ESPON

INTERCO
Indicators of territorial cohesion

Scientific Platform and Tools Project 2013/3/2

Inception Report | Version 27/08/2010

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This report presents a more detailed overview of the analytical approach to be applied by the project. This “Scientific Platform and Tools” Project is conducted within the framework of the ESPON 2013 Programme, partly financed by the European Regional Development Fund.

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

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

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

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

This basic report exists only in an electronic version.

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Inception Report Annex

Please also consult this Annex which contains further information, clarifying and complementing the information given in the Inception Report

Scope of this report

This Inception Report covers the work done during the first reporting period of the INTERCO project, i.e. the project Part I, the design phase (16 February - 31 August 2010).

According to the INTERCO Subsidy Contract (dated 22 July 2010), the Inception Report shall include the following results :

- *"A proposal on a clear and consistent terminology in relation to territorial indicators and indices.*
- *An overview and a first review of existing territorial indicators and indices, including integrated / composite indicators referring to the above mentioned thematic scope and general objectives;*
- *A well-founded proposal of feasible territorial indicators and indices, including integrated / composite indicators that should be further considered to meet the scope of the project.*
- *A plan to involve stakeholders in the search for and the testing and implementing of indicators and indices.*
- *A detailed work plan until the Interim report, a more global work plan until the final report, description of the project, and a timing of the necessary dialogue with policy makers from the Management Committee"*

The document is divided into 4 main sections :

- Summary of the analytical framework
- Details on the deliveries and outputs of workpackages
- First results (bibliography, terminology, screening of indicators, identification of data sources)
- Next steps and organisation of work

The annexes provide the main lists of bibliographic references, terms, indicators and data sources, as well as more details on some results from the INTERCO activities in this first period of the project.

It is expected that the Management Committee will select on the basis of this Inception Report indicators and indices to be incorporated in Part II of the project, exploring.

Analytical framework

Territorial cohesion

Knowing the growing interactions within European territory from an economic, social and cultural perspective, the need to integrate various territories is urgent. It mainly asks for policy tools flexible enough to answer the needs and constraints at each level. Indicators and indices shall be combined to help shaping those policy tools, for a better governance of cohesion policy.

Territorial cohesion, which has been a priority in the ESPON research framework since long, is at the center of the new cohesion policy and the search for indices and indicators that can monitor this evolution is crucial, as many stakeholders claim for. Without going back over the whole history of the territorial issue in Europe, we need to remind that many States, first through the Council of Europe, looked into the territorial dimension of their cooperation from the beginning of European integration. Few decades and many non binding texts later, “territorial cohesion” makes its entrance in the Treaties as a new objective of European Union and apparently completing the economic and social cohesion. How the territorial dimension was taken into account until this turning point is the main question to explore to understand its complexity and the lack of consensus on its definition. Indeed, the Treaty on the Functioning of the European Union (TFUE) insist on specific “areas” and “regions” -cohesion of *all territories*- the use of the adjective can also mean cohesion of the *European territory*. Those two aspects are coexisting in the various conceptions of what is territorial cohesion, attesting the different trends and perceptions.

Indicators as a tool to measure territorial cohesion

Facing such a complex issue, the difficulty to build a coherent policy is not surprising. The governance practice has to deal with diversity of national and European policies, but also with structural disparities of territories, including political structures at various levels. Tools and policies must then be flexible enough to take into consideration those various levels and scales. Thus, there is an urgent need to have an integrated approach, but also, and on top of it, tools such as indices and indicators able to describe those disparities and to help shaping policies, more significantly than classical indicators such as GDP per capita. The construction of composite indicators seems to answer best to such demands.

When creating such indicators, one should not underestimate the role of social and political construction of such tools, build on perception and definition of policy programmes. Indeed, defining indicators of territorial cohesion depends largely on how this concept is defined as well as on the objectives of the policies that require such tools. This is why this project is strongly linked with the advancement and findings of past/current ESPON projects, giving strong political guidelines needed for the choice and construction of indicators and indices before their feasibility, viability and robustness can be assessed in a relevant manner. On the other hand, the data availability (meaning the rigth variables at the appropriate spatial and temporal scales) is of course also a crucial criteria for the evaluation of indicators.

Linking Policy orientations, territorial challenges and issues

In order to address the logical construction of the indicators and indices, the main links between **policies** and **terriitorial challenges** must be identified (Figure 1). This is necessary to clarify what are the territorial processes at stake, and what are the policies that are put in place to respond to these challenges.

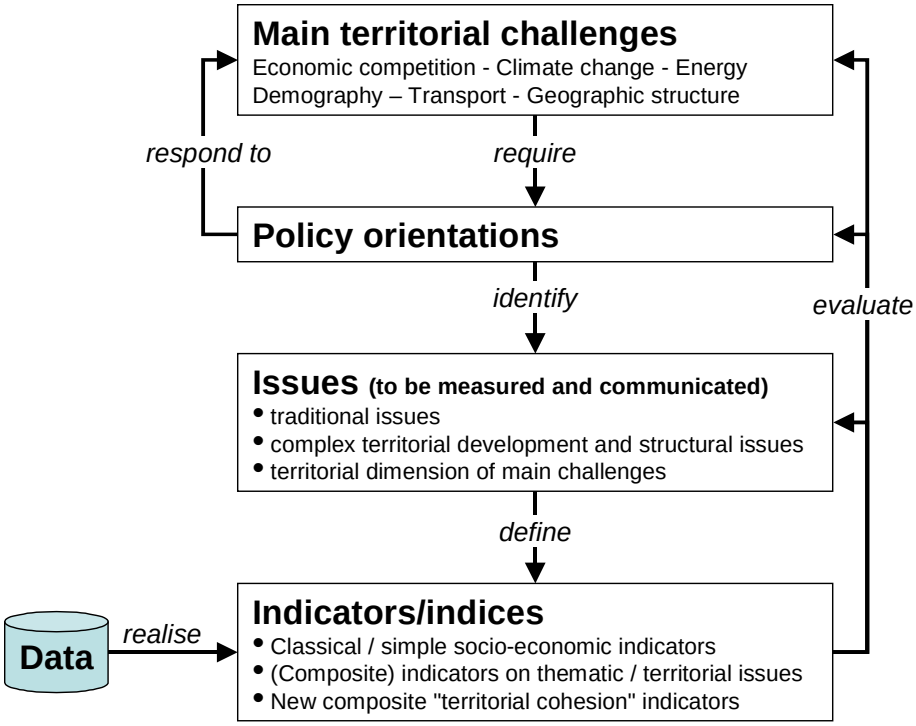

Figure 1. Challenges, policies, issues, indicators, data

Once this first step is done, the policy orientations can be examined with the perspective of the **issues** to be measured. One major task of this project will be to determine which issues will need to be measured, for which policy orientation and thus leading to determine the **indicators** that will allow the best evaluation for each aspect (being issues, policies or challenges).

From data to interpretated indicators

If many indicators maybe imagined from a conceptual point of view, only a few of them can be actually constructed (because of data availability). The practical dimensions of indicators must always be kept in mind.

On the other hand, data, hence the observed states and trends, must always be interpretated in relation with political goals (e.g. is an observed increase of built-up areas good or bad ? It can be good from an economic perspective and bad from an envrionmental one). The link to policies also ensure that the data are relevant, that it is worth collecting them.

Research questions and overview of workpackages

In order to address the previously described interrelations between policies, territorial challenges and indicators, three main research areas (broken down into activities and sub-activities) for the construction of indicators are proposed (Figure 2) :

- social/institutional dimensions, i.e. the involvement of and communication with indicators users (Activities A and D);
- theoretical dimensions, i.e. the conceptual definition of indicators in relation with policy expectations and territorial challenges (Activity B);
- empirical dimensions, i.e. the actual calculation and mapping of indicators (Activity C).

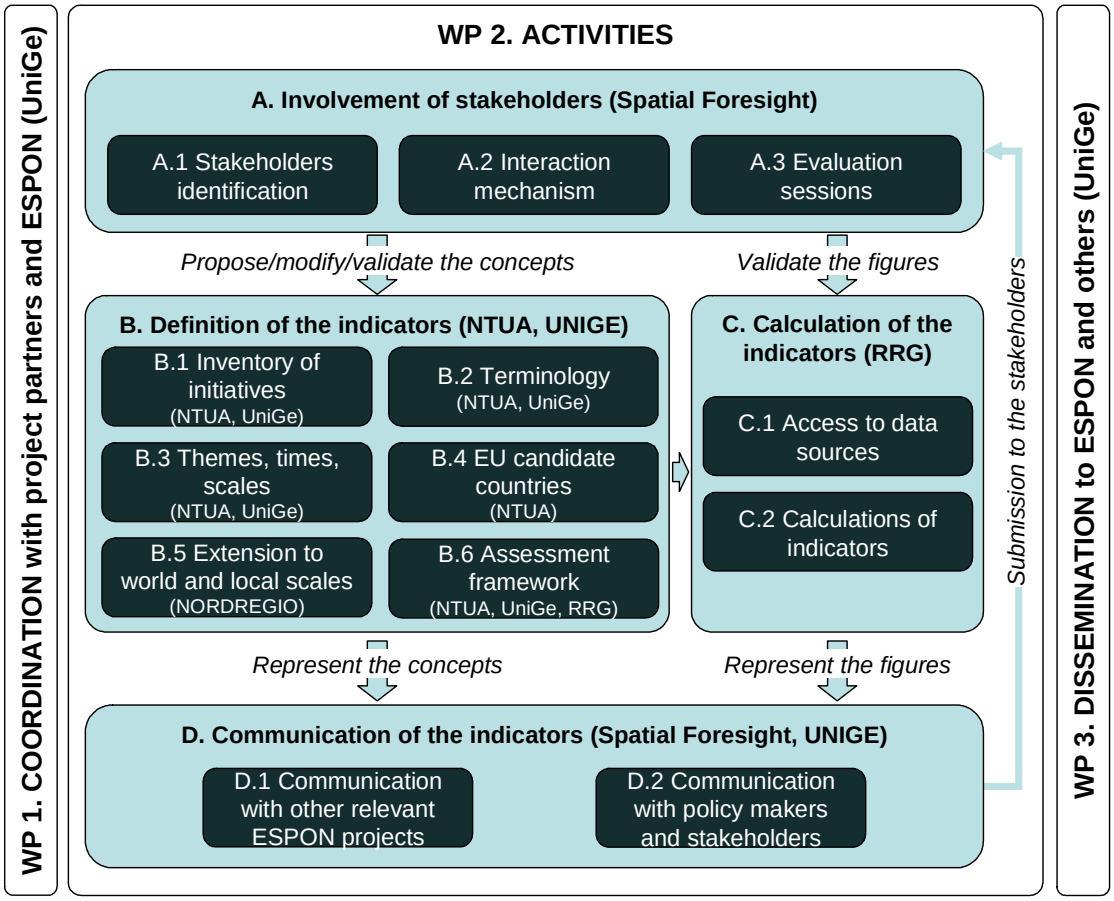

Figure 2. Work packages and activities (in brackets : responsibles)

The (sub-)activities are further detailed in the next chapter.

Deliveries and outputs of workpackages

Activity A. Involvement of stakeholders

Sub-activity A.1. Identification of stakeholders

The present project puts a particular emphasis on the involvement of stakeholders from the policy community, i.e. the final target group of ESPON results, and the ESPON community, i.e. the final target group of this particular study. In a first step, we will identify the main stakeholders to be involved and discuss our proposal with the ESPON Coordination Unit. Mainly we envisage identifying persons for the following four groups of stakeholders:

- policy makers in the ESPON MC;
- stakeholders beyond the ESPON Community (e.g. DG Regio, national ministries, INTERREG programmes or regional administrations);
- ESPON scientific community;
- selected ESPON Projects (e.g. "ESPON Database 2013", other Priority 1 and 2 projects as well as the forthcoming Monitoring Project.

In a first step, we will further detail the requirements for the single stakeholder groups and the specific interaction mechanisms. Thereafter, we will identify the persons we would hope to have in these groups. This step will be done in close collaboration with the ESPON CU.

Deliverables

A clear proposal for which persons shall be involved as stakeholders in order to ensure a good embedding of the results in the ESPON Community and the link to policy making.

Sub-activity A.2. Interaction mechanism

The stakeholders will be involved in two different parts of the project. First, they will participate in the debate on possible indicators and indices. Thereafter they will be involved in the evaluation of the results deriving from this project in evaluation workshops. The forms of involvement will vary depending on the different stakeholder groups and the purpose of the workshop in question. In principle, we would like to start with following activities:

- screening of policy documents and ESPON reports;
- ESPON MC workshop on desirable indicators;
- workshops with national and regional stakeholders;
- ESPON event workshop;
- targeted dialogue with ESPON key experts and projects.

The interaction mechanism will also involve the drafting of position papers. Based on the inputs from the various stakeholders, the project team will draw up a number of position papers. These shall summarise the main results from the screening of desirable and possible useful indicators and indices. These papers will be circulated to all participants in the various workshops for further comments.

Deliverables

Preparatory paper on the policy concepts and indicators

Series of generative workshops

Position paper on the results of the first participation phase

Sub-activity A.3. Evaluation sessions

The second participation phase will focus on the evaluation of the candidate indicators and their implementation. In this phase, the preliminary results of the work deriving from the activities B and C will be presented to the stakeholders.

In the evaluation sessions factors such as (a) the policy relevance, (b) the intuitive correctness and (c) the scientific correctness of the proposed indicators will be assessed.

The approaches for the participation process will again be differentiated with regard to the stakeholder groups, and again, each is designed and facilitated professionally to ensure desired results.

Deliverables

Easy to read paper on the main results

Series of evaluation workshops

Evaluation paper on the results of the second participation phase

Activity B. Definition of the indicators

ESPON 4.1.3 project "Feasibility study on monitoring territorial development based on ESPON key indicators" has developed a framework for the selection of a first set of appropriate territorial indicators. ESPON 2013 Database project has designed and implemented a framework for the the integration of the data (and metadata) needed to calculate and to map indicators. The INTERCO project intends to build on these results by:

- inserting additional/new/more detailed indicators;
- developing additional metadata specifically designed for describing indicators;
- defining conceptual/logical links between the different sets of indicators;
- refining the tools and procedures for selecting / validating the relevant indicators.

This activity is composed of 6 sub-activities as described below.

Sub-activity B.1. Inventory of initiatives

This sub-activity will ensure that previous works on indicators will be used and that needs and gaps are properly identified. 4 steps are planned:

(1) Review of literature / sources, collection of existing indicators by source, type, scale.

(2) Classification of indicators at a first step matrices (spreadsheets) of indicators per themes / issues, types, scales, other characteristics and sources of indicators. A second more developed matrix / spreadsheet could include, in addition, information on the quality, availability and scale of the indicators as well as their relevance in relation to challenges, policies, issues.

(3) Meta-indicators, Inventory of initiatives and Indicators database Here our main concerns are: to build a methodological frame which will enable us to correlate our work on indicators with those of ESPON Database and other

ESPON projects through the appropriate design of an Inventory of initiatives which will be transformed in an Indicators database closely connected to the ESPON database.

(4) Commenting on the initial existing indicators, scoring the indicators, creating matrices of **potential** and **wishful** existing indicators

Deliverables

A short report on conclusions which will feed other Activities: selecting / sketching indicators, etc.

An extended working paper

An “Inventory database" of existing indicators (along with their metadata)

Sub-activity B.2. Terminology

The terminology will be the reference for the semantics of the indicators. It will ensure the proper common understanding of the notions/concepts/terms used in the project.

Three categories of terms will be considered:

- general territorial/political concepts (e.g. territorial cohesion);
- indicators names (e.g. density);
- technical terms (e.g. data, indicator).

This sub-activity will have to be conducted in close relation with the data thesaurus and glossary developed by ESPON database.

Deliverables

A terminology of concepts, indicators and technical terms

Sub-activity B.3. Sketching /selecting potential indicators: themes, times, types and scales of indicators, territorial typologies

Based on the inventory and gap analysis carried out in Sub-activity B.1., relevant existing indicators will be selected and new indicators designed. The main objective is to ensure that all the necessary and feasible indicators are included in the final list of indicators.

The final set of indicators will range from classical (or simple) indicators, thematic indicators combining several types of raw data, to new composite cross-thematic indicators designed to assess different policy objectives. Eventually, a limited set of indicators will be developed.

The spatial extent of this Sub-activity B.3. is the ESPON countries and the reference spatial units are the NUTS3.

The assessment framework developed under Sub-activity B.6 will be the tool for the selection and design of the indicators of territorial cohesion.

Deliverables

Sets of selected potential and promising (Phase I), appropriate and communicating (Phase II) and final (Phase III) indicators

Sub-activity B.4. EU candidates countries

The first objective of this sub-activity is to assess the data situation in the EU candidate countries and the other countries of the Western Balkans and report on their findings in the inception report.

Depending on the respective data situation these countries would then be included in the analysis. In case it is decided (in collaboration with ESPON CU) to include all or some of these countries in the scope of the project, in the Phases II and III this sub-activity will focus on the specific problems encountered in the cases of these countries during the implementation of indicators.

The TPG should further assess the availability and quality of the respective data for the specific needs of creation of a wide range of appropriate indicators, using the procedure developed under Sub-activity B.6. (and used in B.3. and B.5.).

This Sub-activity B.4 will be done in close collaboration with ESPON Database 2013 project.

Deliverables

Results of the assessment on availability and quality of data on West Balkans and Turkey for use in the Indicators project

Specific results on indicators for these countries (in case they will be included in the scope of the project)

Sub-activity B.5. Extension to world and local scales

The main objective of this sub-activity is to study the relevance and the applicability of the indicators for spatial scales beyond the 3-level-approach (European – transnational – regional / inter-regional) used in the context of the ESPON 2006 Programme.

The indicators identified under Activity B.3 will be explored both at broader and finer scales with the aim to enable the global positioning of Europe as a whole as well as the characterisation of local situations (e.g. in specific urban or peripherical areas).

The world/intercontinental scale will be approached on the basis of the indicators produced by global assessments and databases, such as the UNEP Global Environment Outlook (GEO).

Concerning the local scales, the indicators will be evaluated and tested through cases studies to be defined in countries relevant to the general theme of territorial coherence and with enough good data (e.g. Switzerland, the Czech Republic or Greece).

A collaboration with the ESPON Database 2013 is also essential, in particular with the Challenge 3 “Harmonization of data at world/neighbourhood and European/regional”.

Deliverables

An Inventory of global indicators databases relevant to the project

A set of selected available global indicators relevant to the project

A set of selected local indicators relevant to the project, calculated for specific case studies.

Sub-activity B.6. Assessment framework

This sub-activity will develop a set of criteria to be used in the evulation sessions of sub-activity A.3. In these evaluation sessions, factors such as (a) the policy relevance, (b) the intuitive correctness and (c) the scientific correctness of the proposed indicators will be assessed. Among the features to be discussed will be:

- policy relevance for different government levels and sectors;
- harmony with prevailing policy concepts and other indicators currently in use;

- relevance of the geographical level addressed by the indicator;
- data availability and quality;
- robustness of the approach incl. heterogeneity and homogeneity;
- explanatory power (with regards to the notion of territorial cohesion);
- communicability, cognitive load (ease for the users).

Deliverables

A short report and an extended working paper on the development of the evaluation criteria to be used to select the relevant indicators

A commented list of criteria

Activity C. Calculation of the indicators

General scientific approach to Activity C

In parallel to Activities B (Definition of the indicators) and A (Involvement of stakeholders), Activity C will implement, calculate and map the selected set of indicators. This implementation is subdivided into two sub-activities C1 and C2. Sub-activity C1 is concerned with the review and collection of needed base data for the indicator calculation, whereas Sub-Activity C2 is concerned with the development of appropriate tools and the calculation and presentation (GIS, table tools, mapping tools) of the indicators.

The toolset need to be able to combine GIS and statistical data, in different formats, at different spatial scales (from raster level to country level). ArcGIS will be used as the flexible software packages satisfying these conditions.

Based on practical and theoretical considerations in Activities A and B, the indicators will be calculated at the most meaningful smallest spatial level for which required input data are available. Potential detailed spatial levels are raster level (like the EEA population grid), urban or municipality level (LAU1 and LAU2), or NUTS-3 level. If necessary and applicable, aggregations to higher spatial levels (NUTS-2, NUTS-1, NUTS-0) will be done for the final selection set.

Sub-Activity C1. Access to data sources

The main objective of this sub-activity is to review potential data sources and data providers, to collect such data and to pre-process them allowing incorporating them into the overall indicator toolset (Activity C2).

Different types of datasets (‘data groups’) are needed for the indicator calculation. First of all, statistical data are needed, such as data on demography or economy, or on social or environmental issues. These data must be available at certain administrative units (like NUTS-1, 2 or 3, or even LAU-1 or LAU2). Second, GIS layers representing these administrative units are required, in order to process and map the statistical data. Third, other GIS datasets are needed to calculate certain indicators. Such other GIS layers may comprise transport networks, land use data, topographic layers, grid data, and others. Figure 3 illustrates how GIS is used to combine and interact between these different data groups.

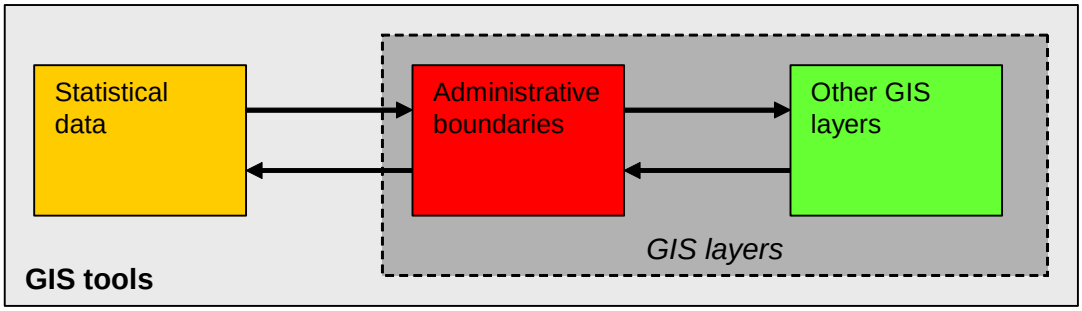

Figure 3. Interaction between the different data groups

Potential data sources will be explored and reviewed, then collected and pre-processed, hamornised and described using metadata according to the ESPON and INSPIRE standards. Integration of the raw data into the overall ESPON database will also be studied.

Sub-Activity C2. Indicator implementation and calculation

This sub-activity comprises three main objectives:

(1) the development of a GIS-based indicator toolset (Phase 1) allowing generation of simple thematic as well as complex/composite territorial indicators;

(2) the technical implementation of the selected indicators (Phase 2), and

(3) the calculation, assessment, mapping and documentation (metadata) of the final set of selected indicators (Phase 3).

The metadata will indicate, among others, actuality of the indicators, and will provide recommendations on how often and in which intervals the indicator should be and can be re-calculated. While the derived indicators will be integrated into the overall ESPON database, it needs to be examined during the project to which extent also the raw data can be integrated into the ESPON database as well, subject to specific copyright regulations, if input data other than the ESPON database is used. Besides the metadata documentation there will also be a user manual describing the overall usage of the INTERCO database, including the INTERCO database, GIS tools and scripts, and the cartographic behind.

Deliverables of Activity C

A list of data sources and data providers providing required input data (statistical data, administrative boundaries, GIS layers).

An ArcGIS-based indicator toolset, comprising the GIS database itself, GIS and statistical tools for indicator calculation, and mapping functions (MXD).

A set of calculated and documented territorial indicators and indices.

A set of commented indicator maps, statistics and tables (in various formats).

A new indicator database to be included into the overall ESPON database.

A set of appropriate metadata describing the newly developed cohesion indicators, as well as a user manual explaining the indicator toolset.

Activity D. Communication of the indicators

Sub-Activity D1. Communication with other relevant ESPON projects

This activity is aimed to the other ESPON projects, as well as to the persons that will evaluate the indicators (quality/availability and relevance for policies). The (interim) results of Activity B and C will be disseminated and published by various channels. During the stakeholder participation in Activity A, potential data sources, indicator

calculation means, the indicator toolset and preliminary maps will be presented and discussed. Feedbacks from the stakeholders will be used to improve the output.

This implies mainly targeted dissemination actions towards the identified stakeholders. Each stakeholder will receive at least four written documents:

- a background paper for the discussion on possible indicators;
- a summary of the results of the various participatory activities for discussing possible indicators;
- an easy to read text on the proposal made by the project;
- a summary of the participatory actions related to the evaluation of the proposal.

In addition the workshops and focus groups with selected stakeholders will necessarily contain dissemination features.

The indicator tools, including its database, GIS tools and mapping components, will be presented at various ESPON Seminars and other conferences. The final indicator maps will be part of the project reports and will be published via the project website, with reservation for some indicators which might be impossible to express in maps.

Furthermore, maps will be exchanged with other ongoing or future ESPON projects. The final indicator set will eventually be added to the overall ESPON database, and will be made available to other ESPON projects. Via the overall ESPON database the new territorial indicators will be made available to a broader scientific and political audience.

Sub-Activity D2. Dissemination of final results beyond the ESPON Community

The communication beyond the ESPON Community may partly be targeted towards policy makers interested in ESPON results, an important focus will however be on the dissemination of results to the wider scientific community.

With regard to potential dissemination activities towards policy makers outside the ESPON Community, the events of the ESPON Programmes are important stepping stones. The focus will be on presentation of final results – on request. Thus the project team is prepared to present final results at ESPON events targeting the wider policy community, e.g. at the Open Days in Brussels or in relation to other stakeholder seminars. Furthermore, the project team will react on requests from the policy level to present the final results on specific occasions. The established network of participating stakeholders will provide a network of possible contacts to these groups of potential users.

When it comes the dissemination of the project, results will be presented in written and orally at various appropriate occasions. TPG members will discuss results from this study in their scientific publication activities. Accordingly, the TPG is confident that the results of the study will be disseminated to a wider scientific audience, e.g. via events of professional associations such as the Regional Studies association and the Association of European Schools of Planning, as well as publications in scientific journals that seek to bridge science and policy / theory and action such as “Regional Studies”, “European Planning Studies” and “Planning Theory & Practice”.

Overall outputs of Activity D

Dissemination of results and interaction with other ESPON projects

Dissemination of final results to the wider scientific community and also to policy stakeholders beyond ESPON

Contribution to other Activities

Each sub-activity has one main responsible team, but teams will contribute to several activities and interact with each other. This collaboration will be supported by electronic communication as well as by the 3 team meetings.

First results

Internal communication

A number of internal communication tools have been implemented for the improved collaboration of remote groups:

- **Zotero** for the collaborative collection of bibliographic references;
- **Agora** as the groupware for electronic groups (e-mails, fora, data repositories, calendars, news, etc.);
- **DropBox** as the quick tool for exchanging (big) files.

Bibliographic sources

The present project can draw on a wide experience in indicators and GIS database development gained at the international and European level by the project partners, in particular in the framework of the ESPON programme. Previous ESPON projects (see Annex 1), but also documents for the European Commission, for national governments and for other stakeholders have been identified (see Annex 2). They will be more thoroughly reviewed during next phase, in terms of indicators used, policy conclusions, data used, data sources, and data processing.

Actors

Requirements for the involvement of actors

There are certain requirements which need to be taken into consideration for the selection of stakeholders. This regards in particular the balance between different types of stakeholders. Aspects to be balanced are

- geographical distribution
- administrative and policy levels (European, national, regional etc.)
- sector or disciplinary focus

Furthermore, it is necessary that the stakeholders are fluent in English and familiar with the European data issues, such as the constraints of harmonised data availability, MAUP challenges, and the discussion on complex integrated and simple indicators. Last but not least the interest in the topic and possibility to actively participate in the discussions are key selection criteria.

Identification of actors

Based on the above selection criteria and the different types of stakeholders identified earlier in the report, a first proposal of possible stakeholders has been developed by the project (Annex 3). This proposal needs further discussion with the project team and in particular a detailed feedback from the ESPON Coordination Unit. It would also be desirable to include more of selected stakeholders from ESPON priority 2 project and also other stakeholders which do not belong to the "usual suspects" in the European and ESPON communities. So far, none of the stakeholders has been approached.

Stakeholder involvement

As regards the stakeholder involvement. It is envisaged to first give some further discussion and consideration to the above list. Having a final wish list, the stakeholders will be approached and check their interest and possibility to participate in the planned stakeholder events.

Concepts, terminology

We consider three kinds of terms/concepts to be defined :

- the territorial/political concepts (first of all : territorial cohesion, but also growth, inclusion, etc.);
- the terminology of indicators (e.g. population density) and the categories used to classify these indicators (e.g. demography);
- the technical terms (data, indicator, variable, index, etc.).

Territorial/political concepts

Territorial cohesion

Defining territorial cohesion is far from being easy, and perhaps not even wanted by part of stakeholders. However, we can try to draw few essential guidelines of what those terms may signify. As already explained in the analytical framework (p. 9), the use of the adjective "territorial" allows many interpretations. Four interdependent aspects are to be taken into consideration (Figure 4): the territorial cohesion 1) as a spatial dimension of a cohesion policy more attentive to territorial impacts of sectoral policies, 2) as promotion of equality and equity, 3) as a kind of spatial planning at European level, and 4) as principle of governance.

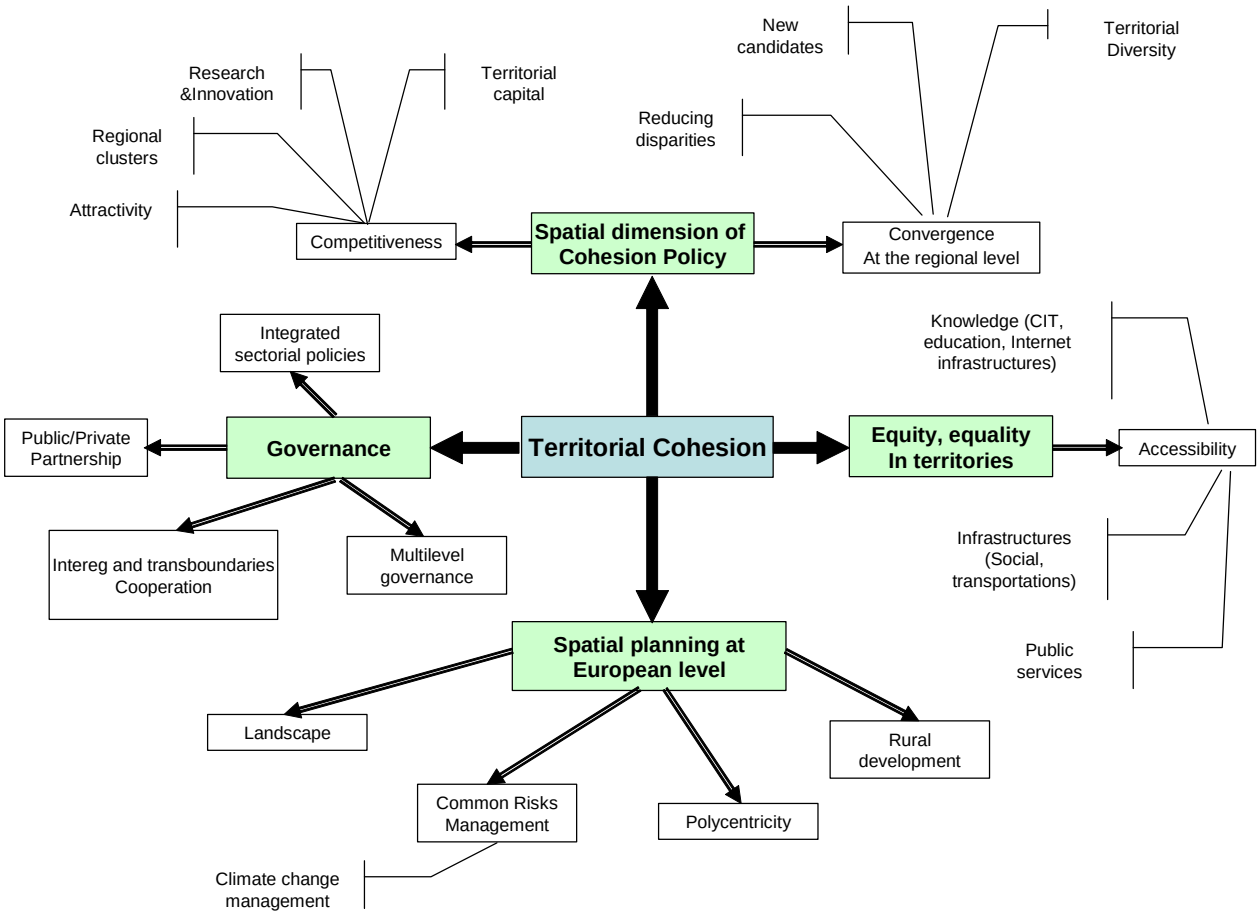

Figure 4. The main aspects of territorial cohesion

The figure above is a first attempt to synthesise our comprehension of the various dimensions of territorial cohesion. The terms are mainly taken from official documents : some are common terms (e.g. education), other refer to existing policies (e.g. convergence). The diagram is structured around the four main aspects of

territorial cohesion that we have identified. The other terms refer to (sub-) components of these main aspects. Only main logical links are shown (in order to simplify the figure), but other links may be drawn between components and aspects (e.g. between cooperation and climate change management). This diagram will be further refined during the project.

Indeed, what emerges of various communications of institutions, lobbies or experts is first a fresh look on cohesion - or regional - policy. The cohesion between regions of EU must be not only economic and a bit social, but also territorial, meaning that small towns, cities, rural areas, islands, etc. must be taken into account as well, either to catch up or to remain competitive.

The reduction of disparities, required by recent entrance of new Member States and soon arrival of new ones, is a first step in the road leading to equality and equity among citizens (or inhabitants ?) of EU. Thus, territorial cohesion is also an ambitious objective in accordance with which people must have the same opportunities, facilities and infrastructure no matter where they live in European Union. Public services and knowledge have to be accessible everywhere, so that any territory has a chance to develop itself by a “knowledge economy”. For many authors, this is what justifies public intervention at European level by a “spatial planning”, keeping in mind that transports policy, for example, already does that. However, creating a spatial development perspective with a polycentric model is not neutral and quite different from reducing disparities. But facing common (economic and territorial) risks due among others to globalisation and climate, demographic change, territories of all levels have to bring a global answer, taking more in account their common natural and cultural heritage. To that end, and this is the last dimension of territorial cohesion, cooperation must be strengthened at all levels and scales. It implies not only multi-level governance and public-private partnership, but also better coordination and coherence among European and national sectoral policies. A “territorial governance” is thus to implement, so that all stakeholders can work together.

As we can see, territorial cohesion is a global concept which aspires to be involved in all aspects of European citizen’s daily life. As such, it is closely linked to the wish of “smart, sustainable and inclusive growth” to which it should contribute.

Smart, sustainable and inclusive growth

A glossary of the main policies in relation with territorial cohesion should include the key concept for the EU 2020 strategy, the "smart, sustainable and inclusive growth". After more than a decade of growth criticism as a too centred goal for development and well being, but also for being held responsible for the environment disasters, a concept for a more qualitative growth has emerged. A more qualitative growth should enlist a number of objectives that should be served by the economic growth. In its 2020 strategy, European Union is heading for a growth that should be answering these qualitative issues, innovation and job creation, youth employment and education, development of new technology and the sector of R&D, efficiency in resource use, and greener, sustainable development in general. The new growth should then be smart, meaning that it should foster knowledge and innovation for a digital world; it also should be inclusive, especially addressing the demographic issues such as youth employment and aged population and moving towards a social and territorial cohesion); and last but not least, it should be sustainable, greener, using resources more efficiently and being more careful about environmental standards, meaning that it should be more competitive while combating climate change and aiming to a cleaner and more efficient energy use. To summarise, how to be able to foster economic growth and competition while including social issues and innovation challenges, answering to the two most predominant environmental issues that are climate change and energy use.

Terminology of indicators

The terminology of indicators in this project has different aspects. First, we should select a terminology adapted to the territorial challenges, policies and issues. Second, this terminology should comply as much as possible with these already used by the numerous interested bodies (Eurostat, ONU, OCDE, etc.) as well as with this one of the ESPON Database project. Third, the selection of terminology should comply with other choices of the project as for example the classification of themes.

Generally speaking, the criteria for the selection of terms to be used in INTERCO will be their validity in the scientific field of territorial analysis and development and their communicative capacity (in relation with Activity D. on communication).

INTERCO has already studied the terminology in several ways. A first one is related to the classification of themes per territorial levels and per groups as well as the detection of relationships among the different themes / issues. A first result is the classification scheme already presented in Annex 4. A matrix linking territorial challenges, policies and issues (the dimensions presented in Figure 1, p.10) was also initiated, but was not considered achieved enough to be presented in this report (it will be in the next report).

A careful attention was given to the work done by the ESPON Database project, which carried out a literature review of international guidelines on how to construct corporate thesaurus to structure knowledge[1]. This thesaurus was based on standard relationships between notions such as equivalence, associative and hierarchical. Among others, the project produced a table that presents the classifications used by different international organisations.

This initial work on the terminology of indicators will be further developed towards the Interim Report (see in chapter on next steps, p. 29).

Technical terms

We should very carefully discern, from the beginning, **indicators** from **indices**, **variables** and **data**.

Often semantically both data and indicators are mixed up and are applied by analogy with the same meaning; however, scientifically data are considered as ‘raw data’ without any positive or negative notion, whereas an indicator represents processed and weighted data in order to appraise a given spatial phenomena in relation to a political target.

Data: is the set of observations collected to be then structured and used in an analysis

Indicators : an interesting definition is given by the International Institute for Sustainable Development (IISD): "An indicator quantifies and simplifies phenomena and helps us understand complex realities. Indicators are aggregates of raw and processed data but they can be further aggregated to form complex indices."

An indicator is a socially build instrument to indicate a state, a level or a direction of change of a situation. An indicator is both a measure (sometimes an indirect one) of a state or a trend, and should allow for a subjective or policy-oriented interpretation of itself (e.g. to measure economic activity with GDP and to interpret the observed values in terms of good or bad economic health). Therefore, the aim (i.e. the target value) of an indicator has to be defined in order to interpret it correctly, this is the main difference with data, which is just an observation. An **index** is a combination of

[1] This work was carried out by the University of Luxembourg (UL).

several values by means of a mathematical formula (e.g. the Human Development Index).

When indicators are used to help defining policies or indicate the way towards desired changes, they are said to be **policy shaping** rather than simply **descriptive**.

Variable : it is a characteristic of a measure that can take different values within a given range (e.g. "nb of inhabitants" is a variable with integer values that can range from 0 to several billions.

An other important element for the INTERCO project is **metadata**. Metadata is the description of data, the context and the definition of how data have been created. Similarly we can name **"meta-indicators"** the range of specific information about indicators.

First screening of indicators

We have created a ***preliminary Inventory of Indicators*** containing a large number of ***ESPON 2006 and 2013 projects indicators*** classified per themes and sub-themes, types, scales, other characteristics and sources of indicators.

Classification

Taking into account the diversity of the approaches developed by these projects and the complexity of this task, we proceeded by several steps.

In a first step, we started the list on the basis of the ESPON 2006 4.1.3 project ("Feasibility study on monitoring territorial development"), then further expanded it by including the ESPON 2006 3.2 project on "Spatial Scenarios" (which finalised the ESPON 2006 Database; it should be noted that typologies and raw data from this project were not kept). In a second step, we considered the indicators that were included in the ESPON 2013 Database. These indicators are derived either from the ESPON 2006 Database or from a first set of ongoing ESPON 2013 projects. We then included the indicators of a second, more recent set of ESPON 2013 ongoing projects in the Inventory. It became obvious that the list of issues examined in the frame of the ESPON 2013 projects is further widened as compared to the ESPON 2006 projects. Therefore, it was necessary to further revise the classification of indicators by theme.

We compared this new classification with the ESPON 2013 Database "Thesaurus" one in order to produce a more synthetic classification. The major differentiation of these two classifications lays in the addition of two new themes for "Governance" and "Territorial Structure" that we have done.

On the base of our expertise we created a synthetic classification scheme of indicators per themes, integrating the ESPON 2013 DB classification (Annex 4).

We then developed and finalised the **preliminary Inventory of indicators** (Annex 5) with a wider list of existing indicators containing both the ESPON 2006 and ESPON 2013 projects indicators[2], classified according to a our classification scheme.

Metadata

ESPON Database 2013 proposed at first as a short term strategy a quick and easy metadata solution for ongoing ESPON projects when exchanging data with the ESPON Database[3]. This solution is based on the following three **spreadsheets** that provide information on:

[2] We also provide a spreadsheet on "World indicators" based only on the respective ESPON 2006 project "Europe in the world" (Annex 7).

[3] See examples for each field in the ESPON 2013 Database project 2nd Interim Report (2010)

a) **"Dataset":** Data filename, Upload date, Metadata point of contact (Name, Email, Organization, Function, Role)

b) **"Indicator": Identification** (Code, Name (of the indicator), Abstract, Units**,** Methodology, **Classification** (Theme, Keywords)

c) **"Value": Label, Lineage** (Provider, Date, URL, Methodology, Methodology URI), **Reliability** (Estimation, Quality), **Constraints** (Public data access, Public metadata access, Copyrights)

We used this metadata structure for the Inception Report. We will revise it after the inception Report in close cooperation with the ESPON Database project.

The ESPON DB 2013 and the INTERCO coding systems

After the collection of numerous indicators derived by many ESPON projects, we came to the conclusion that there is a wide variation of naming and coding systems that differ according to the criterion defined by each research team.

Starting from the same conclusion, the ESPON DB 2013 project, in order to homogenise codes for indicators, has introduced an innovative coding scheme to label indicators. According to this method a number of characters have been used to assemble relevant information about indicators. This procedure has experimentally been applied on 140 ESPON indicators.

This work firstly led to the construction of a classification of themes that interest spatial planning (we based our work on this classification).

Second, ESPON DB 2013 project proposed a coding scheme called TtOYS in order to label indicators (see Annex 6). The goal of this scheme is to harmonise the coding system of indicators, and it will be applied by the different consortiums involved in ESPON.

As we modified slightly the ESPON DB 2013 classification of indicators per theme, the TtOYS structure of the code system on indicators that we use also differs slightly from that of the ESPON DB 2013 project (Annex 4).

Content and structure of the preliminary Inventory of Territorial Indicators and Indices

In order to "measure" territorial challenges, policy options and "territorial cohesion", three types of indicators are considered:

- **classical / simple socio-economic indicators** (many of them are used in other policy contexts) giving basic information broken down on larger territories, regions and cities (such as GDP per capita, unemployment, CO2 emission, etc.);
- **composite indicators** on thematic / territorial issues, such as HDI (composed of GDP per capita in PPP, adult literacy rate and gross enrolment ratio, life expectancy) or accessibility (e.g. to services of general interest, connectivity, depopulation, vulnerability to natural risks, etc.);
- **new composite "territorial cohesion" indicators** (catching territorial phenomena, such as balance, polycentricity, attractiveness of regions based for example on the proximity to natural areas, and other policy orientations of territorial cohesion).

Territorial cohesion indicators and indices are the most interesting for this project. Their construction is relatively more difficult because of the scarcity of data, mainly environmental and social ones. This was the major obstacle in the construction of a **European Territorial Cohesion Index (ETCI)** by the ESPON 2006 project 3.2 as much as it was for RIATE (CNRS - DIACT - Université Paris 7) when creating an **Index of sustainable demographic development (ISDD)**.

Fortunately, since 2006 many new datasets on environmental and social themes have been provided by Eurostat and ESPON 2013 projects. Eurostat provides now (in 2010) a great number of environmental and social datasets at NUTS3 and lower levels. We will give priority in exploiting these data for the needs of the "territorial cohesion" indicators.

To summarise, we have included in the Inventory all the ESPON DB 2006 and ESPON DB 2013 indicators as well as some indicators of ongoing ESPON projects that are not included in the ESPON 2013 Database (Annex 5).

These indicators belong to the European level, while we have added only some indicators at World level, produced by the ESPON 2006 project "Europe in the World" (see Annex 7).

Data (calculation of indicators)

Preliminary results of a first overview about the data situation and about technically considerations for the indicator calculation and establishing of the overall INTERCO database is given in this chapter.

Data Situation

Even though the set of indicators of interest has not been yet finally defined for this Inception Report, the general data situation has been assessed, and potential data sources have been identified. As soon as the indicators are identified, the data sources mentioned will be reviewed in detail, and the relevant data will be collected.

Potential databases for statistical data

Potential data sources for statistical data are, first of all, the existing ESPON database, and the other finished and ongoing ESPON projects of the ESPON 2006 and ESPON 2013 programmes, but alternative data sources will also be explored.

Statistical data will basically be collected at NUTS-3 level, unless any indicator requires higher spatial resolution or in case any data is not available at NUTS-3 level. Apart from ESPON projects, the Eurostat Regio database and other European databases (see Online resources in Annex 2), the OECD Stat Extracts database (http://stats.oecd.org/index.aspx) may be evaluated, which includes data for OECD countries and selected non-member states at regional level for most part of the ESPON space for various data groups.

Unless indicators at national level are selected, the World Bank *World Development Indicators* database (http://data.worldbank.org/data-catalog), the UN World Population Prospect (http://esa.un.org/unpp/index.asp) and FAOSTAT (http://faostat.fao.org/site/291/default.aspx) databases, the Total Economy Database of the Groningen Growth and Development Centre (www.conference-board.org/economics/database.cfm), as well as the Maddison Database (www.ggdc.net/maddison/) are only of minor importance for this project, as they all only provide national data. Data from national statistical offices and existing databases of TPG partners will also be considered.

EU Candidate Countries and the Western Balkan

First object of this sub-activity is to assess the data situation in the EU Candidate Countries (CC) (Croatia, FYROM and Turkey) and the Potential Candidate Countries (PCC) / other countries of the Western Balkans (Albania, Bosnia and Herzegovina, Serbia, Montenegro and Kosovo).

Other ESPON 2013 projects have already assessed the data situation on these countries. Interesting results have been produced, among others, by the FOCI project and the Database project. We updated these assessments using the Eurostat database, the sites of the National Statistical Organisations (NSO) of these countries

and the recently (2010) published Eurostat Pocketbook on candidate and potential candidate countries.

We came to the conclusion that the availability and quality of the data on these countries is satisfactory for the purposes of the INTERCO project. A brief overview of the data situation in these countries is presented in Annex 10.

In more detail:

1) Economic, social and environmental data at NUTS 0 to NUTS3 level:
    a) Croatia, FYROM and Turkey have adopted the EU NUTS classification. We propose to adopt the proposal of the Database project on the classification of the territorial units of the rest Balkan countries in Similar NUTS (SNUTS) units (see in the 2nd Interim Report of this project). This way, data on a large number of themes will be comparable to those of the ESPON countries.
    b) Data on Croatia, FYROM and Turkey provided by Eurostat are satisfactory at NUTS 2 and 3 levels (see Annex 11).
    c) For the rest Western Balkans countries, satisfactory data are provided by Eurostat only at NUTS0 level. Data at NUTS 2 and 3 levels are provided by the National Statistical Organisations (NSO) and other sources; they are quite satisfactory only for demography, economy and labour market.
2) Network data: there are shapefiles on air and road transport networks from the TRANSTOOLS package of projects (EC JRC 2009) as well as from other sources (RRG 2010).
3) Land use data: all the Western Balkans countries as well as Turkey are included in CORINE Land Cover (CLC) 2006 (CLC Webpage June 2010).

Therefore, we propose to include in the scope of INTERCO all the CC and PCC.

In case this proposal is adopted by the ESPON CU, in the Phases II and III this sub-activity will focus on the specific problems encountered in the cases of these countries during the implementation of indicators. This will be done in close collaboration with ESPON Database project.

An improved access to data

In general terms, after the implementation of the projects ESPON 2006 4.1.3 on Indicators / Monitoring (2007) and ESPON 2006 3.2 (2007) that studied the ESPON 2006 Indicators, Eurostat made accessible to the public much more regional datasets (Annex 2 : EUROSTAT 2010). The ESPON 2013 Database project released a draft version of their database on CD- ROM in June 2010 at the Madrid ESPON seminar.

Therefore, there are now (as of 2010) available data with good quality and satisfying length of times series for much more indicators than in 2007. A list of potential GIS data sources is provided in Annex 8. A summary of the EPSON 2013 Database CD-ROM is given in Annex 9.

Data and GIS Implementation

Data problems

Despite the improved access to data, based on past experiences with data collection and data processing in European-wide projects, one can anticipate the following problems to occur:

- appropriate spatial level (not always the most appropriate);
- data gaps (also overseas territories);

- data definition and units;
- reference years of data (differences between countries or regions);
- MAUP (Modifiable Areal Unit Problem), i.e. the impact of spatial units and scale on the measurement of phenomena;
- composite indicators : the potential mixing of data at various resolutions;
- weights : clarify how raw data are weighted in order to produce indicators.

GIS implementation

Sub-activity C.2 is concerned with the calculation of the indicators by applying advanced GIS operations. The required GIS works that are being initiated can be grouped into four categories :

- database format (including metadata);
- scripts and tools;
- mapping and cartography;
- folder structure.

These groups of works are further described in Annex 12.

Next steps

Foreseen activities

Terminology

On the basis of the results from the terminology sub-activity of INTERCO, we will provide towards the Interim Report, as a first quick solution, a terminology spreadsheet, which will explain the indicators and data names, as well as the categories used for classifying them. At a second step, this spreadsheet will be connected to the other spreadsheets (indicators, metadata) in the frame of the final wider "Indicators database".

Evaluating the indicators (promising/feasible/potential and "wishful" indicators)

We will finalise the evaluation of the quality and availability of the data (including time-series) of the existing indicators.

We should first point out that the number of existing indicators is very high. It is considerably greater than those of the ESPON 2006 projects (considering the list of the ESPON 2006 Database indicators), especially in the case of environmental indicators.

All the indicators included in the present report are **feasible** as they have been already used by the ESPON 2006 and 2013 projects. For the majority of them there are data at NUTS3 or NUTS2 level for the ESPON countries, with the exception of the environmental indicators. In case we should propose **promising** indicators, we should do a further work to select the indicators with the highest explanatory power, i.e. those that reflect better the territorial challenges and the EU territorial policies.

Among the indicators from different sources, we will choose the ones that fulfil the following criteria : (a) the **quality** and **availability** of the respective data and existence of time series data, and (b) the **relevance** of the indicator for the identified "territorial challenges" and "EU territorial policies" as well as for simpler issues.

For the inception Report we have done only a preliminary qualitative evaluation of the indicators included in the Inventory of indicators. However, all the indicators included in the Inventory produced by the NTUA team fulfil the above two criteria according to the ESPON teams that have proposed them.

We will proceed to the scoring towards the Interim Report. We will arrive towards the Interim Report to two categories of matrices / spreadsheets of existing Indicators per theme, scale, type that are the **Potential indicators** fulfilling the criteria (a) and (b) and the **"Wishful" indicators** that do not fulfil one or all the criteria but could probably be improved to meet the criteria (i.e. necessary data could be available in the future).

EU candidate countries

The TPG should further assess the availability and quality of the respective data for the specific needs of creation of a wide range of appropriate indicators. This should be done in close collaboration with ESPON Database project.

Calulation of the indicators

The tasks that are already finished and included in the Inception Report led to the identification of potential data sources for statistical data, administrative boundaries and other GIS layers and to submit a list of data sources (sub-activity C1). As for the sub-activity C2, it produced an initial setup of INTERCO GIS Database and a base structure and data format for INTERCO GIS Database.

The planned scheduling will focus on data collection (mainly until Interim Report, but may be extended until Final Report, phases 2&3 for the sub-activity C1) and data harmonization, filling data gaps (mainly until Interim Report, but may be extended until Final Report, phases 2&3, sub-activity C1). Sub-activity C2 will be filling INTERCO GIS Database (mainly until Interim Report, but may be extended until Final Report, phases 2&3), developing GIS scripts and tools for indicator calculations (test calculations until Interim Report, phase 2) and initiating an indicator mapping (initial mapping, until Interim Report, phase 2). During phase 3, the sub-activity C1 will be implementing access to data and finalise data evaluation as well as developing metadata description of INTERCO database.

In the same time, the project will have to create a "meta-indicators" workgroup that will cooperate very closely with the respective "metadata workgroup" of the ESPON Database project to be able to implement a final solution for "meta-indicators", based on a web editor in connection with the solution adopted by ESPON 2013 database project.

In order for all the team members to be in the same comprehensive framework, the sub-activity C1 will be writing an user manual for INTERCO database and scripts and tools during phase 3 and the sub-activity C2 will be finalizing and improving GIS scripts and tools, finalization INTERCO Toolbox as well as implementing calculations and mapping of indicators. This will help to generate maps, Excel files and layer files of final indicators.

Communication of the indicators

The **communication inside of the project** will be further developed through electronic communication. The internet storage for files, documents and evolving databases is already established. All project members have unrestricted access, and as soon as parts of the materials are sufficiently finalised and understandable, they will also be made available to all of the stakeholders and workshop participants. Thereby, all will be able to keep up with developments and inform themselves well before contact events.

Following the INSPIRE directive, the metadata about indicators, and eventually the indicators themselves if copyrights allow, will be made accessible on the Internet using open standards and webservices for further inclusion in other information systems and websites. This interoperability will be proposed in close cooperation with the ESPON Database Project.

The **communication outside of the project**, in addition to the communication products planned under Activity D "Communication of the indicators", will rely on a number of other outreach products prepared in order to reach a wider audience including policy-makers and the general public, such as an easy to read text about the resulting list of indicators identified by the project may be developed for dissemination to a wider audience. This could take the form of a one-page information brief by thematic groups of indicators (e.g. economy, demography, environment, etc.). These briefs could e.g. be disseminated via the ESPON newsletter and website. Maps and indicators should also be accessible to the wider audience in a way that should be discussed with the ESPON Database Project and the forthcoming Monitoring Project. This could be by means of static PDF documents or using an interactive web application, if the ESPON Database Project provides such a possibility. We will also use the ESPON tools to disseminate reports and papers within steering meeting and open seminar. In external, we plan to reach politicians at professional and policy events, policy-makers with working papers, and scientific public with post project presentations and scientific publications.

Workplan for next steps

Work Plan until the Interim Report (31 March 2011)

Until the Interim report due for 31 March 2011, we plan to deepen the sub-activities, which have already all been initiated. The main events during this period will be:

- First Team Meeting in Switzerland (27-28 September 2010)
- Meetings with stakeholders (date to be defined)
- Participation to the ESPON 2013 Programme Internal Seminar and meeting with the CU (December 2010 ? Date to be defined).
- Second Team Meeting (January 2011 ? Date to be defined)

Global workplan

The overall distribution of activities between the partners and experts has already been presented in Figure 2 (p. 10). These activities will be carried out in the three main design, exploratory and implementation phases :

- **Start of the project (16 February 2010)**
  - 5 May 2010 : Kick-off Meeting in Luxembourg
- **Part I, the design phase (until 31 August 2010)**
  - 31 August 2010 : Inception Report
  - 27-28 September 2010 First Team Meeting (in Switzerland)
- **Part II of, the exploratory phase (until 31 March 2011)**
  - January 2011 (to be confirmed) Second Team Meeting
  - 31 March 2011 : Interim Report
- **Part III, the implementation phase (until 29 February 2012)**
  - September 2011 (to be confirmed) Third Team Meeting
  - 30 November 2011 : Draft Final Report
  - 29 February 2012 : Final report
  - 29 February 2012 : Closure of the activities
- **Closure of the administrative duties (29 May 2012)**

A more detailed description of deadlines and outputs is provided in **Annex 13**.

It must be noted that all (sub-)activities A, B, C, and D will be conducted in parallel. The advantage of this approach is to keep all the teams involved during the whole lifespan of the project.

On the financial side, the break down of the project's budget is as follows (Figure 5):

Budget line	*UniGe*	*NTUA*	*NordRegio*	*Total*
1. Staff	86'600	104'400	33'000	**224'000**
2. Administration	7'000	8'300	2'700	**18'000**
3. Travel and accommodation	18'100	6'600	3'300	**28'000**
4. Equipment	700	700		**1'400**
5. External expertise and services *	125'000			**125'000**
Total	**237'400**	**120'000**	**39'000**	**396'400**

* Breakdown : RRG 78'000 / Spatial Foresight 42'000 / other 5'000

Figure 5. The project's budget (in Euros)

Risk factors

The following is an overview over the risk factors that have been identified and the precautions (**in bold**) that are being taken to minimise dangers to the successful outcome of the project:

Risk factors with regard to Activity A (Involvement of the stakeholders)

- Stakeholders do not adequately represent the categories desired and do not commit sufficiently to this endeavour => **Careful choice of stakeholders, multiple iterations of the choice process, use of all available networks in recruiting participants, interactive communication regarding expectations and desired results.**
- Some stakeholders cannot participate at chosen times => **A few "extra" stakeholders to ensure some redundancy.**
- Not all desired workshops can be conducted due to time/resource constraints => **Quality in each conducted workshop will be as good as possible, to counteract a possible lack of quantity.**
- Workshops fail to generate good candidate indicators => **Good process design, training of project participants in workshop facilitation.**
- Lack of agreement as to desirable indicators => **Use as a positive enrichment in total process, to explore even wider possibilities.**
- Material from the first set of workshops is too comprehensive => **Careful and critical editing of the results of the workshops. Bilateral meetings to narrow and focus choices.**
- Stakeholders are unable to evaluate the proposals and conclude with recommendations => **Preparatory materials must be clear and easily understood. Workshop, including materials to be read ahead of time, must be carefully designed and facilitated.**
- Stakeholders disagree as to which proposed indicators are "best". => **Possibility for weighting of input, include alternatives, discussion and interaction. The project members must, in the end, choose those that best meet criteria: agreement is not the goal, but rather, quality and usefulness.**

Risk factors with regard to Activity B (Definition of the indicators)

- Since the indicators are based on policies, there are risks linked to policy shifts, i.e. the obsolence of indicators relevance => **Take care that the indicators have a strong inner coherence and an intrinsic relevance with regard to territorial processes (not only to policy orientations).**
- Activity B is very dependent on other activities => **A constant dialogue between activities will be maintained.**
- The number of indicators already identified is very high, it will lead to practical problems (calculation and updates) and reduced communicability. => **Focus on the composite "territorial cohesion" indicators, on the explanatory power of the indicators in relation to the territorial challenges, policies and issues, i.e. to the creation of new indicators.**

Risk factors with regard to Activity C (Calculation of the indicators)

- Statistical data are not available in the required format and at the required spatial level; data gaps. => **In extreme cases the intended indicator must**

be skipped; or the indicator can only be calculated for a subset of countries, or as a demonstration for just one country.

- Data harmonization, filling data gaps. => **This task may be very time consuming, so that overall project schedule may be hampered.**
- Even though basic GIS layers needed to calculate an indicator are available, they differ in accuracy or resolution. => **Eventually the indicator cannot be calculated.**
- The political assessment for an indicator differs across the countries (one country considers an observation as good, another one as bad). => **The definition of weights becomes difficult, which may have impacts on the interpretation of an indicator.**

Risk factors with regard to Activity D (Communication of the indicators)

- Material generated is too much or too complex to be communicated => **Critical editing.**
- Indicators are difficult to communicate, either visually or due to language problems => **Constant checking with stakeholders to ensure understanding as material is developed.**
- Information about indicators does not reach desired target groups => **Stakeholder networks are used, as well as the entire ESPON system, in addition to scientific and policy fora.**

Annex 1. Review of ESPON projects

In the review we have taken into account the so far published reports of the ESPON 2013 projects as well as the ESPON 2013 Database project CD distributed at the Madrid ESPON seminar (2010). Some of the following indicators are at first compiled from other sources, therefore in some cases there is not a reference to the respective ESPON 2013 project in Annex 5.

DEMIFER project: Demographic and migratory flows affecting European regions and cities, Interim report.
It examines how the different regions of Europe are affected by the demographic changes (natural change, migratory flows, change in active population etc) that have already taken place as well as what changes are expected to happen.

The project includes indicators which were integrated in the following themes of the Preliminary Inventory of Indicators as such:
In Theme 02.Demography[4]

Indicators:
Population size
Old age dependency ratio
Life expectancy at birth (men, women)
Births, deaths, natural increase,
Total fertility rate
Net migration, total increase
In migration, Out migration, Emigration, Immigration
Average net migration rate
Migration by country of origin and destination

In Theme 07.Economy

Indicators:
Educational attainment
Employment (<25, sector)
Unemployment rate (male, female, total)
Development of unemployment rate (male, female, young, total)
Growth rate
GDP per inhabitant in PPS, Euros
GDP development in PPS, Euros

CLIMATE project: Climate Change and Territorial Effects on Regions and Local Economies, Revised Interim Report.
It examines the climate change, the factors that cause or deteriorate it, how it affects different areas (which areas are more vulnerable etc) as well as the consequences of climate change (also with the use of case studies).
There are two categories of Indicators available in NUTS 3 level:
(a) Tentative indicators and *(b) preliminary indicators.*

The indicators in category (a) were integrated as follows:

*(1) Climate change exposure (8 indicators)***:** It was integrated in Theme 08.Environment, Hazards

Indicators:
Change in annual mean temperature
Change of average annual number of frost / summer days
Change of the average precipitation in kg/ m^2 –in different months
Change of the average annual number of days with heavy rainfall / snow
Change of the average annual amount of water evaporating in a distinct area

(2) Physical sensitivity (5 indicators): It was integrated in Theme 08 Environment, Hazards

Indicators:
X of settlement areas prone to heavy rainfall / sea level rise

[4] See for the sub-themes of each theme in Annex 5. Some indicators are common in two or more groups of themes.

% of streets, rail networks, power plants prone to sea level rise / heavy rainfall
km of streets and railways

(3) *Environmental sensitivity (6 indicators):* It was integrated in Theme 08 Environment, Hazards
Indicators:
Share of different types of forest on NUTS 3 area
Share of Natura 2000 areas in relation to total NUTS 3 area
Share of sensitive ecoregions in relation to total NUTS 3 area
Percentage of fragmented natural areas
Percentage of area with steep slopes and erosion endangered soils
Share of areas with high ecological value in relation to total NUTS 3 area

(4) *Social sensitivity (3 indicators):* It was integrated in Theme 08 Environment, Hazards.
Indicators:
% of population in areas prone to heavy rainfall
Population share of inhabitants > 65 years
% of population in coastal areas prone to sea level rise

(5) *Cultural sensitivity (8 indicators):* It was integrated in Theme 08 Environment, Hazards
Indicators:
Density of monuments in NUTS 3 area
Density of monuments in areas prone to heavy rainfall
UNESCO world heritage areas prone to heavy rainfall
Density of museums, galleries, theatres and public libraries in NUTS 3 area prone to sea level rise

The indicators in category (b) were integrated as follows:

(1) *Economic resources (1 indic.)***:** It was integrated in Theme 07. Economy
GDP per capita (€ PPP)

(2) *Technology (4 indic.):* It was integrated in Theme 07. Economy
Indicators: R&D investment (% GNP), Scientists and engineers in R&D per million population, Telecommunication uptake, No of patent applications per million inhabitants

(3) *Infrastructure (2 indicators):* It was integrated in Theme 08.Environment, Hazards
Indicators: Roads (km), Percentage of NATURA 2000 area

(4) *Information and skills (6 indicators):* It was integrated in Theme 06.Social affairs
Indicators: Health expenditure per capita, Public health expenditure (% of GNP), Attitudes towards climate change,), Public information on climate change

(5) *Institutions (5 indicators):* It was integrated in Theme 09. Governance:
Indicators: Shift from Government to governance, Number of project co-operations, Public attitudes towards the political-administrative system, Existence of a national adaptation strategy Government effectiveness index

EDORA project: European Development Opportunities for Rural Areas, Interim Report.
It examines the development opportunities and challenges which diverse types of rural areas in Europe are facing.

This project includes ***seven (7) categories of indicators***:

(1) *Employment*: It was integrated in Theme 07. Economy
Indicators:
Employment /gender /sector /age
Unemployment /gender/age/sector
Long term unemployment.

(2) *Urban Rural interactions*: It was integrated in “Territorial issues”.
In Theme 1.Balance and polycentricity
Indicators:
Economically active population / sex / age / education
Employment – commuting
Employment in high - tech sectors
Cluster characteristics
Tourist information (bed, nights spend)
In Theme 7.Accessibility
Indicators:
Infrastructure information (length)
Accessibility matters, internet connections

(3) *Rural Business Development:* It was integrated in “Territorial issues” / Theme 1.Balance and polycentricity
Indicators:

Number of firms by sector
Cluster specialisation / size / focus
Human resources in science and technology
Percentage of employment in knowledge intensive high technology services
Patent applications
Percentage of employment in knowledge intensive high technology services

(4) Cultural heritage. It was integrated in Theme 06.Social affairs
Indicator: UNESCO World Heritage Sites per region

(5) *Services of general interest.* It was integrated in "Territorial issues" / Theme 7 (Potential) accessibility
Indicators: The average car driving time to the nearest airport, the density of motorways, etc

(6) *Institutional capacity.* It was integrated in "Territorial issues" / Theme 1 Balance and polycentricity
Indicators: GDP, dispersion of GDP, dependency rate, educational attainment, public expenditure etc.

(7) *Farm Structural Change.* It was integrated in Theme 01.Agriculture and fisheries
Indicators:
% of holdings >x ESU
% change in number of holdings > x ESU over the past five years
Holders total, change in holders > 55 years over the past five years etc, change in holders > 55 years over the past five years etc

FOCI project: Future Orientations for Cities, Interim Report, 2009.
It examines the state and perspectives for European cities in terms of competitiveness, social cohesion and polycentricity among cities.

The project used a great number of indicators; a large part of them refer to the city / FUA (Functional Urban Area) level. We compiled here indicatively only some of them. We will complete this reference after submission of the pre-final report of FOCI.

Indicators:
GDP per inhabitant, static and dynamic
Sectoral structure of value added
Number of headquarters of multinational firms and of advanced producer services offices
Unemployment rate by LUZ (Large Urban Zone) –see next
Infant mortality rate by LUZ
Violent deaths in major European cities
Unemployment of lowly qualified
Area, population, population density, GDP for EU Metropolitan areas, Regional hinterlands and Metropolitan / Urban macroregions.

Urban Audit indicators

Urban Audit includes a large collection of indicators at "core city" or "Large Urban Zone" (LUZ) levels some of which have been used in the frame of FOCI –see in the FOCI reports.
We refer here in some sets of the Urban Audit indicators (even to those that have not been used in FOCI) because they could be used in INTERCO as "wishful" indicators at NUTS3 level. They are interesting for INTERCO because they cover different mainly social and environmental aspects of "territorial cohesion" that are not enough covered by other sources' indicators.
Because of the high number of indicators included in this category, we indicate here only a few of them. For the rest see in FOCI and Urban Audit reports. See for the indicators that have been included in the Preliminary Inventory of Indicators in Annex 5.

(1) *Urban Audit / demography.* It was integrated in Theme 02.Demography.
Indicators:
Total resident population per year (simple)
Total population change over 1 year (derived)
Population by sex and age (simple)
Proportion of females to males - aged 75 and over (derived) etc

(2) *Urban Audit / social aspects.*
Indicators integrated in Theme 06.Social affairs
Indicators: Amenities, owned, social housing etc
Self-sufficiency. Indicators: Wages, poverty, social spending, employment, unemployment rate
Equity. Indicators: Material deprivation, Earnings inequality, wage gaps, poverty, housing costs
Health: Indicators: Low birth weight, Health care spending etc

Indicators integrated in Theme 09.Governance:
Participation to social life and social pathologies.
Indicators: Voting, Electoral participation, Strikes, trust in political institutions etc

(3) *Urban Audit / economic aspects.* It was integrated in Theme 07.Economy
Indicators: Bankruptcy, annual household income etc

(4) *Urban Audit / environment.* It was integrated in Theme 08 Environment, Hazards
Indicators: Temperature, air pollutant concentrations and area types etc

ReRisk project: Regions at Risk of Energy Poverty
It examines the regions which are more vulnerable or are, already affected by the Energy Poverty. It studies the economic, social and transport sensitivity/vulnerability of these regions.

It includes ***five (5) categories of indicators***.

(1) *Climate conditions*. It was integrated in Theme 08.Environment, Hazards
Indicators: Mean maximum temperature July, Mean minimum temperature January etc, Region Area size

(2) *Economic structure*. It was integrated in Theme 04.Energy
Indicators: % employment in industries with high energy purchases, % of GVA in industries with high energy purchases etc

(3) *Transport dependency*. It was integrated in Theme 03.Transport
Indicators: Spending on transport fuel for freight as % of GDP, Population commuting to other regions / population working in the same region etc

(4) *Social dimension*. It was integrated in Theme 07.Economy
Indicators: Long-term unemployment rate, Disposable income in households etc

(5) *Production potential of renewables.* It was integrated in Theme 04.Energy
Indicators: Wind Power Energy Potential 2005, PV potential

TIPTAP project: Territorial Impact Package for Transport and Agricultural Policies, Final Report.
The general goal of the project is to provide a robust and fully operational Territorial Impact Assessment (TIA) tool
It includes *two (2) categories of indicators:*

(1) *Transport policies* Indicators. They were integrated in the following Themes:
Energy-Transport was integrated in Theme 03.Transport
Indicators
Productivity of inland transport infrastructure
Productivity of airports
Congestion costs
Traffic passing through
Safety
Landscape fragmentation
Exposure to external visitors
Regional integration
Environment- Hazards was integrated in Theme 08.Environment, Hazards
Indicator
Road Emissions

(2) *CAP (Common Agricultural Policy*) Indicators. They were integrated in the following Themes:
Economy was integrated in Theme 07.Economy.
Indicators
Economic growth, Unemployment, Tourism diversification
Agriculture was integrated in "Territorial Issues", Theme 8. Natural assets, natural & technological hazards
Indicators
Environmental quality
Community viability
Risk of soil erosion
Landscape diversity
Community identity
Heritage products
Environment- Hazards was integrated in Theme 08.Environment, Hazards
Indicators: Variation in Livestock emissions

CAEE: The Case for Agglomeration Economies in Europe / CAEE, Mid-term report, December 2009.
The primary purpose of this project is to examine the relationships between agglomeration economies and city-regional/metropolitan governance.
It includes indicators**,** which can be integrated in the following themes of the Preliminary Inventory of Indicators as such:
In Theme 07.Economy
- Labour productivity
- Employment density
- Employment (in levels-000s)
- GVA (billions of Euros, 2000 base year)

In Theme 05.Land Use
- Total area (km2)

EUROISLANDS: The Development of the Islands – European Islands and Cohesion Policy, Inception Report. 2009.

It includes two major categories of Indicators:
(a) Sustainability Indicators
(b) Attractiveness Indicators
Each category includes other more specified groups of indicators[5]. More specifically:

(a) Sustainability Indicators:
(1) *Social cohesion*. It was included in Theme 07. Economy
Indicators: Unemployment rate, Long term unemployment rate etc
(*2) Population's Structure and development.* It was included in Theme 02. Demography
Indicators: Population evolution, Population pyramid etc.
(3) *Economic effectiveness.*
Indicators: GDP in PPS per capita, Growth rate of GDP in PPS per capita etc
(4) *Economic Development and Fragility.*
Indicators: Share of technological manufacturing industries in the regional added value, Share of financial and business services in the regional added value etc
From (3) to (4), indicators were included in Theme 07. Economy
(5) *Environmental Preservation.*
Indicators: Island Vulnerability index etc
(6) *Air quality – pollution.*
Indicators: Exposure of ecosystems to acidification, eutrophication and ozone etc
(7) *Water resources.*
Indicators: Drinking water quality, saltwater intrusion etc
(8) *Coast and Seas.*
Indicators: Bathing water quality, Nutrients in coastal water etc
(9) *Biodiversity*.
Indicators: Fragmentation by urbanisation, infrastructure and agriculture, Species diversity etc
(10) *Land use/landscape quality*.
Indicators: Soil Erosion etc
(11) *Waste*.
Indicators: Municipal waste production etc
From (5) to (11) indicators were included in Theme 08.Environment, Hazards

(b) Attractiveness Indicators
(1) *Urban dynamism.* It was included in "Territorial issues" / Theme 1. Balance and polycentricity
Indicators: Primacy rate the share of the largest urban area within an island/ region, Urban influence etc
(2) *Public Services Accessibility.* It was included in Theme 03. Transport
Indicators: Accessibility (transport), Potential accessibility, multimodal, to population etc

[5] Because of the high number of indicators included in this project, we indicate here only a few of them. The rest are presented in the Preliminary Inventory of Indicators – see Annex 5

(3) *Job opportunities Risks – Quality of environmen*t. It was included in Theme 07. Economy
Indicators: Unemployment rate etc.
(4) *Social capital.*
Indicators: Trust in the legal system, Politics too complicated to understand etc
(5) *Governance*.
Indicators: Way in which roles and responsibilities are distributed among the different government levels etc
From (4) to (5), indicators were included in Theme 09. Governance
(6) *Capitals*. It was included in Theme 06.Social Affairs
Indicators: Number of cultural sites

METROBORDER: Cross-border Polycentric Metropolitan regions, Interim Report, 2010
The project addresses cross-border metropolitan polycentric regions (CBMRs). Its aim is to map and to better understand the structures and the functioning of this type of spatial pattern. The project adopts a twofold perspective, addressing both the European level and the case study level (Upper Rhine, Greater Region). Furthermore, the aim is to support strategy building in order to improve the performance of the cross-border polycentric metropolitan regions.

The project's indicators were integrated in the Preliminary Inventory Themes as such:
In Theme 07. Economy
Cross-border commuters, Regional GDP
In Theme 02. Demography
Population average annual growth, Residents' citizenship
In Theme 03. Transport
Frequency and average speed of cross-border transportation lines

SSRL: Spatial Perspectives at NUTS-3 Level, Interim Report, 2009
The specific goal of the project is to develop regional forecasting methodologies and tools, appropriate to the regional-local scale but consistent with a general EU-wide approach.

The project uses a huge number of indicators the majority of which were included in the ESPON 2006 Database; the rest will be included in the INTERCO Inventory in a next stage.

SURE: SUccess for convergence Regions' Economies, Interim Report, 2 November 2009.
Structured empirical analysis for convergence regions: identifying success factors for consolidated growth. Final goal of the project is to better understand and explain economic imbalances between different European regions, providing insight into the processes and factors behind the economic development of Convergence Regions.

The project's indicators were integrated in the Preliminary Inventory Themes as such:
In Theme 05.Land Use
Total Area [Area of the regions (land use total) in km]
In Theme 07.Economy
Employment rate per year
Informal economy
Taxation
Communication technology
Patents
Human resources in science and technology
Employment in high-tech industries
In Theme 09. Governance
Corruption index
Decentralisation
In "Territorial issues" / Theme 7. (Potential) accessibility
Accessibility

TEDI: Territorial Diversity, Draft Final Report, 2010.
The project addresses the issue of economic and social development in regions with geographic specificities such as mountainousness, insularity, demographic sparsity and high population density in peripheral regions. Based on a series of case studies, the project

explores the capacity of regions with geographic specificities to contribute to the achievement of the Lisbon and Gothenburg Strategies.

The project's indicators were integrated in the Preliminary Inventory Themes as such:

In Theme 01. Agriculture and fisheries

- Utilised agricultural area
- Agriculture turnover
- Number of farm holdings
- Forestry and logging
- Fishing and agriculture
- Age of farm holders
- 55yrs < holders < 35yrs
- Persons working in agriculture
- Persons working in forestry
- Persons working in fishing

In Theme 07. Economy

- Total active population
- Total number of employees by sector
- Total number of unemployed by sector
- Total household income
- Turnover in tourism sector
- % of households having broadband access
- Number of companies closed
- Number of companies created
- Population size
- Population change
- Total fertility rate
- In migration, Out migration, Emigration, Immigration

In Theme 06. Social Affairs

- Number of persons by educational attainment

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Annex 3. A first proposal of possible stakeholders

EU / international	Transnational	National	Regional / local	scientific	ESPON MC	ESPON TPG	ESPON stakeholder		
		✓			✓			Margarita Jancic	Slovenia
		✓			✓			Maria José Festas	Portugal
		✓			✓			Magdalena Lotocka	Poland
		✓			✓			Siliva Jost	Switzerland
		✓			✓			Sverker Lindblad	Sweden
		✓			✓			Didier Michal	France
		✓			✓			Phaedon Enotiades	Cyprus
✓								Gianluca Spinaci / Silke Tönshoff	CoR
✓								Jonathan Potter	OECD
✓								Lewis Dijkstra	DG Regio
✓								Hugo Poelman	DG Regio
✓	✓							Matt Nicols	INTERACT
✓	✓							Michel Lamlin / Erwin Siveris	Interreg IVC
✓	✓							Jean-Loup Durbigny	URBACT
		✓		✓				Volker Schmidt-Seiwert	BBSR, Germany
		✓		✓				Adam Radvanszki	VAT, Hungary
			✓					Wim Stooker	Randstad, Netherlands
			✓					Rcihard Tuffs	West Midlands, UK
			✓					Jürgen Ludwig	Stuttgart, Germany
	✓			✓				Jaceck Zaucha	Gdansk, Poland
				✓		✓		Claude Grasland	Paris, France
				✓		✓		Roberto Camagni	Milano, Italy
				✓		✓		Moritz Lennert	Belgium, Brussels
				✓		✓		Geoffrey Caruso	Luxembourg
				✓		✓		Mark Shucksmith	Newcastle, UK
				✓		✓		Andrew Copus	Nordregio, Sweden

Annex 4. The synthetic classification scheme (classical themes/issues)

Theme and subtheme-1
01. Agriculture and fisheries
01.01 Land Use
01.02 Farms Structure
01.03 Employment
01.04 Livestock
01.05 Production
02. Demography
02.01 Population Structure
02.02 Population Movement (Migration)
03. Transport (including Accessibility, Communication...)
03.01 Transport Infrastructure
03.02 Passengers and Good Transport
03.03 Accessibility
03.04 Impacts of Transport Policies
03.05 Information & Communic. Technologies
04. Energy
05. Land Use
05.01 Land Use
06. Social Affairs (including Culture, Education, Health, Literacy…)
06.01 Education
06.02 Poverty
06.03 Other social
06.04 Culture
07. Economy (including Employment, Finance, Industry, Technology …)
07.01 Labour force
07.02 Employment, Unemployment
07.03 Income and Consumption
07.04 Finances and Expenditures
07.05 Tourism
07.06 Industry, Services
07.07 Innovation
07.08 Business
08. Environment, Hazards
08.01 Environment quality (etc)
08.02 Climate change
08.03 Hazards
09. Governance

Annex 5. Inventory of indicators (preliminary) - Classical (sectoral) issues

Theme and subtheme-1	Subtheme-2	Subtheme-3	Indicator classification theme ESPON 2013	Indicator classification keywords	Indicator code INTERCO / NTUA - see Report	Indicator name INTERCO (NTUA)	Indicator abstract INTERCO (NTUA)**	Overlapping with	UNITS	Type of Indic. -1: C/S: Classical / Simple, T/T:	Type of Indic. -2: other classifications	ESPON Project, Urban Audit, other author	Existing data per level & year: Eurostat per NUTS, Urban Audit (UA)	Other sources' data per level and year	Data filename ESPON 2013	Dataset point of	Value methodology
01. Agriculture and fisheries																	
01.01 Land Use												ESPON DB 2013					
			Land use		0101LA[1]	Utilised agricultural areas	Agricultural areas		Hectares	C/S		TEDI			Land_use_data		Aggregation from Corine Land Cover
01.02 Farms Structure	Output-input				0102FRM[1]	Output-Input ratio agriculture	Output-Input ratio agriculture		%	T/T	Derived / RCE	ESPON 2006					
					0102FRM[2]	Agriculture turnover	Agriculture turnover		%	C/S		TEDI					
	Holdings				0102FRM[3]	% (change in number) of holdings >x ESU	Change in number of holdings >x European Size Unit (ESU)			C/S	Derived	EDORA	NUTS 3, 2000-2007				
					0102FRM[4]	% of holdings with an OGA	Holdings with an OGA (Other Gainful Activity)		%	C/S	Derived	EDORA	NUTS 3, 2000-2007				
					0102FRMtrtc_0007N3	Number of farm holdings	Number of farm holdings		Hectares	C/S		TEDI	NUTS 3, 2000-2007				
	Holders				0102FRM[5]	% (change of) holders who are full time	Change of holders who are full time		%	C/S	Derived	EDORA	NUTS 3, 2000-2007				
					0102FRM[6]	Holders total	Holders total		Hectares	C/S		EDORA					
					0102FRM[7]	Forestry and logging	Forestry and logging			C/S		TEDI					
					0102FRM[8]	Fishing and agriculture	Fishing and agriculture			C/S		TEDI					
					0102FRM[9]	Age of farm holders	Age of farm holders		Years	C/S		TEDI					
					0102FRM[10]	55yrs < holders < 35yrs	55yrs < holders < 35yrs			C/S	Derived	EDORA					
					0102FRM[11]	55yrs < change in holders < 35yrs	55yrs < change in holders < 35yrs			C/S	Derived	EDORA					
01.03 Employment					0103EMP[1]	AWU per ESU (SGM)	Annual work unit (AWU) per European Size Unit(ESU)[Standard Gross Margin (SGM)			C/S		EDORA	NUTS 3, 2000-2007				
					0701AGRtrtc_(year)(level)	Persons working in agriculture	Number of persons working in agriculture			C/S	RCE	TEDI					
					0701FRTtrtc_(year)(level)	Persons working in forestry	Number of persons working in forestry			C/S		TEDI					
					0701FIStrtc_(year)(level)	Persons working in fishing	Number of persons working in fishing			C/S		TEDI					
					0103EMP[2]	Managers with basic or full agricultural training	Managers with basic or full agricultural training			C/S	Derived	EDORA					
01.04 Livestock					0104LST[1]												
01.05Production					0105PRO[1]	Share of agriculture, forestry and fishery in the regional added value (%)	Added value in Agriculture, Forestry and Fisheries / total added value		%	C/S	Derived / Routine indic.	EUROISLANDS					
02. Demography																	
02.01 Population Structure	Population size, density	Population size, density	Dempgraphy	Population	0201POPtrtc_0008N3	Population size	Total population? Annual average population ? (both sex)		Inhabitants	C/S		DEMIFER, ESPON DB 2013, TEDI	NUTS3,1990-2008				
			Dempgraphy	Population	0201POP[1]	Population density	Total population / total area NUTS3		Inhabitants / km (Km2)	C/S	Derived / RCE	ESPON 2006, EUROISLANDS, METRODORDER	NUTS3,1990-2008		Popul_density_data		

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Theme and subtheme-1	Subtheme-2	Subtheme-3	Indicator classification theme ESPON 2013	Indicator classification keywords	Indicator code INTERCO / NTUA - see Report	Indicator name INTERCO (NTUA)	Indicator abstract INTERCO (NTUA)**	Overlapping with	UNITS	Type of Indic. -1: C/S: Classical / Simple, T/T:	Type of Indic. -2: other classifications	ESPON Project, Urban Audit, other author	Existing data per level & year: Eurostat per NUTS, Urban Audit (UA)	Other sources' data per level and year	Data filename ESPON 2013	Dataset point of	Value methodology
			Dempgraphy	Population	0202POPtrtc_9007N2	Population *change*	Development of the total population		1000 Inhabitants	C/S	Derived / RCE	ESPON 2006, ESPON DB 2013, TEDI, EUROISLANDS, EDORA	NUTS 3, 1990-2007				The difference between the size of population in 2001 and the size of population in 2006
			Dempgraphy	Population	0201POP[2]	Population average annual growth	The demographic evolution		%	C/S	Derived	METROBORDER, FOCI, ESPON DB 2013			Age_structure		Transformed in 000 inhabitants and regrouped in 5 years age-class by ESPON 2013 Database Proj.
	Population sex, age		Dempgraphy	Population	0201POP[3]	Population by sex and age	Population by sex and age? Annual average population (both sex)		Thousands inh.	C/S		ESPON 2006, ESPON DB 2013	NUTS 2, 1990-2009 / NUTS 3, 2000-2009		Age_structure		Transformed in thousands inhabitants and regrouped in 5 years age-class by ESPON 2013
					0201POP[4]	Resident population (total, gender proportion)	Resident population		Inhabitants	C/S		ESPON 2006	NUTS 2, 1990-2007				
					0201DEMpyr_(year)(level)	Population pyramid	Population pyramid			C/S	Derived / Routine indic.	EUROISLANDS	NUTS 2, 1990-2009 / NUTS 3, 2000-2009				
					0201POP[5]	Ageing of population	Share of Population over 64 years %		%	C/S	Routine indic.	EUROISLANDS					
					0201POP[6]	Dependency rates	Share of population under 15 and over 64 years %		%	C/S	Derived / Routine indic.	EUROISLANDS					
					0201LIFtrtc_9008N2	Life expectancy	The average expected lifespan of an individual		Years	C/S	Derived / Wish list indic.	EUROISLANDS	NUTS 2, 1990-2008				
					0201POP[7]	Share of children	Share of children		%	C/S	Derived	ESPON 2006					
	Natural change		Demography	Births and deaths	0201BTHtrtc_9007N3 / 0201DTHtrtc_9007N3	Crude birth rate / Crude death rate	Live births per 1000 inhabitants for 200-2007 / Deaths per 1000 inhabitants for 200-2007		Crude rate	C/S	Routine indic.	EUROISLANDS	NUTS 3, 1990-2007		births&deaths_rates_data_neighborhood		
					0201FRTtrtp_(year)(level)	Total fertility rate	Number of children per women		%	C/S	Derived	DEMIFER, TEDI,EUROISLANDS					
					0201POP[8]	Infant mortality	Infant mortality		Inhabitants	C/S		ESPON 2006, ESPON DB 2013, TEDI	NUTS 2, 1990-2007				
					0201POP[9]	Changes in Natural Growth Potential	Changes in Natural Growth Potential			C/S	Derived	ESPON 2006					
	Population projections				0201POP[10]	Variation of the population 2000-2050	Variation of the population 2000-2050		Inhabitants / %	C/S	Derived	ESPON 2006					
					0201POP[11]	PSR in 2050	PSR (potential support ratio) in 2050			C/S	Derived	Urban Audit	UA data for core citiies and LUZ, 1989-2006				
	Nationals, foreigners				0201POP[12]	Nationals, EU nationals, Non-EU nationals that have moved into the city	Nationals, EU nationals, Non-EU nationals that have moved into the city		Inhabitants / %	C/S	Derived	ESPON 2006					
					0201POP[13]	Residents' citizenship	Residents' citizenship			C/S		METROBORDER					

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					0201POP[14]	Nationals as a proportion of the total population	Nationals as a proportion of the total population		Inhabitants / %	C/S	Derived	Urban Audit					
	Labour force				0201POP[15]	Ageing "Labour Force"	Ageing "Labour Force"			C/S	Derived	ESPON 2006					
	Urban - rural population				0201POP[16]	Relative rurality based on national classifications	Relative rurality based on national classifications			C/S	Derived	ESPON 2006					
					0201POP[17]	Urban - rural population in Europe based on national classification	Urban - rural population in Europe based on national classification			C/S	Derived	Urban Audit	UA data for core citiies and LUZ, 1989-2006				
	Households social characteristics				0201POP[18]	Number, Avg size	Number, Avg size		Inhabitants	C/S		Urban Audit	UA data for core citiies and LUZ, 1989-2006				
					0201POP[19]	Lone - person	Lone - person		Inhabitants	C/S		Urban Audit	UA data for core citiies and LUZ, 1989-2006				
					0201POP[20]	Lone - parent	Lone - parent		Inhabitants	C/S		Urban Audit	UA data for core citiies and LUZ, 1989-2006				
					0201POP[22]	Households with children aged to under 18	Households with children aged to under 18		Inhabitants	C/S		ESPON 2006					
					0201POP[23]	Components of population development	Population development Index (births, deaths and net migration)		Inhabitants	C/S	Routine indic.	EUROISLANDS					
02.02 Population Movement (Migration)	Migration				0202POP[1]	In migration, Out migration, Emigration , Immigration	In migration, Out migration, Emigration , Immigration			C/S		DEMIFER, ESPON DB 2013, TEDI					
					0202POP[2]	Migration by country of origin and destination	Migration by country of origin and destination			C/S		DEMIFER, ESPON DB 2014					
					0202MIG(i/o)trtc_(year)(level)	Internal / External / Total / Absolute migratory balance	Internal / External / Total / Absolute migratory balance			C/S	Derived	DEMIFER, ESPON DB 2015					
					0202POP[3]	Internal mobility by region	Internal mobility			C/S	Derived	DEMIFER, ESPON DB 2016					
					0202POP[4]	Migratory balance by regions	Migratory balance			C/S	Derived	DEMIFER, ESPON DB 2017					
			Dempgraphy	Demographic balance and crude rates	0202MIGnet_(year)(year)(level)	Net migration rate	Crude rate of net migration including corrections for 2000-2007		Crude rate / 1000 inhabitants	C/S	Derived				Net_migration_rate_data_neighborhood		
03. Transport (including Accesibility, Csommunication..)																	
03.01 Transport Infrastructurre	Length, density				0301TRIN[1]	Roads (km) and railways	Roads and railways		Km	C/S	Preliminary indic.	CLIMATE					
	"				0301TRIN[2]	Density of motorways, trunk roads, railways	Density of motorways, trunk roads, railways			C/S		EDORA					
					0301TRIN[3]	Traffic separation in different infrastructure levels	Traffic separation in different infrastructure levels					TIPTAP					

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03.02 Passengers and Good Transport	Passengers				0302PGT[1]	Number of passengers travelling by air	Number of passengers travelling by air		Passengers	C/S		RERISK					
	Road, trasport freight				0302PGT[2]	Spending on transport fuel for freight as % of GDP	Spending on transport fuel for freight as % of GDP					RERISK					
	"				0302PGT[3]	Road freight crossing the region borders	Road freight crossing the region borders					TIPTAP					
	Commuting				0302PGT[4]	Population commuting to other regions / working in the same region	Population commuting to other regions / working in the same region					RERISK					
	"				0302PGT[5]	External passengers (outside the region) at more than 3h	External passengers (outside the region) at more than 3h					TIPTAP					
	Congestion				0303COScgtix_(year)(level)	Congestion cost	Congestion cost					TIPTAP					
					0302PGT[6]	Frequency and average speed of cross-border transportation lines	Frequency and average speed of cross-border transportation lines			C/S	Derived	METROBORDER					
03.03 Accessibility	Accessibility																
03.04 Impacts of Transport Policies	Employment				0304TRP[1]	Employment in the transport sector as % of total employment	Employment in the transport sector as % of total employment		%	C/S		RERISK	NUTS 2, 1998-2008				
					0304TRP[2]	Age of car park	Age of car park (Average age of cars)			C/S		RERISK					
	Productivity				0301PDTinrtd_(year)(level)	Productivity of inland infrastructure	Productivity of inland infrastructure			T/T		TIPTAP					
	"				0301PDTairtd_(year)(level)	Productivy of airports	Productivy of airports			T/T		TIPTAP					
	Emissions				0304TRP[3]	CO2 emissions per usable land	CO2 emissions per usable land					TIPTAP					
		Education			0304TRP[4]	Education expenditure as % of GDP	Education expenditure as % of GDP		%		preliminary indic.	CLIMATE					
		"			0304TRP[5]	Share of tertiary educated people in %	Share of tertiary educated people		%		preliminary indic.	CLIMATE	NUTS 2, 1998-2008				
03.05 Information & Communic. Technologies	Internet				0305ICT[1]	Share of private internet users	Share of private internet users (BSI3a)			Indic.		EDORA					
					0305ICT[2]	Share of business internet users	Share of business internet users (BSI3b)			Indic.		EDORA					
					0305ICT[3]	Proportion of firms with own website	Firms with own website		%	T/T	RCE	ESPON 2006					
					0305ICT[4]	Companies with Internet access	% of companies with internet access		%	T/T	Wish list indic.	EUROISLANDS					
	Human resources				0305ICT[5]	Human resources in science and technology	Human resources in science and technology			C/S		EDORA	NUTS 2, 1995-2008				
04. Energy					04ENR[1]												
	Energy				04ENR[2]	Final Energy Demand	Final Energy Demand			C/S		ESPON 2006					
					04ENR[3]	Energy Net Imports	Energy Net Imports			C/S		ESPON 2006					
					04ENR[4]	Electricity / Gas Prices	Electricity / Gas Prices		Euros	C/S		ESPON 2006					
					04ENR[5]	Energy Production	Energy Production		KWh	C/S		ESPON 2006					
					04ENR[6]	Electricity Generation	Electricity Generation					ESPON 2006					
					04ENR[7]	PV (photvoltaic) potential	PV (photvoltaic) potential				Derived	RERISK					

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					04ENR[8]	Wind Power Energy Potential 2005	Wind Power Energy Potential 2005		KWh		Derived W	RERISK					
					04ENR[9]	Energy Inland consumption	Energy Inland consumption			C/S		ESPON 2006					
					04ENR[10]	Private energy use	Private energy use			C/S		RERISK					
					04ENR[11]	% employment in industries with high energy purchases	Employment in industries with high energy purchases		%	C/S	Derived	RERISK					
					04ENR[12]	% of GVA in industries with high energy purchases	GVA in industries with high energy purchases		%	C/S	Derived	RERISK					
					04ENR[13]	Greenhouse Gas Emissions	Greenhouse Gas Emissions	5.1 Envir. quality / Emissions	Million tonnes	C/S	Derived	ESPON 2006	NUTS 2, 1998-2007				
					0402co2rte_(level)	CO2 Emissions, intensity, per capita	CO2 Emissions intensity	5.1 Envir. quality / Emissions	Kg/capita	C/S	Derived	ESPON 2006					
					04ENR[14]	Emissions of Acidifying Substances Acidifying Potential 2002	Emissions of Acidifying Substances Acidifying Potential 2002	5.1 Envir. quality / Emissions				ESPON 2006					
05. Land Use																	
05.01 Land Use		Corine Land Cover			0501LAUS[1]	CORINE land use	Land use			T/T		ESPON 2006					
			Area	Area	0501LAUS[2]	Total Area	Area of the regions (land use total) in km		sq. km (Km2)	T/T		CAEE, SURE	NUTS 2, 1990-2008		population_data_neighborhood		
06. Social Affairs (including Culture, Education, Health, Literacy,...)																	
06.01 Education					0601EDU[1]							ESPON DB 2013					
					0601EDU[2]	Number of persons by educational attainment	Number of persons with secondary education degree / tertiary education degree (two figures)					TEDI	NUTS 2, 2000-2008				
					0601EDU[3]	Accessibility to High Secondary School	Accessibility to High Secondary School			C/S	Wish list indic.	EUROISLANDS					
					0601EDU[4]	Accessibility to Technological Education	Accessibility to Technological Education			C/S	Wish list indic.	EUROISLANDS					
					0601EDU[5]	Accessibility to training structures	Accessibility to training structures			C/S	Wish list indic.	EUROISLANDS					
					0601EDU[6]	Early school leavers	Early school leavers			C/S	Wish list indic.	EUROISLANDS					
06.02 Poverty					0602POV[1]	At persistent risk of poverty rate	Population share with 60 % of the national equivalent median income		%	C/S	Wish list indic.	EUROISLANDS	NUTS 2, 1997-2001				

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06.03 Other social	Households				0603OTSL[1]	% households living in social housing	Households living in social housing		%	T/T		Urban Audit	UA data for core citiies and LUZ, 1989-2006				
					0603OTSL[2]	The share of households receiving less than half of the national average household income	Households receiving less than half of the national average household income		%	T/T		Urban Audit					
					0603OTSL[3]	Households living in owned housing, in social housing, in private rented housing, in apartments, in houses	Households living in owned housing, in social housing, in private rented housing, in apartments, in houses		%	T/T		Urban Audit	UA data for core citiies and LUZ, 1989-2006				
	Dwellings				0603OTSL[4]	Number of dwellings	Number of dwellings			C/S		Urban Audit	UA data for core citiies and LUZ, 1989-2006				
					0603OTSL[5]	Average occupancy per occupied dwelling	Average occupancy per occupied dwelling		%	T/T		Urban Audit	UA data for core citiies and LUZ, 1989-2006				
					0603OTSL[6]	Proportion of dwellings lacking basic amenities	Dwellings lacking basic amenities		%	T/T		Urban Audit	UA data for core citiies and LUZ, 1989-2006				
					0603OTSL[8]	Empty conventional dwellings	Empty conventional dwellings			C/S		Urban Audit	UA data for core citiies and LUZ, 1989-2006				
					0603OTSL[9]	Average price of dwelling	Average price of dwelling		Euros	T/T		Urban Audit					
					0603OTSL[12]	Average area of living accommodation (m2 per person)	Average area of living accommodation		m2 per person	T/T		Urban Audit	UA data for core citiies and LUZ, 1989-2006				
	Homeless people				0603OTSL[13]	Number of homeless people as a proportion of total resident population	Homeless people as a proportion of total resident population		%	T/T		Urban Audit					
	Social security	Social security			0603OTSL[16]	Proportion of households reliant upon social security	Households reliant upon social security		%	T/T	Derived	Urban Audit	UA data for core citiies and LUZ, 1989-2006				
					0603OTSL[17]	Proportion of individuals reliant on social secu rity	Individuals reliant on social secu rity		%	T/T	Derived	Urban Audit	UA data for core citiies and LUZ, 1989-2006				
	Crime				0603OTSL[18]	Number of murders and violent deaths for 1.000 residents	Murders and violent deaths for 1.000 residents		Murder or death / 1000residents	T/T		Urban Audit	UA data for core citiies and LUZ, 1989-2006				
	Health				0603OTSL[20]	Health expenditure per capita	Health expenditure per capita		Euros / capita		preliminary indic.	CLIMATE					
					0603OTSL[21]	Public health expenditure (% of GNP)	Public health expenditure		%		preliminary indic.	CLIMATE					
06.04 Culture					0604CULT[1]	Density of monuments	Density of monuments				Tentative Indic.	CLIMATE					
		UNESCO			0604CULT[2]	Share of UNESCO cultural landscapes and conjuncts	Share of UNESCO cultural landscapes and conjuncts		Hectares / %		Tentative Indic.	CLIMATE					

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		Culture			0604CULT[3]	Infrastructures for Cultural Activities	Number of places for cultural events (theatre, cinema, ….)			C/S	Wish list indic.	EUROISLANDS					
					0604CULT[4]	Number of cultural sites	Number of registered monuments and sites in national lists, weighted by number of 'excellence' resources - or same approach of calculation normalised by square km			C/S	Routine indic.	EUROISLANDS					
					0604CULT[5]	Multicultural society	% Ethnic minorities and other nationalities in population		%	C/S	Wish list indic.	EUROISLANDS					
					0604CULT[6]	UNESCO World Heritage Sites per region	UNESCO World Heritage Sites per region		Hectares / %		Indic.	EDORA					
	Climate change				0604CULT[7]	Attitudes / public info on climate change	Attitudes / public info on climate change				preliminary indic.	Euro barometer 2008 and 2009					
07. Economy (including Employment, Finance, Industry, Technology …)																	
07.01 Labour force	Labour force, Economic activity				0701LAF[1]	Economic activity rate, per year and change	Economic activity rate, per year and change		%	C/S		ESPON 2006, EDORA	NUTS 2, 1999-2008				
					0701LAF[3]	Female activity rate	Female activity rate		%	C/S	Derived / Routine indic.	EUROISLANDS	NUTS 3, 1997-2008				
					0701LAF[4]	Male activity rate	Male activity rate		%	C/S	Derived / Routine indic.	EUROISLANDS	NUTS 3, 1997-2008				
			Economy, social	**Active, work force**	0701ACTtrtc_(year)(level)	Total active population	Total Economically active population (both sex) (15 years and over)		Thousands inh.	C/S		TEDI			LFS_data		
					0701LAF[2]	Labour Productivity	Labour Productivity			C/S		CAEE	NUTS 2, 2000-2009				
07.02 Employment, Unemployment	Employment				0702EMP[1]	Employment rate per year	Employment rate per year		%	C/S		ESPON 2006, SURE					
					0702EMP[2]	Employment rate change (growth)	Employment rate change (growth)		%	C/S	Derived		NUTS 2, 1999-2008 * the change in the rates is not available				
					0702EMP[3]	% of employed by gender and age	% of employed by gender and age		%	C/S		EDORA	NUTS 2, 1999-2008 * the change in the rates is not available				
					0702EMP[4]	% of employed in primary, secondary and tertiary sector	% of employed in primary, secondary and tertiary sector		%	C/S		EDORA					
					0702EMP[5]	% of employed in public and private sector	% of employed in public and private sector		%	C/S		EDORA					

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					0702EMP[6]	Employment in the NACE groups of activities	Employment in the General Industrial Classification of Economic Activities within the European Communities (NACE) groups of activities (Medium-high and high-tech manufacturing) (employment as % of total manufacturing employment)		%	C/S	Derived	ESPON 2006	NUTS 3, 1995-2007				
					0702EMP[8]	Self - employment rate (residents)	Self - employment rate (residents)		%	C/S	Derived	Urban Audit	NUTS 2, 1999-2008				
					0702EMP[9]	Part - time employment by gender and age	Part - time employment by gender and age			C/S		Urban Audit	NUTS 2, 1999-2008				
					0702EMP[10]	Employment per economic activity	Structure of economic employment per economic activity		%	C/S	Wish list indic.	EUROISLANDS	NUTS 2, 1999-2008				
					0702EMP[11	Employment Density	Employment Density		%	C/S		CAEE					
					0702EMP[12	Employment (levels - 000s)	Employment (levels - 000s)		Millions of employed	C/S		CAEE					
					0702EMP[13]	Total number of employees by sector	Total number of employees by sector			C/S		TEDI					
					0702EMP[14]	Cross-border commuters	Intensity of home-work-flows that cross the borders			C/S		METROBORDER					
						Unemployment rate per age: classes of 5 years											
	Unemployment		Social	Unemployment, LFS	0702UMPtrtc_9908N3	Unemployment rate , over/under 25 years	Development (evolution) of unemployment rate (both sex) (15 years and over)		Thousands inh. / %	C/S	Derived / RCE	ESPON 2006. ESPON DB 2013, EUROISLANDS, SURE	NUTS 3, 1999-2008		LFS_data		
					0702UEMP[1]	Development of unemployment rate (male, female, young, total) (99 - 04)	Variation of unemployment rates over time		Thousands inh. / %	C/S	Derived / RCE	DEMIFER, ESPON DB 2013, EUROISLANDS					
					0702UMPlngrtc_9908N2	Long-term unemployment rate	Long-term unemployment		%	C/S	Derived	ESPON 2006, EUROISLANDS	NUTS 2, 1999-2008				
					0702UEMP[2]	Old active unemployment rate	Old active unemployment		%	C/S	Derived	Urban Audit					
					0702UMPtrtc_(year)(level0	Total number of unemployed by sector	Unemployed by sector			C/S		TEDI					
07.03 Income and Consumption	GDP, GNP (Gross National Product), GVA (Gross Value Added)		**Economy**	**GDP**	0703GDPeurrte_97N2/ 0703GDPppsrte_97N2	GDP per inhabitant (capita) in pps or euros, per year	Gross domestic product (Euros OR PPS)		PPS or EUROS	C/S	RCE	ESPON 2006, ESPON 2013 DEMIFER, CLIMATE, ESPON DB 2013, EUROISLANDS, SURE	NUTS 2, NUTS 3, 1995-2007				
						GNP per inhabitant											
					0703INCO[1	GDP change per inhabitant (capita) in pps or euros, per year	GDP change in pps or euros, per year		Pps or Euros	C/S	Derived	DEMIFER	NUTS 3, 1995-2007				
					0703INCO[2]	Growth rate of GDP in PPS per capita	Growth rate of GDP in PPS per capita		Pps	C/S	Wish list indic. / RCE	EUROISLANDS	NUTS 3, 1995-2007				
					0703INCO[4]	Regional GDP	Spatial distribution of regional GDP		Pps or Euros	C/S		METROBORDER					

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Overlapping with indicators of others sections in red

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0. "Territorial Cohesion"																
0.1 Global synthetic "Territorial cohesion" indicators																
	Human Development			10.O1RTST[1]	Human Development Index (HDI)	Human Development Index (HDI)			TC							
	Sustainable Demographic Development			10.O1RTST[2]	Index of sustainable demographic development (ISDD)	Index of sustainable demographic development (ISDD) – see in extent in the ESPON 3.2 project / section: ETCI (2006).			TC							
0.2 Lisbon / Gothenburg strategy indicators / ESPON 2006 3.3. project / NUTS2 level																
	Regional performance based on economic indicators			10.O2RTST[1]	Gross Domestic Product	Gross Domestic Product as purchasing power parities per inhabitant in 2000		PPS / inh.	T/T				EUROSTAT, ESPON Database 2.4, ESPON 3.3			
				10.O2RTST[2]	Labour productivity, gross domestic product as purchasing power parities per person employed	Labour productivity, gross domestic product as purchasing power parities per person employed in 2000		PPS / person employed	T/T				EUROSTAT, ESPON Database 2.4, ESPON 3.3			
				10.O2RTST[3]	Employment rate	Employed persons aged 15-64 as a share of total population of the same age group in 2000 (%)		%	T/T				EUROSTAT, ESPON Database 2.4, ESPON 3.3			
				10.O2RTST[4]	Employment rate of older workers	Employed persons aged 55-64 as a share of total population of the same age group in 2000 (%)		%	T/T				EUROSTAT, ESPON Database 2.4,			
				10.O2RTST[5]	GERD (Gross domestic expenditure on research and development)	Gross domestic expenditure on research and development as a share of GDP in 2000 (%)		%	T/T				EUROSTAT, ESPON Database 2.4, ESPON 3.3			
				10.O2RTST[6]	Youth education attainment level	Share of population aged 20-24 having completed at least upper secondary education (%)		%	T/T				EUROSTAT, ESPON 3.3			
				10.O2RTST[7]	Comparative price levels of final consumption by private households (including indirect taxes)	Comparative price levels of final consumption by private households (including indirect taxes) in 2000			T/T				EUROSTAT			
				10.O2RTST[8]	Business investment: gross fixed capital formation by private sector as a share of GDP (%)	Business investment: gross fixed capital formation by private sector as a share of GDP (%) in 2000		%	T/T				EUROSTAT, OECD			
	Regional performance based on social indicators			10.O2RTST[9]	At-risk-of-poverty rate (population)	Share of persons with an equivalised disposable income after socila transfers below 60% of the national median, in 2000			T/T				EUROSTAT, Swiss Fed. Statist. Office - see in ESPON 3.3			
				10.O2RTST[11]	Dispersion of regional unemployment rates	Coefficient of variation (VAR) of NUTS 3 level unemployment rates within NUTS 2 region. Annual average 2003.			T/T				EUROSTAT - see in ESPON 3.3			

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				10.O2RTST[12]	Long-term unemployment rate	Persons unemployed for more than 12 months as a share of the total labour force in 2000 (%)			T/T				EUROSTAT - see in ESPON 3.3			
	Regional performance based on environmental indicators			10.O2RTST[13]	Energy intensity of the economy	Gross inland consumption of energy divided by GDP (kilogram of oil equivalent per 1000 Euro at const. prices) in 2000, indexed on 1996=100			T/T				EUROSTAT, Swiss Fed. Statist. Office - see in ESPON 3.3			
				10.O2RTST[14]	Greenhouse gas emissions	Percentage change in emissions of 6 main greenhouse gasses (in CO2 equivalents) between base year and year 2000.			T/T				EUROSTAT - see in ESPON 3.3			
				10.O2RTST[15]	Volume of freight transport relative to GDP	Volume of freight transport relative to gross domestic product in 2000, measured in tonn-km/GDP and indexed on 1995; includes transport by road, rail and inland waterways			T/T				EUROSTAT - see in ESPON 3.3			
1. Balance and polycentricity																
1.1 Cities hierarchy and nwtworking	FUA			10.O1URST[1]	FUA / Functional Urban Areas	FUA / Functional Urban Areas			T/T		ESPON 2006 1.1.1					It indicates whether metropolitan areas are polycentric (low primacy rate) or mono-centric
				10.O1URST[2]	Share of FUA-Population in NUTS 2	Share of FUA-Population in NUTS 2			T/T	RCE	ESPON 2006					
	MEGA			10.O1URST[3]	MEGA / Metropolitan European Growth Areas	MEGA / Metropolitan European Growth Areas			T/T		ESPON 2006 1.1.1					
	PIA			10.O1URST[4]	PIA / Potential Integration Areas	PIA / Potential Integration Areas			T/T		ESPON 2006 1.1.1					
				10.O1URST[5]	Rank of PIAs	Rank of PIAs			T/T		ESPON 2006 1.1.1					
				10.O1URST[6]	Generation of PIAs- x iteration	Generation of PIAs- x iteration			T/T		ESPON 2006 1.1.1					
	PUSH			10.O1URST[7]	PUSH areas population	PUSH (Potential Urban Strategic Horizons) areas population			T/T		ESPON 2006 1.1.1					
				10.O1URST[8]	Area assigned to the PUSH using the % criterion	Area assigned to the PUSH using the % criterion			T/T		ESPON 2006 1.1.1					
				10.O1URST[9]	Extent of 45 min isochrones	Extent of 45 min isochrones			T/T		ESPON 2006 1.1.1					
				10.O1URST[10]	Settlement units within the PUSH	Settlement units within the PUSH			T/T		ESPON 2006 1.1.1					
				10.O1URST[11]	Settlement area in PUSH	Settlement area in PUSH			T/T		ESPON 2006 1.1.1					
	Cities dispersion			10.O1URST[12]	Settlement structure assignment	Settlement structure assignment			T/T		ESPON 2006					
				10.O1URST[13]	Distance to settlement areas	Distance to settlement areas		Meters	T/T		ESPON 2006					
				10.O1URST[14]	Gini coefficient / Concentration Index	Standard measurement for inequality of income or wealth		between 0 and 1	T/T		ESPON 2006 1.4.2					It is defined mathematically based on the Lorenz curve, which plots the proportion of the total income of the
				10.O1URST[15]	Share of population in cities below 50.000 inhabitants	Share of population in cities below 50.000 inhabitants		%	T/T		BBR					

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1.2 Other Urban dynamics	Urban employment			10.O1URST[19]	Employment by professional status	Employment by professional status			T/T		EDORA	NUTS 2. 1999-2008				
				10.O1URST[21]	Primacy rate	[Share of the largest urban area within an island/ region]		%	T/T	Routine indic.	EUROISLANDS					
				10.O1URST[22]	Urban influence	[Existence of FUA]			T/T	Routine indic.	EUROISLANDS					
				10.O1URST[23]	Human intervention	Human intervention (high, medium, low)		High / medium / low	T/T	Routine indic.	EUROISLANDS					
1.4 Regional potential: GDP, Income & production																
	GDP, Income			10.O2RTST[18]	Region´s share of EU 27+2 GDP in PPS, Change in percent	Region´s share of EU 27+2 GDP in PPS, Change in percent [1995-2000 in ESPON 2006]		PPS / %	T/T	RCE	ESPON 2006					
				10.O2RTST[19]	Additive combination of classified economy indicators divided by # of indicators	Additive combination of classified economy indicators divided by # of indicators			T/T	RCE	ESPON 2006					
				10.O2RTST[20]	Classified economy	Classified economy			T/T	RCE	ESPON 2006					
				10.O2RTST[21]	Classified Lisbon performance	Classified Lisbon performance			T/T	RCE	ESPON 2006					
					Index of global performance of European regions	Index of global performance of European regions										
					Specific regional performance index	Specific regional performance index										
				10.O2RTST[22]	Productivity - GDP per person employed	Productivity - GDP per person employed				RCE						
				10.O2RTST[23]	Income distribution in quintiles	Income distribution in quintiles					Urban Audit					
				10.O2RTST[24]	Dispersion of GDP	Dispersion of GDP			T/T		EDORA	NUTS 3, 1995-2006				
	Wages / costs			10.O2RTST[25]	Wages and salary	Wages and salary		Euros	T/T		EDORA	NUTS 2, available for years 1996,2000,2004				
				10.O2RTST[26]	Labour costs	[Average income per employee]		Million euros	T/T		EDORA	NUTS 2, available for years 1996,2000,2004				
				10.O2RTST[27]	Number of firms by sector of operation (2 digits)	Number of firms by sector of operation (2 digits)			T/T		EDORA					
	Clusters			10.O2RTST[28]	Cluster size	Cluster size			T/T		EDORA					
				10.O2RTST[29]	Cluster specialization	Cluster specialization			T/T		EDORA					
				10.O2RTST[30]	Cluster focus	Cluster focus			T/T		EDORA					
	Economic activity by sectors			10.O2RTST[31]	Number of non-resident visits to a region [Tourism?]	Number of non-resident visits to a region			T/T		EDORA					

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1.5 Regional potential: Human potential				10.O2RTST[32]												
				10.O2RTST[33]	Employment by sector of operation (2 digits)	Employment by sector of operation (2 digits)			T/T		EDORA					
	Age			10.O2RTST[34]	Age dependency ratio	Age dependency ratio			T/T		DEMIFER					
				10.O2RTST[35]	Dependency rate	Dependency rate			T/T		EDORA					
				10.O2RTST[36]	Population between 15 and 64 years	Population between 15 and 64 years			T/T		ESPON 2006	NUTS 2, 1999-2008				
				10.O2RTST[37]	Population with 65 and more years	Population with 65 and more years			T/T		ESPON 2006	NUTS 2, 1999-2008				
				10.O2RTST[38]	Aged People vs. Youth	Aged People vs. Youth			T/T		ESPON 2006					
				10.O2RTST[39]	Life expectancy at birth	Life expectancy at birth			T/T		FOCI	NUTS 2, 1990-2008				
				10.O2RTST[40]	Share of children 0-2 years old in childcare	Share of children 0-2 years old in childcare			T/T		Urban Audit	NUTS 0, 2005-2008				
	Education			10.O2RTST[41]	Number of students by different level of education	Number of students by different level of education			T/T		EDORA	NUTS 2, 1998-2008				
				10.O2RTST[42]	Participation in life long learning	Participation in life long learning			T/T		EDORA					
				10.O2RTST[43]	High education population	High education population			T/T	RCE						
				10.O2RTST[44]	Labour Force Replacement	Labour Force Replacement: population of ages 10-19 / population of ages 55-64			T/T	RCE						
				10.O2RTST[45]	Persons employed per km²	Number of persons employed per km²			T/T	RCE	BBR					
				10.O2RTST[46]	Region´s share of EU 27+2 population, Change in percent	Region´s share of EU 27+2 population, Change [years] in percent [1995-2000 in ESPON 2006]			T/T	RCE	ESPON 2006					
				10.O2RTST[47]	Share of population in the ages over 65 in percent	Share of population in the ages over 65 in percent		%	T/T							
				10.O2RTST[48]	Labour Force Replacement: population of ages 10-19 / population of ages 55-64	Labour Force Replacement: population of ages 10-19 / population of ages 55-64			T/T	RCE	ESPON 2006					
				10.O2RTST[49]	Share high educated population in percent	Share high educated population in percent		%	T/T	RCE	ESPON 2006					
				10.O2RTST[50]	Persons employed in Agriculture 2001 in percent of total	Persons employed in Agriculture 2001 in percent of total		%	T/T	RCE	ESPON 2006					
				10.O2RTST[51]	Persons employed in Services 2001 in percent of total	Persons employed in Services 2001 in percent of total		%	T/T	RCE	ESPON 2006					
				10.O2RTST[52]	Additive combination of classified labour market indicators divided by # of indicators	Additive combination of classified labour market indicators divided by # of indicators			T/T	RCE	ESPON 2006					
				10.O2RTST[53]	Classified demography	Classified demography			T/T	RCE	ESPON 2006					
				10.O2RTST[54]	Additive combination of classified demography indicators divided by # of indicators	Additive combination of classified demography indicators divided by # of indicators			T/T	RCE	ESPON 2006					
				10.O2RTST[55]	Classified labour market	Classified labour market			T/T	RCE	ESPON 2006					
	Commuting			10.O2RTST[64]	Employment and commuting among NUTS level 2 regions	Employment and commuting among NUTS level 2 regions			T/T		ESPON 2006	NUTS 2, 1999-2008				

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1.6 Regional potential: Innovation	Innovation			10.O2RTST[56]	Expenditures, R&D, all institutional sectors, in %	Expenditures, R&D, all institutional sectors, in %		%	T/T	RCE	ESPON 2006	NUTS 2, 1980-2009				
				10.O2RTST[57]	Percentage of employment in high and medium tech manufacturing activities	Percentage of employment in high and medium tech manufacturing activities		%	T/T		EDORA					
				10.O2RTST[58]	Percentage of employment in knowledge intensive high technology services	Percentage of employment in knowledge intensive high technology services		%	T/T		EDORA					
				10.O2RTST[59]	Share of Internet users to100 inhabs regression	Share of Internet users to100 inhabs regression		%	T/T		ESPON 2006					
				10.O2RTST[60]	Patent applications to the EPO by priority year at the regional level, total number, per million inhabitants and per million labour force	Patent applications to the EPO by priority year at the regional level, total number, per million inhabitants and per million labour force					EDORA					
	Innovation, personnel			10.O2RTST[61]	R&D BES personnel (in fte) per 1000 active person 2002 rsp. last year available	R&D BES personnel (in fte) per 1000 active person 2002 rsp. last year available			T/T		ESPON 2006					
				10.O2RTST[62]	R&D BES, Total personnel (in fte) per 1000 active person	R&D BES, Total personnel (in fte) per 1000 active person		%	T/T		ESPON 2006	NUTS 2, 1980-2009				
				10.O2RTST[63]	R&D BES personnel	R&D BES personnel			T/T	RCE	ESPON 2006	NUTS 2, 1980-2009				
				10.O2RTST[65]	Number of non-resident visits to a region	Number of non-resident visits to a region		Person	T/T		ESPON 2006					
2. Urban sprawl	Sprawl of urban land uses			10.O1URST[20]					T/T							
	10. Land use															
3. Proximity to services of general interest				10.O2RTST[14]												
	1. Balance															
	7. Accessibility															
4. Border discontinuities																
	Relative differences at borders				Relative difference of GDP at borders											
	1. Balance															
5. Geographical specificities ("Specific regions")				10.O2RTST[16]	Several indicators included in "Economy" - see also the Indicators of the TEDI project											
	1. Balance	See the Indicators of the TEDI project														
6. Sub-regional disparities																
	1. Balance															

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7. (Potential) accessibility																
	Accessibility			0303ACC[7]	Accessibility	Accessibility			T/T		SURE, EUROISLANDS					
				0303ACCmmabs_(year)(level)	Potential accessibility	To be used for weigting incentives to areas				RCE	ESPON 2006					
					Multimodal/road/rail potential accessibility	Multimodal/road/rail potential accessibility										
					Potential accessibility to population/GDP (road network/airline distance)	Potential accessibility to population/GDP (road network/airline distance)										
					Proportion of regional population within 1 hour car travel time to next airport/ university / hospital	Proportion of regional population within 1 hour car travel time to next airport/ university / hospital										
				0303ACC[4]	Accessibility time to market	Accessibility time to market				RCE	ESPON 2006					
				10.O2RTST[68]	Additive combination of classified accessibility indicators divided by # of indicators	Additive combination of classified accessibility indicators divided by # of indicators			T/T	RCE	ESPON 2006					
				10.O2RTST[69]	Classified accessibility	Classified accessibility			T/T	RCE	ESPON 2006					
					Access to high-speed train services	Access to high-speed train services										
	Connectivity			0303ACC[1]	Connectivity to commercial airports	Connectivity to commercial airports					ESPON 2006					
				0303ACC[2]	Regional road connectivity	Regional road connectivity					TIPTAP					
	Vehicles			10.O2RTST[66]	Peripherality indicator by car with respect to population	Peripherally indicator by car with respect to population (P EU POP)					ESPON 2006					
				10.O2RTST[67]	Stock of vehicles by category at regional level	Stock of vehicles by category at regional level					ESPON 2006	NUTS 2, 1978-2009				
				0303ACC[3]	Daily market accessible by car in terms of GDP	Daily market accessible by car in terms of GDP (MIO EUR/inhabitants*1.000.000)		MIO EUR/inhabitants*1.000.000			ESPON 2006					
	Time to the nearest facility or motorway or railway station			0303ACC[5]	Car driving time to the nearest (x) facility	Car driving time to the nearest (x) facility		Hours			EDORA					
				0303ACC[6]	Time to the nearest motorway access	Time to the nearest motorway access		Hours			ESPON 2006					
					Travel time to railway stations	Travel time to railway stations										
					Car travel time to commercial airports	Car travel time to commercial airports										
					Car travel time to universities/polytechniques/hospitals	Car travel time to universities/polytechniques/hospitals										
	Public Services Accessibility			0303ACC[8]	Potential accessibility, multimodal, to population	Potential accessibility			T/T	RCE	EUROISLANDS					
				0303ACC[9]	Average travel time to three higher hierarchical cities	Average travel time to three higher hierarchical cities		Hours	T/T	Wish list indic.	EUROISLANDS					

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				0303ACC[10]	Accessibility to the nearest/ most frequently used hospital	Accessibility to the nearest/ most frequently used hospital			T/T	Wish list indic.	EUROISLANDS					
8. Natural assets, natural & technological hazards				10.O2RTST[70]	Number of all volcanoes in NUTS2 area	Number of all volcanoes in NUTS2 area			T/T	RCE	ESPON 2006					
				10.O2RTST[71]	Oil Hazards - average of 3 standardized hazard indicators (harbours, pipeline, refinieries)	Oil Hazards - average of 3 standardized hazard indicators (harbours, pipeline, refinieries)			T/T	RCE	ESPON 2006					
				10.O2RTST[72]	Change of dry spell combination with drought	Change of dry spell combination with drought					ESPON 2006					
				10.O2RTST[73]	Additive combination of classified environment indicators divided by # of indicators	Additive combination of classified environment indicators divided by # of indicators			T/T	RCE	ESPON 2006					
				10.O2RTST[74]	Additive combination of classified hazard indicators divided by # of indicators	Additive combination of classified hazard indicators divided by # of indicators			T/T	RCE	ESPON 2006					
				10.O2RTST[75]	Classified naturalness	Classified naturalness			T/T [	RCE	ESPON 2006					
				10.O2RTST[76]	Classified natural hazards	Classified natural hazards			T/T	RCE	ESPON 2006					
				10.O2RTST[77]	Classified technological hazards	Classified technological hazards			T/T	RCE	ESPON 2006					
	Biodiversity			0801ENQ[4]	Fragmentation index	The proportion of fragmented areas to homogeneous areas		%	T/T	Routine indic.	EUROISLANDS					
				0801ENQ[21]	Water Exploitation Index	The mean of annual abstraction of freshwater divided by the mean annual total renewable freshwater resource		%	T/T	Wish list indic.	EUROISLANDS					
				0801ENQ[48]	Island Vulnerabilitry index	Island Vulnerabilitry index			T/T	Wish list indic.	EUROISLANDS					
	Land use/landscape quality			0801ENQ[49]	Soil Erosion	Annual soil erosion risk by water based on estimates of annual soil lost			T/T	Routine indic.	EUROISLANDS					
				0801ENQ[50]	Share of Agricultural Land under Organic Farming	Share of Agricultural Land under Organic Farming			T/T	Routine indic.	EUROISLANDS					
				0801ENQ[51]	Artificialisation of coast	Artificialisation of coast			T/T	Routine indic.	EUROISLANDS					
	Agricultural dangers			0804HAZ[7]	(Total agricultural area entered into agri-environment schemes under Pillar2 of						TIPTAP					
				0804HAZ[8]	Areas at risk of soil erosion (ton/ha/year)*(5% of areas with farms			Ton/ha/year			TIPTAP					
	Vulnerability			0804HAZ[9]	Sum of the vulnerability indicators	Sum of the vulnerability indicator					ESPON 2006					
9. Cultural assets																
	Monuments, heritage sites				Density of monuments											

Annex 5. Inventory of indicators (preliminary) - Complex territorial issues

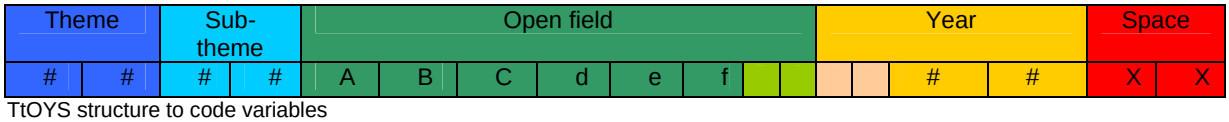
Overlapping with indicators of others sections in red

Theme and subtheme-1	Subtheme-3	Indicator classification theme ESPON 2013	Indicator classification keywords	Indicator code INTERCO / NTUA - see Report	Indicator name INTERCO (NTUA)	Indicator abstract INTERCO (NTUA)**	Overlapping with	UNITS	Type of Indic. -1: C/S: Classical / Simple, T/T: Thematic / Territorial and TC: "Territorial	Type of Indic. -2: other classifications	ESPON Project, Urban Audit, other author	Existing data per level & year: Eurostat per NUTS, Urban Audit (UA) per core city and LUZ	Other sources' data per level and year	Data filename ESPON 2013	Dataset point of contact	Value methodology
					UNESCO World Heritage Sites per region											
10. Land use issues																
	Land use		Aggregation from Corine Land Cover	10.O2RTST[78]	Corine LC Artificial surface	Corine LC Artificial surface		Hectares / %	T/T	RCE	ESPON 2006			Land_use_data		
				10.O2RTST[79]	Corine LC Natural surface	Corine LC Natural surface		Hectares / %	T/T	RCE	ESPON 2006					
				10.O2RTST[80]	Agricultural intensity	Agricultural intensity		Hectares / %		RCE	ESPON 2006					
	Proportion of area			0501LAUS[3]	Artificial surfaces / territories	Artificial surfaces		Hectares	T/T		ESPON 2006			Land_use_data		
				0501LAUS[4]	% of the area in green space/ sports/commercial activities/transports	Area in green space/ sports/commercial activities/transports		%	T/T	Derived	Urban Audit					
				0501LAUS[5]	Proportion morphological city area outside administrative limits	Morphological city area outside administrative limits		%	T/T		Urban Audit					
				0501LAUS[6]	Loss of land from agriculture to artificial surfaces	Change from Agriculture to artificial land		%	T/T	Routine indic.	EUROISLANDS					
				0501LAUS[7]	Land use changes	Share between natural (forest, grassland, internal waters, wetlands)/ semi-natural (agricultural) and artificial areas		Hectares /%	T/T	Wish list indic.	EUROISLANDS					
11.Territorial cooperation options (urban-urban, rural-urban)																
	1. Balance															
	Urban - Rural interactions			10.O1URST[16]	Relative rurality	Relative rurality			T/T							
				10.O1URST[18]	Number of local units	Number of local units			T/T		EDORA	NUTS 2, 1997-2007				

Annex 6. The ESPON DB 2013 and the INTERCO coding systems

According to the TtOYS structure, the coding scheme for each indicator consists of ***five fields*** and can be fulfilled with up to eighteen characters.

These five fields are ***Theme, Sub-theme, Open field, Year and Space*** (Figure 6)***.***



TtOYS structure to code variables

Figure 6. The INTERCO coding scheme

The fields **Theme**, **Sub-theme** and **Space** are fulfilled with two characters each, while the other two fields are more flexible.

The **Open field** can take six to maximum eight characters and the field **Year** can fulfilled to two up to four characters.

To improve harmonization, the ESPON DB further proposed that letters and numbers should be written in a specific order and text displayed as either upper or lower case.

In more detail, the pairs of digits representing themes and sub-themes (Tt) are indicated in the first four characters of the code.

Beyond themes and sub-themes, it is necessary to give further details on the information that is being measured. This can be achieved by completing the Open field. In order to harmonise process ESPON DB proposes three lists of abbreviations based on the current state of the database are proposed. The first two lists relate to subjects and to some adjectives and names widely used when labeling indicators (e.g. total, gender) and the third list should preferably remain fixed since it corresponds to measurement scales as recognised in the geographical/statistical literature.

So, upper case letters are used to identify the subject, up to 3 lower case characters are used to refine the subject and other lower case characters by the proposed lists of ESPON DB are used. As far as fields Year and Space are concerned the coding scheme includes a code for the year(s) of reference and description of the different geographical objects (e.g. NUTS, LAU, UMZ).

Annex 7. Inventory of World indicators (preliminary) - Classical (sectoral) issues

Theme and subtheme-1	Subtheme-2	Subtheme-3	Indicator classification theme ESPON 2013	Indicator classification keywords	Indicator code INTERCO / NTUA - see Report	Indicator name INTERCO (NTUA)	Indicator abstract INTERCO (NTUA)**	Overlapping with	UNITS	Type of Indicator -1 (C/S. T/T and TC - see Note 2)	Type of Indicator -2	ESPON Project / other author	Eurostat availability of data	Data filename ESPON 2013	Dataset point of contact	Value methodology
						GDP index multiplicated by population 2002						ESPON DB 2013				
						Active population						ESPON DB 2013				
	Trade analysis system					Export flows										
						Import flows						ESPON DB 2013				
						Bilateral flows (Total)										
						Life expectancy index multiplicated by population						ESPON DB 2013				
						Human development index (HDI) value multiplicated by population 2002						ESPON DB 2013				
						Dependency ratio						ESPON DB 2013				
						Maximum Euclidean distance						ESPON DB 2013				
						Average Euclidean distance						ESPON DB 2013				
						Sum Euclidean distance						ESPON DB 2013				
						Maximum Road Network Efficency Indicator						ESPON DB 2013				
						Road Network Efficency Indicator						ESPON DB 2013				
						The sum of Road Network Efficency Indicator						ESPON DB 2013				
		Air flows										ESPON DB 2013				Examines the air flows between cities (sheet : flows_city) and air flows between countries (sheet: flows_state). For each of these two levels, there are: “Number of passengers in 2000”(FAERO) and “Distance in km”(DAERO) . It is also examined whether each country participates in ESPON or EUROMED.
		Land use				Artificial surfaces										
		Education				Education index multiplicated by population						ESPON DB 2013				
		Culture				Dummy variables indicating whether the two countries share a common official language shared by 20% of population						ESPON DB 2013				
						Dummy variables indicating whether the two countries share a common mother tongue or vehicular language shared by 20% of population						ESPON DB 2013				

Annex 7. Inventory of World indicators (preliminary) - Complex territorial issues

Theme and subtheme-1	Subtheme-2	Subtheme-3	Indicator classification theme ESPON 2013	Indicator classification keywords	Indicator code INTERCO / NTUA - see Report	Indicator name INTERCO (NTUA)	Indicator abstract INTERCO (NTUA)**	Overlapping with	UNITS	Type of Indicator -1 (C/S. T/T and TC - see Note 2)	Type of Indicator -2	ESPON Project / other author	Eurostat availability of data	Data filename ESPON 2013	Dataset point of contact	Value methodology
	Distances between states					Simple distances						ESPON DB 2013				Geodesic distances are calculated following the great circle formula, which uses latitudes and longitudes of the most important cities/agglomerations (in terms of population) for the dist variable and the geographic coordinates of the capital cities for the distcap variable. These two variables incorporate internal distances based on areas
						Weighted distances						ESPON DB 2013				The basic idea is to calculate distance between two countries based on bilateral distances between the biggest cities of those two countries, those intercity distances being weighted by the share of the city in the overall country's population
						Dummy variables indicated extended contiguity between states separated by short sea distance (less than *** km)						ESPON DB 2013				
	Other					Dummy variables indicating whether the two countries are contiguous						ESPON DB 2013				
						Dummy variables indicating whether the two countries have ever had a colonial link						ESPON DB 2013				
						Dummy variables indicating whether the two countries are currently in a colonial relationship						ESPON DB 2013				
						Dummy variables indicating whether the two countries were/are the same country						ESPON DB 2013				

Annex 8. GIS data sources

Potential databases for administrative boundaries

The main data source of GIS layers for administrative boundaries is the existing ESPON database, which already includes layers for NUTS-3, 2, 1 and 0 levels, including all countries of the ESPON space, the EU Candidate Countries and the Western Balkans countries. The ESPON database already includes also municipality boundaries for several countries (like Bulgaria, Czech Republic, Hungary, Romania, or Slovakia) (Groza and Rusu, 2010). The NUTS-3 level is considered as the base level for the study, however, if any indicator requires also smaller spatial levels just like municipality or grid levels will be used.

If the ESPON database lacks any boundaries, Eurostat/GISCO and Eurostat SABE, respectively, and Eurogeographics will be approached as alternative data providers.

It is worth mentioning that the NUTS boundaries layers that come along with the ESPON database are highly generalised, optimised for map generation at European scale, which may lead to problems if these layers were used in GIS operations (like overlay, intersect) with other GIS layers with higher accuracy. In this case, Eurogeographics and RRG provide administrative boundaries with higher accuracy that can be used instead for GIS operations.

Potential databases for other GIS layers

Other GIS layers that may be needed cannot be finally identified at this stage of the project, however, anticipating from previous similar project, it is likely that transport datasets, land use datasets and grid data are needed. Potential data sources for such layers are listed, as follows:

Transport data

Transport data are likely to be used to compute accessibility indicators like population potential or travel times or access to public facilities. The RRG GIS Database, available at hand of one Project Partner, covers a full coding of the trunk road, rail, and waterway networks for entire Europe, including airports, ports, freight villages, and railway stations and railway timetables (RRG, 2010). Alternatively, or in combination, transport networks from Eurogeographics or from the OpenStreetMap project may be used, if the RRG GIS Database reveals shortcomings.

Land use data

Land use data are needed when assessing the impacts of human behaviour on nature and landscape. The CORINE dataset of the European Environmental Agency (EEA, 2010a) provides land use information on grid basis for the ESPON space, covering about 40 land use classes. CORINE is already available for two points in time (1990, 2000), allowing for a comparison of the land use development over a decade.

Alternative GIS land use layers for the ESPON space (and beyond) include PELCOM (”**P**an-**E**uropean **L**and Use and Land **Co**ver **M**onitoring”, PELCOM, 2001) and Global2000, developed by the JRC (2004).

Grid data

Grid data on population may be used for the calculation of (small-scale) innovative indicators, requiring high-resolution statistical data. The ESPON database includes an interesting grid layer with disaggregated socio-economic data (Milego and Ramos, 2010) which can be applied, but the population grid developed by the EEA (2010b) may also be an alternative. The national statistical offices of Finland, Norway and

Sweden provide different statistical data at grid level on regular basis, which may be used as well. The grid data may, for instance, be used to analyse spatial disparities at sub-regional level.

Other GIS layers

It may turn out in Activity B that other thematic GIS layers are required as well. They may be obtained from ESRI´s Digital Chart of the World (DCW), from OpenStreetMap (OSM), from the RRG GIS Database (RRG), from INSPIRE, from the UNEP Geo data portal, or from other data sources that cannot be foreseen at the moment.

The RRG GIS Database focuses on transport layers and transport-related layers (road and rail networks, waterways and ports, airports, freight villages, transport analyses zones), region and country boundaries (NUTS levels, Interreg programme), public infrastructures (universities, hospitals) and some other geographical context (cities, continents, water bodies, relief).

The UNEP Geo Data Portal (http://geodata.grid.unep.ch) is the authoritative source for data sets used by UNEP and its partners in the Global Environment Outlook (GEO), covering more than 500 statistical variables and GIS layers on themes like freshwater, population, forests, emission, climate, disasters, health and GDP.

The GIS layers will be used to calculate complex composite territorial indicators, by combining statistical data with geographical data. Because the GIS data are not bound to any administrative boundaries, i.e. they are seamless by nature, they can potentially be calculated for any spatial level, thereby alleviating some of the problems associated with the statistical data (see p. 27).

Annex 9. The ESPON 2013 Database CD-ROM

The (draft) ESPON database available to all ESPON projects is basically subdivided into six themes (directory names of the CD-ROM in *italics*)

1. *Basic* statistical data for the ESPON space at NUTS-3 level
2. *Grid* data for the ESPON space and the EU Candidate countries and Western Balkan (disaggregated socio-economic data on GDP, unemployment and active population)
3. *Historical* statistical data for the ESPON space, based on older NUTS classifications
4. *Local data* (statistical and geographical) for Bulgaria, Czech Republic, Hungary, Romania and Slovakia at municipality level
5. Basis statistical data for the *neighbour*ing EU Candidate countries and Western Balkan at NUTS-3 level
6. *World* data: geographical datasets.

The required datasets will be extracted from these themes, and compiled and processed in the format required.

Unfortunately, the draft ESPON database available at the time of writing this Inception Report only includes a small subset of basic statistical data and indicators that have been calculated in the various ESPON projects. The base data in Excel format comprise :

- GDP 2000-2006
- Land use data 2000
- Active population and unemployed persons 2000-2007
- Age structure 2005
- Total population 2000-2006
- The historical statistical data are derived from Eurostat New Cronos database, and comprise population and age structure data only.

However, the ESPON Lead Partners have online access to the full wealth of ESPON data, which can be downloaded from the ESPON website.

Apart from the statistical data, the ESPON database also includes geographical boundaries for the different NUTS levels (NUTS-3, 2, 1, and 0), for different NUTS-versions, which can be used for data illustrations and mapping. For the latter one the ESPON database also pro-processed mapkits and map layouts in ArcGIS format (i.e. so-called MXD files) at different scales and with different extent (ESPON space, ESPON space and candidate countries, global mapkit, and local mapkit), which are to be used by all ESPON projects.

Annex 10. Data sources for EU candidate and potential candidate countries

The respective ESPON Database working paper (NTUA workgroup 2010) presented the results of the assessment of the conformity of the Western Balkans (WB) and Turkey spatial administrative divisions to the EU NUTS classification criteria.

The NUTS Regulation lays down the following minimum and maximum thresholds for the average size of the NUTS regions: NUTS 1: 3 - 7 million (of inhabitants), NUTS 2: 800 000 - 3 million, NUTS 3: 150 000 - 800 000.

Turkey, Croatia and FYROM have already adopted this classification. The rest of the WB countries are at the present in the procedure of adopting it. According to the assessment, using the population criterion, in the majority of these last the existing administrative divisions (regions, districts etc) could be associated to the EU NUTS definitions without considerable problems. The analysis of the administrative capacity of the spatial administrative divisions which fulfil better the respective NUTS population criteria have not changed significantly the previous conclusion. ESPON Database project uses for these last divisions the term “similar NUTS”.

In the following tables (Figure 7 & Figure 8) we present, respectively, the NUTS and “Similar NUTS” divisions of the CC / PCC. See in more detail in the results of the per country assessments presented in the mentioned Working paper.

	NUTS 1	NUTS 2	S NUTS 3
Croatia	Country	Regiia	Counties
FYROM	Country	Country	Statistical Regions
Turkey	Regions	Sub-regions	Provinces

Figure 7. NUTS1,2,3 regions in Croatia, FYROM and Turkey

	Similar to NUTS 1	Similar to NUTS 2	Similar to NUTS 3
Albania	Country	(Country)	12 Prefectures
BeH	Country or: FBiH, RS, Brsko district	FBiH, RS, Brsko district	10 Cantons
Serbia	Central Serbia, Voivodina	(Central Serbia, Voivodina)	21 Districts
Montenegro	Country	Country	Country
Kosovo*	Country	Country	(Country)

* Under UN Security Council Resolution 1244

Figure 8. “Similar NUTS1,2,3” regions in the PCC of Western Balkans

We comment next, in brief, the availability of data for the CC / PCC for the needs of INTERCO per type of data and per country:

1) *Economic, social and environmental data per INTERCO groups of themes / issues* (see Annex 11)**.**

    a. Agriculture and fisheries: Data for the agriculture employment and farms holdings and holders from Eurostat at NUTS3 level for Croatia (HR), FYROM (MK) and Turkey (TR).

    b. Demography (Population Structure, Migration), 06. Social Affairs (including Culture, Education, Health, Literacy) and 07. Economy (including Employment, Finance, Industry, Technology …): Eurostat

data at NUTS3 level for HR, MK and TR for a large number of issues, more or less as for the EU-27 countries. For the PCC: data from Eurostat at country level and data from NSO for a large number of issues. Especially, GDP data at lower than the country level are missing for the PCC.

c. Transport, 04. Energy and 08. Environment, Hazards: Eurostat data at NUTS0, 1 or 2 for a number of issues (as, more or less, for the EU-27 countries) for HR, MK and TR, data at country level from the NSO for the rest Balkan countries.

2) *Network data:* See in the report.

3) *Land use data:* See in the report.

In some cases, missing data could be complemented using the grid Corine Land Cover (CLC) data for all the CC / PCC.

We should note that there are Urban Audit data for HR, MK and TR as well as LAU data for the CC / PCC for some issues.

There are official (Eurogeographics) boundaries for HR, MK and Turkey. The problem of the use of “non-official” boundaries for the rest Balkan countries (see in NTUA team 2010 working paper / ESPON Database 2nd Interim Report / 2010) will be investigated in cooperation with the ESPON database project.

A working paper presenting in detail the results of the ongoing assessment in the frame of INTERCO on the availability of data in the CC / PCC for the existing indicators will be submitted at the end of October 2010.

Annex 11. Data availability for the Candidate Countries and the rest of Balkan countries

Theme and subtheme-1	Subtheme-2	Indicator name INTERCO	UNITS	Eurostat data at the lower available level for Croatia, FYROM, Turkey	Croatia, FYROM, Turkey	Eurostat data at the lower available level for the PCC / rest Balkan	Pot. C. countries / Rest Balkan countries	National Statistical Organisations (NSO) data at the lower available level for the PCC				
								Albania	Bosnia & Herz.	Montenegro	Serbia	Kosovo
01. Agriculture and fisheries												
01.01 Land Use		Utilised agricultural area		**NUTS 2, 1974-2008**	**Turkey**	NUTS 1, 1995-2009	Albania, BnH, Montenegro, Serbia and Kosovo (and Croatia, FYROM)	**NUTS 1, 2001, 2007**	**NUTS 1, 2001, 2007**	**NUTS 1, 2001, 2007**	**NUTS 1, 2001, 2007**	**NUTS 1, 2001, 2007**
Other		% (change in number) of holdings >x ESU		NUTS 3, 2000-2007	Croatia, FYROM, Turkey							
		% of holdings with an OGA		NUTS 3, 2000-2007	Croatia, FYROM, Turkey							
		Number of farm holdings		NUTS 3, 2000-2007	Croatia, FYROM, Turkey							
		% (change of) holders who are full time		NUTS 3, 2000-2007	Croatia, FYROM, Turkey							
01.03 Employment		AWU per ESU (SGM)		NUTS 3, 2000-2007	Croatia, FYROM, Turkey							
02. Demography												
02.01 Population Structure	Population size, density	Population size	Inhabitants	NUTS3,1990-2008	Croatia, FYROM, Turkey	NUTS 1, 1995-2009	Albania, BnH, Montenegro, Serbia and Kosovo	NUTS 3, 1989, 2001	NUTS 3, 1991,1995, 2001 -2002, 2007	NUTS 3, 1981,1991,2003	NUTS 3,1991,1995, 1998-2005	NUTS 3,1981,1991,2006,2007
		Population density	Inhabitants / km (Km2)	NUTS3,1990-2008	Croatia, FYROM, Turkey	NUTS 1, 1995-2009	Albania, BnH, Montenegro, Serbia					
		Population *change*	Inhabitants	NUTS 3, 1990-2007	Croatia, FYROM, Turkey	NUTS 1, 1995-2009	Albania, BnH, Montenegro, Serbia					
	Population sex, age	Population by sex and age	Thousands inh.	NUTS 2, 1990-2009 / NUTS 3, 2000-2009	Croatia, FYROM, Turkey	NUTS 1, 1995-2009	Albania, BnH, Montenegro, Serbia and Kosovo	NUTS 3, 2001	NUTS 3, 1991, 2000-2003, 2007	NUTS 3,1981,1991, 2003	NUTS 3,1991,1995, 1998-2005	NUTS 3,1991
		Resident population (total, gender proportion)	Inhabitants	NUTS 2, 1990-2007	Croatia, FYROM, Turkey	NUTS 1, 1995-2009	Albania, BnH, Montenegro, Serbia and Kosovo					
		Population pyramid		NUTS 2, 1990-2009 / NUTS 3, 2000-2009	Croatia, FYROM, Turkey	NUTS 1, 1995-2009	Albania, BnH, Montenegro, Serbia and Kosovo	NUTS 3, 2001	NUTS 3, 1991, 2000-2003, 2007	NUTS 3,1991, 2003	NUTS 3,1991, 1995,1998-2005	NUTS 3,1991,2006,2007
		Life expectancy	Years	NUTS 2, 1990-2008	Croatia, FYROM, Turkey	NUTS 1, 1995-2009	Albania, BnH, Montenegro, Serbia and Kosovo					
	Natural change	Crude birth rate / Crude death rate	Crude rate	NUTS 3, 1990-2007	Croatia, FYROM, Turkey	NUTS 1, 1995-2009	Albania, BnH, Montenegro, Serbia and Kosovo					
		Total fertility rate	Percentage		Croatia, FYROM, Turkey	NUTS 1, 1995-2009	Albania, BnH, Montenegro, Serbia					
		Infant mortality	Inhabitants	NUTS 2, 1990-2007	Croatia, FYROM, Turkey	NUTS 1, 1995-2009	Albania, BnH, Montenegro, Serbia and Kosovo					
	Nationals, foreigners	Nationals as a proportion of the total population	Inhabitants / Percentage	Urban Audit data for core citiies and LUZ, 1989-2006	Croatia, FYROM, Turkey	NUTS 1, 1995-2009	Albania, BnH, Montenegro, Serbia, Kosovo					
	Labour force											

Annex 11. Data availability for the Candidate Countries and the rest of Balkan countries

Theme and subtheme-1	Subtheme-2	Indicator name INTERCO	UNITS	Eurostat data at the lower available level for Croatia, FYROM, Turkey	Croatia, FYROM, Turkey	Eurostat data at the lower available level for the PCC / rest Balkan	Pot. C. countries / Rest Balkan countries	National Statistical Organisations (NSO) data at the lower available level for the PCC				
								Albania	Bosnia & Herz.	Montenegro	Serbia	Kosovo
		Urban - rural population in Europe based on national classification		Urban Audit data for core citiies and LUZ, 1989-2006	Croatia, FYROM, Turkey							
	Households social characteristics	Number, Avg size	Inhabitants	Urban Audit data for core citiies and LUZ, 1989-2006	Croatia, FYROM, Turkey							
		Lone - person	Inhabitants	Urban Audit data for core citiies and LUZ, 1989-2006	Croatia, FYROM, Turkey							
		Lone - parent	Inhabitants	Urban Audit data for core citiies and LUZ, 1989-2006	Croatia, FYROM, Turkey							
		Lone - pensioner (above retirement age)	Inhabitants	Urban Audit data for core citiies and LUZ, 1989-2006	Croatia, FYROM, Turkey							
02.02 Population Movement (Migration)	Migration	Net migration rate	Crude rate	NUTS 3. 2000-2008	Croatia, FYROM, Turkey	NUTS 1, 1995-2009	Albania, BnH, Montenegro, Serbia, Kosovo					
03. Transport (including Accesibility, Csommunication..)												
03.04 Impacts of Transport Policies	Employment	Employment in the transport sector as % of total employment		NUTS 2, 1998-2008	Croatia, FYROM, Turkey							
03.05 Information & Communic. Technologies		Human resources in science and technology		NUTS 2, 1995-2008	Croatia, FYROM, Turkey							
04. Energy												
	Energy	Electricity / Gas Prices	Euros			NUTS 1, 1995-2009	Albania, BnH, Montenegro, Serbia, Kosovo (and Croatia, FYROM, Turkey)					
		Energy Production				NUTS 1, 1995-2009	Albania, BnH, Montenegro, Serbia, Kosovo (and Croatia, FYROM, Turkey)	NUTS 1, 1997-2007	NUTS 1, 1997-2007	NUTS 1, 1997-2007	NUTS 1, 1997-2007	NUTS 1, 1997-2007
		Greenhouse Gas Emissions				NUTS 1, 1995-2009	Albania, BnH, Montenegro, Serbia, Kosovo (and Croatia, FYROM, Turkey)					
06. Social Affairs (including Culture, Education, Health, Literacy,...)												
06.01 Education		Number of persons by educational attainment		NUTS 2, 2000-2008	Croatia, FYROM, Turkey	NUTS 1, 1995-2009	Albania, BnH, Montenegro, Serbia, Kosovo					
		Early school leavers				NUTS 1, 1995-2009	Albania, BnH, Montenegro, Serbia, Kosovo					
06.02 Poverty		At persistent risk of poverty rate	Percentage	NUTS 2, 1997-2001	Croatia, FYROM, Turkey	NUTS 1, 1995-2009	Albania, BnH, Montenegro, Serbia, Kosovo					

Annex 11. Data availability for the Candidate Countries and the rest of Balkan countries

Theme and subtheme-1	Subtheme-2	Indicator name INTERCO	UNITS	Eurostat data at the lower available level for Croatia, FYROM, Turkey	Croatia, FYROM, Turkey	Eurostat data at the lower available level for the PCC / rest Balkan	Pot. C. countries / Rest Balkan countries	National Statistical Organisations (NSO) data at the lower available level for the PCC				
								Albania	Bosnia & Herz.	Montenegro	Serbia	Kosovo
06.03 Other social	Households	% households living in social housing	Percentage	Urban Audit data for core citiies and LUZ, 1989-2006	Croatia, FYROM, Turkey							
		Households living in owned housing, in social housing, in private rented housing, in	Percentage	Urban Audit data for core citiies and LUZ, 1989-2006	Croatia, FYROM, Turkey							
	Dwellings	Number of dwellings		Urban Audit data for core citiies and LUZ, 1989-2006	Croatia, FYROM, Turkey							
		Average occupancy per occupied dwelling	Percentage	Urban Audit data for core citiies and LUZ, 1989-2006	Croatia, FYROM, Turkey							
		Proportion of dwellings lacking basic amenities	Percentage	Urban Audit data for core citiies and LUZ, 1989-2006	Croatia, FYROM, Turkey							
		Non - convention dwellings		Urban Audit data for core citiies and LUZ, 1989-2006	Croatia, FYROM, Turkey							
		Empty conventional dwellings		Urban Audit data for core citiies and LUZ, 1989-2006	Croatia, FYROM, Turkey							
		Average area of living accommodation (m2 per person)	m2 per person	Urban Audit data for core citiies and LUZ, 1989-2006	Croatia, FYROM, Turkey							
	Social security	Proportion of households reliant upon social security	Percentage	Urban Audit data for core citiies and LUZ, 1989-2006	Croatia, FYROM, Turkey							
		Proportion of individuals reliant on social security	Percentage	Urban Audit data for core citiies and LUZ, 1989-2006	Croatia, FYROM, Turkey							
	Crime	Number of murders and violent deaths for 1.000 residents	Murder or death / 1000residents	Urban Audit data for core citiies and LUZ, 1989-2006	Croatia, FYROM, Turkey							
		Number of car thefts for 1000 residents	Theft / 1000residents	Urban Audit data for core citiies and LUZ, 1989-2006	Croatia, FYROM, Turkey							
	Health	Health expenditure per capita	Percentage			NUTS 1, 1995-2009	Albania, BnH, Montenegro, Serbia, Kosovo					
07. Economy (including Employment, Finance, Industry, Technology …)												
07.01 Labour force	**Labour force, Economic activity**	Economic activity rate, per year and change	Percentage	NUTS 2, 1999-2008 / NUTS3 2001	Croatia, FYROM, Turkey	NUTS 1, 1995-2009	Albania, BnH, Montenegro, Serbia					
		Total active population	Thousands inh.	NUTS 3, 1999-2008	Croatia, FYROM, Turkey	NUTS 1, 1995-2009	Albania, BnH, Montenegro, Serbia	NUTS 3, 2001	NUTS 3, 1991, 2007	NUTS 3,1991, 2003	NUTS 3,1991, 1995, 2002	NUTS 3,1991
		Labour Productivity	Percentage	NUTS 2, 2000-2009	Croatia, FYROM, Turkey	NUTS 1, 1997-2009	Albania, BnH, Montenegro, Serbia					
		Female activity rate	Percentage	NUTS 3, 1997-2008	Croatia, FYROM, Turkey	NUTS 1, 1995-2009	Albania, BnH, Montenegro, Serbia					
		Male activity rate	Percentage	NUTS 3, 1997-2008	Croatia, FYROM, Turkey	NUTS 1, 1995-2009	Albania, BnH, Montenegro, Serbia					

Annex 11. Data availability for the Candidate Countries and the rest of Balkan countries

Theme and subtheme-1	Subtheme-2	Indicator name INTERCO	UNITS	Eurostat data at the lower available level for Croatia, FYROM, Turkey	Croatia, FYROM, Turkey	Eurostat data at the lower available level for the PCC / rest Balkan	Pot. C. countries / Rest Balkan countries	National Statistical Organisations (NSO) data at the lower available level for the PCC				
								Albania	Bosnia & Herz.	Montenegro	Serbia	Kosovo
07.02 Employment, Unemployment	**Employment**	Employment rate per year	Percentage	NUTS 2, 1999-2008	Croatia, FYROM, Turkey	NUTS 1, 1995-2009	Albania, BnH, Montenegro, Serbia					
		Employment growth	Percentage	NUTS 2, 1999-2008	Croatia, FYROM, Turkey	NUTS 1, 1997-2009	Albania, BnH, Montenegro, Serbia					
		Employment in the NACE groups of activities (Medium-high and high-tech manufacturing (employment as % of total manufacturing employment)	Percentage	NUTS 3, 1995-2007	Croatia, FYROM, Turkey	NUTS 1, 1995-2009	Albania, BnH, Montenegro, Serbia and Kosovo					
		Self - employment	Thousands	NUTS 2, 1999-2008	Croatia, FYROM, Turkey							
		Part - time employment by gender and age	Thousands	NUTS 2, 1999-2008	Croatia, FYROM, Turkey							
		Employment per economic activity	Thousands	NUTS 2, 1999-2008	Croatia, FYROM, Turkey			NUTS 3, 2001	NUTS 3, 1991, 2007	NUTS 3,1991, 2003, 2004-2007	NUTS 3,1991,1995, 1998-2006	NUTS 3,1991
		Total number of employees by sector	Thousands	NUTS 2, 1999-2008	Croatia, FYROM, Turkey							
	Unemployment	Unemployment rate , over/under 25 years	Thousands inh. / Percentage	NUTS 3, 1999-2008	Croatia, FYROM, Turkey	NUTS 1, 1995-2009	Albania, BnH, Montenegro, Serbia and Kosovo	NUTS 3, 2001	NUTS 3, 1991, 2007	NUTS 3,1991, 2003, 2004-2007	NUTS 3,1991,1995, 1998-2006	NUTS 3,1991
		Long-term unemployment rate	Thousands inh. / Percentage	NUTS 2, 1999-2008	Croatia, FYROM, Turkey							
07.03 Income and Consumption	GDP, GVA (Gross Value Added)	GDP per inhabitant (capita) in pps or euros, per year	PPS or EUROS	NUTS 3, 1995-2007	Croatia, FYROM, Turkey	NUTS 1, 1995-2009	Albania, BnH, Montenegro, Serbia and Kosovo		NUTS 3, 2005, 2007	NUTS 3, 2000-2004		
		GDP change per inhabitant (capita) in pps or euros, per year	Pps or Euros	NUTS 3, 1995-2007	Croatia, FYROM, Turkey							
		Growth rate of GDP in PPS per capita	Pps	NUTS 3, 1995-2007	Croatia, FYROM, Turkey	NUTS 1, 1995-2009	Albania, BnH, Montenegro, Serbia and Kosovo					
		Dispersion of Regional GDP	Percentage	NUTS3,1995-2007	Croatia, FYROM, Turkey							
	Households income	Median disposable annual household income	Pps or Euros	Urban Audit data for core citiies and LUZ,	Croatia, FYROM, Turkey							
		Total household income	Pps or Euros	NUTS 2,1995-2007	Croatia, FYROM, Turkey							
07.05 Tourism	Tourism	No. of tourist bed places		NUTS 3, 1990-2010	Croatia, FYROM, Turkey	NUTS 1, 1995-2009	Albania, BnH, Montenegro, Serbia					
		No. of nights spent		NUTS 2,1990-2010	Croatia, FYROM, Turkey	NUTS 1, 1995-2009	Albania, BnH, Montenegro, Serbia					
07.06 Industry, Services	Economic Development											
07.07 Innovation	Innovation	Research & Development Expenditures		NUTS 2, 1980-2009	Croatia, FYROM, Turkey	NUTS 1, 1995-2009	Albania, BnH, Montenegro, Serbia					

Annex 11. Data availability for the Candidate Countries and the rest of Balkan countries

Theme and subtheme-1	Subtheme-2	Indicator name INTERCO	UNITS	Eurostat data at the lower available level for Croatia, FYROM, Turkey	Croatia, FYROM, Turkey	Eurostat data at the lower available level for the PCC / rest Balkan	Pot. C. countries / Rest Balkan countries	National Statistical Organisations (NSO) data at the lower available level for the PCC				
								Albania	Bosnia & Herz.	Montenegro	Serbia	Kosovo
		Employment in technology and knowledge intensive sectors by gender		NUTS 2, 1994-2008	Croatia, FYROM, Turkey	NUTS 1, 1995-2009	Albania, BnH, Montenegro, Serbia					
		Gross domestic expenditure on R&D	Euros	NUTS 2, 1998-2008	Croatia, FYROM, Turkey							
		% of households having broadband access	Percentage	NUTS 2, 2006-2009	Croatia, FYROM, Turkey	NUTS 1, 1995-2009	Albania, BnH, Montenegro, Serbia					
		% of households having access to the internet at home	Percentage	NUTS 2, 2006-2009	Croatia, FYROM, Turkey	NUTS 1, 1995-2009	Albania, BnH, Montenegro, Serbia					
08. Environment, Hazards												
08.01 Environment quality (etc)	Water	Consumprion of water per capita		Urban Audit data for core citiies and LUZ, 1989-2006	Croatia, FYROM, Turkey							
		Number of water rationing cases, days per year		Urban Audit data for core citiies and LUZ, 1989-2006	Croatia, FYROM, Turkey							
	Sewage / waste											
		Municipal waste production	kg/person/year			NUTS 1, 1995-2009	Albania, BnH, Montenegro, Serbia, Kosovo (and Croatia, FYROM, Turkey)					

Author of the Table: NTUA team. Sources of data: Eurostat and National statistical Organisations of the Western Balkans

Annex 12. Structure of the INTERCO database

Database format

The overall database to be developed for ESPON INTERCO will be set up as a so-called *Personal* or *file geodatabase* on top of ArcGIS, which is a modern GIS data format recommended by ESRI. The personal or file geodatabase will store not only the geometrical layers, but also tabular statistical data (raw data) and the indicators, as well as the metadata associated with them. In order to allow non-GIS users to work with the developed indicators, all indicators will also be made available as simple Excel files in a sub-directory called EXCEL.

A personal or file geodatabase can be categorised by datasets, which are used to structure all the data thematically. Each dataset in turn comprises a set of feature classes and geometrical objects. The detailed database structure will be elaborated in parallel to the indicator selection process, in order to take account of the indicator system and indicator themes. Figure 9 provides a sample illustration of database structure.

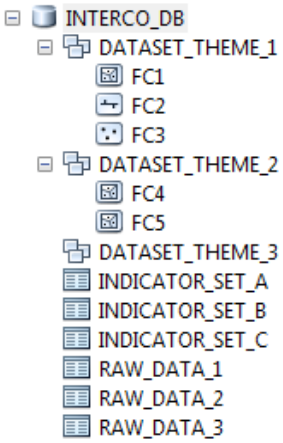


Figure 9. INTERCO Database Structure in ArcGIS (example).

The metadata will also be stored as part of the geodatabase. From there they can also be exported to text formats like doc or pdf. The exported metadata in pdf format can be accessed from outside ArcGIS via the DOC sub-directory. Metadata will be stored in one of the following three standards:

- INSPIRE metadata directive
- ISO 19139 metadata implementation specification
- North American profile of ISO 19115 2003

Scripts and tools

The generation of the indicators usually requires a sequence of mathematical, statistical or GIS operations, or even the development of dedicated GIS models, depending on the complexity of the indicator, and subject to the required input data. All needed operations will be implemented by scripts, with one script per indicator (unless the indicator is only a simple transformation of the raw input data). The scripts will be subsumed in a new INTERCO toolbox for ArcGIS, called INTERCO tools. The tools can then be launched from ArcGIS to re-calculate any of the indicators easily without the need to redevelop the methodological basis.

Figure 10 illustrates how the scripts can be accessed from ArcGIS Toolbox, as a collection of INTERCO Tools, subdivided be themes. The theme names (Theme A,

Theme B etc.) and also the script names (Script 1, Script 2, …) of the figure will be exchanged by meaningful labels, once the indicators and indicator themes are defined.

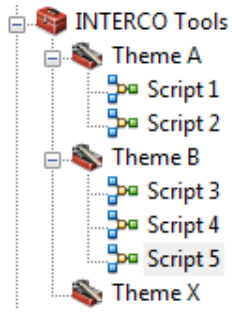


Figure 10. INTERCO Tools in ArcGIS Toolbox.

The scripts itself will be written in Python, VBA, or AML, or will be developed by using the Model Builder in ArcGIS.

Mapping and cartography

The mapping of the indicators and the cartographic layout will be based upon the mapkits developed by the ESPON 2013 Database project (Zanin et al., 2010). Different mapkits for different spatial scales have already been developed and standardised to the ESPON layout. Available mapkits include :

- ESPON Space (optimised for NUTS-3 level for all countries of the ESPON space)
- ESPON Space and candidate countries (optimised for NUTS-3 level for all countries of the ESPON space, plus the EU candidate countries and Western Balkans countries)
- Global mapkit (optimised for global maps showing all the continents)
- Local mapkit (optimised for NUTS-5 level to show zoom-in maps for individual areas)

All mapkits are available as templates for ArcGIS (i.e. MXD-files) which will be used as basis for all ESPON INTERCO maps. Each INTERCO map will then be stored as individual MXD file for later usage. The collection of developed MXD files will be stored in a sub-directory called CARTO.

Moreover, the layers used in the maps will also be provided as so-called LYR files, which store the symbology (colors, symbols, line width, line patterns, markers etc.) for later uses, without the need to reestablish the overall symbology again.

Folder structure

The overall output of the GIS works in INTERCO will be stored and made available in a comprehensive folder structure, including the GIS database, the documentation, the cartography, Excel tables as well as layer files. The folder structure is as follows (Figure 11):

CARTO	comprises all generated MXD files for indicator mapping.
DOC (pdfs)	Metadata documentation and user manual for the INTERCO database
EXCEL	collection of Excel files including the indicators
LYRS	collection of layer files for mapping (referenced in MXD files)
MAPS	collection of maps in png format, exported from ArcGIS
TOOLS	sub-directory storing the INTERCO toolbox and the developed scripts

Figure 11. Folder structure of the INTERCO database

Apart from these directories, there is also the personal geodatabase INTERCO_DB stored under the folder.

Annex 13. Expected deliveries of the INTERCO project

Excerpt from the Annex III of the INTERCO Subsidy Contract :

31 August 2010 (Inception Report):

Twelve weeks after the Kick-off Meeting the Inception Report shall be delivered covering the results of Part I, the design phase, which is the following:

- A proposal on a clear and consistent terminology in relation to territorial indicators and indices.
- An overview and a first review of existing territorial indicators and indices, including integrated / composite indicators referring to the above mentioned thematic scope and general objectives;
- A well-founded proposal of feasible territorial indicators and indices, including integrated / composite indicators that should be further considered to meet the scope of the project.
- A plan to involve stakeholders in the search for and the testing and implementing of indicators and indices.
- A detailed work plan until the Interim report, a more global work plan until the final report, description of the project, and a timing of the necessary dialogue with policy makers from the MC;

On the basis of this Inception report the MC will select indicators and indices to be incorporated in Part II of the project, exploring.

31 March 2011 (Interim Report):

The Interim report shall cover the results of Part II, the exploratory phase, which is the following:

- A complete review of existing territorial indicators and indices referring to the above mentioned thematic scope and general objectives;
- Results of the testing of territorial indicators and indices, including integrated / composite indicators meeting the best the scope of the project.
- Examples of visualisation of indicators and indices.
- Recommendation, based on the completed review and testing results, of a set of appropriate and operational territorial indicators and indices that would best mirror the European policy aim of territorial cohesion and that could be used to measure, communicate and report this aim to policy makers and other stakeholders.
- Work plan until the Final report.

On the basis of this Interim report the MC will make the final selection of the indicators and indices to be incorporated in Part III of the project, implementing.

30 November 2011 (Draft Final Report):

- The Draft Final report will take into account feed-back on the Interim report from an ESPON seminar and ESPON CU. The report is supposed to cover the following:
- Report (max. 50 pages) on the main results of implementing the selected territorial indicators and indices including the results of analyses, tests, data considerations, reporting, communication aspects, etc. Particularly important

are findings for policy makers, which could provide the basis for interventions related to opportunities for improving European competitiveness and cohesion.

- An executive summary (max. 10 pages) summarising the main results of the project that can be communicated to a wider audience of stakeholders. This summary should be based on the report mentioned above.
- Scientific report documenting the scientific work undertaken in the project including elements such as:
    - Literature, definitions and methodology/theory used.
    - Methodologies and concepts developed and used.
    - Tools and models used or developed.
    - An overview of all indicators and indices selected, each described in a structured way including the aspects given in the Annex, its way to visualise, communicate and report, its test results, etc.
    - Maps produced in support of the results, covering the territory of EU 27, Iceland, Liechtenstein, Norway and Switzerland.
    - Future research avenues to consider, including further data requirements, filling of possible data gaps, building time series, improving weak aspects in the selected set of indicators and indices and further developments linked to the database and monitoring.

Once the Draft Final Report is delivered to the ESPON Coordination Unit, the report will be presented for the ESPON MC for discussion.

29 February 2012 (Final report):

The Final Report will be a revision of the Draft Final report on the basis of comments received.

The ESPON 2013 Programme foresees in Priority 4 also capitalisation of project results including events, printed reports, website facility, etc. The Programme includes, in other words, substantial dissemination activities at Programme level which all projects should make use of and support. This means that the project's dissemination activities shall ensure consistency and avoid overlaps with and repetition of respective activities organised at Programme level. The project team shall refer to the objectives of Priority 4 of the ESPON 2013 Programme "Capitalisation, ownership and participation: Capacity building, dialogue and networking" when considering dissemination activities and closely coordinate these with the ESPON CU.

www.espon.eu

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

ISBN

ESPON

INTERCO
Indicators of territorial cohesion

Scientific Platform and Tools Project 2013/3/2

Annex to the Inception Report | Version 5/11/2010

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

This report presents a more detailed overview of the analytical approach to be applied by the project. This “Scientific Platform and Tools” Project is conducted within the framework of the ESPON 2013 Programme, partly financed by the European Regional Development Fund.

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

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

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

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

This basic report exists only in an electronic version.

List of authors

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Figures

Scope of this document

This document provides additional information on the INTERCO outputs of the first phase (until 31 Aug. 2010) and activities of the next phases, in addition to the Inception delivered by the INTERCO Transnational Project Group (TPG) in August 2010.

This document answers the "CU Response on Inception Report" received by the TPG from the ESPON Coordination Unit on 11 October 2010 (FINAL-CU-response-11-10-2010.doc). In particular, it provides the following information due for 5 November 2010 :

- *"A well-founded proposal of feasible territorial indicators and indices that could be used as input to the MC so that the MC is able to select the territorial indicators and indices for the next phase of the project.*
- *A more concrete planning of stakeholder involvement including a timeline for the events, the objective of the events, which (groups of) stakeholders should participate, the tasks of the stakeholder groups and the expected results/output.*
- *A more detailed work plan until the 1st Interim Report."*

General comments

The TPG acknowledge with pleasure the overall appreciation from the CU that the Inception Report meets to a large extent the expectations included in the specification of the project.

In this document we will not reply to each specific comment and recommendation contained in Chapters 1 and 2 of the “CU Response on Inception Report”. But we can ensure that the TPG has taken good note of these comments and recommendations, and that they will be implemented in the next phases of the project.

In the next chapter, we develop our responses on the specific inputs required for the deadline of 5 November 2010.

A well-founded proposal of feasible territorial indicators and indices

In the Inception Report we have provided a wide overview of existing indicators, which are feasible (Annex 5 of the Inception Report). The indicators are listed and categorised according to a classification scheme. Before going further into the selection of the indicators, an update on our approach is needed.

We think that, in order to reach a statisfactory final set of territorial indicators, we need more than a top-down process consisting only in progressively refining a selection of indicators that would have been prepared in advance by a group of experts. The process should be two-ways : selecting what is relevant among the existing data/indicators and looking for what is feasible among the desirable indicators (Figure 1).

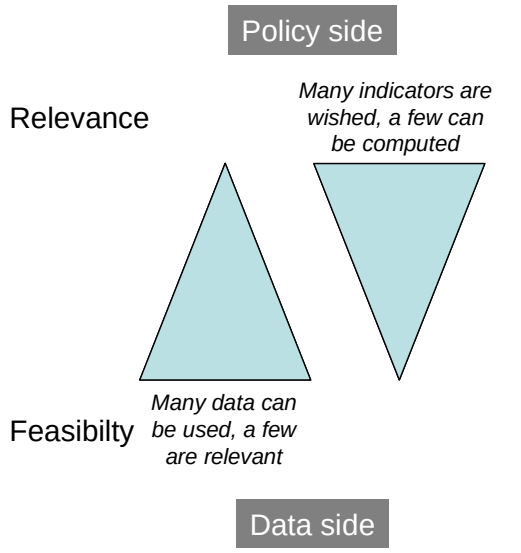


Figure 1. Feasibility and relevance

According to our project proposal, our objective is to relate the indicators :

1. to data, in order to be able to calculate them;
2. to challenges, policies and issues, in order to ensure their usefulness (and hopefully their use).

The first aspect refers to the reasability of the indicators, its evaluation has already been initiated by the TPG in the first phase and will continue during the whole lifetime of the project.

The second aspect refers to the relevance of the indicators. We consider two complementary approaches (Figure 2) for evaluating the relevance to challenges, policies and issues:

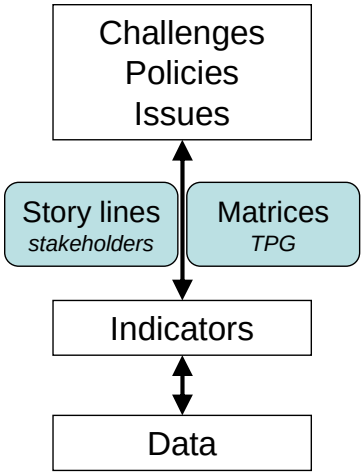


Figure 2. Two-way approach for assessing the relevance of the indicators

1. the first one will be conducted by the TPG on the basis of scientific and technical criteria (explanatory power, relevance of precisions/scales, ...). It will result in **matrices** (cross-tables) linking the different aspects, as defined in the project proposal;
2. the second approach is based on the interaction with stakeholders using **storylines** as a mean to stimulate discussions. Storylines are narratives that should help to understand how heterogenous stakeholders can view territorial cohesion and what are their proposals for measuring it.

   Five storylines have been defined and will be used in the forthcoming workshops with stakeholders :

   - Smart growth in a competitive and polycentric Europe
   - Inclusive, balanced development, and fair access to services
   - Territorial diversity and the importance of local development conditions
   - Geographical specificities
   - Coordination of policies and territorial impacts

Annex 2 shows a first version of the **matrices**, linking indicators to territorial challenges. Here again, these tables will be further refined during the project. They are the necessary basis for the TPG for assessing the relevance of indicators in a scientific and techincal way, which will allow us to focus the discussions with stakeholders on the most promising indicators.

Annex 3 provides lists of indicators that have been so far found relevant for the **storylines** by the TPG; they will be discussed and updated during the workshops with stakeholders.

It should be noted that the development of both the matrices and the storylines are work in progress. They will be continuously updated according to new inputs received from stakeholders as well as from TPG members[1]. The two main dates when the list of indicators will be stabilised are mid-March 2011, when the first round of assessment is done, and of course at the end of the project for the Final Report (see chapter on the detailed workplan on page 9).

[1] A working paper on the matrices is under preparation and not all comments from TPG members have been integrated in the matrices presented in Annex 2 of this document.

A more concrete planning of stakeholder involvement

The first phase will focus on the debate on the understanding of territorial cohesion and different indicators that derive from the understandings. This phase will comprise four workshops, which will ensure that the ESPON INTERCO project addresses its tasks with the right policy understanding and a good perception of what potential users of the results might need.

- **Workshop 1 – Identifying key storylines for territorial cohesion**

  Wednesday 16 November 2010 (90 minutes)

  Workshop with ESPON MC

  The workshop will present work in progress of the project and provide the possibility for the ESPON MC to direct the work towards the right direction with regard to the policy relevance. The aim of the workshop is to discuss the different storylines with regard to their policy relevance – possibly introduce new or erase some storylines (see Annex 1). Furthermore, the weighing of the different storylines with regard to their policy relevance is to be discussed.

- **Workshop 2 – Investigating measurable storylines of territorial cohesion**

  Wednesday 17 November 2010 (90 minutes)

  Workshop with participants of the ESPON event in Liege

  The workshop will present work in progress of the project and provide the possibility for the ESPON community to contribute with their insights to the shaping of the work of the INTERCO project. Based on the wide experience within ESPON, firstly different storylines for the operationalisation of territorial cohesion will be presented. Thereafter, for each of the storylines, the themes to be addressed will be discussed in smaller groups. Each participant (researcher, practitioner, policy maker alike) will contribute with own insights / experience in the field and benefit from a broader discussion about the linking of ESPON indicators to territorial cohesion aims to ESPON.

- **Workshop 3 – Linking ESPON indicators to various facets of territorial cohesion**

  Thursday 18 November 2010 (90 minutes)

  Workshop with participants of the ESPON event in Liege

  The workshop continues and deepens the discussions of the workshop of the previous day - where new participants are more than welcome. The focus will move towards concrete indicators for the single storylines and also the relations between them. Different dimensions of territorial cohesion will be discussed in smaller groups with regard to the themes addressed and possible indicators. Each participant (researcher, practitioner, policy maker alike) will contribute with own insights / experience in the field and benefit from a broader discussion about the linking of ESPON indicators to territorial cohesion aims to ESPON.

- **Workshop 4 – Understanding territorial cohesion and ways to measure it**

  Friday 14 January 2011 in Brussels (half day)

  Workshop with handpicked ESPON external stakeholders

  The workshop will present work in progress of the project and provide the possibility for external stakeholders to express their views on the understanding

of territorial cohesion and types of indicators needed in their work. The workshop will be a mixture of workshops 2 and 3. The types of external experts invited to this workshop are policy makers and practitioners with an interest in territorial cohesion but not actively involved in ESPON (see also Inception Report).

The second phase of stakeholder involvement will aim at the discussion and evaluation of the results produced by the INTERCO project. This debate will involve several workshops - spread over a longer time. The workshops will involve the same stakeholders as above and the main following workshops are envisaged:

- **Workshop – First reflections on the results**

  Spring 2011 at the ESPON seminar

  Workshop with the ESPON Community

  This workshop comes still very early in the work of the project. Thus it will mainly put preliminary results on the indicator work up for discussion with the ESPON community. In that sense it might have more the character of a traditional ESPON session with the Lead Partner presenting the work and inviting for comments.

- **Workshop(s) – Assessing the INTERCO indicators**

  September 2011 (one ore several half day workshops)

  Workshop(s) with external stakeholders and key ESPON stakeholders

  A main workshop effort for evaluating the results of the INTERCO project will take place in late summer / early autumn 2011. It is envisaged to organise in cooperation with the ESPON CU an open ESPON seminar in Brussels. The aim will be to present the results of the INTERCO project and discuss their relevance and usability, as well as possible improvements. This workshop session will be the most important moment for the external assessment of the results and will be developed accordingly in due time. To give sufficient importance to this moment, it might be relevant that either the open ESPON event is developed as several (parallel or serial) workshops or that INTERCO organises additional workshops back-to-back.

- **Workshop – Investigating the future use the results**

  Autumn 2011 at the ESPON seminar

  Workshop with the ESPON Community

  This workshop comes at a rather late stage of the INTERCO project. Here it will be possible to present the final results and focus the debate on how these results can best be used by other ESPON projects and stakeholders. To a certain extent it will also be possible to discuss minor improvements of the work. Again, this might have more the character of a traditional session ESPON with the Lead Partner presenting the work and inviting for comments.

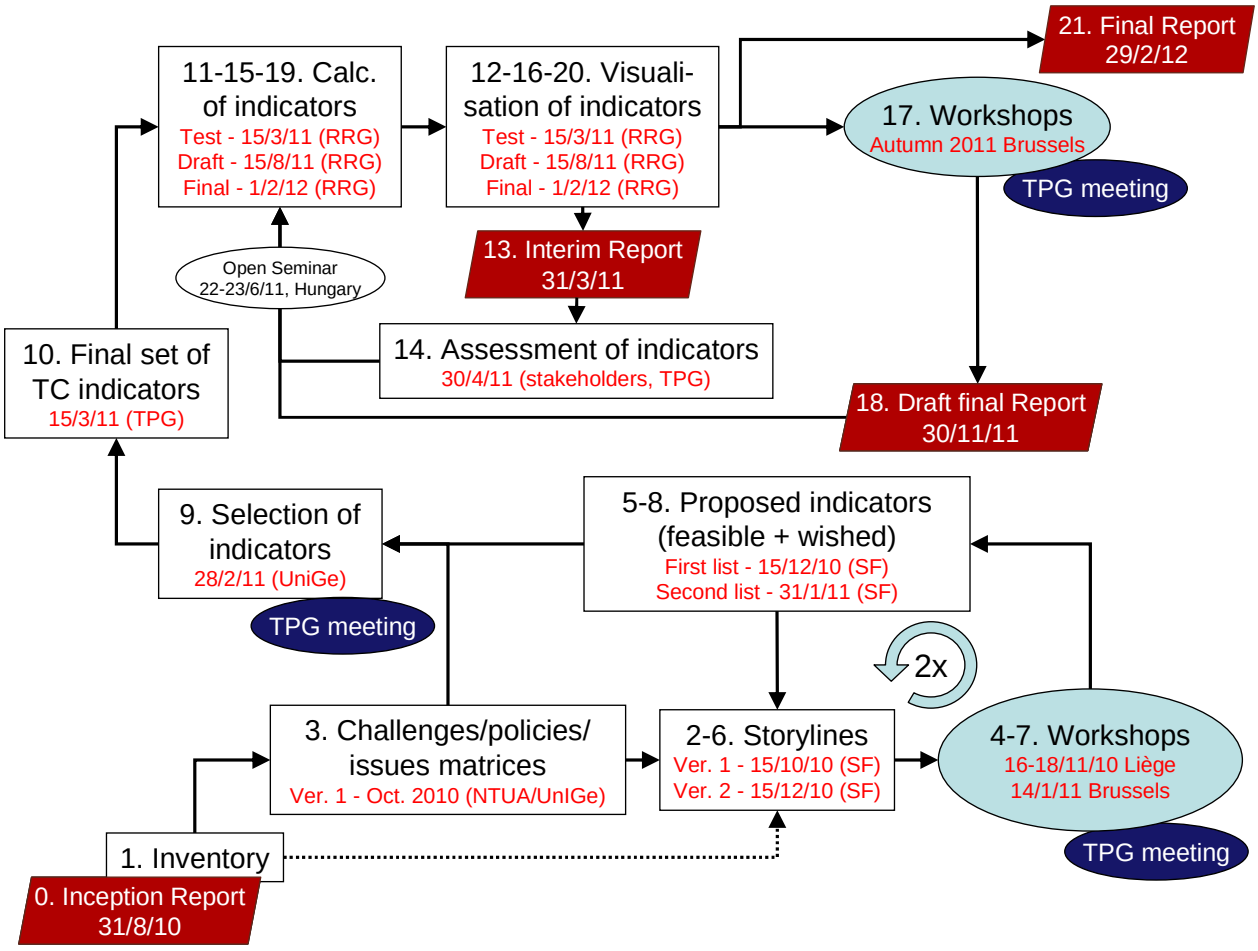
As pointed out in the CU response the Inception Report, the team will ensure a good balance of the stakeholders. As INTERCO got the possibility to run the first round of workshops in the framework of the ESPON MC meeting and the ESPON event in Liege a good balance of the ESPON Community can be assumed. As for the later events, particular attention will be paid to the geographical and thematic balance of the participants.

A more detailed work plan

Following a first design phase (until the Inception Report) dedicated mainly to the inventory of terminologies, actors, indicators and data by the TPG, the next phases will add very strong interaction moments with the relevant stakeholders.

This two-way approach is illustrated by the Figure 3 below : assessment and technical work by the TPG is interlaced with inputs from stakeholders at specific points in time. This reflects also an iterative process : two main loops can be observed, one between the November 2010 and the January 2011 workshops (steps 2 to 8), and an other one between the Interim, the Draft final and the Final reports (3 loops between steps 11 to 21). It should also be noted that some activities continue during the whole lifespan of the project (e.g. terminology, inventory of indicators, development of matrices).

Figure 3 also shows that 13 steps will lead to the delivery of the Interim Report by 31 March 2011.



In red brackets () : main responsible, i.e.

- TPG - Transnational Project Group :
  - UniGe - University of Geneva
  - NTUA - National Technical Univ. of Athens
  - Nordregio - Nordic Center for Spatial Development
  - RRG - Büro für Raumforschung, Raumplanung und Geoinformation
  - SF - Spatial Foresight

Workflow to be read from bottom-left to upper right, by following the numbering

Figure 3. Workplan of the INTERCO project

Concluding remarks

The planned workhops ensure that the design, selection and calculation of the indicators will also have a strong base in policy developments, not only in data considerations. In parallel, we will continue to further deepen our technical and scientific approach of the indicators, with feasability and explanatory power as the main criteria of analysis.

We are convinced that, due to the complexity of the notion (and reality) of “territorial cohesion” as well as to the diversity of potentially concerned actors, the proposed two-way approach is the key to reach a final set of territorial cohesion indicators that will be feasible and meaningful. Thanks to the continuous interaction with stakeholders, we can also expect that they will be well understood and accepted by the greater number of actors.

Annex 1. Example of a stakeholders session

Tuesday 16 November 2010
INTERCO Interactive Workshops at the MC meeting

Key storylines for territorial cohesion

The INTERCO project sets out to identify suitable territorial cohesion indicators and indices. The workshop presents work in progress of the project and provides the possibility for the ESPON to direct the work towards the right direction with regard to the policy relevance.

To develop measures of territorial cohesion, it is necessary to sharpen the understanding of what territorial cohesion actually is about – how it is understood by the policy makers. The last years of debate have shown that one precise definition of territorial cohesion is impossible. As main stakeholders emphasise different dimensions of the territorial cohesion idea, any attempt to define it will exclude certain understandings and thus lead to a poorer result. Consequently, the ESPON INTERCO project has decided to develop different storylines about territorial cohesion. Each of these storylines highlights different facets of the territorial cohesion policy debate as observed during the past decade. These storylines are not mutually exclusive. However, there may be contradictions between the different stories.

The aim of the workshop is to discuss the different storylines with regard to their policy relevance – possibly introduce new or erase some storylines. Furthermore, the weighting of the different storylines with regard to their policy relevance is to be discussed.

After the workshop, the project team will continue to develop detailed indicators for each storyline and thus step by step build up a repertoire of indicators linked to different dimensions of territorial cohesion.

The session of the ESPON INTERCO project will be structured as follows (90 minutes)

- Short presentation by us (20 min)
- fill in the weighting scheme individually (5 min)
- discuss into 5 to 6 groups and finding consensus or pic. of disagreement on the set of storylines (15 min)
- new task to the groups (2 min)
- discuss possible relative importance of of storylines in different perspectives (15 min)
- reporting back (20 min)
- open discussion (15 min)

Key responsible: Kai Böhme and Erik Gløersen

Annex 2. Matrices : Indicators and territorial challenges

Table 2.1: Territorial challenges' correspondence to themes (issues) and respective territorial cohesion indicators* **

*** preliminary approach according to EU territorial development and policy documents as well as other relevant documents**

****The other characreristics of the selected indicators are described in the Table of the Annex 5 of the Inception Report: Inventory of indicators**

Challenges / Simple and Composite themes	Themes from Table in Annex 5 of the Inception Report	Indicator code INTERCO / NTUA - see Report	Indicator name INTERCO (NTUA)	Comments
Global economic competition				
Themes (simple and composite territorial)	**Simple and composite indicators**			
• Economic performance: GDP Growth, Income, Trade, Investment, Inflation and Interest rates, Labour productivity, Mobility, Employment, Wages, firms networking and clustering **• R&D and innovation performance** **• Human capital** **• EU enlargement (it could be studied using the rest of themes and indicators)** **• Cities as territorial development drivers** **Correspondence to the classification of themes in the Inventory:** **• Classical (sectoral) themes (issues)** **07.03 Income and Consumption** **07.07 Innovation**	**07.03 (Economy) Income and Consumption**	0703INCO	Regional GDP per inhabitant	
		0703INCO	GDP change per inhabitant (capita) in pps or euros	
	Complex territorial indicators			
	Regional performance based on economic indicators (Lisbon strategy)	10.O2RTST	Labour productivity, gross domestic product as PPP per person employed	
		10.O2RTST	Employment rate of older workers	
		10.O2RTST	Gross domestic expenditure on research and	
		10.O2RTST	Youth education attainment level	
		10.O2RTST	Comparative price levels of final consumption by private households (including indirect taxes)	
		10.O2RTST	Business investment: gross fixed capital formation by private sector as a share of GDP (%)	
	Globalisation index ["Regions 2020", EC 2008]	10.	Globalisation index based on labour productivity, employment rate and low and high educational attainment	The index is based on four variables, notably labour productivity in 2020, employment rate in 2020 and low and high educational attainment in 2020. ("Regions 2020", EC 2008)

Annex 2. Matrices : Indicators and territorial challenges

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Challenges / Simple and Composite themes	**Themes from Table in Annex 5 of the Inception Report**	Indicator code INTERCO / NTUA - see Report	**Indicator name INTERCO (NTUA)**	Comments
Global economic competition				
07.01 Labour force **07.02 Employment, Unemployment** **• Complex territorial themes (issues)**	1.1 Cities hierarchy and networking	10.O1URST	FUA primacy rate	
		10.O1URST	Share of FUA-Population in NUTS 2, NUTS3	
		10.O1URST	MEGA population change	
		10.O1URST	PIA / Potential Integration Areas population change	
		10.O1URST	PUSH areas population change	
		10.O1URST	Settlement area in PUSH	
		10.O1URST	Gini coefficient / Concentration Index (Standard measurement for inequality of income or wealth)	
		10.O2RTST	Employment commuting among NUTS3 regions	
			Employment commuting from / to FUAs	
	1.4 Regional potential: GDP, Income & production	10.O1URST	Classified Lisbon performance per region	
		10.O1URST	Productivity - GDP per person employed	
		10.O2RTST	Income distribution in quintiles	
		10.O2RTST	Labour costs ([Average income per employee]	
		10.O2RTST	% Number of firms by sector of operation (2 digits)	Several indicators
		10.O2RTST	Cluster size	EDORA indicator > check availability of data
		10.O2RTST	Cluster specialization	EDORA indicator > check availability of data
		10.O2RTST	Cluster focus	EDORA indicator > check availability of data
	1.5 Regional potential: Human potential	10.O2RTST	Ageing index (persons 65+ / persons 0-14)	
		10.O2RTST	Population between 15 and 64 years	
		10.O2RTST	Population with 65 and more years	

Annex 2. Matrices : Indicators and territorial challenges

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Challenges / Simple and Composite themes	**Themes from Table in Annex 5 of the Inception Report**	Indicator code INTERCO / NTUA - see Report	**Indicator name INTERCO (NTUA)**	Comments
Global economic competition				
		10.O2RTST	Life expectancy at birth	
		10.O2RTST	High educated population (% of the total population	
		10.O2RTST	Labour Force Replacement population of ages 10-19 / population of ages 55-64	
	1.6 Regional potential: Innovation	10.O2RTST	Percentage of employment in high and medium tech manufacturing activities	
		10.O2RTST	Percentage of employment in knowledge intensive high	
		10.O2RTST	Patent applications to the EPO by priority year at the regional level, total number, per million inhabitants and per million labour force	Several indicators

Annex 2. Matrices : Indicators and territorial challenges

Table 2.1: Territorial challenges' correspondence to themes (issues) and respective territorial cohesion indicators* **

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Challenges / Simple and Composite themes	Themes from Table in Annex 5 of the Inception Report	Indicator code INTERCO / NTUA - see Report	Indicator name INTERCO (NTUA)	Comments
Environment and Climate change challenge (including hazards)				
Themes (simple and composite territorial)	**Simple and composite indicators**			
• Environment quality, **• Exposure to climate change (including exposure of the agriculture, fisheries and tourism sector)** **• Natural hazards (droughts, fires, coastal erosion, flooding)** **• Vulnerable regions** **• Vulnerable groups of people (disadvantaged-low income)** **Correspondence to the classification of themes in the Inventory:** **• Classical (sectoral) themes (issues)** **08.01 Environment quality (etc) (Physical environment)** **08.02 Climate change** **08.03 Hazards** **• Complex territorial themes (issues)**	08.01 Environment quality (etc) (Physical environment)	0801ENQ	Land consumption by type of activity	
		0801ENQ	Species diversity	To check by priority avaliability of data at NUTS2, 3 levels
		0801ENQ	Share of areas with high ecological value	
	08.02 Climate change	0802CLCH	Avalance data	
		0802CLCH	Droughts	
		0802CLCH	Earthquakes	
		0802CLCH	Floods	
		0802CLCH	Mean max, min annual temperature	
		0802CLCH	Change of the average precipitation	
		0802CLCH	Change of the average annual number (amount) of days with heavyn rainfall / water evaporation / snow covering	
		0802CLCH	Settlement prone to heavy rainfall / sea level rise	
		0802CLCH	Exposure to climate change of the agriculture, fisheries and tourism sector	New
		0802CLCH	% of population in coastal areas prone to sea level rise / heavy rainfall	
	08.03 Hazards	0804HAZ	Oil hazards	
		0804HAZ	Forest fires	
		0804HAZ	Storms,tsunami	
		0804HAZ	Flood endangered settlement and artifical areas	
		0804HAZ	Risk from sea level raising	

Annex 2. Matrices : Indicators and territorial challenges

Table 2.1: Territorial challenges' correspondence to themes (issues) and respective territorial cohesion indicators* **

*** preliminary approach according to EU territorial development and policy documents as well as other relevant documents**

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Challenges / Simple and Composite themes	**Themes from Table in Annex 5 of the Inception Report**	Indicator code INTERCO / NTUA - see Report	**Indicator name INTERCO (NTUA)**	Comments
Environment and Climate change challenge (including hazards)				
		0804HAZ	Exposure of ecosystems to acidification, eutrophication and ozone	
	Composite territorial indicators			
		0804HAZ	Sum of all weighted hazard values classicied in 5 categories	
	Climate change index ("Regions 2020", EC 2008)		Climate change index (based on change in regional population affected by river floods, regional population in areas below 5m, potential regional drought hazard, regional share of agriculture and fisheries in GVA, regional share of employment in hotels and restaurants taking into account the impact of climate change by climate zone)	This index is based on change in regional population affected by river floods between 2001 and 2100, regional population in areas below 5m in 2001, potential regional drought hazard (average number of days with soil moisture deficit based on the past 40 years), regional share of agriculture and fisheries in GVA in 2005, regional share of employment in hotels and restaurants (% of total employment) in 2005 taking into account the impact of climate change by climate zone. ("Regions 2020", EC 2008)

Annex 2. Matrices : Indicators and territorial challenges

Table 2.1: Territorial challenges' correspondence to themes (issues) and respective territorial cohesion indicators* **

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Energy supply and efficiency challenge				
Themes (simple and composite territorial)	**Simple and composite indicators**			
• Energy prices	04 Energy	04ENR	Electricity / Gas Prices	Check availability of regionalised data
• Energy production		04ENR	Energy Inland consumption	Check availability of regionalised data
• Renewable energies		04ENR	Private energy use	Check availability of regionalised data

Annex 2. Matrices : Indicators and territorial challenges

Table 2.1: Territorial challenges' correspondence to themes (issues) and respective territorial cohesion indicators* **

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****The other characreristics of the selected indicators are described in the Table of the Annex 5 of the Inception Report: Inventory of indicators**

Demographic challenge (including social and cultural challenges)				
Themes (simple and composite territorial)	**Simple and composite indicators**			
• Demographic changes and imbalances: population and workforce ageing, in-out migration, labour market segmentation **• Social tensions and disparities** **• Downgrading and insufficient use of cultural assets for development** **Correspondence to the classification of themes in the Inventory:** **• Classical (sectoral) themes (issues)** **02.01 Population Structure** **02.02 Population Movement (Migration)** **06.01 Education** **06.02 Poverty** **06.03 Other social** **06.04 Culture** **• Complex territorial themes (issues)**	02.01 Population Structure	0201POP	Population change	
		0201POP	Population average annual growth	
		0201POP	Population projections	
		0201POP	Lone - person	
		0201POP	Lone - parent	
		0201POP	Households with children aged to under 18	
		0201POP	Urban - rural population in Europe	
	02.02 Population Movement (Migration)	0202MIG	Emigration & Immigration per country, In migration & Out migration per territtorial level (NUTS2, NUTS3)	
		0202MIG	Net migration rate	
		0202MIG	Migration by country of origin and destination	
		0202MIG	Absolute migratory balance	
		0202MIG	Internal mobility by region	Very probably there are not available data > to put to wishful indicators
		0202MIG	Migratory balance by regions	
	06.01 Education	0601EDU	Accessibility to High Secondary School	
		0601EDU	Accessibility to Technological Education	
		0601EDU	Accessibility to training structures	Very probably there are not available data > to put to wishful indicators
		0601EDU	Early school leavers	
	06.02 Poverty	0602POV	At persistent risk of poverty rate (Population share with 60 % of the national equivalent median income)	
	06.03 Other social (Households)	0603OTSL	Households living in owned housing, in social housing, in private rented housing, in apartments, in houses	Several indicators

Table 2.1: Territorial challenges' correspondence to themes (issues) and respective territorial cohesion indicators* **

*** preliminary approach according to EU territorial development and policy documents as well as other relevant documents**

****The other characreristics of the selected indicators are described in the Table of the Annex 5 of the Inception Report: Inventory of indicators**

Demographic challenge (including social and cultural challenges)				
	06.03 Other social	0603OTSL	Average occupancy per occupied dwelling	
		0603OTSL	Proportion of dwellings lacking basic amenities	
	06.03 Other social (Homeless people)	0603OTSL	Number of homeless people as a proportion of total resident population	
	06.03 Other social (Social security)	0603OTSL	Proportion of individuals reliant on social secu rity	
	06.03 Other social (Crime)	0603OTSL	Number of murders and violent deaths for 1.000 residents	
	06.03 Other social (Health)	0603OTSL	Health expenditure per capita	
		0603OTSL	Public health expenditure (% of GNP)	
	06.04 Culture	0604CULT	Density of monuments	
		0604CULT	Share of UNESCO cultural landscapes and conjuncts	
		0604CULT	Infrastructures for Cultural Activities (Number of places for cultural events (theatre, cinema, ….)	
		0604CULT	Multicultural society (% Ethnic minorities and other nationalities in population)	
	Composite territorial indicators			
		0201POP	Population development Index: births, deaths and net migration	
	1.5 Regional potential: Human potential		Overlapping with "Comprtitiveness"	
	Sustainable Demographic Development	10.O1RTST	Index of sustainable demographic development (ISDD)	Index of sustainable demographic development (ISDD) – see in extent in the ESPON 3.2 project / section: ETCI (2006).

Annex 2. Matrices : Indicators and territorial challenges

Table 2.1: Territorial challenges' correspondence to themes (issues) and respective territorial cohesion indicators* **

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Demographic challenge (including social and cultural challenges)				
	Demography index ["Regions 2020", EC 2008]		Demography index ["Regions 2020", EC 2008]	The demography index is based on three variables, notably the share of people aged 65 and above in 2020, population decline between 2005 and 2020 and the share of working-age population in 2020 (“Regions 2020”, EC 2008).

Annex 2. Matrices : Indicators and territorial challenges

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Transport and accessibility / mobility challenge				
Themes (simple and composite territorial)	**Simple and composite indicators**			
• Transport costs • Accessibility, connectivity • Saturation of EU corridors • Urban transportation Correspondence to the classification of themes in the Inventory: • Classical (sectoral) themes (issues) 03.01 Transport Infrastructure 03.02 Passengers and Good Transport 03.04 Impacts of Transport Policies • Complex territorial themes (issues)	03.01 Transport Infrastructure	0301TRIN	Density of motorways, trunk roads, railways	
		0301TRIN	Traffic separation in different infrastructure levels	
		0301TRIN	Productivity of inland infrastructure	
		0303ACC	Accessibility time to market	
		0303ACC	Access to high-speed train services	
		0303ACC	Peripherality indicator by car with respect to population	
		0303ACC	Daily market accessible by car in terms of GDP	
	Connectivity	0303ACC	Connectivity to commercial airports	
	Time to the nearest facility or motorway or railway station	0303ACC	Car driving time to the nearest (x) facility	Included in accessibility indicators
		0303ACC	Time to the nearest motorway access	Included in accessibility indicators
		0303ACC	Travel time to railway stations	Included in accessibility indicators
		0303ACC	Car travel time to commercial airports	Included in accessibility indicators
		0303ACC	Car travel time to universities/polytechniques/hospitals	Included in accessibility indicators
	Public Services Accessibility	0303ACC	Average travel time to three higher hierarchical cities	
		0303ACC	Accessibility to the nearest/ most frequently used hospital	

Annex 2. Matrices : Indicators and territorial challenges

Table 2.1: Territorial challenges' correspondence to themes (issues) and respective territorial cohesion indicators* **

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****The other characreristics of the selected indicators are described in the Table of the Annex 5 of the Inception Report: Inventory of indicators**

Geographic structure of Europe challenge				
Themes (simple and composite territorial)	**Simple and composite indicators**			
• Growing concentration in urban areas: Diseconomies of agglomeration, congestion, pollution, social segregation, urban sprawl • Growing de-concentration (dispersal) in rural areas and specific regions: insufficient agglomeration effects, uneven exploitation of assets and endogenous development, difficulties in service provision • Increased regional disparities due to different effects of urban drivers			Indicators overlapping with those of the other challenges	
	Complex territorial indicators			
			Indicators overlapping with those of the other challenges	

Annex 2. Matrices : Indicators and territorial challenges

Table 2.1: Territorial challenges' correspondence to themes (issues) and respective territorial cohesion indicators* **

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Overall Territorial cohesion challenge				
Themes (composite territorial)	**Complex territorial indicators**			
All specific themes corresponding to challenges	Human Development	10.O1RTST	Human Development Index (HDI) (ONU)	
	Synthesis ofterritorial cohesion challenges		Intensity of multiple risks (challenges) for European Regions ("Regions 2020")	This synthetic index illustrates the geography of four challenges (see in previous sheets). "The index classifies in very broad terms how many challenges will affect each European region. It provides an overview of the top 50% of regions most affected by each individual challenge, indicating risk intensity" ("Regions 2020", EC 2008).
			Need to propose new indicators	

Annex 2. Matrices : Indicators and territorial challenges

Challenge	Themes corresponding to driving forces for the challenge	Correspondence to the classification of themes in the Inventory
Global economic competition challenge	• Economic performance: GDP Growth, In-come, Trade, Investment, Inflation and In-terest rates, Labour productivity, Mobility, Employment, Wages, firms networking and clustering • R&D and innovation performance • Human capital • EU enlargement (it could be studied using the rest of themes and indicators) • Cities as territorial development drivers	• Classical (sectoral) themes (issues) 07.03 Income and Consumption 07.07 Innovation 07.01 Labour force 07.02 Employment, Unemployment • Complex territorial themes (issues)
Environment and Climate change chal-lenge (including hazards)	• Environment quality, • Exposure to climate change (including exposure of the agriculture, fisheries and tourism sector) • Natural hazards (droughts, fires, coastal erosion, flooding) • Vulnerable regions • Vulnerable groups of people (disadvantaged-low income)	• Classical (sectoral) themes (issues) 08.01 Environment quality (etc) (Physical environment) 08.02 Climate change 08.03 Hazards • Complex territorial themes (issues)
Energy supply and efficiency challenge	• Energy prices • Energy production • Renewable energies • Energy consumption, • Energy sufficiency • Energy efficiency (including energy effi-ciency of firms) • Secure, sustainable and competitive energy	• Classical (sectoral) themes (issues) 04 Energy • Complex territorial themes (issues)
Demographic challenge (including social and cultural chal-lenges)	• Demographic changes and imbalances: population and workforce ageing, in-out migration, labour market segmentation • Social tensions and disparities • Downgrading and insufficient use of cultural assets for development	• Classical (sectoral) themes (issues) 02.01 Population Structure 02.02 Population Movement (Migration) 06.01 Education 06.02 Poverty 06.03 Other social 06.04 Culture • Complex territorial themes (issues)
Transport and accessibility / mobility challenge	• Transport costs • Accessibility, connectivity • Saturation of EU corridors • Urban transportation	• Classical (sectoral) themes (issues) 03.01 Transport Infrastructure 03.02 Passengers and Good Transport 03.04 Impacts of Transport Policies • Complex territorial themes (issues)
Geographic structure of Europe challenge	• Growing concentration in urban areas: Diseconomies of agglomera-tion, congestion, pollution, social segregation, urban sprawl • Growing de-concentration (disper-sal) in rural areas and specific re-gions: insufficient agglomeration ef-fects, uneven exploitation of assets and endogenous development, dif-ficulties in service provision • Increased regional disparities due to different effects of urban drivers	Themes and Indicators overlapping with those of the other challenges

Annex 3. Indicators for storylines

INTERCO Theme and Indicator name (as in Inception Report, Annex 5)	INTERCO Indicator code (as in Inception Report, Annex 5)	Smart growth in a competitive and polycentric Europe	Inclusive, balanced development, and fair access to services	Territorial diversity and local development	Geographical specificities	Governing territorial cohesion
SIMPLE (CLASSICAL ISSUES)						
01. AGRICULTURE AND FISHERIES						
Utilised agricultural areas	0101LA[1]			X	X	
02. DEMOGRAPHY						
Population change	0202POPtrtc_9007N2		X			
Population density	0201POP[1]		X	X	X	X
Population by sex and age	0201POP[3]		X		X	
Population pyramid	0201DEMpyr_(year)(level)		X		X	X
Ageing of population	0201POP[5]		X			
Dependency rate	0201POP[6]	X	X			X
Life expectancy	0201LIFtrtc_90 08N2		X			X
Crude birth rate / Crude death rate	0201POP		X			
Changes in Natural Growth Potential	0201POP		X			
Total fertility rate	0201POP		X			
Ageing "Labour Force"	0201POP[15]	X	X			
Lone - person	0201POP[19]		X			
Lone - parent	0201POP[20]		X			
Households with children aged to under 18	0201POP[22]		X			
Components of population development	0201POP[23]			X	X	
Urban - rural population in Europe	0201POP		X	X	X	
In migration, Out migration, Emigration , Immigration	0202POP[1]	X				
Internal mobility by region	0202POP[3]	X				
Migratory balance by regions	0202MIG		X			
03. TRANSPORT						
Share of private internet users	0305ICT[1]		X	X		
04. ENERGY						
Electricity / Gas Prices	04ENR				X	
Energy Inland consumption	04ENR				X	
Private energy use	04ENR				X	
Final Energy Demand	04ENR[2]				X	
Energy Net Imports	04ENR				X	
Energy Production	04ENR				X	
Electricity Generation	04ENR				X	
PV (photvoltaic) potential	04ENR[7]				X	
Wind Power Energy Potential 2005	04ENR[8]				X	
% employment in industries with high energy purchases	04ENR				X	
CO2 Emissions, intensity, per capita	0402co2rte_(level)				X	
Emissions of Acidifying Substances Acidifying Potential	04ENR					
05. LAND USE						
CORINE land use	0501LAUS[1]			X	X	

Annex 3. Indicators for storylines

INTERCO Theme and Indicator name (as in Inception Report, Annex 5)	INTERCO Indicator code (as in Inception Report, Annex 5)	Smart growth in a competitive and polycentric Europe	Inclusive, balanced development, and fair access to services	Territorial diversity and local development	Geographical specificities	Governing territorial cohesion
06. SOCIAL AND CULTURAL AFFAIRS						
Accessibility to High Secondary School	0601EDU[3]		X			
Accessibility to Technological Education	0601EDU[4]		X			
Accessibility to training structures	0601EDU[5]		X			
Early school leavers	0601EDU[6]		X			
Persistent at risk of poverty rate	0602POV[1]		X			
Households living in owned housing, in social housing, in private rented housing, in apartments, in houses	0603OTSL[3]		X			
Number of homeless people as a proportion of total resident pop	0603OTSL[13]		X			
Proportion of households reliant upon social security	0603OTSL[16]		X			
Proportion of individuals reliant on social security	0603OTSL[17]		X			
Number of murders and violent deaths for 1.000 residents	0603OTSL[18]		X			
Health expenditure per capita	0603OTSL[20]		X			
Public health expenditure (% of GNP)	0603OTSL[21]		X			
Density of monuments	0604CULT[1]			X		
Share of UNESCO cultural landscapes and conjuncts	0604CULT[2]			X	X	
Infrastructures for Cultural Activities (Number of places for cultural events (theatre, cinema, ….)	0604CULT[3]			X	X	
Attitudes / public info on climate change	0604CULT[7]				X	
07. ECONOMY						
Economic activity rate change	0701LAF[1]			X		
Labour Productivity	0701LAF[2]	X				
% of employed in primary, secondary and tertiary sector	0702EMP[4]	X		X	X	
Employment per economic activity	0702EMP[10]	X		X		
GDP per inhabitant (capita) in pps or euros, per year	0703GDPeurrte_97N2/ 0703GDPppsrte_97N2	X	X			
Regional GDP	0703INCO[4]	X		X	X	
GDP per economic sector	0703INCO					
GDP change per inhabitant (capita) in pps or euros	0703INCO	X				
Human resources in science and technology	0707INN	X				

Annex 3. Indicators for storylines

INTERCO Theme and Indicator name (as in Inception Report, Annex 5)	INTERCO Indicator code (as in Inception Report, Annex 5)	Smart growth in a competitive and polycentric Europe	Inclusive, balanced development, and fair access to services	Territorial diversity and local development	Geographical specificities	Governing territorial cohesion
COMPLEX TERRITORIAL ISSUES						
0. TERRITORIAL COHESION RENOMMER ?						
Globalisation index ["Regions 2020", EC 2008] *new*	10.	X		X		
Human Development Index	10.O1RTST[1]	X	X			
Labour productivity, gross domestic product as PPP per person employed	10.O2RTST	X		X		
Business investment: gross fixed capital formation by private sector as a share of GDP (%)	10.O2RTST	X				
GERD (Gross domestic expenditure on research and development)	10.O2RTST[5]			X		
Dispersion of regional unemployment rates	10.O2RTST[11]		X			
Greenhouse gas emissions	10.O2RTST[14]				X	
1. BALANCE AND POLYCENTRICITY						
FUA / Functional Urban Areas	10.O1URST[1]	X				
FUA primacy rate	10.O1URST	X				
Share of FUA-Population in NUTS 2, NUTS3	10.O1URST	X				
MEGA / Metropolitan European Growth Areas	10.O1URST[3]	X				
MEGA population change	10.O1URST	X				
PIA / Potential Integration Areas population change	10.O1URST	X				
PUSH areas population change	10.O1URST	X				
Settlement area in PUSH	10.O1URST	X				
Gini coefficient / Concentration Index	10.O1URST[14]		X	X	X	
Employment commuting among NUTS3 regions	10.O2RTST	X				
Energy intensity of the economy (Gross inland consumption of energy divided by GDP (kilogram of oil equivalent per 1000 Euro at const. prices) in 2000, indexed on 1996=100	10.O2RTST[13]				X	
Greenhouse gas emissions (Percentage change in emissions of 6 main greenhouse gasses (in CO2 equivalents) between base year and year x)	10.O2RTST[14]				X	
Region´s share of EU 27+2 GDP in PPS, Change in percent	10.O2RTST[18]	X		X		
Employment commuting from / to FUAs	10.O2RTST	X				
Classified Lisbon performance	10.O2RTST[21]	X				
Productivity - GDP per person employed	10.O2RTST[22]	X				
Labour costs	10.O2RTST[26]	X				
Cluster size	10.O2RTST[28]	X				
Cluster specialization	10.O2RTST[29]	X		X	X	
Cluster focus	10.O2RTST[30]	X		X		
Dependency rate	10.O2RTST[35]	X	X			
Ageing index (persons 65+ / persons 0-14)	10.O2RTST	X				
Population between 15 and 64 years	10.O2RTST	X				
Population with 65 and more years	10.O2RTST	X				

Annex 3. Indicators for storylines

INTERCO Theme and Indicator name (as in Inception Report, Annex 5)	INTERCO Indicator code (as in Inception Report, Annex 5)	Smart growth in a competitive and polycentric Europe	Inclusive, balanced development, and fair access to services	Territorial diversity and local development	Geographical specificities	Governing territorial cohesion
Life expectancy at birth	10.O2RTST[39]		X			
High education population	10.O2RTST[43]	X				
Labour Force Replacement population of ages 10-19 / population of ages 55-64	10.O2RTST	X				
Share high educated population in percent	10.O2RTST[49]		X			
Persons employed in Agriculture 2001 in percent of total	10.O2RTST[50]			X		
Persons employed in Services 2001 in percent of total	10.O2RTST[51]			X		
Expenditures, R&D, all institutional sectors, in %	10.O2RTST[56]	X				
Percentage of employment in high and medium tech manufacturing activities	10.O2RTST[57]	X				
Percentage of employment in knowledge intensive high technology services	10.O2RTST[58]	X				
Share of Internet users to100 inhabs regression	10.O2RTST[59]		X			
Patent applications to the EPO by priority year at the regional level, total number, per million inhabitants and per million labour force	10.O2RTST[60]	X				
5. GEOGRAPHICAL SPECIFICITIES						
Several indicators included in "Economy"	10.O2RTST[16]				X	X
7. (POTENTIAL) ACCESSIBILITY						
Accessibility	0303ACC[7]	X			X	
Connectivity to commercial airports	0303ACC[1]	X				
Car driving time to the nearest (x) facility	0303ACC[5]	X				
Potential accessibility, multimodal, to population	0303ACC[8]		X	X		X
Average travel time to three higher hierarchical cities	0303ACC[9] ***wishlist***		X	X		X
Accessibility to the nearest/ most frequently used hospital	0303ACC[10]		X	X		
Multimodal/road/rail potential accessibility	0303ACC			X	X	
Proportion of regional population within 1 hour car travel time to next airport/ university / hospital	0303ACC			X	X	
Accessibility time to market	0303ACC			X		
Access to high-speed train services	0303ACC			X		
Peripherality indicator by car with respect to population	0303ACC			X	X	
Daily market accessible by car in terms of GDP	0303ACC			X		
Regional road connectivity	0303ACC				X	

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8. NATURAL ASSETS, NATURAL & TECHNOLOGICAL HAZARDS						
Number of all volcanoes in NUTS2 area	10.O2RTST[70]				X	
Fragmentation index	0801ENQ[4]				X	
Soil Erosion	0801ENQ[49]				X	
Species diversity	0801ENQ			X	X	
Fragmentation by urbanisation, infrastructure and agriculture	0801ENQ			X	X	
Coverage of protected areas	0801ENQ			X	X	
NATURA 2000 area (Share of Natura 2000 area in %)	0801ENQ			X	X	
Change of the average annual number (amount) of days with heavyn rainfall / water evaporation / snow covering	0802CLCH				X	
Settlement prone to heavy rainfall / sea level rise	0802CLCH				X	
Exposure to climate change of the agriculture, fisheries and tourism sector	0802CLCH				X	
% of population in coastal areas prone to sea level rise / heavy rainfall	0802CLCH				X	
Flood endangered settlement and artifical areas	0804HAZ				X	
Risk from sea level raising	0804HAZ				X	
Exposure of ecosystems to acidification, eutrophication and ozone	0804HAZ				X	
Sum of all weighted hazard values classicied in 5 categories	0804HAZ				X	
Sum of the vulnerability indicators	0804HAZ[9]				X	
9. GOVERNANCE						
Electoral participation	09GOVR					X
Government effectiveness index	09GOVR					X
Number of project co-operations	09GOVR					X
Trust in the legal system (Share of persons having complete trust/ no trust at all in the legal system of a counrty)	09GOVR					X
Share of persons working in an organisation or association (other than a political party) within the last x months	09GOVR					X
Effectiveness of public administration (4th C.R)	09GOVR					X
10. LAND USE ISSUES						
Corine LC Natural surface	10.O2RTST[79]				X	
11. TERRITORIAL COOPERATION OPTIONS						
Relative rurality	10.O1URST[16]			X	X	
Number of local units	10.O1URST[18]			X		X

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