

## 10<sup>th</sup> METREX Szczecin Congress 2006

### Approach to Lisbon Strategy for a sustainable territorial development

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*"The European Councils held in Lisbon (2000) and in Göteborg (2001) gave the Union a new direction by establishing a long term strategy with sustainable development as the overarching objective. Sustainable development means, in this context, goals for economic, social and environmental policy, which are both mutually consistent and capable of delivering enhanced economic growth. (...) The strategy for sustainable development is a long term one and, although the deadline originally set for the Lisbon agenda was 2010, it is clear that sustainable development has a much longer time horizon and also that there is a global dimension to sustainable development, not just an EU one." (ESDP Report, From Here to Sustainability – Is the Lisbon/Göteborg agenda delivering?, 2004: p. 2).*

#### ***The content of this Report does not necessarily reflect the opinion of the ESPON Monitoring Committee***

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The 3.3 Final report (included Executive Summary and Annexes) exists both as paper version – ISBN 88-548-0504-1 and as an electronic version

This Report is from ESPON 3.3 project Final Version (May 2006). *Maria Prezioso is grateful to Francesca Franzin, Veneto Region, for having offered her generous contribution and support in the presentation Metrex phase of this work.*

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<sup>1</sup> Lead partner of the ESPON 3.3 project "Territorial dimension of Lisbon/Gothenburg Strategy". The project Final report exists both as paper version – ISBN 88-548-0504-1 and as an electronic version on ESPON website: [www.espon.ec](http://www.espon.ec). Maria Prezioso is grateful to the CEIS Dep. and Project Members for having offered their generous scientific contribution and support in each phase of this work. Particularly she wishes to thank you:

*Eduarda Marques da Costa; Nuno Marques da Costa - CEG Centre of Geographical Studies, University of Lisbon, Portugal*

*Simin Davudi, Ian Strange, Michelle Wishardt - CUDEM Centre for Urban Development and Environmental Management, Leeds Metropolitan University, United Kingdom*

*Christer Bengs, Tomas Hanel, Ristisuo Hanna, Johanna Roto, Sirkku Wallin - CURS Centre for Urban and Regional Studies, Helsinki University of Technology, Finland*

*Marko Peterlin - ESPON Contact Point Slovenia*

*Dominic Stead, Bas Waterhout - OTB Research Institute for Housing, Urban and Mobility Studies, Technical University of Delft, Netherlands*

*Andreu Ulied, Jaume Jorba - Mcrit sl., Barcelona, Spain*

*Fabio Autori, Anita Fabr, Elodia Rossi, - Italian Geographical Society (SGI), Rome, Italy*

## Introduction

The cross-thematic ESPON 3.3 project (2004-2006), named *Territorial dimension of the Lisbon/Gothenburg Strategy*, was oriented and developed to obtain several goals:

- to apply the update Lisbon/Gothenburg Strategy at territorial dimension, for developing them by new Structural Funds 2007-2013;
- to conduce ex ante analysis of the impacts of these strategies in order to develop the EU national and regional competitiveness in a sustainable way;
- to introduce territorial cohesion to the Lisbon/Gothenburg Strategy, indicating ways of integrating the Lisbon/Gothenburg Strategy in Structural Funds interventions in support of a balanced and cohesive territorial development of the enlarged EU.
- to link national (macro), regional (meso) and sub-regional (micro) *territorial dimension*;
- to measure the territorial capability to apply the Lisbon/Gothenburg Strategy at national, regional, sub-regional levels;

For this and as added value of the project, a simply-user operational procedure to handle the project results (GIS) was developed.

The **main results** were obtained studying several traditional and additional indicators, identified and measured to achieve the final indicators useful to monitor the "spatial" and "territorial" Lisbon/Gothenburg Strategy.

*The project recommends to take into account at political level this final list (thereafter A-case) to have got a common European regional measure of the territorial capability of applying Lisbon/Gothenburg Strategy.*

A 'process' (SteM Approach, which produces Territorial Impact Assessment – TIA as well as Strategic Environmental Assessment - SEA) was developed too. It can be used to assess the current and future national, regional, sub-regional capability to be competitive in sustainability.

The final project proposal was to study *four* great "determinants" or **composite indicators**<sup>2</sup>. They were arisen from simple indicators (metadata) included into both revisited and renovated Lisbon Agenda, and the implementation of Gothenburg Strategy (Almunia Document, 2005 and the relative Eurostat update 2005-2006). They are:

- **Innovation & Research** (including ICT, R&D, Innovation, Human capital, Age)
- **Global/local interaction** (including CT, R&D, Innovation, SMEs, Human capital, Employment, Transport)
- **Quality** (including SMEs, Human capital, Employment, Climate, Public health, Natural resources, Poverty, Transport, Age)
- **Use of resources and funds** (including ICT, Innovation, Employment, Human capital, Age, Climate, Public health, Natural resources, Poverty);

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<sup>2</sup> Of course, they are from literature review and into this they were tested, too. At the end, this review has motivated the project *to revisit* the most important competitiveness contribution in the 90's: **the Porter's Diamond** (this revision can be considered an scientific added value of the project) and the **integration** with updated Lisbon/Gothenburg Agenda (2005) on the base of *Proposals* of the European Commission COM(2004) 495 (ERDF); COM(2004) 494 (Cohesion Fund).

*Territorial cohesion* was also introduced to indicate ways of integrating the Lisbon/Gothenburg Strategy into the new Structural Funds.

The project start-up could already count on some commonly shared results (see in Table 2):

- i) a list of 42 indicators, which are subject to revision every three years;
- ii) a reduced/short list of 14 indicators (from EU *Spring Report*, 2004) proposed to arrange a more easily constructible European governance model (2001), based on common statistical indicators reflecting the Lisbon/Gothenburg goals, looking at the social and economic objectives and at the geographical scale of NUTS 1, 2 e 3;
- iii) in following (March 2005), the Almunia list of 15 indicators.

Anyway, a new indicators appropriate selection (*in the overall 69*, see Table 2) appeared useful in order to:

- provide a common basic analysis of European regional results obtained from 2000 to 2004 for supporting and explaining political choices for the period from 2007 to 2013;
- suggest some possible integrations with regard to the real and complex differences within and between the old and new EU regions for the full use of the revisited Structural Funds.

The TPG point of view in front of 3.3 project scopes was mainly oriented from:

- a critical discussion in front of some scientific and institutional inputs, as e.g. the Kok Final Report, *Facing the Challenge. The Lisbon Strategy for growth and employment* (November, 2004);
- the full sharing of others, as:
  - the study *Adaptation of Cohesion Policy to the Enlarged Europe and the Lisbon and Gothenburg Objectives* by the European Parliament's Committee on regional development (provisional version, January, 2005);
  - the *Communication from Mr. Almunia* (March, 2005) to the Commission *Sustainable Development Indicators to monitor the implementation of the EU Sustainable Development Strategy*;

They demonstrate why the initial Lisbon proposal based on the 14 synthetic indicators list (2003-2004) should not be suitable. To better sustain this "ambitious" thesis, 3.3 TPG decided to make at the same time two complementary analysis and mapping activities to perform a comparison:

- **The first (A)** related to the new methodology for the four composite indicators or determinants
- **The second (B)** based on the short-list of indicators (the 14 "Spring Report" indicators)

In this way, the 3.3 project has offered a concrete and operational answer about *how* the EU countries (25+2+2 at NUTs 0), regions (NUTs 2), sub-regional areas (NUTs 3) can achieve the Lisbon/Gothenburg Strategy and territorial cohesion using their regional potentials; and *as* the regional areas are, which may best benefit from the granting of a co-operative use of the new Structural Funds.

The project met these requirements by territorialisation of spatial (statistical) data and building a proposal of cross-thematic co-operative regions, identifying their potentialities in the light of Lisbon/Gothenburg, through 'bottom-up' research of the regional and sub-regional qualitative and quantitative values. In order to develop a common co-operative territorial milieu through the use of new Structural Funds, the project proposed an integration of the indicators list with regard to the different territorial dimensions (regional typologies and trans-national areas involved in Interreg III B programmes and projects).

In order to **3.3 project results, the territorialized ones** at regional and sub-regional level (at NUTs 2 and 3) from "STeM Approach" and has *proposed-built an original base for this territorialisation* of the spatial data (statistical data) combining the ESPON Programme typologies (see in following Figs 24 and 25).

A more selective and "customised" set of policy recommendations was presented together with scenarios towards the implementation of the Lisbon/Gothenburg Strategy, concerning the **different capabilities** shown by the territories and their aggregated hypotheses on a co-operative base, to confirm the initial key-message, suggesting general and sectorial policies.

By using the STeM Approach and EU TIA input 2005, 3.3 project has detected:

- i) the national and regional territorial status. It corresponds also at ex ante potential demand for supplying national and regional appropriate operative plans;
- ii) the wished effects applying Lisbon/Gothenburg sectorial policies by Structural Funds;
- iii) the ex post simulation of national and regional changing.

This approach was useful "to assess the development potential and territorial imbalance in different trans-national/national territories and types of regions in relation to the objective of Lisbon/Gothenburg Strategy".

The 3.3 project named this development potential *capability to be competitive in sustainability*. For this scope, the specific GIS assessment was built, too, as added value of the 3.3. project.

A successful implementation of the Lisbon-Gothenburg strategies depends on differentiated interventions at the macro, meso and micro levels and policy recommendations were proposed accordingly. In addition, the methodology developed in this project has pioneered an approach in which the potential impact of such interventions are assessed in relation to the specificities of each particular region, as opposed simply to the 'type' of region. Thus within this revisited Report, recommendations were also differentiated according to the specificity of regions. The summary of the key recommendations arising from 3.3 project accounted of:

- the conclusions of a survey of the entire ESPON programme which identified implicit recommendations related to the delivery of Lisbon-Gothenburg;
- a charting of 'Lisbon and Gothenburg derived policy objectives' set in relation to the composite indicators within 3.3 project.

## 1.1 Key messages

Since the beginning, some general key-messages and indicators appeared already clear:

- to apply basic **principles** that orient the Lisbon/Gothenburg Strategy, it is necessary to concentrate the European and national actions on some **global principal themes**, and the regional level on some **sub-themes**, utilising interpretative **common words** (see the following list of composite indicators and the Table 2: "A"-case, list of indicators). These words have been after translated/transformed in indicators (3.3 project made it on the base of statistical availability) for measuring the territorial gaps and capabilities at this time to decide potential interventions by Structural Funds (see Table 2);

**Table 1:** Example of Lisbon/Gothenburg themes and words (N.B. into example, the name of indicators was intentionally left as key-words to make easier reading)

Lisbon/Gothenburg themes	Lisbon/Gothenburg sub-themes	Lisbon/Gothenburg operational words
<b>Innovation &amp; Research</b>	ICT, R&D, Innovation, Human capital, Age, technologies	Internet users, Firms with internet access; e-government; Municipalities with internet access; Universities Students; Innovative dependency index; Population with tertiary education; Population in life-long learning; Research Centres; Old and new technologies

- to achieve simultaneously the objectives of Lisbon and Gothenburg because they are the base of short time European global strategy at regional more than national level;
- to base this strategy on some fundamental pillars (e.g. I&R; ICT; Age; social; natural resource; climate,...) and on a **microeconomic approach** inspired by the American development model *versus* a **macroeconomic vision** of the only employment problem;
- to involve ICT and I&R assets for determining these fundamental changes in the global and European productive process, looking anyway critically at U.S. economy experience (e.g. the massive substitutions of ICT investment for labour and Human Capital);
- to sustain EU for improving its endogenous strength by the proposal of a "substitutive" model at the capital lack. It needs to no begin "dependent" from technological and net-economies (U.S.; China, India, Pakistan, etc.) without to renounce at an **active social – cohesive policy** to modernize the European social model by new Structural Funds;
- to be consistent with the Lisbon/Gothenburg treaties/declarations, applying an adequate *policy-mix* according to a polycentric territorial vision towards ESDP II;
- to no trivialise the Lisbon/Gothenburg goals and questions, but make them easier by a complex and clear quali-quantitative methodological approach *for realising an economic European model simultaneously competitive, cohesive, sustainable*. This is a "substitutive" model, that includes both traditional European horizontal social welfare; and the vertical economic organisation for competitiveness, maintaining a general equity in the use of EU social, financial, natural resources (*subsidiarity vision*)

Than, the project proposed into "A-approach" an own list of indicators, composed to be used in integrated way (vertical and horizontal subsidiarity), from the sub-Regional scale -NUTS3 to European scale - NUTS0, and *vice versa*. And it is like to say: *to bring the complete enforcement of the Lisbon/Gothenburg Strategy, it is necessary both the building of a complex decision process; and the emphasizing how each of previous subsidiary levels relates itself to a geographical-economic scale in territorial Lisbon/Gothenburg action.*

For this, instead of making simple case studies (as ToR asked), 3.3 project examined the selected indicators for all the European countries and regions, according to national operative plans, too; or with regard to all typologies of co-operation, even in the pre-access stage, considered also including cross-border areas and large trans-national areas similar to INTERREG III B co-operation areas (e.g., see Resources and Funds indicators).

Every indicators have been mapped and remarked.

Some sectorial co-operation scenarios coming from this mapping work (see examples in Figure 14), are applicable to the new policy on Structural Funds starting from 2007, in agreement with an other fundamental 3.3 project message: *to think development, competitiveness, sustainability coming from territorial "bottom up" analytic vision. Only in this way, the "top-down" policy choice will be efficacy and appropriate at the territorial demand.* For this, in the project, an indicators set (e.g., see Quality indicators) is expressly dedicated to measure cohesion and its implementing on a territorialized base.

The target of a simultaneous operational application of the territorial dimension of Lisbon/Gothenburg Strategy has been reassessed and integrated with new and more current scientific results produced within the TPG. They may be considered an integrated aspect of the following *other 3.3 key-messages*:

- for Europe to become (then continue to be) competitive and dynamic by building on knowledge and innovation, it needs to know its *territorial potentials* (or *capabilities*) and its *competitive advantages* required for economic development; at the same time, it needs to know the imbalances and disadvantages that issues from existing important European phenomena, such as urban agglomeration, environmental pollution, climate change and social and health risks;
- for the Lisbon/Gothenburg Strategy to be applied, some key functional common services are basic. Today, they are concentrated in urban systems (urban agglomerations, large and metropolitan areas or cities which contrast with polycentrism). In these areas the full use of these services is linked at different European urban levels of physical and virtual regional accessibility (above all into the enlargement countries), as well as the capability of catching foreign direct investment (FDI) to use for improving human and physical capital performance;
- for an enlarged Europe to build its development (not only growth) on knowledge, it is a priority for employment policies to invest in human capital with high educational and innovative levels (with an intensive and appropriate use of ICT and R&D) and "dedicated" services, also in less competitive and dynamic regions. This should allow the improvement of territorial and economic performances, overcoming informative asymmetry.

This has allowed a consideration of the first European Spatial Development Perspective – ESDP (1999) and its polycentric revision (see the ESPON 3.2 project) as another important focal reference point with regard to its suggestions about a balanced and cohesive development of the European territory, and, *vice versa*, to advise some new orientations from the Lisbon/Gothenburg Strategy, in order to better specify the direct link that must exist between the new ESDP and competitiveness.

In order to help this new ESDP integrated process, the project key-message is that *competitiveness (Lisbon) could have lots of definitions, and different territorial dimensions.* That is precisely opposite to what happens with respect to sustainability (Gothenburg), whose definition is clear to everybody (see Report of the Brundtland Commission or WCED, *Our Common Future*, 1987, Oxford: Oxford University Press; Scientific Summary - Glossary): *"development that meets the needs of the present without compromising the ability of future generations to meet their own needs"*.

Starting from the definition of competitiveness given by several scientific references (e.g. Porter, Camagni, Krugman, Kok, etc), and from the sustainability basic concept, the project suggests the integration of these definition in the polycentric vision of ESDP, by the following *key-messages* collectable at the regional scale. So, a polycentric, cohesive, competitive, sustainable region when it has got or is able to have got:

- *a competitive market which uses internal and distinguished development factors, in respect of rules (governance) to grant environmental, social, cultural, economic sustainability;*
- *the availability of key resources useful to business vitality and innovative factors acting in a stable social system;*
- *the ownership of co-operative and subsidiary managerial capabilities, to inspire confidence towards the institutions;*
- *the capability to produce in a stable way the maximum possible added value (economic competitiveness) in the territory, enhancing the resources through local co-operation (social competitiveness) as well;*
- *environmental values distinctive of the territory itself, whose active protection is granted by a renewable use of natural resources and wealth (environmental competitiveness);*
- *a high level of co-operative internal capacities, measurable in the ranking assigned by globalization (political competitiveness).*

Concerning the evaluation of the *territorial dimension* of competitiveness in sustainability, and also referring to the studies on the competitiveness of nations (i.e. Porter, Krugman, Kok), *the approach of macro-economic evaluation widened to the regional scale has to be criticised* from TPG. At the regional European scale this approach, indeed, cannot count on the same adjustment mechanisms, or on the completely independent fiscal systems that can be found at national level. For instance, such factors as 'knowledge and innovations' express all their criticality at the regional level only, where it is possible to evaluate their differences and changes in time and space.

From this point of view, the project agrees with the *III report on social and economic cohesion* (European Commission, 2004), which asks for a selection of factors able to establish territorial development and not only growth (see the European Parliament's Committee Study on Regional Development, 2005, which evaluates the coherence between structural reforms - financial and social reforms - and the anticipated variations for the Structural Funds and the Lisbon/Gothenburg objectives).

The project suggests evaluating territorial competitiveness (Lisbon) linked with sustainability (Gothenburg), also from the externalities and internalities point of views (economies of external and internal co-operation scale). It suggests that European policy makers push single regions in order to make them do the same to define independent policy declarations in their regional operational documents/programs.

The dimension of these declarations should be evaluated through the parameters selected in the project, which have to be adopted as reference points to start the enhancement of the different territorial contexts in the 2007-2013 period. The perspective of **stable cohesion**<sup>3</sup> (an approach inside countries), **convergent cohesion** (a comparable approach between indicators at national and regional level), **cohesion towards a continuing improvement** of European populations'

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<sup>3</sup> In this case the word means the capabilities of strength, co-operation, peaceful and productive co-existence among all the components of productive systems; but also the institutions' eligibility and efficiency in putting into practice *governance* rules, leading the business community to pursue, in individual behaviours, such goals as:

- 1) the positive and productive introduction into the social and economic environment,
- 2) the development of "proactive" behaviours towards the inclusion of collective choices (up to the "burdening" of individual and social responsibilities),
- 3) the contribution with the (formal or not) institutions to the community government, sharing their "good practices".

general life style, must be the base to evaluate the positive progress of regional **performance** in terms of employment, income and productivity.

## 1.2 Main indicators and relative interpretation

In this project framework, the mentioned proposal of *four determinants* or *composite indicators* (A proposal) - which includes at the base, and for territorial dimension evaluation, a larger number of indicators (from the initial 77, they were reduced to **69**) than the initial 42, including the synthetic list of the 14 Spring Report (see Table 2)- answers to EU "subsidiary and cohesive" needs requested from European regions.

The basic indicators allow us to give to the European policy makers **4 synthetic choice criteria (composite indicators** about: ***Innovation and Research; Global/Local Interaction; Quality; Resources and Funds***) at national, regional, sub-regional spatial and territorialised scale for the enforcement of Lisbon/Gothenburg, enabling to realise the TIA process, too, for the Lisbon/Gothenburg policy choices, as well as a continuous data updating for monitoring the result in the time and space;

Than, over again, **the Author of this contribution advises and recommends to Lisbon Monitoring Group to use those selected indicators according to their capability of simultaneously representing the Lisbon/Gothenburg goals**, considering the availability of official statistical sources and their consistency with the geographical reference scale and their date. This required several tests and a long refinement process, held both within the TPG and with the ESPON Programme and European Institutions representatives, to whom the final results in this Report are transmitted.

This appropriate selection of indicators (see Table 2) appeared useful in order to provide a basic analysis of European regional results obtained from 2000 to 2004 for supporting and explaining political choices for the period from 2007 to 2013; to incorporate territorial cohesion into Lisbon/Gothenburg topics and goals; and to suggest some possible integrations with regard to the real and complex differences within and between the old and new EU regions for the full use of the revised Structural Funds. The 3.3 List included the 15 synthetic indicator List from Almunia (2005), too.

**Table 2:** List of basic indicators used in the 3.3 project (A-case), compared with the list of 42, the short list of 14 indicators and the ESPON projects list (underline the new indicators advised by the 3.3 project)

Determinant	3.3 Indicator	42 Spring indicator (2003)	14 Short list indicator	ESPON references
<i>Innovation &amp; Research</i> <sup>4</sup>	Internet users	II.3.1		project 1.2.2
	Firms with internet access	II.3.2		project 1.2.2
	<u>Available e-government services</u>			
	Universities students			project 1.1.2 (w. gaps)

<sup>4</sup> Into the calculation of the composite index "Innovation & Research" the indicator *Employment rate of older workers* was substituted by the *Innovative dependency index*. The older workers are however indirectly considered in the indicator *Population in life-long learning*.



	Innovative dependency index			ESPON DB
	Population with tertiary education			ESPON DB (w. gaps)
<i>Global-Local interaction</i>	Population in life-long learning	I.5		
	Research Centres			project 2.2.1
	Old and new technologies	III.3.3		project 1.2.2
	General environmental concerns	V.7.2; g/f		
	Specific environmental concerns	V.7.2		
	<u>Manufacturing enterprise</u>			
	<u>Products trademarks</u>			
	Energy self-sufficiency index	V.2	Energy intensity of the economy	project 2.1.4
	FDI intensity	III.6.6		
	Trade integration of goods	III.6.4		
	Trade integration of services	III.6.5		
	Degree of Vulnerability in Europe		Volume of freight transport relative to GDP	project 1.3.1
	Typology Multimodal Accessibility Potential	V.3		project 2.1.1
	<u>Fiscal pressure</u>			
Labour - cost index (2000:100) - NSA	e			
Long-term interest rate	d	Financial market integration (convergence in bank lending rates)		
Research Centres			project 2.2.1 project 3.3	
<u>Credit institutions</u>				
<u>Insurance companies</u>				
<u>Companies</u>		Employment rate		
Stock market capitalisation - end of period - Billiards of euro - NSA	III.6.1			
Population change			ESPON DB	
<u>Tourists inbound</u>				
<u>Tourists outbound</u>				
<u>Students inbound</u>				
<u>Students outbound</u>				
<u>Researchers inbound</u>				
<u>Researchers outbound</u>				
<i>Quality<sup>5</sup></i>	Active people	I.1.1		ESPON DB
	GDPpps per capita	a.1	GDP per capita (PPS)	ESPON DB
	<u>Consumption per capita</u>			
	Level of employment	I.1	Employment rate	ESPON DB
	Consumer price index	III.1.1		
	<u>Hospital beds</u>			
	<u>Hotel beds</u>			
	<u>Cultural opportunities</u>			
	Typology Multimodal Accessibility Potential			project 2.1.1
	Old and new technologies	III.3.3		project 1.2.2 project 3.3
Municipal waste generation	V.5			
<u>Hazardous waste generation</u>				
<u>Municipal waste recycling</u>				
<u>Degree of vulnerability in Europe</u>			project 1.3.1	

<sup>5</sup> The indicator *Labour productivity per person employed* into the composite index "Quality". The indicator *Dispersion of regional employment rates* is not used because cover data is missing.

	Total greenhouse emissions	V.1	Total greenhouse gases emissions	
	<u>Total gross abstraction of freshwater</u>			
	<u>CO<sup>2</sup> emissions</u>	V.7.1; V.7.2		
	<u>Confidence in EU Commission</u>			
	<u>Confidence in EU Council of Ministers</u>			
	<u>Confidence in EU Parliament</u>			
	<u>National public participation</u>			
	<u>European public participation</u>			
	Early school leavers	IV.5.1		
	Inequity of regional income distribution	IV.1		
	Persons aged 0-17 who are living in households where no one works	IV.7	Long-term unemployment rate	
	At-risk-of-poverty rate before social transfers	IV.2.2	At-risk-of-poverty rate	
	Female employment	I.2.1		
	<u>Fertility rate</u>			
	<u>Healthy life years</u>			
Resources and funds	R&D expenditure	II.2.1	R&D expenditure IT expenditure	project 2.1.2
	(firms) National aids	III.5		
	Human capital expenditure (pps per capita)	II.1	Spending on human resources (public expenditure on education)	
	<u>Employment expenditure (pps per capita)</u>			
	<u>Climate and natural resources expenditure pps per capita</u>			
	<u>Efficiency and accessibility</u>			project 2.2.1
	Public Health expenditure pps per capita	III.5		
	Poverty and age expenditure pps per capita	III.5		
	<u>EU funds spending</u>			project 2.2.2
	Economic resources	III.1.1		

The 14 indicators of the Spring Report were analysed and mapped, too; and an accurate critical analysis was completed, that showed their low adherence to the Lisbon/Gothenburg parameters. The inadequacy of the method traditionally utilised in the evaluation of the Lisbon/Gothenburg Strategy, with the 14 synthetic structural indicators "Short List" proposed by the European Commission in the *Spring Report 2003*, was verified considering the *Cohesion Report 2004*. This test proved quite useful to demonstrate how the regional perspectives are deeply reduced and the results are homogenized even in presence of the various functional typologies that the Union brings.

The adhesion of the new member States had a relatively low influence on the values of the used indicators, for the adopted statistical method in A case; the great variety that characterises the ten new members in the areas of reference is nevertheless meaningful, variety producing a not foregone global effect.

In case A, each dataset has then been arranged and linked to the geographical subdivisions; the quantitative variables or metadata are transformed in qualitative ones through weight assignment.

In parallel, a Database/GIS tool for the automatic combination starting from the basic indicators according to the methodology has been developed as an added specific value of the 3.3 project. It could be used as tool for easy readout and

choice for policy makers. The design and capabilities of the tool is described in a dedicated section of the project.

In order to provide a territorial typology useful for data territorialisation, the question was developed into the A-case (ed by CEG). The typology of territories was selected as a function of the typologies of regions developed within the ESPON Programme, specifically those from Project 1.1.1. – “The role, specific situation and potentials of urban areas as nodes in a polycentric development” (2002-2004) and Project 1.1.2. – “Urban-rural relations in Europe” (2002-2004).

The classification of territories was developed in 3 steps and 7 classes (see Chap. 2 of this Report, Figs 24 and 25). The aggregation was made in order to highlight the real difference between the “regional/local areas” and the “no special function areas”.

In this choice, more depopulated areas are separated from the rural areas where we can find medium-sized cities with regional/local economic bases, remembering that the main arguments of the analysis were (ESPO, ToR, 2004):

- to identify the more competitive and dynamic territories based on knowledge and innovation and relate it with urban and regional characteristics;
- to know if urban centres and metropolitan agglomerations play a crucial role in providing the framework conditions for a knowledge-based economic development;
- to understand the polycentric model at different scales, which includes the dynamics of urban growth centres and linking peripheral and disadvantaged areas with urban centres

This type of approach allows one to construct an indicator which includes not only the information on the current situation according to its own specificities, but also to the real dynamics of the actions that enable a given goal to be reached: in this case we turn from the simple territorial competitiveness to the **capability to generate territorial competitiveness in sustainability**.

### 1.2.1 The 4 composite indices of the Lisbon/Gothenburg Strategy

The A-case produced a large number of “maps” and horizontal and vertical comments. Each map, beside representing the indicator, the category, the sector, the typology and finally the determinant, expresses compared judgements that unite or separate even adjacent European regions.

To avoid the excessive distributive uniformity of the data deriving from a classification with *equal* interval (quite popular in the European geographic studies), we preferred to use the so called *quantile method*.

The strongest effects **do not come out** the two indicators which traditionally synthesise the general economic context of competitiveness (pps GDP and labour employment for calculating productivity), where the average value for the new members is about the half of the Union value; price level as well is about the half; but they come out of occupancy rates – both general and those considering younger rather than older workers – and from the critical advantage for the new member States in youth education levels in relation to European average (percentage of youth aged 15 to 24 with secondary school graduation is about 90%, but it is lower than the percentage of youth with a tertiary level graduation or degree).

In the following section, the main results are briefly presented with regard to first case, obtained for the 25 countries forming the EU, to whom Norway, Bulgaria, Romania and Switzerland were added. In addition to the spatial and territorialized synthetic maps, some indicators stand as particularly relevant for the ex ante

regional status assessment. Right from this moment possible co-operation areas are represented. They will be specifically recalled later in the chapter dedicated to the evaluation of the policy recommendations' effects and the co-operation scenarios.

In this section, only the *three final maps* for each determinant are presented (spatial NUTS2 final value, NUTS 2 and NUTS3 territorial final values). *All the maps are included into Part Two or Part Three of this Revisited Report.*

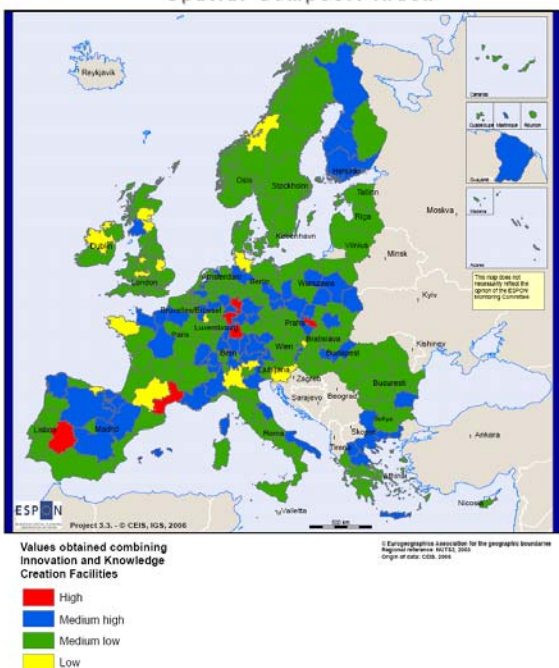
Since 3.3 project has used the systemic quali-quantitative STeM approach, the legend of each map is characterised by:

- quantitative values grouped into 4 classes according to quartiles of distribution;
- qualitative places were assigned at each class (A; B;C;D, where A>B; B>C; C>D).

### *Innovation and Research*

A great majority of the European Countries show a medium-low profile in terms of I&R (one of the main themes of Lisbon) at national scale and a higher level at regional and sub-regional ones (Figs. 1, 2, 3).

MAP IR 17 - Innovation and Research: Syntetic Spatial Composit Index



**Figure 2:** Territorial I&R:

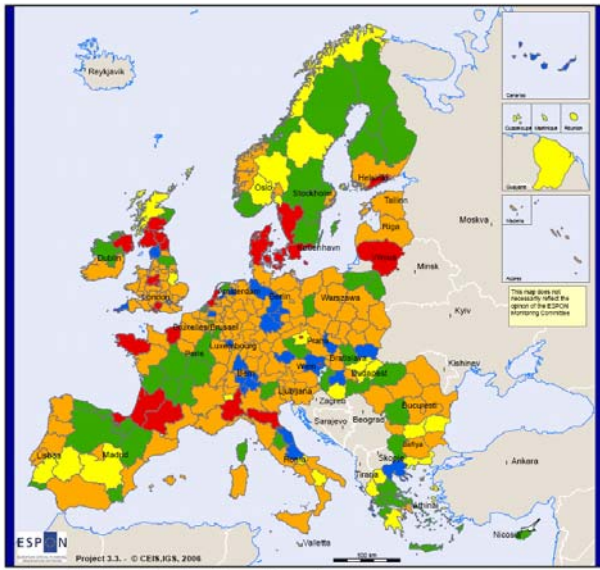
With respect to national policies, medium-high values can be found only in the "Pentagon" area and in Slovenia, while only some regional enclaves in the Scandinavian Peninsula, in Great Britain, Netherlands, Italy achieved the goal fixed by Lisbon. Facing territorialisation, differences result even more strongly and sharply, clearly highlighting the gap dividing Finland, Norway, Sweden (with a low population density) from France, Spain and Greece and the rest of Europe. From this point of view, it is necessary to develop targeted structural actions, concrete and operative, with the direct concourse of regional finance.

**Figure 1:** Innovation and Research: composite index final values (CEIS, 2006)

**Figure 3:** Territorial I&R:

final values at NUTS2 (CEIS, 2006)

MAP IR 18 - Innovation and Research: Territorial Dimension at NUTS 2



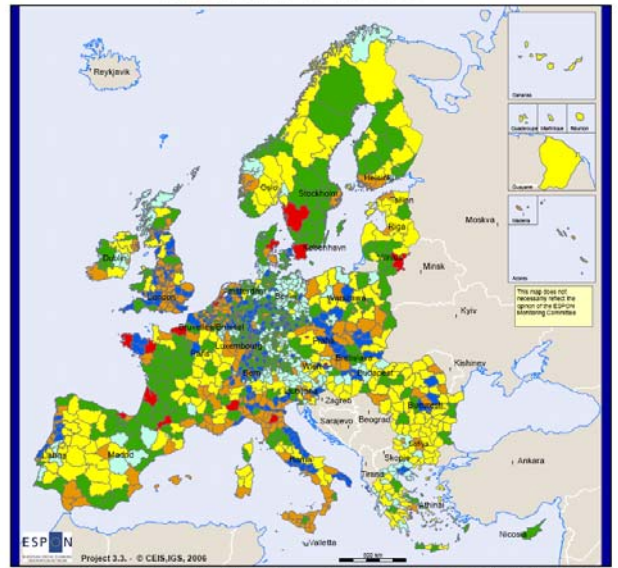
Values obtained combining Innovation and Research: Syntetic Spatial Composit Index and TT2 - Territorial tipologies at NUTS2

- ABSOLUTE
- VERY HIGH
- HIGH
- MEDIUM
- LOW
- VERY LOW

© Eurogeographic Association for the geographic boundaries Regional reference: NUTS 2, 2006 Origin of data: CEIS, CEIS, 2006

final values at NUTS3 (CEIS, 2006)

MAP IR 19 - Innovation and Research: Territorial Dimension at NUTS 3



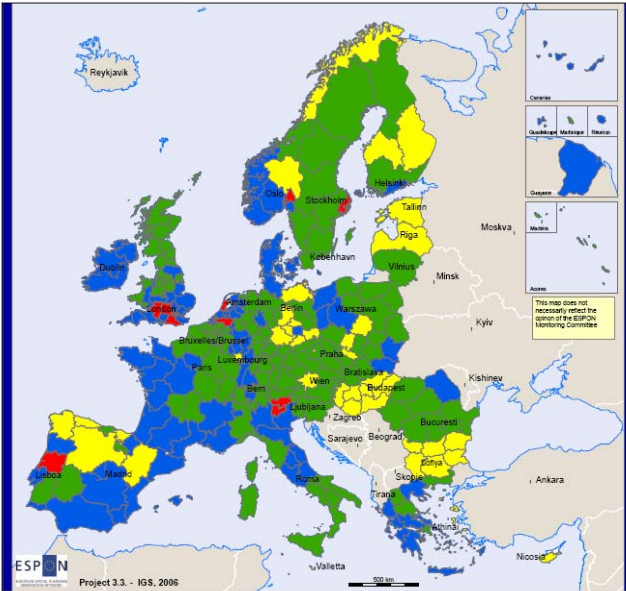
Values obtained combining Innovation and Research: Syntetic Spatial Composit Index and TT3 - Territorial tipologies at NUTS3

- ABSOLUTE
- VERY HIGH
- HIGH
- MEDIUM
- LOW
- VERY LOW

© Eurogeographic Association for the geographic boundaries Regional reference: NUTS 3, 2006 Origin of data: CEIS, CEIS, 2006

## Global/Local interaction

MAP GL 42 - Global Local Interaction:  
Synthetic Spatial Composit Index



values obtained combining social cohesion  
reElaborations + risk of social exclusion and  
social wellness attitude

- High
- Medium high
- Medium low
- Low

To sum up, the Global/Local interaction (Fig. 4) highlights just a few regional cases as positive (capital regions) balanced references to an EU regional benchmarking.

The positive references in respect of Global/Local interaction are even more evident looking at the territorialisation of the spatial values of the determinant synthesis (Figs. 5, 6), where the territorial concentrations with a true gift for sustaining virtuous outside relations are few, among which are Lombardia, Emilia Romagna and Lazio in Italy, much more often corresponding with capital-regions: Ile de France in France, Inner London in Great Britain, Centro in Portugal, Madrid in Spain and the Helsinki Region in Finland.

**Figure 4:** Global/Local Interaction: composite index final values (CEIS, 2006)

**Figure 5:** Territorial G/L:  
final values at NUTS2 (CEIS, 2006)

MAP GL 43 - TERRITORIAL Global Local  
Interaction

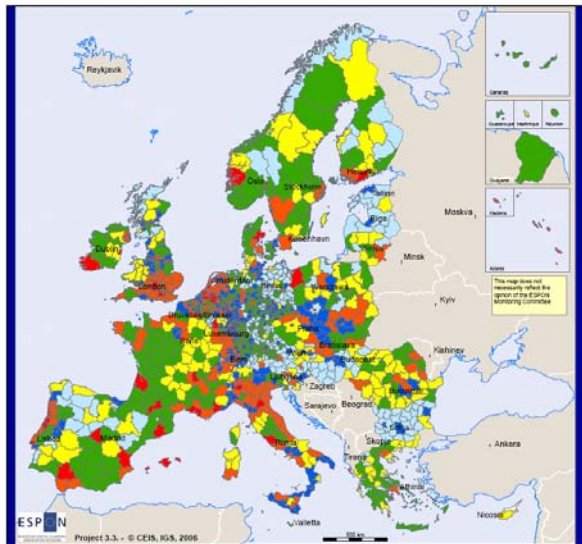


Values obtained combining Global Local:  
Synthetic Spatial Composit Index and TT2 -  
Territorial typologies at NUTS2

- ABSOLUTE
- VERY HIGH
- HIGH
- MEDIUM
- LOW
- VERY LOW

**Figure 6:** Territorial G/L:  
final values at NUTS3 (CEIS, 2006)

MAP GL 44 - TERRITORIAL Global Local  
Interaction



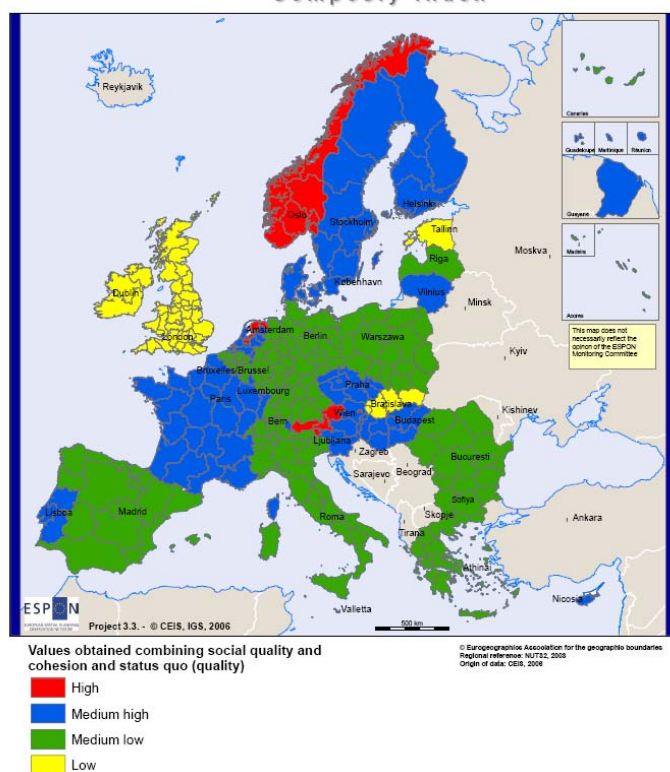
Values obtained combining Global Local:  
Synthetic Spatial Composit Index and TT3 -  
Territorial typologies at NUTS3

- ABSOLUTE
- VERY HIGH
- HIGH
- MEDIUM
- LOW
- VERY LOW

A high propensity towards interaction is measured as well in the Pentagon, in the frontier areas and in Central Italy, thus demonstrating: how European citizens are basically more interested in keeping and strengthening local relations, also through specific investment actions (considered as "marginal" in respect to the Lisbon/Gothenburg objectives) independently from the trans-national relational potential of the resources; how this depends, for enterprises too, upon an attitude to privileging endogenous cohesion (even through a strict relationship with the local government), more than upon an evaluation of the perspectives offered by the European market of trans-national investments.

## Quality

MAP Q 44 - Quality: Syntetic Spatial Composiy Index



In the perspective of a sustainable European policy, national and regional quality must be considered an overriding and combined measure of phenomena, ranging from climatic change to deterioration and poverty (health, safety, quality of life), to the not self-sustainable economic and social systems in the great urban areas (irrational use of resources, waste of energy, waste management, noise pollution and air pollution due to traffic congestion).

So that the EU gives a uniformed and balanced answer to the big issues involving the relations between infrastructure, environment, citizens' health and safety (exposure to electromagnetic fields, to noise pollution, to new integrated technologies of mobile telephony and to electric energy availability).

**Figure 7:** Quality: composite index final values (CEIS, 2006)

The new general policies will have to be the result of sectorial actions and policies directly connected to the territorial dimension of the development (Figs. 7, 8, 9).

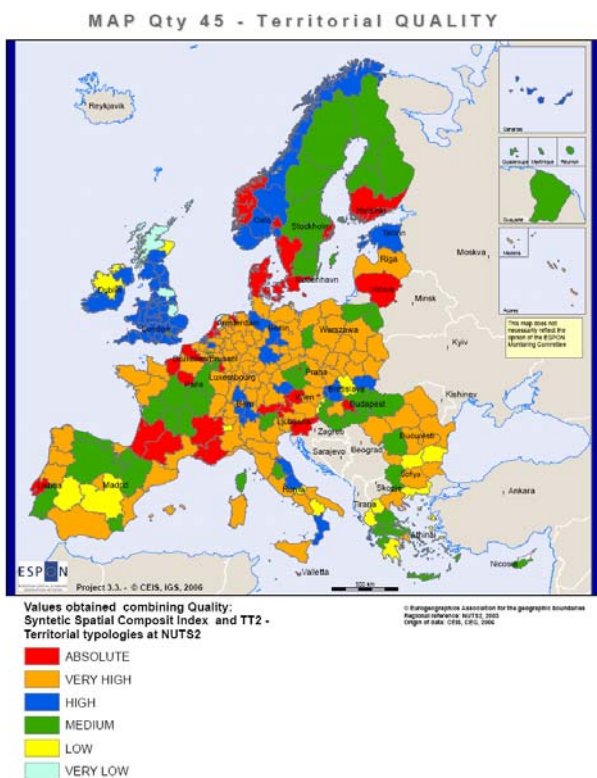
The project registered, for instance, that in the future some cases of pollution could also take place in the regional economies with the highest per capita expense, where the use of appropriate technologies is still low.

In this direction the concept of "territorial quality" has been interpreted in the project both as an economic process, and mostly as a *social cohesion process* leading to the definition of targeted actions and policies in order to build an efficient and effective regional economic system (solidarity, creativity and high life quality) to play an important role in territorial planning and social policies.

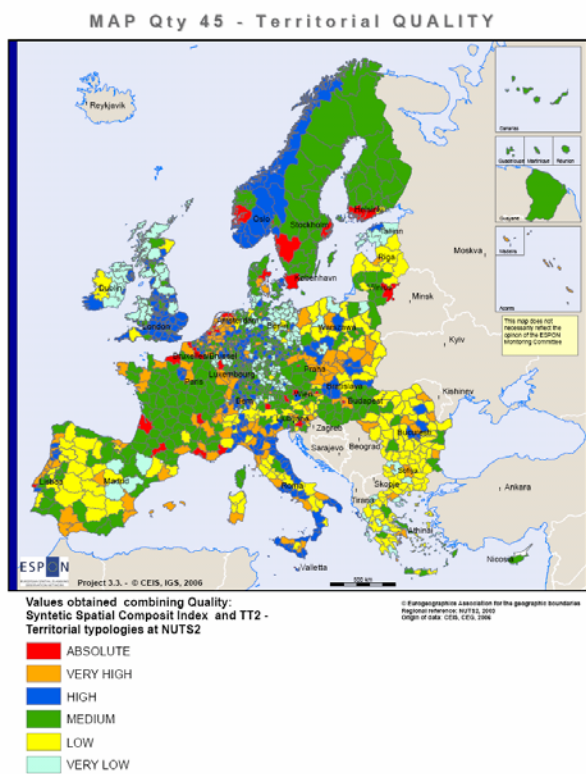
But all that is insufficient to grant a successful increase of territorial quality to support development. It is therefore necessary that the Union would institutionalise the concept of quality and permanently include it in the decisional processes (institutionalised governance) so as to establish a connection between economic and social progress for a global development to be coherent and sustainable.

This is typified by the behaviour of the European enterprise, to whom the concept of territorial quality has become synonymous with success in competitiveness, as testified by the achievement of appropriate certifications (ISO or EMAS), followed by the enlarged concept of social responsibility (i.e. Environmental Management more than Corporate Social Responsibility<sup>6</sup>) considered as a useful and necessary instrument of cohesion and competitiveness.

**Figure 8:** Territorial Quality: final values at NUTS2 (CEIS, 2006)



**Figure 9:** Territorial Quality: final values at NUTS3 (CEIS, 2006)



The effects of an action in quality on European regions could inspire many variations:

- broadening and strengthening the internal market;
- ensuring open and competitive markets inside and outside Europe (trans-frontier, trans-national and trans-regional co-operation policies);
- improving national European regulations;
- widening and improving European infrastructure;
- increasing and improving investments towards R&D;
- simplifying innovation, TLC's adoption and a sustainable use of the resources;
- contributing to a steady European industrial fundament which would adopt certification systems and CSR as means of cohesion and competitiveness;
- attracting a greater number of people in the job market and increasing job market's flexibility;
- increasing investments in human capital by improving education and expertise;
- improving the preservation of public health and environment in the communitarian policies, as an opportunity of sustainable development

### *Resources and funds*

<sup>6</sup> European Council of Lisbon, *Green Book*, on July 2001



What has been suggested before is the starting point in linking the Lisbon/Gothenburg Strategy to the financial availability scheduled for the 2007-2013 Structural Funds.

MAP RF 18 - Resources and Funds: Syntetic Spatial Composit Index

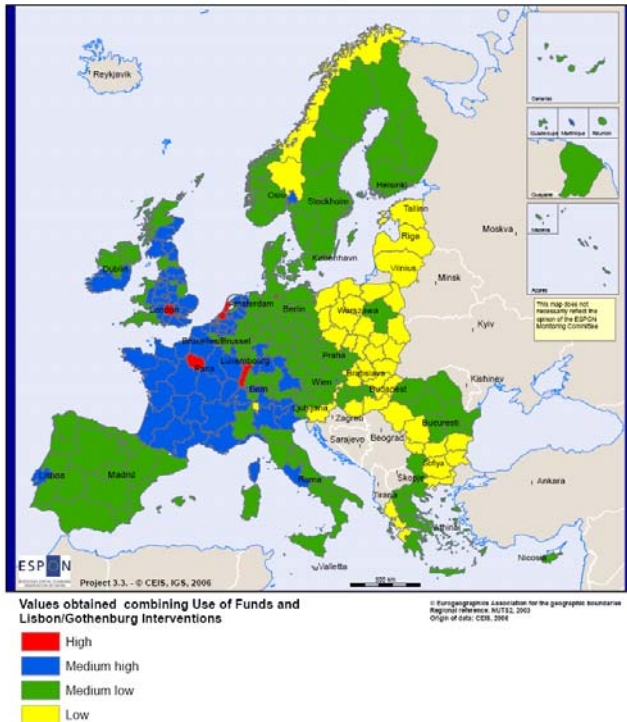


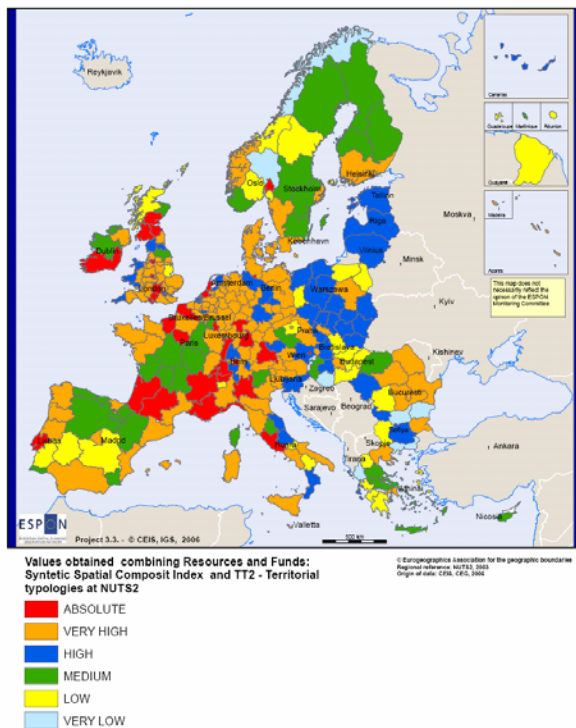
Figure 11: Territorial R & F: final values at NUTS2(CEIS, 2006)

This requires a more focused attention to the models of economic and financial resource management, which are considered, sometimes wrongly, among the causes of hindrance for the social and economic development of the European regions, especially for those historically underdeveloped (as Italy's Mezzogiorno). The evaluation of economic resources scarcity is nevertheless the subject that also catalysed attention from realities considered historically strong (as the Pentagon), attracting the policy makers attention towards an optimal and effective allocation of resources.

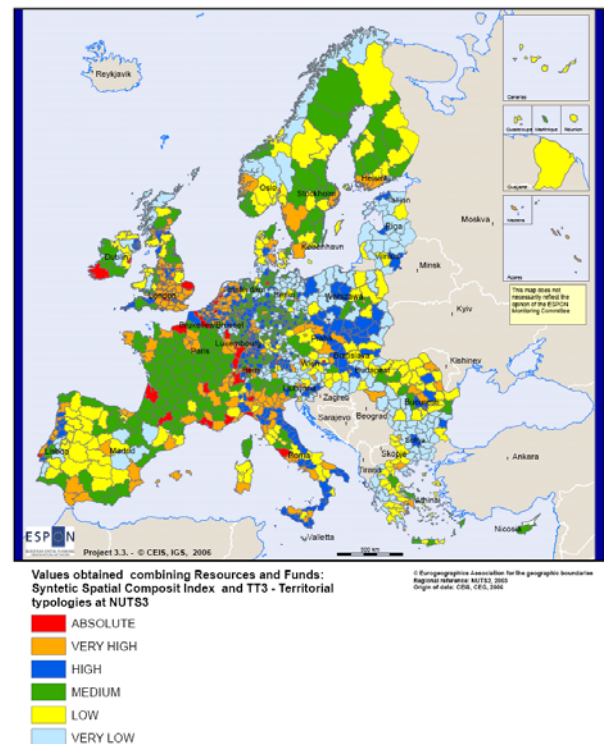
Figure 10: Resources and Funds: composite index final values (CEIS, 2006)

Figure 12: Territorial R & F: final values at NUTS3 (CEIS, 2006)

MAP RF 19 - Resources and Funds Interaction Territorial Dimension at NUTS 2



MAP RF 20 - Resources and Funds Interaction Territorial Dimension at NUTS 3



For instance, the III Report on social and economic cohesion linked the issue of the post-enlargement Union's population growth to a considerable increase in goods and services consumption.

It had also to be excluded an adequate participation from the enlargement countries) and an their impediment to maintaining the EU15 current level of non-renewable resources and to develop technologies available for exploitation, on a large scale and cost effective, of clean and renewable sources.

Notwithstanding the many calls to think about the possibility of a change in the politico-economic European paradigm – from growth to sustainable development – most of the Union countries faced the issue of resources and funds in a traditional way (Fig. 10), writing their balance sheets just in light of an efficient and effective use of those. That is why in the last year the Union has been pushing towards a greater control (evaluation processes) on the use of financial and economic means.

However, the search for a territorial competitiveness (Figs. 11, 12) based on the Lisbon/Gothenburg parameters and on their strict connection with *structural funds programming* highlights how, as in the past, concentrating resources on the underdeveloped countries doesn't mean they will achieve a reduction of their performance gap.

*The capability of being competitive in sustainability* of a given territory is then proposed by the project, as a substitutive measure of the traditional model of the growth towards development.

This capacity is always increasingly based on endogenous factors, where aspects such as connection infrastructures, network services, reception structures, social organization and labour qualification, provide contexts favourable to the satisfaction of citizens' demands and constitute elements which are at the base of the competitive benefits of a territorial system. The analyses performed in the research show how the local systems, both the weakest and strongest, are in need of appropriate support policies.

Thus we suggest that the previously listed necessary actions won't be funded on one instrument only, but will be co-ordinated and integrated into combinations of different incentives (support to enterprises, to human capital education, to occupancy, etc.), in strict relation with the regional policies dealing with interventions of and infrastructural form.

The European Union, aware of how important it is to measure the effective use of resources, will have to evaluate territorial competitiveness also in terms of effectiveness, promoting the consumption of resources within the bounds of renewable-ness and long-term availability, especially in terms of energy.

Since the goal of the ESPON project 3.3 in underlining the dynamics which, in the global competition, bring to the definition of territorial systems 'competitive in sustainability', the determinant Resources & Funds performed the task of determining those regions which, earlier than others, are today or could really soon be on the sustainable development path.

The study of the determinant allows a measure of the efficiency level of funds in employment in pursuing the integral objectives of the Lisbon and Gothenburg strategies, keeping in mind the main resources currently available for development:

- an economy based on knowledge and innovation;
- investments in human capital;
- social models opposing social exclusion, poverty and ageing;
- territorial governance models focused on environment preservation and public health as opportunities of sustainable development;
- an economic policy focused on trans-frontier co-operation.

Since the economic and financial resources pursuing the integral objectives of Lisbon and Gothenburg can be included in synergic actions (unspecific but integrated interventions), the measurement anyway has been made of the efficiency rate of economic and financial resources utilisation, with such indicators as public deficit, the debt/GDP report, inflation, usually considered as measures of the “good governance” of a country.

These quantities (generally measures of economic/financial stability) disclose an only partial view of the phenomenon. Willingness to achieve a measure of the “good use” of the economic and financial resources devoted to the Lisbon/Gothenburg objectives, the discussion in Europe will have to be directed towards a qualitative/quantitative evaluation of the phenomenon. In this direction we preferred, as it happens at EU level for many years, an examination of the statistics on the use of structural monetary funds in terms of efficiency, developing a study/analysis path for achieving a measuring of the contribution of resources to territorial development.

### 1.3 Key policy recommendations

The implications of policy aspects covered by the ESPON past work with regard to Lisbon/Gothenburg Strategy prove more problematic for working simultaneously towards the goals of competitiveness and sustainability. Transportation, e.g., is particularly challenging the focus of conflict being related to fuel consumption. Here, compromises were found primarily in the desirability of modal shifts. Similarly with energy policy, diversification was promoted as the way forward. The issue of the changing demographic composition of the EU proved especially resistant to practical recommendations, particularly in terms of the realisation of the Lisbon agenda.

The review of the ESPON programmes’ conclusions suggested at 3.3 TPG a need to leave conventional trajectories for competitiveness, if a concurrent goal of achieving sustainable development is to be met.

In summary, the review reflected the fact that previous ESPON projects have not considered sustainability and competitiveness concurrently, or their implications for each other.

Policy recommendations derived from Lisbon, but applied to the each determinant and sub-category, have been developed according to both regional level (macro, meso or micro) and territorial dimension<sup>7</sup>. Here a summary of the recommendations for the determinants of *innovation and research*, *global/local interaction*, *quality*, and *resources and funds* are applied to the main elements of the Lisbon and Gothenburg Agendas with a natural concentration on recommendations at the EU level, but an identification of which actions are better devolved down to lower levels of governance.

#### a) The Lisbon Agenda

*Innovation and Research:* The application of the Lisbon plans to this determinant at the EU level suggests that the European Investment Bank should take a leading role in promoting the networks required for innovation and research across the European Union. The issue of up-take is a priority which needs to be co-ordinated from that level, but devolved to agencies below in terms of its micro management. The proposed European innovation scoreboard would be introduced

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<sup>7</sup> In the body of the report detailed recommendations for each determinant and typology are developed for each level of governance. The work is also presented in matrix summarised form for ease of access.

to most effect at the national/trans-national level, while it is at a regional level that 'innovation poles' should be established. In terms of support, a 'European Institute of Technology' could be set up at the EU level, but this and other European Technology Initiatives may be promoted by, and partnered with, industry and possibly higher education establishments.

*Global/Local Interaction:* With respect to this determinant, the co-ordination of the EU is required to ensure labour market requirements are met, with agreement on increasing the mobility of the workforce and migration. This would be assisted by the establishment of an European Higher Education Area. The much contested reform of the European social model promoted by the Lisbon Agenda, basing support on work and alleviating tax pressures on labour, would be difficult to enforce at the EU level given past failed efforts to develop a genuine European social policy. Consequently the national scoreboard approach to improving labour participation rates and maximising productivity are probably the most attainable means of challenging perceived inefficiencies in the model. Meanwhile regional variations in work, tax and income maintenance configurations may offer alternative solutions to mitigating market inequities whilst retaining economic efficiency.

*Quality:* Addressing the issue of life chances is a key part of this determinant. However, here Lisbon objectives are less specific, allowing future innovation in policy development at all levels. Suggestions include innovation in eco-technologies harnessed to enhancing quality of life and renewing neighbourhoods and introducing labour policies which address the conflicts arising from maintaining a healthy work/home life balance.

*Resources and Funds:* In this determinant there is again an emphasis on labour market and income maintenance policies. Given the nation state command of these areas the Commissions' targets for the increasing work force participation rates – by at least 9% - with particular emphasis on women and older workers are appropriately devolved to the scoreboard approach as embodied in the National Plans recently submitted. More flexibility in labour market conditions with the extensions of freedom of movement may however help create the conditions for this. Measures may be enacted at both the national and the EU level to foster an encouraging environment for private research investment, R&D partnerships and high technology start-ups. These could be made more attractive by adjusting tax policies and providing the appropriate support in the form of venture capital with EIB backing. Finally at the macro level too, a reform of Structural Funds to focus on local employment delivery and economic growth, have been a controversial, but fundamental pillar of the Lisbon Agenda.

## b) The Gothenburg Agenda

The policy recommendations derived from Gothenburg and applied to the determinants of project 3.3 fall even less easily into appropriate levels of governance. As typical with issues of sustainability there are a lot of more broad ambitions than specific recommendations and agreed responsibilities. Nonetheless the determinant *Innovation & Research* must by its very nature offer the most potential and the consensus here is that 'a substantial investment is required in order to fulfil the Sustainable Development Strategy', though who should undertake the investment is unclear.

More concrete proposals are found in the area of *Global/Local Interaction* where it is advocated that EU co-ordination in four key policy areas must be worked towards; climate change, natural resources, transport and public health. To complement this pre-existent policy agreement on climate change must be implemented and the contribution of renewable energy sources must be increased proportionately. Prices, it is suggested, should be linked to their environmental

impact, especially in the field of transport. While these propositions would require interventions at the market and national level, EU action is essential to reform the Common Agriculture Policy which should demand more environmentally sustainable forms of production.

For the determinant *Quality*, specific EU wide measures are suggested; on public health (including a European surveillance and early warning system on health issues) and the initiation of action on the problems relating to rising levels of traffic should take the form of EU policy on a sustainable transport system which includes greater investment in public transport and other actions to encourage a major modal shift.

Perhaps most pertinent to the Gothenburg goals, is the *Resources and Funds* determinant. However, in relation to this determinant, Gothenburg only specifically suggests EU level action in the sector of fishing where it is proposed that the Common Fisheries Policy must address the issue of over-fishing more pro-actively. The implementation of the EU Integrated Product Policy is urged though, in co-operation with business. Other than that, recommendations that new measures are implemented to maintain bio-diversity and preserve eco-systems and reduce the levels of waste produced in the EU are articulated.

Finally, as stressed in the Gothenburg Strategy, the ultimate way of reconciling environmental sustainability and global competitiveness is to develop some way of separating economic growth from resource use. But apart from that global challenge, the issue of regionally specific recommendations for action will now be addressed.

### 1.3.1 Specific policy recommendations arising from the projects' research findings

The application of the key elements of the specific work pioneered by the ESPON 3.3 team to the goal of effectively redistributing Structural Fund monies to particular regional needs will now be presented. In order to assess the appropriate allocation of resources towards the ambitious goals of fulfilling the aims of the Lisbon and Gothenburg Agendas and balancing regional differences (see example of co-operation scenarios Fig. 14), it was necessary to distinguish between regional disparities (see example of sectorial regional gaps assessment , Fig. 15), which need to be readdressed, and regional diversities, which are considered as a key characteristic of Europe. Identifying these specificities, with a view to future policy direction was the focus of the work (see example in Fig. 16 and chap. ). The concentration on the regional level is also intended to offset the predominantly national orientation of much work in this area, characterised by the current preoccupation with the National Action Plans. Here though a summary of the key recommendations, organised by determinant, which combine the objectives of both Lisbon and Gothenburg are provided. These constitute the recommendations that are most relevant to 'territorial competitiveness in sustainability'.

*Innovation and Research:* At the meso level and in the majority of countries, national policies should be geared to increasing the general populations' access to the Information Society. This needs to be supported by telecommunication and education systems, organised at either national or regional level, which reach the most regions. In the latter case education ought to engage the middle-aged population in life-long projects which will enable a re-engagement in the productive system. Education policy at tertiary level requires 'actualisation' to international needs.

Specific measures, such as targeted sectorial investments, are recommended for countries with a low innovation and research profile as a priority in the new

Structural Funds in Eastern countries, perhaps contingent on commitments in their financial plans. Also in Eastern and Mediterranean countries, an emphasis on firms' information access to enable a start-up to an intensification of internationalisation is suggested.

At the regional level, linking innovation and research to the local job market and introducing a major local dissemination of Structural Fund projects into the local/regional system is recommended. Collaboration between public and private enterprises and between firms, regional institutions and the education/research systems could be encouraged. Recommendations for specific regions are in the body of the report.

The majority of recommendations for this determinant are Lisbon oriented, but in their orientation - particularly with their focus on ICT, are compatible with the goals of the Gothenburg Agenda.

*Global/Local Interaction:* Recommendations specified under this determinant are more focused on Gothenburg and a combination of Lisbon and Gothenburg objectives. At the national and trans-national meso level, but co-ordinated at the macro level, common procedures must be found to fix territorially sustainable limits regarding growth and investments. Similarly a common language regarding sustainability needs to be developed, which, together with a stress on transparency, may transform actions in the direction of 'virtuous behaviour', possibly along the lines of the benchmarking approach instigated for fulfilling the Lisbon goals.

At the regional level, the sustainable level of population development should be found in metropolitan areas and ESDP guided choices about settlement capacities and life quality made, re-launching the role of 'urban' and peri-urban areas. Hidden, but local potentialities should be the focus of new EU Structural Fund instruments which may be less competitive in the short term, but more sustainable and cohesive in the long term. Strengthening links involved in tourism, youth mobility and exchange may be part of this process. Education and research forms of 'delocalisation' and measures for population mobility in borderline regions are stressed. Another measure which would usefully merge the Lisbon and Gothenburg goals would be to reinforce the regional stability pact by using the Cohesion regional funds to strengthen local social interaction using local trading and manufacturing activities for 'bottom-up- structural change in European economic activities.

The adoption and application of common environmental concerns should be integrated with more specific technological and enterprises and measures. This would benefit from the support of a text outlining plans which can be worked on collaboratively between regions, trans-nationally and internationally.

Finally, for working towards Lisbon as well as Gothenburg ends, there ought to be a homogenisation of regional fiscal pressures, by looking for example at attracting trans-national investments in the medium term, and co-ordinating regional capabilities, whilst respecting the policy plans of local population enterprises. The role and performance of peripheral areas are likely to need particular attention in this regard.

*Quality:* At the national and trans-national level a move away from traditional economic variables, such as GDP pps per capita, for measuring country positions is proposed. A range of new common European welfare indicators to create a significant and innovative measure of welfare efficiency are recommended. This may include a 'social wellness aptitude' and a way of assessing the results of Structural Fund interventions as well as a new dedicated Structural Fund for

promoting equal opportunities. Priority projects for particular proposed trans-national co-operation areas are outlined in the report, but suffice here to note that specific forms of productive de-localisation need to be looked at, especially in the new Eastern regions.

The completion of the network enabling physical accessibility and multimodal organisation encompassing peripheral areas and attention to horizontal TCL development are recommended, the latter using new and advanced technologies.

With regard to governance issues, at both national and regional level, the incorporation of the 2001 *Governance White Paper*. Subsidiarity should, in addition, be used to develop a bottom-up vision with national policies in harmony with regional and local ones helping to improve citizenship democratic confidence, which can also be accelerated by the development of communication systems outlining European issues and encouraging feedback.

Finally, with a view to uniting the Lisbon and Gothenburg objectives for this determinant the incorporation of 'Total Quality' environmental norms in territorial plans and as an integral part of the competitiveness model.

*Resources and Funds:* One key recommendation here, applied from the macro to the regional level, is to prioritise the provision of higher order services to second and lower tier cities, ultimately to broaden the competitive position of the EU as a whole. In addition, building up the service sector in IT, telecommunications and other relevant Lisbon oriented areas to sustain more specific human capital policies is suggested, with labour markets consciously becoming more inclusive of older workers. From a Gothenburg perspective, international exchange in relevant aspects of innovation and research and cross-border activities in pollution, risk prevention and the tackling of environmental problems is recommended especially at the trans-national level, aiming eventually at an equalisation in expenditure and coverage.

Also in the fulfilment of both agendas, the constitutional differences particularly at regional level, which permit the current differentiation and which play an important role in the application of the strategies needs to be confronted. Autonomous regional governments which represent a positive benchmark could be identified. Furthermore the different priorities expressed in different regional plans need to be open for examination and accessible for change if insufficient to meet clear needs, for instance public health in Mediterranean regions and the polarisation of older female workers in Eastern areas. In general, the levels of public expenditure for both employment and natural resources which currently varies so markedly from relatively high values of most old capital EU regions to medium to low elsewhere, needs to be re-balanced with the assistance of the new Structural Funds. Regional governmental priorities with respect to expenditure on, for example, poverty and ageing could be a condition of certain new project funds and contribute to cohesion and the overcoming the north/south, east/west and centre/periphery divides.

### 1.3.2 GIS and results management

The 3.3 project was concluded with management toolbox. The theory behind has been developed by the University of Rome "Tor Vergata", also responsible for testing and using it within the ESPON 3.3 project, and the software implementation by MCRIT (Barcelona).

The toolbox uses as a reference data 3.3 project regional statistical indicators, aggregates them according to the network-like conceptual structures to be defined by the user, and provides as a result relative values of each region from the simple indicators up to the highest more abstract concept.

3.3. GIS project can be used from both **EXPERT-USERS** (researchers, consultants, civil servants....), and **POLICY-USERS** (Fig. 15).



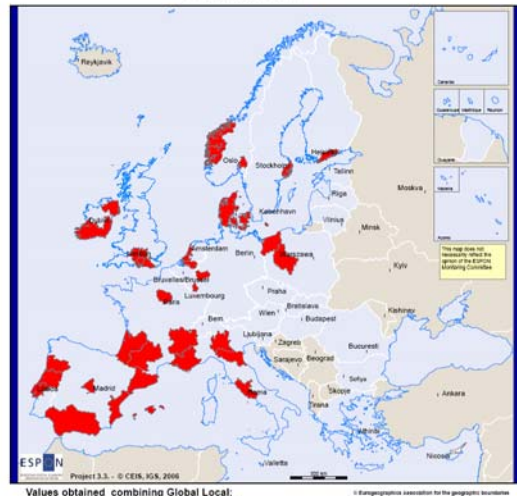
MAP IR 18 - Innovation and Research: Territorial Dimension at NUTS 2



Values obtained combining Innovation and Research: Synthetic Spatial Composit Index and TT2 - Territorial typologies at NUTS2

ABSOLUTE

MAP GL 43 - TERRITORIAL Global Local Interaction



Values obtained combining Global Local: Synthetic Spatial Composit Index and TT2 - Territorial typologies at NUTS2

ABSOLUTE

MAP Qty 45 - Territorial QUALITY



Values obtained combining Quality: Synthetic Spatial Composit Index and TT2 - Territorial typologies at NUTS2

ABSOLUTE

MAP RF 19 - Resources and Funds Interaction Territorial Dimension at NUTS 2




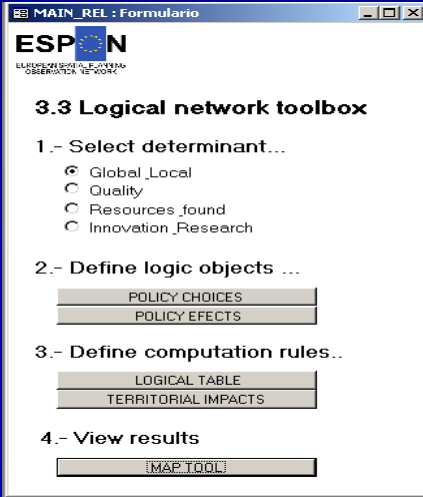
Values obtained combining Resources and Funds: Synthetic Spatial Composit Index and TT2 - Territorial typologies at NUTS2

ABSOLUTE

Figure 14: Potential regional leads in co-operative trans-national I&R, G/L, Quality, R&F projects

N2_03	REGION_03	Territo	Q_GEC	Q_SEC	Q_ME	Q_P Tm	Q_E SSI	Q_FD lin	Q_Tig	Q_Tis	Tint	Int	ESSI & Int	Q_R DA	Q_V uln	RDA & Vuln	Q_L Tir	Q_FP	Q_LC	FP& LC	CS	SL	ESSI & Int & SL	Q_ME	Q_P Tm	PSI	EI
AT11	Burgenland	7	B	D	C	B	C	B	A	A	A	B	C	C	B	C	B	D	A	D	B	C	C	C	B	C	C
AT12	Niederösterreich	3	B	D	C	C	C	B	A	A	A	B	C	C	B	C	B	D	A	D	B	C	C	C	C	C	C
AT13	Wien	1	B	D	C	A	C	B	A	A	A	B	C	B	D	B	B	D	A	D	B	B	C	C	A	C	C
AT21	Kärnten	2	B	D	B	B	C	B	A	A	A	B	C	C	B	C	B	D	A	D	B	C	C	B	B	B	C
AT22	Steiermark	2	B	D	C	C	C	B	A	A	A	B	C	C	B	C	B	D	A	D	B	C	C	C	C	C	C
AT31	Oberösterreich	2	B	D	B	C	C	B	A	A	A	B	C	C	B	C	B	D	A	D	B	C	C	B	C	B	C
AT32	Salzburg	2	B	D	B	B	C	B	A	A	A	B	C	C	B	C	B	D	A	D	B	C	C	B	B	B	C
AT33	Tirol	2	B	D	B	B	C	B	A	A	A	B	C	C	B	C	B	D	A	D	B	C	C	B	B	B	C
AT34	Vorarlberg	3	B	D	B	C	C	B	A	A	A	B	C	C	C	C	B	D	A	D	B	C	C	B	C	B	C
BE1	Région de Bruxelles-Cap	1	A	C	C	A	C	A	A	A	A	A	C	A	D	B	B	D	A	D	B	B	C	C	A	C	C
BE21	Prov. Antwerpen	3	A	C	C	C	C	A	A	A	A	A	C	B	D	B	B	D	A	D	B	B	C	C	C	C	C
BE22	Prov. Limburg (B)	2	A	C	C	C	C	A	A	A	A	A	C	B	D	B	B	D	A	D	B	B	C	C	C	C	C
BE23	Prov. Oost-Vlaanderen	2	A	C	B	C	C	A	A	A	A	A	C	B	C	B	B	D	A	D	B	B	C	B	C	B	C
BE24	Prov. Vlaams-Brabant	2	A	C	C	A	C	A	A	A	A	A	C	A	D	B	B	D	A	D	B	B	C	C	A	C	C
BE25	Prov. West-Vlaanderen	2	A	C	B	C	C	A	A	A	A	A	C	C	C	C	B	D	A	D	B	C	C	B	C	B	C
BE31	Prov. Brabant Wallon	4	A	C	C	A	C	A	A	A	A	A	C	A	C	A	B	D	A	D	B	A	C	C	A	C	C
BE32	Prov. Hainaut	2	A	C	C	B	C	A	A	A	A	A	C	B	C	B	B	D	A	D	B	B	C	C	B	C	C
BE33	Prov. Liège	2	A	C	B	B	C	A	A	A	A	A	C	B	C	B	B	D	A	D	B	B	C	B	B	B	C
BE34	Prov. Luxembourg (B)	4	A	C	C	B	C	A	A	A	A	A	C	B	C	B	B	D	A	D	B	C	C	C	B	C	C
BE35	Prov. Namur	2	A	C	C	A	C	A	A	A	A	A	C	B	B	B	B	D	A	D	B	B	C	C	A	C	C
BG01	Severozapaden	6	B	D	A	D	B	B	A	A	A	B	B	D	D	D	D	B	D	B	C	D	B	A	D	B	B
BG02	Severozentralen	6	B	D	A	D	B	B	A	A	A	B	B	D	D	D	D	B	D	B	C	D	B	A	D	B	B
BG03	Severoztochen	2	B	D	A	D	B	B	A	A	A	B	B	D	D	D	D	B	D	B	C	D	B	A	D	B	B
BG04	Yugozapaden	1	B	D	B	D	B	B	A	A	A	B	B	C	D	C	D	B	D	B	C	C	B	B	D	B	B
BG05	Yuzhen zentralen	2	B	D	A	D	B	B	A	A	A	B	B	D	D	D	D	B	D	B	C	D	B	A	D	B	B
BG06	Yugoiztochen	5	B	D	A	D	B	B	A	A	A	B	B	C	D	C	D	B	D	B	C	C	B	A	D	B	B
CH01	Région lémanique	1	B	C	B	A	C	A	B	A	B	A	C	C	C	C	C	D	B	C	C	C	C	B	A	B	C

Figure 15: Example of ex ante values with regard to 3.3 indicators to assess sectorial regional gaps

The toolbox is a software application that provides for a systematic procedure to define highly abstract concepts (e.g. "sustainable development", "territorial cohesion"... ) as a combination of more concret concepts and specific statistic indicators (e.g. GDP/capita, number of firms with Internet access, CO2 emissions...) and calculate them for preselected territorial units (e.g. European regions).

The software platform selected to implement the toolbox has been Visual Basic on Microsoft ACCESS. The toolbox uses Geomedia Viewer, a royalties-free desktop mapping application by Intergraph, to display results graphically, and it can be easily linked to any other standard Desktop mapping or GIS application such as Mapinfo or ArcGIS.

Figure 16: 3.3 logical network or tree by STEMA