) will be provided. In cases where it was not possible to cover a specific country, the questionnaire was sent to the relevant member of the ESPON monitoring committee via the project's lead partner.

At the current time of writing, a good number of completed questionnaires have already been received (see Progress Table). The preliminary results from the key tabulations and analyses of a sample of responses are outlined below. A full set of completed questionnaires from the project team is expected by the end of April 2003. This will provide the basis for full coverage and a comprehensive analysis of the results of the survey for inter-municipal co-operation at the level of functional urban areas.

Progress regarding questionnaire responses

March 2003

Responding Organisation	Countries covered	Responses received	Name of partnership/s
Danish FLRI	Denmark	Denmark (2)	• The Triangle Region • National Centre Midt-Vest
Austrian IRSSP	Austria, Bulgaria, Czech Republic, Hungary, Romania, Slovakia, Slovenia, Switzerland	Austria/ Hungary/ Slovakia (1)	• JORDES
CNRS-UMR	France		
Dept. URP Athens	Greece, Cyprus, Malta	Greece (2)	• ANDIP (Pireaus) • ANKO (Western Macedonia)
Dept. Int. Terr.	Italy	Italy (2)	• Strategic Plan North Milan Development • Patto Terr del Sangone
OTB	The Netherlands, Belgium, Luxembourg, Germany	The Netherlands (2) The N/B (1) L/G/B/France (1) Germany (2)	• Samenwerkingsverband Randstad • Vereniging Deltametropool • Rhine-Scheldt Delta • Saar-Lor-Lux • Kommunalverband Ruhrgebiet (KVR) • Bergisches Stadtedreieck Remscheid – Solingen - Wuppertal
Cudem UK	UK, Ireland	UK (1)	• South Yorkshire Forum
Nordregio	Finland, Sweden, Estonia, Latvia, Lithuania, Poland, Norway	Finland (1)	• Probotnia
Quart. Portugal	Portugal, Spain		
Total	**29**	**Number of countries covered: 13**	

Table 1: The nature of the partnership

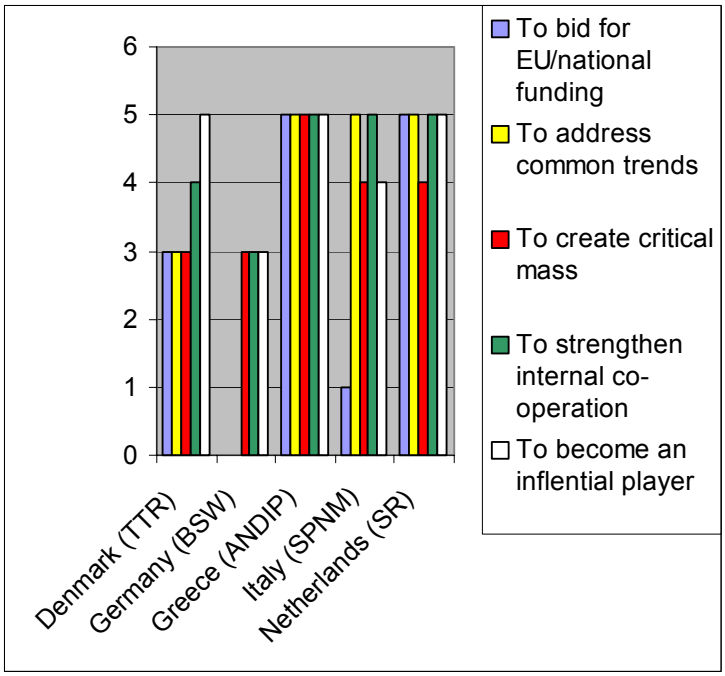
Country	Partnership	Q2; When was it set up?	Q4; How was it initiated?	Q5; Number and Type of partners involved *	Q6; Number of partners fixed or open to other parties?	Q7; Position partners hold in their own organisations	Q8; How often do partners meet?	Q9; Is the partnership a time-limited co-operation?	Q10; Sub-divided into working groups?
Denmark	The Triangle Region (TTR)	1992	Partners own programme of co-operation, within the framework of a national/ regional programme	8M, 1P, 1O	Fixed	Senior (mayors)	Quarterly	Permanent	Yes
Germany	Bergisches Stadtedreieck Remscheid – Solingen – Wuppertal (BSW)	1991/92	Partners own programme of co-operation	3M, (several)P , (several)V , 3O	Quite stable, but open to other interested parties	Middle management	Quarterly	Project – time-limited Approach – long-term	Yes
Greece	ANDIP SA – Development Society of the Pireaus Region Municipalities (ANDIP)	1989	Partners own programme of co-operation	6M	Fixed	Senior, middle management and junior staff	Quarterly	Long-term	No
Italy	Strategic Plan for the North Milan Development (SPNM)	1999/ 2000	By a voluntary local tradition of co-operation	4M, 1P, (several)V	Legally fixed, but informally open	Senior management	Monthly	Long-term	Yes
The Nether-lands	Samenwerking sverband Randstad (SR)	2002	Partners own programme of co-operation	4M, 8O	Fixed (but limited option for new members)	Senior and some elected	Quarterly, more often if necessary	Long-term	Yes

* Legend: M Municipalities, P Private, V Voluntary, O Other

Table 2: Powers and resources of the partnership

Country	Partnership	Q11; Is the partnership accountable to a higher tier body?	Q12; How does the partnership seek implementation?	Q13; Regular source of funding? If so, short-term or long-term?	Q14; Who provides the funding?	Q15; How is the secretariat for the partnership arranged?
Denmark	TTR	No comment	By making recommendations.	Yes, annual	Municipalities	Employed staff jointly paid by the partners.
Germany	BSW	No	By decision of the city councils	Yes, on-going	Mainly by the participating cities. Also partly by regional, national or EU and/or co-financed by the private sector.	Employed staff paid by the municipalities.
Greece	ANDIP	No	No executive powers, implementation sought through the realisation of studies, programmes and recommendations.	Yes, annual	Six shareholders, the municipalities. Also national, regional, private and others.	The secretariat provides the staff.
Italy	SPNM	Yes, to local authorities (municipalities)	By making recommendations, joint official decisions and guidelines.	Linked to the duration of the planning work.	Municipalities	The technical secretariat with flexible involvement of the external advisors.
The Netherlands	SR	No	Executive powers over some co-operative issues and programmes. On other issues makes recommendations.	Long-term	Joint funding by the partners (municipalities and provinces 40%, regional authorities 20%).	Employed staff jointly paid by the partners.

Figure 1: Q16: What were the initial purposes of developing a joint spatial strategy?



The factors above were scored according to their Significance: 1 as the lowest, 5 as the highest.

Table 3: The purpose and achievements of the partnership

Country	Partnership	Q18; Current aims and objectives of the partnership	Q19; What concrete results has the partnership achieved?	Q20; Has a joint spatial strategy been produced? If so, what are the key elements?	Q26; Is this model of partnership a common practice, or unusual?
Denmark	TTR	Broaden the function and focus of this 'National Centre'. Co-ordinate regional and municipal strategies.	It has been ascribed the status of a Danish 'national centre' by the government.	Yes, it will be a ten year plan co-ordinating strategies put forward by each of the municipalities into a spatial strategy for the whole region.	With one other network (National Center Midt-Vest) unique configurations and possible pioneers.
Germany	BSW	Co-operate to strengthen the particular qualities of the region to restructure it and provide lasting employment, solve social problems and help the environment.	New forms of regional and city networking have been created to foster city and regional development, also new ways of co-operation between public and private actors and many more.	Yes, for polycentrism one key aspect is the 'RSW Circle Line' connecting the three cities to be used as a guide to future development, as an 'associating element' and as an 'action field' of its own.	It is unique.
Greece	ANDIP	Supplement the gap between existing bodies to support the productive potential of the region, increase choices and co-ordinate programs of intervention.	Technical support, training programmes, research, introduction of computer networks and planning and implementation of programmes.	Yes, key elements include; interventions in transport system, urban renewal, environment protection infrastructures, programmes of training to unemployed groups, etc.	This model of partnership/network is a common practice in Greece.
Italy	SPNM	Urban regeneration, economic recovery, territorial marketing, social cohesion and retaining of environmental quality.	Common sense of belonging for residents, realisation of some projects, attraction of external investments and new activities.	Yes. Most important for this; defining new area identity, developing infrastructure for sustainable mobility, managing urban transformations and re-converting productive land in residential areas, defining environmental compensation to improve urban life and promoting institutional co-operation.	This is uncommon.
The Netherlands	SR	Foster a balanced, dynamic development of the Randstat, with high-quality rural and urban environments and strengthen its international competitiveness.	Little concrete as yet, but the establishment of SR shows a clear awareness of the need for co-operation in regional strategy.	Not as yet, but a vision has been produced of what one may look like. It argues for renewal and strengthening of co-operation and expansion to all policy areas important for the future of the Delta Metropolis. Also for modesty in terms of power structures and selectivity in project development.	It is unique and innovative.

Figure 2: Q21: How successful has the partnership been in the following areas?

Success in the following areas?	Denmark (TTR)	Germany (BSW)	Greece (ANDIP)	Italy (SPNM)	The Netherlands (SR)
Shared ownership of strategy	V	P	P	V	V
Building mutual trust	P	V	V	P	P
Developing common understanding	V	P	V	V	V
Working across political boundaries	V	V	P	P	P
Developing joint projects	V	V	V	P	P
Delivering objectives/ targets of the partnership	V	P	V	V	P
Securing external supports	V	P	V	V	P
Sustaining the partnership	V	V	V	V	V
Extending the life of the partnership		V	V	P	V

Figure 3: Q22 What are the key factors that have contributed to the success of the partnership?

Success in the following areas?	Denmark (TTR)	Germany (BSW)	Greece (ANDIP)	Italy (SPNM)	The Netherlands (SR)
Resource availability	X	X		X	X
Access to expertise			X	X	
Partner pro-activity	X		X		
Sense of mutual trust		X	X	X	
Past history of joint work				X	
Effective leadership					
Motivated individuals		X	X		X
Shared agenda	X	X	X	X	X
Support from higher tier government	X		X		

Figure 4: Q23 What are the key factors that have (or will in the future) weakened the partnership and its ability to deliver or inhibit their co-operation?

Key inhibiting factors	Denmark (TTR)	Germany (BSW)	Greece (ANDIP)	Italy (SPNM)	The Netherlands (SR)*
National/Regional policy context		X			
National Legal/Taxation System		X			
Limited resources		X	X		
Limited knowledge					
Lack of motivation					
Parochial attitude			X	X	
Lack of trust					
Little previous experience of joint working					
Weak leadership			X	X	
Disagreement on key issues	X				

* None of the factors seem to be inhibiting factors, the Randstat is a well established partnership.

Figure 5: Q24 In your view, what are the key weaknesses and strengths of the partnership?

Country	Partnership	Weaknesses	Strengths
Denmark	TTR	Internal special interest among the larger municipalities with their own agenda could weaken the partnership. Economic development focus on regions larger cities may mean smaller municipalities not getting enough out of the network.	The shared commitment seems to be stronger than the disagreements. The participating municipalities have made a joint plan for the general development of the region.
Germany	BSW	Financing of projects and difficulties of regional politicians building up strategic concepts.	Trust and ten years of experience of joint working and co-operation with little or no funding.
Greece	ANDIP	Limited resources and weak leadership (weakened from an early stage). Parochial attitude has increased and mutual trust lessened over the past 3-4 years.	Building up access to knowledge and expertise, pro-active stance of partners, previous collaboration, motivated individuals and support from higher-tier government.
Italy	SPNM	Not explicit, but hard political competition between some mayors of the municipalities, especially at the 'supra-local national arena'. The marketing strategy has provoked a demand that has been difficult to satisfy for land for new activity locations.	Organisation and social capabilities, negotiating process, accountability, mutual trust between citizens and policy makers. Good external advisors and infrastructure endowment.
The Netherlands	SR	The capacity for implementation, democratic legitimisation, the problem of making decisions in the interests of the region as a whole and an imbalance favouring the position of the four large cities and excluding some large municipalities.	The participation of all major public policy making bodies, motivated members, the endorsement of the need for such a regional urban network and shared understanding of threats and opportunities and the strength of the Randstat as a planning concept.

Figure 6: Q25 What can be done to make the partnerships work more effectively?

Country	Partnership	Selective Quotations
Denmark	TTR	No comment
Germany	BSW	'New legislation and more money would help'
Greece	ANDIP	"It is rather a question of political will"
Italy	SPNM	"..a new legal framework by the national government, orientated to facilitate the inter-municipal co-operation with direct (funding) or indirect incentives (e.g. tax reduction for activity relocating)."
The Netherlands	SR	"The implementation procedures of decisions needs to be worked out. A transfer of competencies from the members to the partnership could increase the organising capacity of the partnership."

ESPON
EUROPEAN SPATIAL PLANNING OBSERVATION NETWORK

Annex 1: Questionnaire: Partnerships and Networks

Introduction

This questionnaire is designed within the context of the ESPON Project 1.1.1, which examines the role, specific situation and potentials of urban areas as nodes of polycentric development[1]. Development of polycentric urban regions is strongly promoted by the ESDP[2] as a way of enhancing economic competitiveness of the EU regions, and achieving balanced territorial development across the EU. In order to fulfil this objective, the ESDP emphasises the need for building up co-operations and partnerships between towns and cities and their surrounding rural areas. Existence of effective governance relationships is therefore seen as an important prerequisite for developing and sustaining economically, socially and environmentally balanced regions across Europe. The purpose of this questionnaire is to ***collect examples of recent and current network/ partnership arrangements between municipalities (with or without other partners) from two or more cities whose focus is on developing or implementing a joint strategy for spatial development of their area***[3]. If you know of any such networks or partnerships please use the following questionnaire to provide us with ***at least 2*** examples.

General

1. Name of the partnership/ network:

2. When was it established?

3. Which municipalities/ organisation(s) initiated it?

4. How was it initiated? Was it by the partners within the framework of (tick):
   an EU programme of co-operation a national/regional prog.
   the partners' own prog. of co-operation

Nature of the partnership

5. Name and number of the partners involved:
   Municipalities

   Private sector

[1] Further information about the ESPON Programme can be found at: **http://www.espon.lu**
[2] European Spatial Development Perspective can be downloaded from: **http://www.nordregio.se**
[3] Please do not include partnerships that are engaged in any other specific projects. The focus of this survey is on an established partnership between municipalities who work together on a joint spatial strategy

Voluntary sector

Other public agencies /organisations

6. Is the number of partners fixed or is the membership open to other interested parties?

7. What kind of position do the partners hold in their own organisations?

Senior management middle management junior staff

8. How often do the partners meet (tick?

Every 2 weeks monthly quarterly every 6 months

9. Is this a tine-limited co-operation (if so, for how long) or is it a long-term partnership?

10. Is the partnership sub-divided into a number of working groups? If so, please draw a simple chart to show the organisational structure and outline the key tasks of the key sub-divisions/working groups

Powers and resources of the partnership

11. Is the partnership accountable to a higher tier body? If so, which one?

National government Regional government Others

12. How does the partnership seek implementation of its decisions?

By making recommendations to respective municipalities and other organisations

Through its own executive powers, if so, over what type of issues does it have such powers?

13. Does the partnership have a regular source of funding? If so, is it short-term or long-term funding? How long?

14. Who provides the funding?

National government Regional government Municipalities

Private sector partners joint funding by all partners
Others

15. How the secretariat for the partnership is arranged?
By employed staff jointly paid by the partners
Rotates among the partners who host it in turn
By one of the partners

The purpose and achievements of the partnership

16. What were the initial purposes of developing a joint spatial strategy? (score between 1 to 5 according to the significance: 1 is the lowest, 5 is the highest)
To bid for the EU or national funding
To address common trends (threats & opportunities)
To create critical mass by joining resources and efforts
To strengthen internal co-operation between the partners
To become an influential player / lobbyist vis-à-vis external players (regional, national, EU and international)

17. Has the complementarity of urban functions between the partner cities been an explicit driver for co-operation? If so, please provide further comments

18. What are the current aims and objectives of the partnership?

19. What concrete results has the partnership achieved in pursuing / implementing its aims and objectives?

20. Have they yet produced a joint spatial strategy for their area? If so, what are the key elements of the strategy?

21. How successful has the partnership been in relation to the following areas?

	very	partially	Not at all
*Shared ownership of strategy			
*Building mutual trust /confidence			
*Developing common understanding of key regional/sub-regional issues			
*Working across political boundaries			
*Developing joint economic/ social/ environmental projects			
*Delivering objectives / targets of the partnerships			
*Securing external financial/ institutional / political supports to achieve their key aims			
*Sustaining the partnership over time			
*Extending the life of partnership beyond what was initially expected			

Comments

22. What are the key factors that have contributed to the success of the partnership? (tick all those which apply)

Availability of resources (staff time, funding) Access to knowledge and expertise Pro-activity of the partners Sense of mutual trust
Past history of joint working Effective leadership
Motivated individuals Shared agenda Support from higher tier government
Comment

23. What are the key factors that have (or will in the future) weakened the partnership and its ability to deliver or inhibit their co-operation? (tick all those which apply)

National/ regional policy context National legal/taxation system
Limited resources (staff time, funding) Limited knowledge and expertise
Lack of motivation Parochial attitude Lack of trust
Little previous experience of joint working Weak leadership
Disagreement on key issues

Comment

24. In your view, what are the key weaknesses and strengths of the partnership?
Weaknesses

Strengths

25. What can be done to make the partnerships work more effectively?

26. Is this model of partnership/network a common practice in your country or is this one of only few examples?

Further information

If the network has a **web site**, please provide its address

Please also attach any written (preferably in English) materials (organisational chart, review articles, commentaries, other related websites) which may provide further useful information about this or similar partnerships arrangements

Thank You

Contact details of the respondent

Name:
Organisation:
Email:
Phone:
Country:

Please email or send the completed questionnaire and additional information by 15 February 2003 to:

Professor Simin Davoudi
Centre for Urban Development and Environmental Management
Leeds Metropolitan University, Brunswick Building, Leeds LS2 8BU, UK
Tel: +0113 1702
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Annex 2: Bibliography

To be completed for Interim Report 3

2.6 POLICY RECOMMENDATIONS – CONSIDERATIONS AND SKETCHES

2.6.1 Introduction

To draft policy recommendations before the end of the project is perhaps a little presumptuous. However, it makes sense early in the research project to attempt to tune the research effort towards the kind of policy questions that are at stake. This then is what these first policy considerations are about: to strengthen the policy orientation of the ESPON 111 project. Naturally then, what is presented below will be revised at a later date. We are, as such, still in the process of drafting not concluding.

2.6.2 Policy Considerations

To whom should policy recommendations concerning the enhancement of a European polycentric urban tissue be addressed? Since we do not have a European policy of urban systems, e.g. European spatial planning, a polycentric development policy has to be mediated via other EU policies. This is why the ESPON programme makes explicit that the programme should be mediated by the enhancement of the spatial dimension at all levels within the EU (i.e. at the Community, national, regional and local levels). Special attention is drawn to the Structural Funds: "Among all other sectoral policies, the Cohesion policy and the Structural Funds belong to the most spatially relevant policies at the EU level which can benefit from, among others, the comprehensive approach proposed by the ESDP." Other sectoral policies are also relevant. However, for the moment, we shall introduce some considerations on the policy parameters of the EU regional policy.

2.6.2.1 Problems or perspectives?

Compared to the Structural Funds, the European Spatial Development Perspective offers a shift in policy focus from assisting the development of regions lagging behind to catalysing the development of regional potentials.

Structural Assistance: regions lagging behind
EU regional policies have been characterised by a concern for a fair regional distribution of welfare. In order to avoid great disparities between regions, EU Structural assistance concentrates on regions lagging behind the EU average as measured by GDP.

EU Structural Assistance includes the European Regional Development Fund, the European Social Fund, the Financial Instrument for Fisheries Guidance, the European Agricultural Guidance and Guarantee Fund (Guidance Section). These funds focus on three types of regions, the object 1, 2 and 3 regions, i.e. regions lagging behind, regions of industrial restructuring and regions in need of modernisation, of training systems and in the creation of employment, respectively. About ¾ of these funds are allocated to the regions lagging behind (objective 1). Also included in the structural assistance are the community initiatives *Interreg, Urban and Leader*+ focusing on cross-border co-operation, urban development and the development of entrepreneurship in rural areas.

Finally, the cohesion fund assists the development of Greece, Portugal, Ireland and Spain. In total almost 75% of these funds are allocated to assisting regions lagging behind the average welfare in EU regions.

EU Structural Assistance 2002 – 2006	**All Regions**	**Regions Lagging behind**
Structural Funds	91,5	
Objective 1	*63,8*	63,8
Objective 2	*10,6*	
Objective 3	*11,3*	
Community Initiatives		
Interreg – Urban – Leader+	*4,9*	
Other		
. *Fisheries – Innovative Action*	*0,5*	
Cohesion Fund	8,5	8,5
Regions lagging behind		74,3
Total	**100**	

Source: Regional Policy - Inforegio

ESDP: The development perspective

A new perspective on regional development is introduced by the ESDP. As with structural assistance, the ESDP pays due respect to the problems of unbalanced spatial development. However, it concentrates on development options rather than on development problems, and much attention is given to the potentials of cities and systems of cities as motors of spatial development. Informal and non-statutory as it is, it does not enforce, restrict or even allocate resources. Rather, the ESDP invites, by use of development "visions", governments, decision-makers, organisations and the EU Commission to contribute to the goal-oriented spatial development of the EU.

Thus, the ESDP remains a newborn child looking for parents to raise it, the structural funds being the favourite candidate. The ESDP launches new ideas to counterbalance tendencies toward economic concentration within the core region of Europe. The general idea is to support the development of regions via the generative forces of the cities. The key concept at play here is polycentric regional development. This concept is based on the idea of boosting the strengths of urban systems by joining the complementary urban functions of two or more cities rather than raising the standard and strengths of each city.

If the ESDP-policy perspective has to adapt the perspective of the Structural Funds, the idea of fostering polycentric regional development should focus on the regions most lagging behind. On the other hand, if the ESDP has anything to offer the Structural Funds efforts should include the regions with the most potential for developing the features of polycentrism.

2.6.2.2 Periphery or semi-periphery?

This question become even more crucial when taking into account the observation that a certain institutional capacity within regions is needed to match the EU policy programmes (Baileys and Propis 2002). Due to the partnership principle, the beneficiaries are requested not only to co-finance but also to take action and to form projects within the regional policy programme framework. To be able to do so, a certain institutional capacity is needed.

The importance of institutional capacity has been emphasised in several studies on endogenous urban and regional development. Thus, we suggest that a certain institutional capacity is also needed for regions to establish polycentric development based on political co-operation and joint development strategies between cities forming a polycentric network. (For a more extensive explanation of institutional capacity see chapter 2.5, in particular section 2.5.3.7.)

Usually, the regions of lowest institutional capacity are the peripheral regions. Thus, from the institutional capacity point of view, one is tempted not to focus on the peripheries but rather on regions next to the peripheries, i.e. the "semi-peripheries". The delimitation of semi-peripheries is however, not an easy task. An example was shown in the 2nd cohesion report, identifying "Central", "Peripheral" and "other" regions. "Other" regions being regions situated between the central and peripheral regions. The map symbolises the idea of dividing the European territory into three development regions: The central, the potential and the peripheral regions. The map however also unveils the weakness of some current index's for peripherality, since, from an institutional perspective, one has to take into account regional endogenous endowments. Thus, rather than taking the lack of institutional capacity as a point of departure for the delimitation of regional peripherality, capacity building should be taken as an aim for developing regional endowments.

2.6.2.3 Are peripheral regions always peripheral?

Problems of defining peripherality become overt when looking at economic performance, c.f. Fig. 1. On the one hand, regions situated in peripheral locations perform at the same level as regions close to the centre of Europe. On the other hand regions being part of the same development perspective, i.e. the development perspective of the Baltic Sea Region, *VASAB 2010,* are divided by huge differences of economic performance.

From a policy point of view it is important to decide whether neighbouring regions should be joined within the same development programmes or if they should be separated in different programmes of regional assistance?

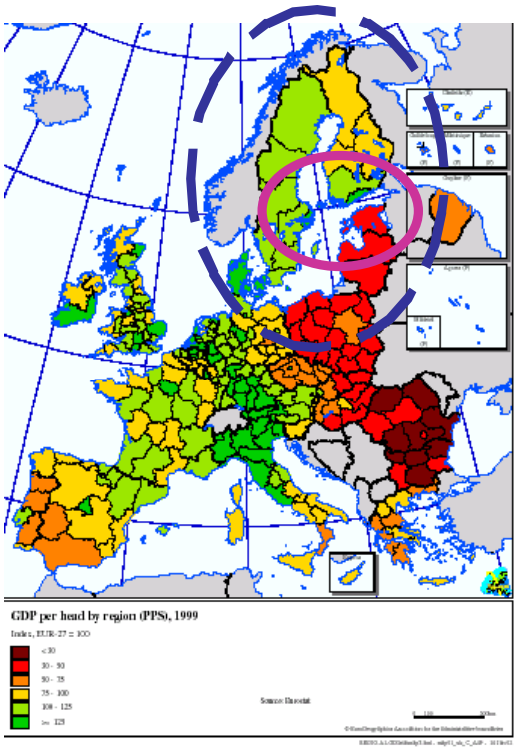

Figure 1: Joint development perspectives of separate regional assistance?

2.6.2.4 City or Inter-City?

Cities as hubs of regional development
The ESDP concept of polycentric regional development launches new ideas designed to counterbalance the tendencies of economic concentration in the core regions of Europe.

Breaking with previous approaches ?
The idea of supporting regional development outside of the European core areas breaks with former mainstream thinking on regional development. Formerly, theories of regional development were based on the presumption that economic development diffuses from the centres. Empirical evidence indicated that growth centres induce a convergence of income and welfare (Calvazos, 2001). According to this theory, the regional policies of the 1950s and 1960s were dominated by supporting the development of hierarchical urban systems designed to channel economic development from the largest centres to the smaller centres. In the 1970s, regional development changed drastically. One reason being the increasing price competition for industrial production of standard products due to the opening of international markets, this was further facilitated by new international trade-agreements and major declines in transport costs. Meanwhile, the production of service and knowledge-based products started to develop.

Endogenous Development
These developments radically changed the economic life of cities and regions. One overall conclusion was that the former growth model became nonviable; as it became increasingly obvious that regional development depended more on the local capabilities *within* regions than on external relations. Furthermore, it was envisaged that technology and education, as well as other factors internal to the region, actually stimulated economic development rather than themselves being

products of that economic development. Finally, it was acknowledged that the strongest position in international competition was held by products that were difficult to copy elsewhere. Thus, the new wisdom became to develop specialised competencies. The single company may specialise. However, more viable synergy and strength will be developed if specialised competencies are developed in regional networks of specialists, suppliers, specialised education and labour markets, much of which is nested in tacit abilities and competencies that are difficult to codify and hence, difficult to copy elsewhere.

The new ideas have given rise to a desire to search for regional identities, as it was believed that closely related to the economic identity of a region were particular competencies embedded in it. This is why the branding of regional identities has become an integral element of current regional policy making.

Two Tiers

In his critique of the growth centre model, Sven Illeris (2002) suggests that urban systems develop in two tiers rather than as one mono-hierarchical system. The first tier consists of the largest cities. They are the centres of business services, administration and some special branches of high technology. The second tier consists of small and medium-sized cities usually dominated by manual production. Illeris makes the interesting observation that in some respect the smaller cities rather than the larger ones have become global, since manual production is the object of more international trade than e.g. the service-production of the large cities. This observation may run contrary to a general impression that the largest cities are the more internationalised. At least in the case of Denmark, Illeris' observation is supported by the fact that during the 1970s and 1980s, manual production firms have to a large extent become sub-contractors, integrated into international chains of production.

Medium Sized Cities – Inter-urban development

To the extent that small and medium sized cities become international they are becoming generators of local regional development rather than just mediators of the regional development spreading from the larger centres.

This new role lays the groundwork for establishing a new urban-rural partnership in which the cities are given responsibility for regional development. Thus, crucial for regional development policy is the need to foster the development of cities and urban located actors. By contrast the generous funding of the *European Agricultural Guidance and Guarantee Fund* subsidises current ways of living in regions dominated by the primary sector. The role of cities as the motors of development has been more or less absent in this policy field.

In the past, small and medium-sized cities usually competed in their role as centres in the local hierarchies. Now, it seems more reasonable for cities to co-operate in their role as "sub-contractors" on the world market. Cities embracing complementary urban functions may co-operate as one larger "city". And they may co-operate on the establishment of labour-market facilities, education, and specialised business services in order to build up the competencies that are needed in the region but which are too specialised for each city to establish on its own. This strategy of building regional competencies via urban networking has now become the key model for the future.

Policy considerations

Based on the observations above it should be taken as a guiding principle of regional policy programmes that we need to focus on the development of cities – however not as cities in their own context. Programmes should focus on the *relationships* between cities.

2.6.2.5 European and Regional? - Space and Flows?

The intimate relations between policy and concepts are revealed by the variety of contexts within which the concept of polycentrism is currently applied. Some are European, some regional, some focus on space, and some on flows. Thus, within each context certain political measures are relevant, others are irrelevant or even contradictory. Most crucial is the level of concepts. At the European scale, the growth and competitiveness of e.g. Northern Italy and the Oeresund Region should be highlighted as successful attempts to foster regional growth north and south of the pentagon. However, on the national level such a policy enhances further concentration of national development within the capital regions. The choice of scale is very much related to the choice of 'top-down' or 'bottom-up' strategies.

European Space
At the European scale, two concepts are relevant in the search for policies to counteract trends towards European concentration. Neither however fits the concept of functional complementarity. However, both are relevant as means of fostering decentralised European development.

Metropolitan Growth Areas (MEGAs)
The idea of counterbalancing European growth by fostering the development of Metropolitan Growth Areas (MEGAS) was promoted by the CPMR study. Resolutely, the CPMR-study gives priority to the "European Polycentrism" of metropolitan growth areas rather than the "Functional Polycentrism" established between medium sized towns. European Polycentrism is a political objective (rather than e.g. a scientific concept) aiming to "encourage the development of several centres of competitiveness within the European peripheries to complement the one existing in its central part". In this context, Functional Polycentrism is introduced as an "implementation tool".

Policy recommendations have been suggested by the CPMR study. ESPON 111 will also consider these recommendations from two perspectives. (1) What are the impacts of expanding the CPMR study to EU 27 + 2? (2) Is it possible to recommend the enhanced growth and competitiveness of national centres without compromising national regional policies aiming at balancing national growth?

Trans-national MESO-regions of integration
Also of relevance to policies of balancing European Spatial development are the EU Interreg programmes. The Interreg programmes focus on regional integration, rather than polycentrism. However, the programmes work in concert with the aim of strengthening the development of peripheral areas beyond the European core. Therefore, in the ESPON 111 project we suggest that policies aiming at regional integration within peripheral trans-national MESO-regions such as the Interreg regions should be included in a policy aiming at polycentrism.

Interesting to note is the fact that regional integration from an economic point of view is very much connected with competitive relations rather than complementary relations. Thus, in his studies of regional integration in the Baltic Sea Region, Andreas Cornett, used the Grubel-Lloyd index of intra-industry trade as an index of economic integration. Thus, from an economic perspective, regional integration on competition between agents of equal sectors rather than co-operation between agents of different sectors.

European Flows
At the European scale, the functional networks linking cities together are taken as a measure of integration. Networks modify the relations of society to space and reorganise territorial structures.

The ESPON 1.1.1 study focuses on two kinds of networks, networking between national 'capitals'[1] and thematic networks, e.g. scientific, financial and aeronautic networks. It is assumed that specialised and thematic networks are more likely to promote a less polarised and less hierarchical spatial organisation of cities. However, the question to be answered is whether the spatial impacts of European flows enhance or – to the contrary - work against the forming of polycentric structures at the European Level? Preliminary studies confirm that the largest European cities are the dominant hubs of networking (universities, air-flights). As regards air-traffic it seems as if the old centres act as the hubs of European integration. However, the studies also reveal that peripheral destinations to an increasing degree are contributing actively to this process.

Regional Space & Flows: Functional polycentrism
It is within the national and - to some extent cross border - regions that the notion of polycentric urban systems was invented as an alternative to the concept of hierarchical urban systems, and as a vivid political arena for much co-operation between cities and local authorities. The breakdown of urban hierarchies was accompanied by a breakdown of the established ranking and competition between cities thus making room for new informal ways of governance. Due to this coinciding occurrence of polycentrism and political governance it is assumed that policy recommendations on the further enhancement of polycentric urban development should be made a cornerstone of ESPON 1.1.1.

Taking an overview of the concepts and political arenas just mentioned we are probably going to face difficulties in drawing up final conclusions here. Nevertheless, we believe that some of the contradictions (e.g. between the 'bottom-up' and 'top-down' perspectives) are embedded in the current state of the art, which could not just be ignored. Thus, we have to deal with such difficulties rather than ignoring them by scientific definitions of coherent concepts.

2.6.2.6 Framework or contract?

An issue closely connected with the dichotomy between 'bottom-up' and 'top-down' is the question of how strong regional programmes should be committed to a development perspective. One of the key principles in EU regional policies is the "partnership-principle". Framework programmes such as the Interreg programmes pay due respect to the partnership-principle. It combines 'top-down' programming and 'bottom-up' initiatives. Based on a broad development perspective and programme measures set up by the EU, local actors are invited to tender. The guiding principle is that projects should comply with the programme measures and partners must co-finance the projects. What is at stake, is the successful monitoring of all the programme measures as an integral entity, i.e. that the programme shall not dis-integrate into sub-programmes. As an example, the Baltic Sea Region has been favoured by several Interreg programmes and many local authorities across the region have been involved in projects. However, two sub-regions seem to have garnered the best opportunities for further development, the Oeresund region and the Finnish Gulf Region. Thus

[1] 'Capitals' referring to both economic and administrative capitals.

the question is whether these two regions should be encouraged to act as the "motors" for integration of the entire Baltic Sea Region, or whether, as eligible parts of the Baltic Sea Region they are free to continue to strive for their own goals of development.

Figure 2: One, two or three development perspectives?

2.6.3 Recommendations

The policy recommendations above may be summarised as follows:

- That the EU regional policies focus on regions with development potentials and not just on regions lagging behind.
- That crucial development potentials are connected with cities developing international relations and with systems of cities suited to polycentric networking. Accordingly, EU regional policy programmes should be directed to *inter-urban* development strategies building on the complementary strengths of two or more cities and their potentials for strengthening international relations.
- That EU regional policies, as well as local regional development policies, should focus on the enhancement of specialised regional competencies.
- That EU regional policy should explicitly address the conflicting goals of European and National polycentrism.
- That the problems of matching EU programmes by sufficient institutional capacity should be considered, implying that capacity building should be taken as an aim in respect of developing regional endowments.
- That as a starting point the following regional entities should be considered in regional policy-making, paying due respect to conflicting goals and concepts:
  - *Metropolitan Growth Areas*
  - *European MESO regions of integration*
  - *European Flows*
  - *Regional polycentric systems*
- That the partnership should be considered in order to keep the integrity of the development perspective.

2.6.3.1 The Inter-City programme

As an example, a few cue words of an "Inter-City Programme" are presented below

Name
"The programme for Regional Inter-City Relations"

Principles
- Focus on cities and urban located actors
- At least two cities
- Rural actors may contribute in partnerships with urban actors
- Institutional capacity is requested or should be enhanced via the programme
- Trans-national as well as national

Goals
- The programme should aim at strengthening the role of cities as generators of regional development reinforced by co-operation.

Priorities
- Inter-city visions and strategies
- Inter-city institutions
- Projects for new complementary functions

- Projects for inter-city infrastructure
- Marketing of PUR identity
- Programmes for the enhancement of PUR identities and competencies

2.6.3.2 Related programmes

Other fields related to the aim of polycentrism are CPMR, Interreg and Networking programmes. Thus, related to a programme for *Inter-City development (polycentric Urban Regions)* three other programmes could be set up:

1. The programme for *Metropolitan European Growth Areas*
2. The programme for *Trans-national MESO-regions of integration*
3. The programme for *European Urban Functional Networks*

2.6.4 References

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