ESPON

SIESTA

Spatial Indicators for a ‘Europe 2020 Strategy’ Territorial Analysis

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This report presents the interim results of an Applied Research Project 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.

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This basic report exists only in an electronic version.

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1. Executive Summary and Objectives

Since the outbreak of the global economic and financial crisis, European Union (EU) institutions have been diligent in responding to the new, and mostly unexpected, critical situation on a broader scale. In particular, the European Commission (EC) launched the Europe 2020 Strategy (EU2020S) at the end of 2009, consolidated as a Communication from the EC in March 2010[1] and finally adopted in June 2010. The EU2020S fundamentally constitutes a growth plan for the decade 2010-2020 that aims for EU recovery from the current ongoing crisis.

Structurally, the EU2020S consists of three mutually reinforcing **priorities**: smart growth, sustainable growth and inclusive growth. Derived from these three pillars for growth, seven particular **flagship initiatives** are proposed, each one including specific actions: three devoted to smart growth (for digital society, innovation and youth) and two for each one of the other priorities, these being resource efficiency and the manufacturing sector for sustainable growth, and new skills and labour market and the fight against poverty for inclusive growth. Apart from these priorities and flagship initiatives, the EU2020S contains a list of numerical goals (so-called **headline targets**) that sets specific figures for measuring its purposes.

In this context, the basic **aim** of the SIESTA Project is to illustrate the territorial dimension of the EU2020S. In other words, what is envisaged is to show how the EU2020S acts territorially, particularly on a regional scale.[2] This is consistent with one of the expectations of the EU2020S itself, which includes a clear statement expressing that "the benefits of economic growth spread to all parts of the Union, including its outermost regions, thus strengthening territorial cohesion" (p. 16). This point clearly links the EU official Strategy for responding to the crisis with the broad territorial cohesion principle, which is a constitutive piece of the EU institutional arrangements (according to the Treaty of Lisbon signed in 2007 and coming into effect in 2009) and one of the 'milestone' concepts in territorial analysis in Europe, including ESPON.

1 Europe 2020. A Strategy for Smart, Sustainable and Inclusive Growth − COM(2010) 2020.

2 The regional scale is referred to NUTS 2 level and, when possible, NUTS3. Cities, metropolitan areas and other equivalent geographical objects for urban realities will be considered as well, but only when the appropriate data at this scale exists. In this Inception Report considerations about the territorial scales of research are raised (see section 3 in this respect).

From the very beginning of the SIESTA Project, it is acknowledged that it is not envisaged to assess if the EU2020S is the right plan or strategy for the EU and its regions. In other words, it is assumed here that the EU2020S has to be checked in spatial terms, mainly on a regional level, but the EU2020S itself is not under specific scrutiny.

The general aim of the SIESTA Project has to be fundamentally reflected in cartography as a way to express the EU2020S in spatial terms. Following this target, the main output of this Project will be the elaboration of an **Atlas** showing the most significant aspects of this produced cartography. This Atlas shall demonstrate the current territorial state and, when possible and applicable, the recent trends of the EU regions. The Atlas has to be focused on the territorial conditions to overcome the current crisis, that is, the EU2020S. The output of the Project is not the Atlas alone, but the latter is essential to express spatial patterns across the Union in terms of the EU2020S implementation. In order to produce the cartography, it is indispensable to choose an appropriate inventory of indicators[3] to be represented; obviously, this list has to be consistent with the overall aim of the Project. Be it as it may, the prominent role of the indicators in the Project brings about its acronym: *Spatial Indicators for a 'Europe 2020' Territorial Analysis* (SIESTA).

Derived from the main aim of the Project, three major objectives are established; these objectives are stated and developed as follows:

- To assess how EU2020S documentation can be territorially understood and expressed. That implies an in-depth territorial reading of the EU2020S that leads towards a first list of indicators that plays the role of 'point of departure' for the data that is expected to be cartographically represented. In addition, this EU2020S analysis has to constitute the background that gives a qualitative and policy-making context for each one of the selected indicators (thus, their cartographic expression) when they are further analysed. In order to guarantee that this qualitative context is clear, the so-called Background Analysis document for sustaining the Project does not only involve those documents directly related to the EU2020S, but also that EU policy-making literature framing the issues that concern SIESTA Project: the Treaty of Lisbon, the Territorial Agenda of the EU agreed in 2011, regional policy

3 The word 'indicator' will be used referring to both datasets and combination of datasets. Data is a set of observations of a determined variable, whereas an indicator is statistics used to measure current conditions as well as to forecast trends. INTERCO Project Inception Report available at <http://www.espon.eu/export/sites/default/Documents/Projects/ScientificPlatform/Interco/INTERCO_Inception_Report.pdf> (Access 2011-11-20) contains useful definitions in this respect.

decisions, etc. In terms of research organisation, this first objective fits with WP2.

- To analyse what the territorial mosaic resulting from considering the EU2020S means on a regional scale. Once the cartography is elaborated, the intention is to determine how the studied regions are positioned in relation to the EU2020S framework. This not only includes “ranking” all the regions, but a comprehensive analytical task, taking into consideration the official ESPON types of regions (urban-rural, outermost, islands, coastal, sparsely populated, etc.) and the EU macro-regions. This aim obviously implies the elaboration of the cartography that will be included in the above mentioned Atlas. The Atlas will consist of maps and short key messages that can be communicated to a wider audience of stakeholders, with a clear understanding of the opportunities, challenges and possible contribution of European territories to the policy objectives defined in the EU2020S. In terms of research organisation, this second objective is broken-down in WP3, WP4 and WP5.
- To contribute with guidance for policy directions and means of implementation of the EU2020S. Once the analysis is done, it will be possible to provide valid policy orientations and recommendations for the implementation of the EU2020S. In this sense, it is expected not only to provide a ‘static picture’ of how the EU2020S is now ‘satisfied’, but also to deliver guidelines about how the different regions can further reinforce their strengths or overcome their weaknesses in order to follow the EU2020S. Correlations between the different considered territorial variables might contribute in this direction as some regions experience particular problems but at the same time have specific strengths. Predictably, some recommendations will already be included in the key messages of the Atlas. In terms of research organisation, this objective is basically satisfied in WP4, although its direct consequences for the Atlas embrace WP5 as well.

2. Synopsis of WPs Devoted to Research

In accordance with the general aim and the three major secondary objectives outlined above, the research approach which will be applied is broken-down into four WPs. In the context of the Inception Report it makes sense to refer to the scientific WPs, avoiding the management and

coordination work (in terms of working organisation, WP1). The dissemination activities (in terms of working organisation, WP6) will be further explained, in section 5 of this revised Inception Report. Thus, this section 2 is devoted to the explanation of these four WPs, especially WP2 and WP3, which have already been carried out; however, the presentation of developments in WP2 and WP3 is done in section 3, while this section 2 is more focused on considering the different research tasks developed or which will be developed.

It should be mentioned that some changes have been introduced in this WPs explanation in relation to the Project Proposal. This is basically substantiated in the fact that Annex III to the Subsidy Contract introduces some amendments that have consequently been reflected in the methodology.[4] And the same is applicable in relation to the Response on Inception Report.[5] Changes are also in part due to the development of the first seven months of research, whose implementation has made it clear that a slight shifting was needed.

2.1. WP2: Background and Initial Research

2.1.1. Objective

The basic objective of this WP2 is to provide an operational understanding of the EU2020S in order to determine its territorial dimension, which additionally will contribute to the elaboration of the list of indicators to be used in the following research steps of the Project.

2.1.2. The EU2020S Architecture

It is relevant at this point to take into account the very basic structure of the EU2020S as soon as this will be repeatedly mentioned in the following pages. The EU2020S has been studied in-depth during the execution of WP2 and for this reason is quoted herein. Three types of elements are part of this Strategy:

- Three priorities, pillars or key drivers for growth:
    - Smart growth, which means improving the EU performance in education, innovation, research and digital society.
    - Sustainable growth, which basically aims to build a competitive low-carbon and resource efficient economy.

4 See section 6 for a specific consideration of the points raised in the Annex III to the Subsidy Contract.

5 See Annex F for a specific consideration of the points raised in the Response on Inception Report.

    - Inclusive growth, intended to raise Europe's employment rate through the investment in labour skills and the modernisation of welfare systems, especially by fighting against poverty.

- Seven flagship initiatives or key programmes of the EC that have been developed in order to foster the implementation of the EU2020S:
    - In relation with smart growth, Digital Agenda for Europe, Innovation Union and Youth on the Move.
    - With regard to sustainable growth, Resource Efficient Europe and an Industrial Policy for the Globalisation Era.
    - With respect to inclusive growth, an Agenda for New Skills and Jobs and a European Platform against Poverty.
- Headline targets or numerical goals are proposed in order to measure progress in the implementation of the EU2020S.

From the SIESTA perspective, it is important to note that the EU2020S and each one of the seven flagships is a specific official Communication of the EC. In addition, the EU2020S states that each year it will be necessary to launch an Annual Growth Survey, with a set of documents analysing the state of the economy in relation with the EU2020S itself. All these documents (the EU2020S EC Communication, the flagship initiatives EC Communications and the Annual Growth Survey) constitute what is mentioned here as the "EU2020S documentation", while the "directly related EU2020S-documentation" is other literature that is not in the framework of the EU2020S but clearly maintains a link with it.

2.1.3. Approach and Data

This WP2 was broken-down into two types of tasks. On the one hand, those devoted to the analysis of the EU2020S itself. On the other, this initial literature analysis lead towards the establishment of a first list of indicators that was the starting point for the following WPs; these indicators are explained in section 3 of this Inception Report as part of the first results achieved so far.

In relation to the analysis of the EU2020S documentation, it has to be mentioned that two foci of interest were sought in this preliminary research:

- Indicators that each piece of documentation recommends as useful, quotes as meaningful or considers in its analysis or opinions. This was done as soon as the main deliveries of the SIESTA project are mapped and elaborated using selected indicators and this selection

has to be done based on the analysis of the EU2020S documentation. If the basic objective of the project is to 'grasp' the territorial dimension of the EU2020S, it is obvious that the cartographic outputs represent the indicators that the EU2020S and directly related documents contain, state or recommend.

- The strategic decisions and policy messages that the EU2020S and related documents indicate. This kind of information constitutes a key qualitative background that gives a context to each one of the selected indicators (thus, the elaborated maps) when they are analysed. Therefore, this initial analysis acts as a qualitative framework for the further research to be done, where the quantitative results of the indicators (represented in maps) will be understood, interpreted and evaluated.

In addition to the EU2020S documentation, the so-called Background Analysis comprised of the following documents:

- The documents that explicitly link the EU2020S to the regional policy through a specific Communication of the EC on regional policy and smart growth[6] and on regional policy and sustainable growth.[7] Furthermore, a previous document on regional policy facing the crisis.[8]
- The Treaty on European Union and the Treaty on the Functioning of the European Union,[9] after the Treaty of Lisbon (2007).
- The Green Paper on Territorial Cohesion.[10]
- The Fifth Cohesion Report.[11]
- The Seventh Progress Report on Cohesion.[12]
- The Territorial Agenda of the European Union.[13]

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6 Regional Policy Contributing to Smart Growth in Europe 2020 − COM(2010) 553 final.

7 Regional Policy Contributing to Sustainable Growth in Europe 2020 − COM(2011) 17 final,

8 Commission Staff Working Document *Regions 2020. An Assessment of Future Challenges for EU Regions*. − SEC(2008).

9 Consolidated versions of the Treaty on European Union and the Treaty on the Functioning of the European Union, Official Journal C 83 of 30.3.2010. Especially, articles 174 and 175 of these treaties.

10 Green Paper on Territorial Cohesion. Turning territorial diversity into strength − COM(2008) 616 final.

11 European Commission (2010): *Investing in Europe's future. Fifth Report on Economic, Social and Territorial Cohesion*. Luxembourg: Publications Office of the European Union.

12 European Commission (2011): *The Urban and Regional Dimension of Europe 2020. Seventh Progress Report on Economic, Social and Territorial Cohesion*. Luxembourg: Publications Office of the European Union.

13 All the documentation related with the Territorial Agenda is available at <http://www.eu-territorial-agenda.eu/> (Access 2011-11-20). The Territorial Agenda 2020 revised in May 2011 has been studied, considering not only the final document itself, but also its associated Background document. There was a previous Territorial Agenda agreed to in 2007, but only the latter version is considered.

- A policy report produced during the Polish Presidency on linking the EU2020S with the territorial cohesion policy.[14]

The Background Analysis lead towards the establishment of a qualitative checklist of concepts that is included in **Annex B**. This checklist consists of the concepts that are expected to support the further analytical part of the Project.

Likewise, one of the outcomes of the Background Analysis was the elaboration of a systematic list including all the indicators recommended, quoted, or considered. This list is in **Annex A**. Once the list was elaborated, further tasks in this WP2 were two-fold. On the one hand, the selection of which were the best indicators to achieve the overall established aim of the SIESTA Project, especially in terms of the design of the Atlas; this was the original version of the Atlas and was done taking into consideration the results of the Background Analysis (**Annex C**). On the other hand, the preliminary search for the indicators available for all the ESPON space[15] at regional level in order to reinforce decisions in this respect. These tasks are explained in depth in section 3.

2.1.4. Deliverables and Deadlines

- This WP2 was finished on 2/12/2011.
- A Background Analysis document, which is a systematic analysis of all the EU2020S documentation (including directly related EU2020S-documentation). In terms of deliverables, this Background Analysis document will be included in the Draft Final Report, but is being actively used during the research progress in the following WPs.
- A systematic list of all the indicators considered, quoted and recommended in the documents analysed in the Background Analysis. This list is reflected in **Annex A**.
- A checklist of thematic elements to sustain the analysis to be carried out in the Project. This checklist is derived from the Background Analysis and it is reflected in **Annex B**.
- Design of the architecture of the Atlas and its considered indicators. This is reflected in **Annex C** and in section 3 of this Inception

14 Böhme, K. *et al*. (2011): *How to Strengthen the Territorial Dimension of 'Europe 2020' and the EU Cohesion Policy*. Warsaw: Ministry of Regional Development.

15 EU27 plus the four ESPON-member and non-EU countries (Iceland, Liechtenstein, Norway and Switzerland). In addition, in accordance to ESPON guidelines, Croatia (acceding country) and the EU candidate countries (Iceland, Macedonia, Montenegro, Serbia and Turkey) are also checked. Moreover, the three additional countries in Western Balkans are also considered (Albania, Bosnia and Herzegovina and Kosovo).

Report. Further, during WP3 this has been modified and the definitive list of maps of the Atlas is in **Annex E** (see section 3.1 of this Inception Report for a detailed justification of the changes which have occurred).

- A revision of the previous ESPON Projects useful for the SIESTA Project. It is systematically reflected in **Annex D** and explained in section 3 of this Inception Report.
- The Inception Report itself, which was delivered on 2/12/2011.

2.2. WP3: First Cartographic Production

2.2.1. Objective

The basic objective of this WP3 is to map all the indicators previously defined, bearing in mind that indicators are framed in a qualitative framework determined in the previous WP2. Such a statement acknowledges that the cartography is at the service of the EU2020S territorial dimension analysis.

2.2.2. Approach and Data

WP3 has mainly consisted of two methodological approaches: on the one hand, the collection of data for mapping, on the other, the production of cartography through GIS techniques. The data for mapping is obviously based on the previously selected indicators, but from the original 54 indicators the research process has resulted in 81 maps. Part of this increase is due to the fact that some of the indicators are used for different maps, sometimes because different scales of representation are combined. In addition, there have been changes of indicators during the development of this WP3, as foreseen in the original Inception Report delivered on 2/12/2011 and as it is explained in section 3.1 of this Inception Report as part of the results achieved so far.

The process of data gathering has been extremely time-consuming and full of difficulties that will be explained in-depth in the Final Report, but are partially reported in section 3 as part of the already developed research process. As in the previous WP2 what has been achieved is a general picture of the availability of data, WP3 has further developed all the tasks related with data downloading, consistency-analysis and, generally speaking, management. Be it as it may, the decision of introducing new indicators has always been done on the basis of the qualitative elements raised in the Background Analysis and expressed in the checklist (**Annex B**).

This WP3 has also included the elaboration of cartography and in this respect section 3 gathers considerations on indicators and maps. The former are the statistical databases that have been used for producing the latter.

In relation to the production of cartography, WP3 has also included the elaboration of an aggregate index on the achievement of the EU2020S for NUTS2 regions. This aggregate index is inspired by the Lisbon index facilitated by the 5th Cohesion Report.[16] The EU2020S index estimates the position of regions at NUTS2 level in relation to the EU2020S headline targets by measuring the distance of the regions from achieving these targets. A region would score 100 if it had reached all eight headline targets, whereas a region would score 0 if it was positioned the farthest away in all eight headline targets. When a headline is achieved, the region scores the maximum for this headline, but it does not overpass this top threshold. In the case of the three indicators that match the headline targets and which are not available at a regional level scale, the data is used at the state level. The EU2020S index makes reference to the EU targets, as the member states are not always facilitating national targets, the countries outside the EU do not have national targets and indeed it seems inappropriate to use different targets across the European space in the context of a comprehensive aggregate index.

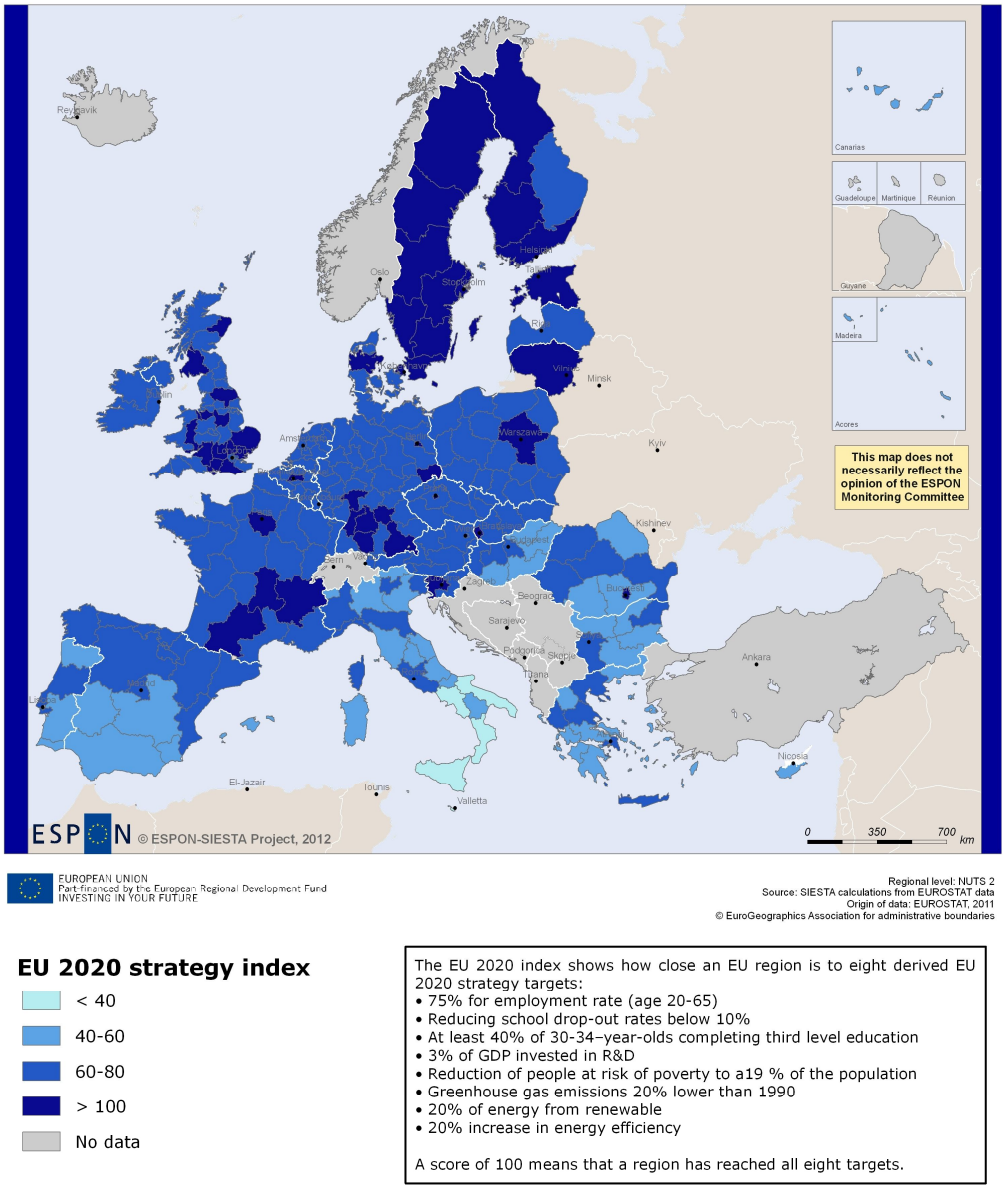
The aggregate index developed will be extremely helpful for a global appraisal of what the situation is in each individual region in relation with the EU2020S and it is going to constitute a commented map of the Atlas itself (see point 3.3.1). In this sense, the index is simple and easy, but has a clear readability potential for policymakers, who will appreciate the geographical imbalances related with the EU2020S achievement. It has to be mentioned that, following the example of the Lisbon index as available in the 5th Cohesion Report, it was essayed to calculate the trend of the evolution of the EU2020S index for the last decade. Unfortunately, there are no available databases for 1999-2005 for some of the headline targets (see point 3.1.4) which are amalgamated into the EU2020S index.

Finally, during WP3 a workshop was held in Paris, France (on 10 February 2012). The first produced maps were discussed therein and there was insightful feedback from stakeholders and policymakers (from different government levels: local, regional and national) about the feasibility of the EU2020S at an intra-national scale and the use of the SIESTA maps to appraise the current situation of each region. Apart from the workshop

16 European Commission (2010), *op. cit.*, p. 196. The geographical dimension of the Lisbon Strategy was considered by the ESPON Project 3.3 in ESPON 2006. Available at: <http://www.espon.eu/main/Menu_Projects/Menu_ESPON2006Projects/Menu_CoordinatingCrossThematicProjects/lisbonstrategy.html> (Access 2011-11-20).

event with stakeholders, on the same date there was an internal meeting of the SIESTA TPG in order to discuss on the Response on Inception Report sent by the ESPON CU and the Sounding Board.

EU 2020 index, 2009



Map 1 Draft Version of the Europe 2020 Strategy Index.

2.2.3. Deliverables and Deadlines

- This WP3 will be finished on 30/3/2012.
- A set of 81 maps representing the selected indicators and ready to be the cartographic part of the Atlas. This cartography is not the Atlas itself, but the 'rough material' in a draft version to further produce the Atlas. In any case, the maps are the ones which are going to be the object of analysis during WP4. The set of 81 maps

is systematically listed in **Annex E** and explained herein as a story line in section 3.3.

- Associated tables to this cartography, according to ESPON requirements.
- After the workshop held in WP3, a short paper analysing selected regional policy-makers' perception about EU2020S implementation at the regional scale. This will be included in the Draft Final Report.
- A new revised version of the Inception Report, answering the observations made by the ESPON CU and the Sounding Board in the Response on Inception Report received on 14/2/2012 and adapted to the research situation on 30/3/2012. This amended version includes a specific **Annex F** answering issue by issue and indicating in which part of the revised Inception Report there have been changes according to the received feedback.

2.3. WP4: Analysis and Elaboration of Policy Recommendations

2.3.1. Objective

The basic objective of WP4 is to analyse the information obtained through maps in light of the EU2020S. That means not only interpreting the produced cartography and thus providing a clear diagnosis of the current territorial situation but also delivering strategic policy messages and recommendations inferred from the analysis.

2.3.2. Approach and Data

The analysis to be carried out in WP4 takes on board the previous research that has already been produced, specifically the policy context considered in the Background Analysis (WP2) and the definitive set of maps of the Atlas (WP3). The methodology proposed herein is mainly derived from the Specification[17] and from the SIESTA Project Proposal.

In a first stage (until May 2012), the analysis will be done map by map, distributing the themes among partners (see Table 1). The analysis will consist of:

17 When Specification is quoted in this document, this refers to the Specification for a project on *European Regions: Potential Contribution to the EU 2020 Strategy*. Available at: <http://www.espon.eu/main/Menu_Calls/Menu_Calls/Menu_PreviousCalls/Call24Jan2011/AppliedResearchProjects.html> (Access 2011-11-20). Obviously, that constitutes the point of departure of the SIESTA Project.

- An explanation of the position of the regions or cities in each map. This explanation will be comparable to the 7th Cohesion Progress Report (quoted below), which offers an insightful procedure to do so, by *ranking,* by *discussing the extreme situations* and by *explaining the geographical patterns* associated to each map. In this analysis of the data, the use of macro-regions and ESPON types of regions will be helpful in order to express the situation of the different European macro-regions,[18] or the circumstances of the different region types.[19] Each map will be intensively analysed and discussed using the procedure explained herein, but obviously it is impossible to consider the situation of each individual region or city. Bearing in mind that the EU2020S index is already available, the analysis will connect the specific situation of the topic with the EU2020S as a whole; for instance, this might allow to explain if a worrying situation of some particular regions in one specific topic (i.e. unemployment in South West Europe) is thematically exclusive or it is part of an overall problematic regional situation in relation with the EU2020S. In this sense, the *challenges* for regions in relation with each topic will emerge: it will be clear which topics each particular region has to face in order to bridge the gap until they attain the targets that the EU2020S states, which will lead to a recovery from the current crisis.
- This early explanation will benefit from previous ESPON Projects that have dealt with each one of the different themes (see section 3.2 and **Annex D**). In this respect, they will be used in order to

18 ESPON only gives the indication of taking into consideration the Danube Space and the Baltic Sea macro-regions, in accordance with the recent EC decisions in this respect (European Union Strategy for the Baltic Sea Region − COM(2009) 248 final; European Union Strategy for the Danube Region − COM(2010) 715). However, the macro-regions for the remaining European space are problematic and indeed this has been a specific issue under discussion in the first two meetings of the SIESTA Steering Committee (Santiago, October 2011 and Paris, February 2012). The SIESTA Project Proposal included an early draft of macro-regions in order to fulfil the requirements of the ESPON Specification. Based on previous documents such as *Europe 2000 +. Cooperation for European Territorial Development* (EC, 1994) and the transnational macro-regional programmes of the EU territorial cooperation objective, seven macro-regions were identified: two compulsory following the Specification (the Danube Space and the Baltic Sea Region) and other five (Atlantic Axis, North West Europe, Mediterranean Basin, South East Europe and Northern Periphery). The Response on Inception Report has also taken into consideration Central Europe as a whole, South West Europe and the Alpine Space. Be it as it may, the macro-regional scale will not be integrated exhaustively in the Atlas or in the Project, but basically will be used to refer geographically to the patterns shown by the data, or in general to the other directions mentioned in this Inception Report.

19 ESPON region types (urban-rural, outermost, islands, coastal, etc.) are taken for granted and methodologically they do not represent a problem as they can be easily accessed at ESPON website. They will not be used exhaustively, but only when particular patterns shown by maps are clearly related with some of these region types and it makes sense to quote them. The use of the ESPON regional typology of urban-rural regions and metropolitan regions can be particularly important for providing specific considerations for urban areas, as specific maps for cities are scarce (see point 3.1.5). However, both urban-rural regions and metropolitan regions are based on NUTS3 and it is also true that maps at NUTS3 level are scarce (see section 3.1).

explain the *reasons and causes* for the pattern associated with each map. For instance, the KIT Project states the underlying reasons for the existing differences on R&D or innovation development within the EU and the FOCI Project provides insightful information about the differences between cities in the EU. Also grey literature and scholars' contributions will be useful. In this respect, it has to be mentioned that the distribution of themes (see Table 1) among partners is consistent with their research specialisation and that means that they are familiar with the relevant literature in each case.

- Departing from this previous work, for each map or groups of maps there will be a systematisation of the regions or cities suffering *weaknesses or challenges* because of their long distance to EU2020S indications.[20] Also the regions or cities which show *strengths or potentials* in a specific subject as they are near the EU2020S indications or even surpassing them will be identified.[21] This can be expressed in terms of macro-regions or regions types. All this will allow to draw up a *set of policy guidelines* for each map or group of maps, including:
    - Recommendations to improve the current situation, if it is weak for particular regions or cities, which can be referred through macro-regions or region types.
    - Recommendations to strengthen the current situation, if it is acceptable for particular regions or cities, which can be referred through macro-regions or region types.
    - Taking into consideration the macro-regions, opportunities for territorial cooperation on each one of the considered topics are likely to emerge, conferring additional value to existing cooperation through the EU – member states.

  These thematic policy guidelines will be partially based on the EU2020S itself and all the related documentation, through the Background Analysis and available reports such as the Annual Growth Survey monitoring the fulfilment of the headline targets and assessing the implementation of the flagship initiatives. For

20 These indications from the EU2020S can be very clear and fixed, on the one hand, or can be orientations or recommendations, on the other. For instance, in the case of the headline targets (see sections 3.1 and 3.3 on which maps will show the distance to headline targets) the figure gives an exact indication of the direction that the EU2020S takes. But in other cases the EU2020S reports more a qualitative statement: for instance, it indicates that more efforts must be made in fighting against the gender inequalities in terms of unemployment.

21 The use of the SWOT jargon for analysing the territorial dimension of the EU2020S is inspired by the insightful essay by Böhme, K. *et al.* (2011), *op. cit.*, pp. 77-78.

instance, if a group of regions has a difficult situation in terms of unemployment, the measures contained in the EU2020S or in the specific flagship initiatives delivered for improving the labour market situation would be applicable therein. Also the cohesion policies of the EU (ERDF, ESF, etc.) will be considered in order to state if a re-adjustment is possible in order to implement the EU2020S; in this respect the above-mentioned communications of the EC on the implementation of EU2020S indications on smart growth and sustainable growth in regional policy can be especially helpful. For instance, it can be stated how ESF could be re-adjusted in order to fight against specific unemployment problems in specific regions.

The results of this first analysis will be available in late May 2012 and will represent most of the written work which afterwards is going to be reflected in the Atlas (see section 2.4.2). These results will be reflected in a specific report for each one of the subsections of the Atlas, as expressed in Table 1, section 3.3 and **Annex E**.

Pillar	*Subsection of the Atlas*	*Partner in charge*
Smart Growth	Research and innovation	P7
	Education	
	Digital society	P5
Sustainable Growth	Competitiveness and economic growth	P3
	Green economy, climate change and energy	P4
Inclusive Growth	Employment, skills and jobs	P6
	Poverty and exclusion	P2

Table 1 Distribution of Topics between Project Partners.

In parallel to this thematic analysis developed by partners, the LP will work specifically with the Introduction of the Atlas (see point 3.3.1), including the EU2020S index. Its analysis and discussion will be especially valuable for detecting the regions suffering weaknesses in terms of distance to EU2020S targets and those regions being quite near the EU2020S entire fulfilment.

Within WP4 and until late May 2012, the LP will also work through a multi-variant analysis in order to determine which aspects within the EU2020S each group of regions (obtained by clustering, thus not necessary contiguous regions)[22] are particularly strong or weak. In addition, this statistical treatment will positively contribute to correlate the different thematic topics embraced by the EU2020S and will allow:

22 Böhme, K. *et al*. (2011), *op. cit*., pp. 78-79 report the implementation of a spatial typology through clustering. They propose only considering two or three indicators corresponding to "linking issues" but in the context of this research all the issues considered will be treated in order to know if there are correlations.

- Appraisal of the topics, or the EU2020S pillars, in which each region cluster is strong.
- Appraisal of the topics, or the EU2020S pillars, in which each region cluster is weak.
- Appraisal of the correlations in the sense that some specific weaknesses can be compensated for by strengths and, in this correlation, specific opportunities can emerge. For instance, a bad score in R&D in the private sector might be compensated for in particular regions by a good situation in the public sector: this might be the basis to recommend that these regions are strong in terms of public R&D but have to work harder in innovation; and indeed the Innovation Union flagship initiative gives specific insights in this respect.

This specific research carried out by the LP will also be reflected on a specific report finished at the end of May 2012. Once this is done, the project partners will benefit from the overall multi-variant analysis produced by the LP and will widen the policy recommendations by considering specific potentials and opportunities linked with the correlation between different thematic topics within the EU2020S (to be done in June 2012). Be it as it may, the organisation of the information is going to be thematic, by Atlas pillars and subsectors, as this is the framework of the EU2020S. However, the different geographical objects (cities, regions, region clusters, macro-regions and region types) will be used for explaining these topics, thus for delivering key policy messages when they are applicable.

Finally, the Final Report will gather all this information but will also include a specific section with a systematic set of policy recommendations inferred from the above mentioned research delivered for: the types of regions, the macro-regions and the region clusters. This set of policy recommendations will be based on a systematic list of potentials (strengths), challenges (weaknesses) and opportunities, also inferred from the research previously carried out.

It is envisaged that these tasks will culminate in an internal seminar in Bucharest in June 2012 to discuss the results in common. However, this will be developed and improved on during July 2012, in this way proceeding towards the Draft Final Report.

The June 2012 seminar will coincide in time with a second workshop with stakeholders, to be celebrated in Bucharest. This second workshop will be a valuable discussion forum to validate the guidelines and messages for policy-makers.

2.3.3. Deliverables and Deadlines

- A research paper for each one of the subsections in which the three thematic priorities of the EU2020S have been divided in terms of the Atlas. The deadline is 31/5/2012.
- A research paper on the multi-variant analysis and stating specific correlations between variables, including an overall spatial analysis of the EU2020S (to be reflected in the Introduction of the Atlas). The deadline is 31/5/2012.
- After the workshop included in WP4, to be celebrated in late June 2012 in Bucharest, a short paper discussing its insights.
- A set of policy recommendations for region types, macro-regions and region clusters, with an associated systematic list of potentials (strengths), challenges (weaknesses) and opportunities. The deadline is 15/7/2012.
- The Draft Final Report. The deadline is 8/8/2012.

2.4. WP5: Atlas Design and Development

2.4.1. Objective

The basic objective of this WP5 is to produce an Atlas for disseminating the most significant maps of the Project, including specific written information for each map. As has been stated before, this Atlas is the geographical representation of the European regions and cities in relation to the EU2020S.

2.4.2. Approach and Data

WP5 focuses on the production of the Atlas, considered to be the centrepiece of this Project. Methodologically, the basic approach will be the transfer of the written information obtained in WP4 and the cartographies obtained in WP3 in a consistent and unitary document. In this respect, WP5 will be basically developed in parallel to WP4. Section 3.3 of this Inception Report includes a detailed story line of the Atlas and **Annex E** facilitates the definitive list of maps that will be included within.

The Atlas will not only have a hardcopy edition, but also a webpage format. They will both share contents, but the latter will contain an interactive dimension. The maps in both formats are going to be re-elaborated beyond the first design developed in WP3. Be it as it may, it

has to be said that texts included in the Atlas will follow two recommendations raised by ESPON CU:

- Expressed in the Specification itself, the point that texts in the Atlas have to follow the KISS principle ("keep it short and simple"). This means that written pieces will not be wordy and will be very cautious in terms of length. In this sense, there will be a selection and reduction task of the written results attained in WP4 (quite long as they will consist of several research papers and a systematic set of policy recommendations).
- Expressed in the kick-off meeting in September 2011, the point that texts in the Atlas have to refer to the qualitative policy-making context of the Project. Actually, the Background Analysis will be the point of departure for analysis. In addition, the Project will pay specific attention to the policy-making context when design texts accompanying maps, in accordance with WP4 research developments. In this respect, texts will not only be based on the evidences shown in the maps, but also on the relation that maps have with the EU2020S. It is desired that these texts even include some specific strategic guidelines and messages for policy-makers, thus having a prospective message, but obviously the comprehensive list of indications will be outside the Atlas because of its brief nature.

In relation to the interactive dimension of the Atlas developed on the website,[23] that dimension is based on a philosophy 2.0. The purpose of the Atlas will be that the public discovers the maps available for users to download in high quality format with the associated data behind them. Users will have the opportunity to discuss the different maps and to contribute with comments and to link up with the reference document in each case (for instance, with the flagship initiatives in each section of the Atlas), with the partial results of the SIESTA Project and even with opinions from stakeholders. In addition, the Atlas webpage will be enriched with the presence of image and video multimedia resources. A prototype screen of the Atlas is provided below for illustration (Figure 1). Be it as it may, the guidelines on cartography dictated by ESPON will be logically followed both in the digital and hardcopy version of the document.

23 Available at: <http://www.siestaproject.eu/> (Access 2012-3-30). See section 5 for dissemination activities.

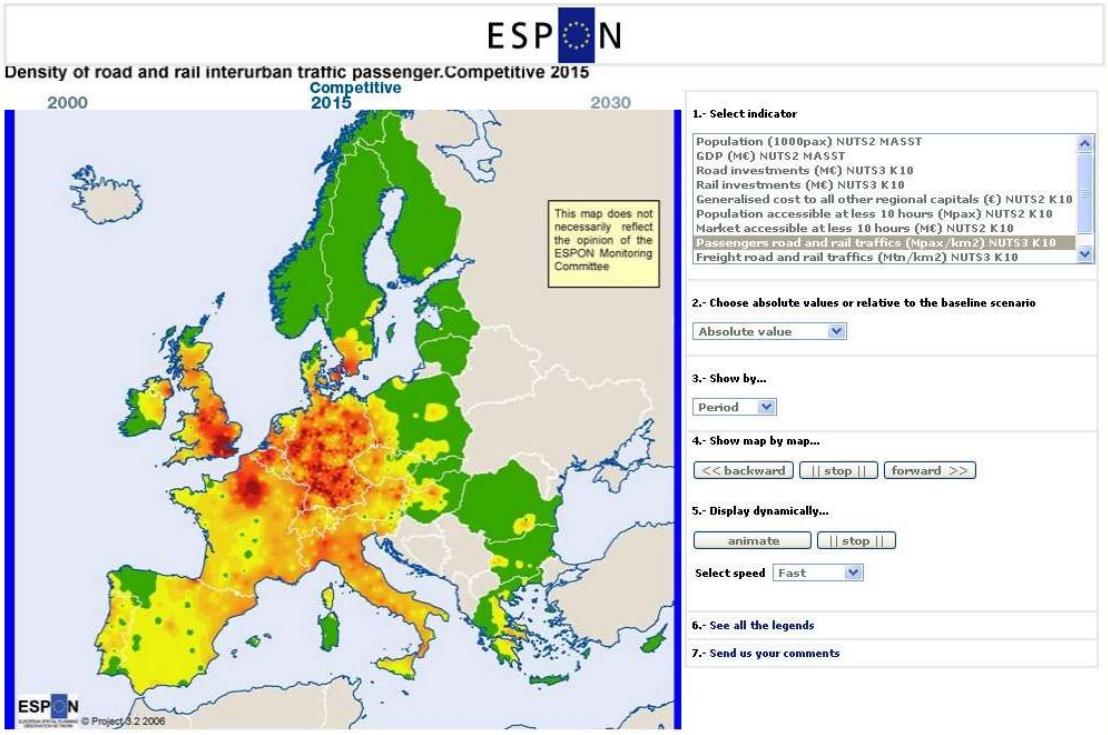


Figure 1 Prototype Screen of the EU2020S Atlas Developed by MCRIT SL.

2.4.3. Deliverables and Deadlines

- The hardcopy version of the Atlas will be included in the Draft Final Report, the deadline being 8/8/2012. The Specification clearly asks that the Project has to include the working costs, but costs related to layout and printings are not included in the Project itself. The Atlas gathers the short texts mainly derived from the contents developed in WP4 and the maps, which constitute an improvement to those elaborated in WP3.
- The webpage (interactive) version will be available before the above-mentioned deadline at a website developed by MCRIT SL (P8).

3. Review of the Research Carried Out

Section 3 explains the research developed through WP2 and WP3 in terms of indicator selection, the databases used, the data availability, the utilisation of previous ESPON projects and the final map list which constitute the Atlas. However, this section is not a systematic abstract of research findings as this is expected to be, in part, the content of the Draft Final Report. Herein, the report is focused on those aspects that

were previously requested by ESPON CU for the Inception Report and that afterwards have been widened upon due to the Response on Inception Report comments, which are as follows:

- Data sources and data availability in relation to the indicators to be used, where the management process has culminated in the final selection of the definitive indicators and the subsequent elaboration of maps. This is explained in section 3.1.
- Envisaged use of previous and ongoing ESPON projects. This is briefly reported in section 3.2, although there is a systematic analytical list of the so far checked and used ESPON projects in **Annex D**.
- The definitive Atlas structure and contents through a story line and direct quotation within all the maps that have been produced and are going to be used. This is the purpose of section 3.3 and there is a systematic list of the maps in **Annex E**.

3.1. Indicators Selection Process, Data Sources and Availability

In order to refer to the selection of indicators used for this project, three steps have been carried out through WP2 and WP3. Obviously, these steps are directly related to data sources issues and, in general, data availability shortcomings. These steps require extended clarification and will be detailed in the following sections by considering the next points:

- Firstly, the procedure to obtain the first list of indicators constituting the Project's point of departure. This is explained in point 3.1.1.
- Secondly, the data availability screening once the first set of indicators was selected. This is explained in point 3.1.2.
- Thirdly, the definition of the definitive set of indicators to be used in the Project, leading towards the Atlas and consistently inserted in the story line which shall be explained in section 3.3. This is explained in point 3.1.3.

A specific reference to when maps are represented using trends and when maps are represented under the urban area scale has been done, respectively, in points 3.1.4 and 3.1.5. This section 3.1 is finished with an explicit point 3.1.6 devoted to systematised data problems regarding indicators and the subsequent decisions taken to represent maps. Be it as it may, the methodology will still be more precise in the Draft Final

Report, whereas the explanations contained herein have to be understood in the context of an Inception Report.

3.1.1. The First Selection of Indicators

If the basic aim of the Project is to obtain a territorial expression of the EU2020S, it is evident that the indicators to be mapped have to be based on the EU2020S documentation and directly related to it. This has been one of the main functions of the Background Analysis, as stated in point 2.1.3. The systematic list of all the indicators considered, quoted and recommended in the EU2020S documentation and the directly related EU2020S-documentation is in **Annex A**. The total figure of indicators in **Annex A** is 109, while the predicted figure of the working list of indicators committed by the SIESTA Project Proposal was between 50 and 75.

The procedure to overcome this early rough list of indicators (**Annex A**) and to obtain the first selected list of indicators to work with (**Annex C**) is based on the following criteria:

- Indicators directly considered as headline targets by the EU2020S (see section 2.1.2) are automatically selected. It is consistent to take the targets that the EU2020S establishes and that the Annual Growth Survey is calculating (at the member state scale) each year as indicators. The only point to mention is that the headline targets are usually expressed in the available documentation as five sentences, while, in fact, these five sentences have to be disaggregated into eight individual headline targets and correspond with eight individual indicators.
- Immanent to the EU2020S centrepiece document (and mentioned repeatedly in other analysed documents) is the measure of growth, expressed as regional GDP variation or as GDP per capita for each region. If the EU2020S basically deals with promoting growth, it is obvious that growth has to be measured and analysed, therefore comprehensibly this is considered to be compulsory as well.
- Some flagship initiatives quote indicators which are essential. As the flagship initiatives are considered constitutive parts of the EU2020S, they are compulsory selected. This is the case of Innovation Union (3 indicators) and The European Platform against Poverty and Social Exclusion (3 indicators). Additionally, it has to be noted that the flagships Innovation Union and A Digital Agenda for Europe comprise an annex with a set of appropriate indicators to

measure innovation and the digital society,[24] but not all of them are taken as the list is wider than it is possible for this Project and, indeed, this Project does not focus on these specific subjects, but on the EU2020S as a whole.

- In relation to the resting indicators, first of all a frequency table has been elaborated in order to know which are the most-quoted indicators (**Annex A**). In parallel, a qualitative analysis of which are the most significant indicators in relation to the EU2020S documentation has also been carried out. In accordance with the Specification, the possible indicators were analysed in relation with other documents considered in the Background Analysis, such as the 5th Cohesion Report or the Territorial Agenda (section 2.1.3). In addition, it has to be said that Annex III to SIESTA Subsidy Contract mentioned the possibility of taking advantage of qualitative information for producing the maps. This was studied but it was not clear how to use this qualitative or semi-quantitative information without criticism. For instance, in the Background Analysis it was detected that some EC official Communications consider university performance or excellence lists, usually with an associated ranking;[25] in the end, this was ruled out due to the difficulty associated with representing and validating the quality of these sources

To sum up, 54 indicators were identified as appropriate with this procedure and distributed following the sections and subsections that the Annex of the Specification proposed. This early list of indicators is included in **Annex C** and reasonably covers all the topics that the Annex of the Specification included. It has to be mentioned that the indicators references in **Annex A** are expressed in brackets [] and in **Annex C** in parentheses and preceded by an at (@). Both systems are used here in order to manage analysis and decisions at this early stage. Onward, the system will be simplified (see section 3.3 and **Annex E**).

3.1.2. Subsequent Selected Indicators Management

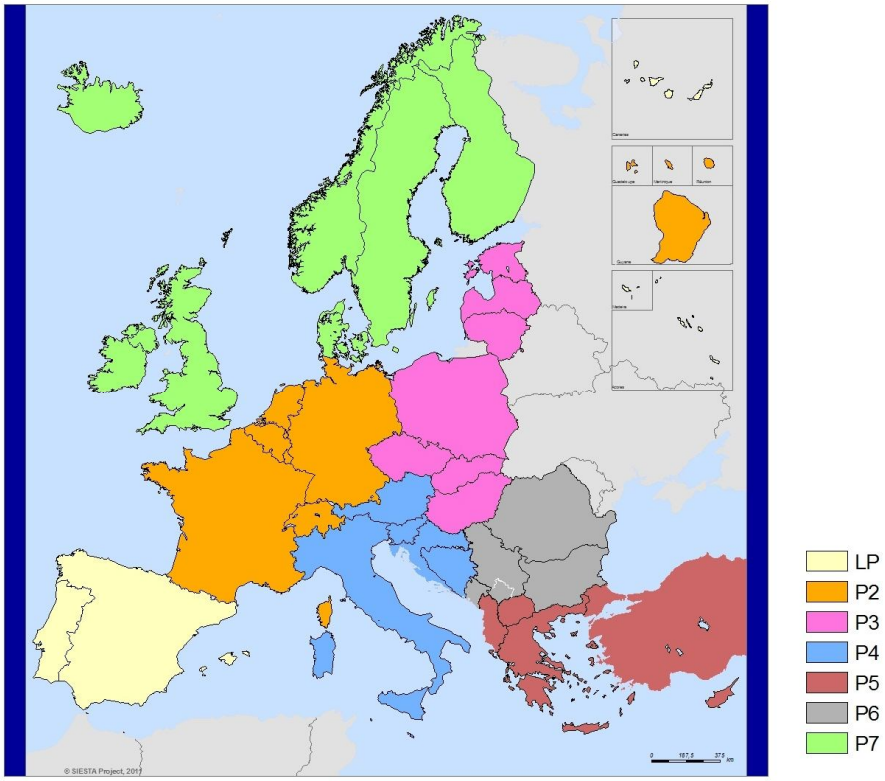
Beyond the early definition stage of an appropriate set of indicators (WP2), the intensive examination of data availability at the appropriate geographical scale has shown uneven results and resulted in changes to

24 Innovation Union − COM(2010) 546 final, pp. 36-37, as a "Performance Scoreboard for Research and Innovation"; and A Digital Agenda for Europe − COM(2010) 245 final, pp. 40-41, as "Key Performance Targets".

25 For instance, the Academic Ranking of World Universities, widely known as the *Shanghai Ranking*. Available at: <http://www.arwu.org/> (Access 2011-10-4).

the first list. The SIESTA Project has systematically tried to develop the work at the larger scale, that is, NUTS 3 and urban areas, but only when this is possible in terms of data availability. This means that, when data is not available for NUTS3 or urban areas, then NUTS2 scale is used and, in some exceptional cases that will be justified in the following paragraphs, NUTS1 or NUTS0. It has to be said that a particular detail on the consideration of the urban area scale is developed in point 3.1.5.

In order to check data availability, EUROSTAT, ESPON 2013 DB and previous ESPON projects have been intensively checked and additional queries have been sent to the OECD, EEA and DGREGIO. In addition, the partners of the SIESTA Project have carried an exhaustive analysis for each studied country in order to check if data really exists at NUTS2/3 level, mainly in the national institutions of statistics, even if EUROSTAT or the other pan-European data sources do not offer them. In fact, each Project Partner has had a list of allocated countries under their responsibility (see Map 2). Data searching in national institutions of statistics has consisted of access, queries and downloading from the respective webpages and an exhaustive emailing feedback, asking for the confirmation of data availability; in some particular cases a specific data search has been carried out in the government institution sectors, such as the respective ministries of the environment and/or energy and/or industry for the indicators on climate change mitigation and energy efficiency.



Map 2 Distribution of Studied Countries Between Project Partners.

The following paragraphs of this 3.1.2 point explain the data availability searching results distributed in three main groups of indicators:

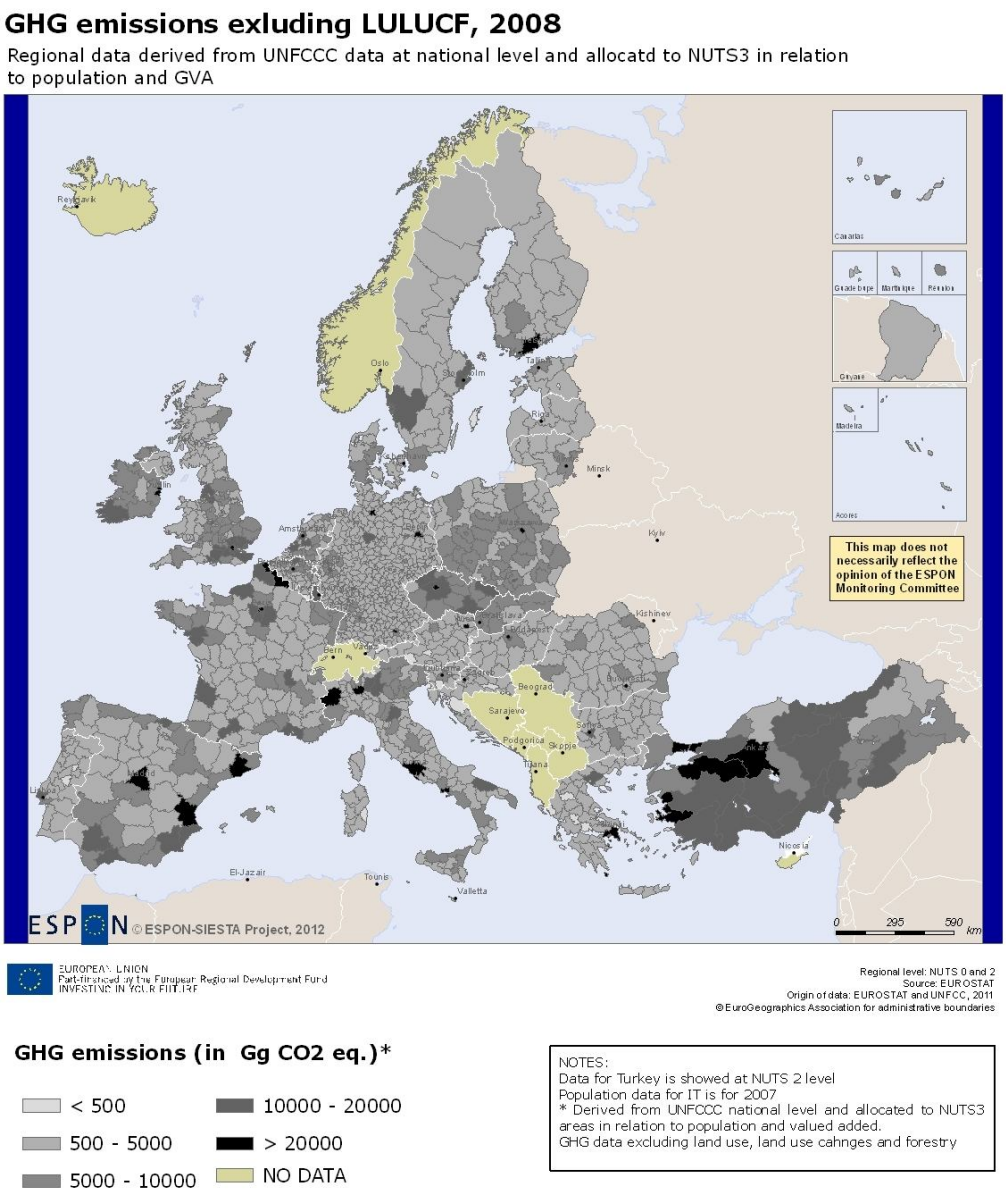
- Those considered "compulsory" as justified above. This is explained in point 3.1.2.1.
- Those available at EUROSTAT or other reliable pan-European databases. This is explained in point 3.1.2.2.
- Those which are not in the previous situations, but have been tested. This is explained in point 3.1.2.3.

3.1.2.1. The "Compulsory" Indicators

In relation to the headline targets, EUROSTAT offers a specific database for them, but it is available at the member state level.[26] Be it as it may, the definition which is given in this specific database is always considered the official one for the purposes of this project. With these official statistical definitions, data availability for NUTS2/3 and urban areas have been scanned and the results are as follows:

- @1, @6 and @8 are available for NUTS2 and none of the members of the SIESTA Partnership has been able to obtain this at NUTS3 level. These datasets are neither available at city level but in the case of @6 and @8 similar indicators have been found and they are explained in point 3.1.5. In the case of @1, the FOCI Project calculated the data for urban areas (LUZ) approximated by NUTS2, but its use in this SIESTA Project would be redundant as NUTS2 areas are already being represented.
- @47 is available for NUTS2 level in most of the countries but others have to be shown at state level (see point 3.1.6 for the criteria on combining different geographical scales). As this is a union of three sub-indicators calculated by EUROSTAT, it is non-productive to query the national statistical offices requesting this aggregate indicator as they do not provide it. This means that the working scale will be the one facilitated by EUROSTAT.
- @41 is available for NUTS2. Quite unexpectedly, this is not available at urban scale, but different indicators on unemployment (the rough opposite to employment) are available at the urban scale.

26 Available at: <http://epp.eurostat.ec.europa.eu/portal/page/portal/europe_2020_indicators/headline_indicators> (Access 2012-3-25).



Map 3 **Draft Version of the Estimated GHG Emissions Map at the Regional Scale Following ESPON Climate Methodology.**

- @26, @27 and @28 are only available at member state level. Regarding @26, as is well known, currently a regionalisation of greenhouse gas emissions does not exist, being a quite controversial issue in several countries; it is true that some member states have internal surveys on this matter (i.e. Spain), but these calculations are not consistent in relation to international standards and differ one to the others, and some of them are not even official but academic approximations. Indeed, this evident lack of datasets on greenhouse gas emissions at the regional scale is remarked on by the ESPON Climate Project, but the team working on that Project established a methodology to estimate regional

greenhouse gas emissions derived from the national standardised data provided by the UN databases;[27] the SIESTA Project, following the methodology kindly provided by ESPON Climate, has estimated the regional greenhouse gas emissions at NUTS3 level (Map 3), but this is only an approximation based on the national greenhouse gas emissions and the raw data is really the national. Furthermore, following the precise statistical definitions established by EUROSTAT, the data needed for making the calculations necessary to have @27 and @28 indicators at regional level have been intensively checked by partners, but unfortunately they are not available.

As required by the Specification, the headline targets maps will contain, when available, a small table comparing the same data for the US as a whole and Japan.

In relation to growth, indicator @33 is a classic measurement in the EU history of statistics and widely used by policy-makers across the EU space and by scholars in territorial research. This is available for NUTS3 level. @32 is a variation of this indicator; as previously announced, the use of trends is specifically explained in section 3.1.4.

Regarding indicators directly derived from the Innovation Union flagship initiative (@5, @35 and @36), different situations have emerged. For @5, data provided by the OECD is available at NUTS3 level. The useful disaggregation of the total amount of patents into different classes (high-tech, ICT and green) is explained in section 3.1.3. For @35, there is no data at the regional level, but OECD offers this at member state level. For @36, EUROSTAT offers it at NUTS2 level. In the cases of @35 and @36 no larger scale has been attained through the intensive data searching developed by partners.

In relation to indicators directly derived from The European Platform against Poverty and Social Exclusion flagship initiative, these are the sub-indicators that are amalgamated into @47 (that is, @48, @49 and @50). The three indicators are available for NUTS2 level at EUROSTAT and calculated in the framework of the EU-SILC survey. For these three, larger scale has not been obtained through the intensive data searching developed by partners, although in the case of indicator @48 a very

27 In p. 171 of the ESPON Climate *Final Scientific Report*, available at: <http://www.espon.eu/export/sites/default/Documents/Projects/AppliedResearch/CLIMATE/ESPON_Climate_Final_Report-Part_C-ScientificReport.pdf> (Access 2011-12-21), there is a map estimating regional GHG emissions derived from national level data that only shows if emissions are “low” or “high”. After contacting directly with the ESPON Climate team, they sent to the SIESTA team the underlying methodology which allows the expression of regional GHG emissions from national level data using regional population and regional gross added value data from EUROSTAT. The map calculated by the SIESTA team uses this methodology but shows the total values (Map 3).

similar measurement has been obtained for urban areas (see section 3.1.5).

3.1.2.2. Indicators Available at EUROSTAT Databases and Equivalent

18 indicators from those previously selected are available at EUROSTAT and other equivalent databases: @2, @3, @7, @13, @14, @17, @23, @24, @25, @34, @38, @42, @43, @44, @46, @51, @52 and @54. Detailed technical information on them is available in **Annex E**. However, in the context of this explanation, it is relevant to facilitate some insights about data processing. The first point to mention is that only indicator @38 is not provided by EUROSTAT but by DGREGIO, being an internal database which has been obtained after contacting by email. We had already calculated this indicator using the shapes downloaded on the EEA website,[28] but eventually it has been decided to work with data produced by DGREGIO as it is an official source and, indeed, included in the Fifth Cohesion Report.[29]

In relation to the indicators detailed in this point 3.1.2.2, only those related to unemployment (@51 and @52) are available at NUTS 3 level. The resting are at NUTS 2 level. As detailed in point 3.1.6, when a database is provided by EUROSTAT at NUTS2 level and not detailed at a larger scale, no further data searching attempts are done. However, it must be said that some of these indicators are available for urban areas and, subsequently, they will be reflected in particular maps as systematically reported in section 3.3 and **Annex E**.

Four indicators require a specific explanation in this point 3.1.2.2 as they have been obtained by combining different EUROSTAT datasets:

- @23 has been calculated following ReRisk methodology, explained in its Final Report[30] but also kindly facilitated by email. ReRisk estimated this indicator for 2005 and the SIESTA Project has updated the indicator for 2010 amalgamating country by country the NACE codes identified by ReRisk.
- @34 has been calculated as EUROSTAT indicates: GDP volume per person employed. EUROSTAT does not offer it at NUTS2 level but it can be estimated following its own methodological indications.
- @43 is not directly provided by EUROSTAT. To calculate it, life expectancy rates have been obtained at EUROSTAT and official national retirement ages have been provided by Project Partners. It

28 Available at: <http://www.eea.europa.eu/data-and-maps/data/natura-2000> (Access 2011-12-28).

29 European Commission (2010), *op. cit*., p. 142.

30 Available at: <http://www.espon.eu/main/Menu_Projects/Menu_AppliedResearch/rerisk.html> (Access 2012-2-23).

has to be noted that: (i) there is no available dataset for the real retirement ages (instead of the official ones) for NUTS2/3 and this data is only available for state level;[31] and (ii) as most of the countries have an official retirement age depending on gender and that life expectancy rates are obviously gender-based, this indicator has had to be reflected in two different maps.

- Initially, the Project Partners attempted to obtain @46 state by state. However, the evident definition differences of what is considered to be a "public servant" across the European space make it impossible to punt the obtained databases together. Indeed, as it is quite obvious, this is particularly controversial issue in some countries. As reported by scholars, such as Glassner (2010),[32] the most realistic strategy in relation to this topic is to pragmatically use the EUROSTAT amalgamation of what is considered public sector. In the current EUROSTAT statistical framework, this is done through NACE Rev.2 (codes O-Q).

3.1.2.3. Discarded Indicators from WP2

20 indicators from those previously selected have been discarded during WP3: @4, @9, @10, @11, @12, @15, @16, @18, @19, @20, @21, @22, @29, @30, @31, @37, @39, @40, @45 and @53. The underlying reasons for this denial are explained in the following paragraphs, while point 3.1.3 states which have been the new selected indicators in order to maintain an adequate coverage of the EU2020S principles and strategies through available statistics, thus maps.

Firstly, two indicators reported by DGREGIO (@31 and @37)[33] that were considered an indicator to satisfy specific EU2020S topics have been rejected. The rationale is the criticism made by the Sounding Board in this respect and because the methodology for calculating them is not evident, thus they seem to be inappropriate in the context of an easily-readable Atlas, as is desired. The same is applicable to an index developed within the EDORA Project when establishing population access to natural areas (@40),[34] available at ESPON 2013 DB, which at an early stage seemed to

31 See statistics available at OECD website: <http://www.oecd.org/document/47/0,3746,en_2649_33927_39371887_1_1_1_1,00.html> (Access 2011-20-11).

32 Glassner, V. (2010): *The public sector in the crisis.* Brussels: European Trade Union Institute. Published as a working paper and available at: <http://docs.jean-jaures.net/NL417/1-public-sector.pdf> (Access 2012-2-14).

33 Commission Staff Working Document *Regions 2020. An Assessment of Future Challenges for EU Regions* − SEC(2008), p. 7 and p. 13.

34 Available at: <http://www.espon.eu/main/Menu_Projects/Menu_AppliedResearch/edora.html> (Access 2011-12-21).

be suitable within the sustainable development thematic topic but which has subsequently been understood as of no use. To sum up, it can be said that indexes that are not calculated by the SIESTA team have remained questionable and have eventually been discarded.

Secondly, the resting indicators have been discarded after the Project Partners' enormous effort to obtain this data by asking the national statistics organisations. It has been essayed country by country in order to gather the datasets and the results of this screening, which will be detailed in the Draft Final Report, show that:

- The spatial coverage is unacceptable, with most of the countries without any regional data. For instance, @4, @9, @18, @21, @22 or @45 were impossible to be attained in the vast majority of the European countries. In the case of @53, EUROSTAT acknowledges that there is lack of reliability in its database so it has been discarded.
- The consistency of definitions across the European space is very low. For instance, @19 exists in several countries, but the partners reported differences in the definition of what is understood to be *organic* or *ecologic* farming across the European space. The same is applicable with @10, where a consistent definition for all the countries was impossible. For @9, as reported in the previous point, there is a lack of data in some countries; at the same time, the countries facilitating datasets differ in definitions: some countries offer data on doctorate graduates per 1000 population aged 25-34,[35] while others only for total population; in addition, some depending on the region in which the student obtained the PhD, others depending on the region where the doctor lives and even some depending on the region where the PhD candidate was living before beginning the doctorate courses. In these cases harmonisation procedures are inapplicable.
- The heterogeneous political systems within Europe implicate that some data is not collected regionally as it is politically meaningless, while in other countries this is officially reported. That is the case of @11 or @12.
- One indicator which has a homogenous definition for the entire EU is @39 under the Directive 92/43/EEC. Also there is a particular dataset available at the EEA website, as quoted above. However, after examining the regional dataset at NUTS3 level, the obtained

35 The calculation of this indicator for this age group is proposed by the Innovation Union flagship initiative. Initially, it was attempted to maintain this condition.

pattern is not useful in the context of the SIESTA Project, as it shows that only some specific countries have transformed Sites of Community Importance (SCIs) into Special Areas of Conservation (SACs), for instance the UK, while others, like Spain, have not carried out this process. And not having SACs is not necessarily related to the real level of natural space protection or management, which was the fact to be measured through the indicator @39. In this sense, @39 has been discarded.

3.1.3. The Definitive List of Indicators

The definitive list of indicators results from the already mentioned process carried out along WP3, when 20 of 54 indicators have been discarded. As explained in the first Inception Report, it has been necessary to identify alternatives for these indicators while the consistency with the EU2020S has to be maintained. As already said, this Project is qualitative driven. That means that the basic management strategy for indicators and map privileges the EU2020S rather than the available data itself. No maps have been produced if a clear link with the EU2020S is not obvious, as the maps have to make conceptual sense within the Project.

Pillar	*Subsection of the Atlas*	*Maps*	
Smart Growth	Research and innovation	9	24
	Education	10	
	Digital society	5	
Sustainable Growth	Competitiveness and economic growth	10	26
	Green economy, climate change and energy	16	
Inclusive Growth	Employment, skills and jobs	16	30
	Poverty and exclusion	14	

Table 2 Number of Maps by Atlas Section and Subsection.

This point 3.1.3 explains which of the new indicators that have emerged. It has to be mentioned that there is not a third code beyond [] and @ as the final code numbers are the ones of the implemented maps. The definitive list of indicators is facilitated in **Annex E** and is systematised through a qualitative story line embracing all the maps of the Atlas in section 3.3. Obviously, the new indicators gathered during WP3 have an adequate geographical coverage, being all of them available, because the definitive list of indicators can only be established based on the certainty that datasets exist. In general, it can be said that a balance has been obtained in terms of number of maps among the different Atlas sections and subsections (Table 2), in accordance with the general wish of the EU2020S to have a transition towards a smart, sustainable and inclusive European economy (see sections 1 and 2.1).

In relation to the shifts in the smart growth pillar, an indicator which is directly quoted in the flagship initiative "Youth on the move" is NEET (young people aged 15-24 years old and not in employment, education or training) and congruently it has been included; at the very beginning this was not considered because EUROSTAT has not been facilitating it publically, but, after an email, it has been obtained. In this same pillar, the specific study of the OECD REGPAT database on patents,[36] once downloaded, showed that it specifies those patents which are particularly ICT; this non-predicted indicator, at NUTS3 level, has also been included. Furthermore, the KIT Project kindly facilitated broadband penetration for NUTS2 and this has been considered worthwhile in the context of the digital society objectives expressed by the flagship initiative A Digital Agenda for Europe and indeed it is one of its "key performance targets".

In relation with the shifts in the sustainable growth pillar, this was the section providing greater problems in terms of data availability, as reported in the previous point 3.1.2.3, basically because of:

- The general lack of environmental data at regional level, a fact which is confirmed by a recent specific EEA report.[37]
- The controversial inclusion of aspects of economic growth under the umbrella of "sustainable growth".[38] Apparently, the pillar should be devoted to a sustainability agenda as it is widely conceived, but it is clear from an in-depth analysis of the EU2020S, when referring to sustainable growth, that it is focused on economic growth. This contributes to complicate the scientific approach to this sustainable growth section of the EU2020S.

Be it as it may, there has been an effort to include specific indicators on green economy. Firstly, and as noted earlier, the screening of the OECD

36 Available at: <http://www.oecd.org/document/10/0,3746,en_2649_34451_1901066_1_1_1_1,00.html> (Access 2012-1-10).

37 EEA (2010): *The Territorial Dimension of Environmental Sustainability. Potential Territorial Indicators to Support the Environmental Dimension of Territorial Cohesion*. Copenhagen: EEA.

38 As it has been said in section 1, it is not the aim of SIESTA Project to assess the EU2020S itself, but its territorial dimension and implementation. However, it is significant to note here that the concept of 'sustainable growth' by the EU2020S is far from conceptually clear. Firstly, from an academic perspective 'growth' and 'development' are different concepts and usually 'sustainable' is referred to 'development' and not to 'growth'. Secondly, several scholars argue that 'sustainable development' is a contradiction or oxymoron; if associating 'sustainable' to 'development' is questionable, the idea will be even more incongruous when referring to 'growth'. These conceptual issues are reported by experts coming from different academic traditions such as: (i) Brinkman, R. (1995): "Economic Growth versus Economic Development: Toward a Conceptual Clarification", *Journal of Economic Issues*, XXIX(4): 1171-1188; (ii) Naredo, J.M. (2007): "Crecimiento insostenible, desarrollo sostenible", in Romero, J. (coord.): *Geografía humana. Procesos, riesgos e incertidumbres en un mundo globalizado*. Barcelona: Ariel. pp. 421-476; (iii) Sauvé, L. (2007): "L'équivoque du développement durable", *Chemin de Traverse : Revue transdisciplinaire en éducation à l'environnement*, 4: 31-47; or (iv) Blewitt, J. (2009): *Understanding Sustainable Development*. London: Earthscan.

REGPAT has allowed us to identify types of patents at NUTS3 level, including green patents, which was a non-predicted indicator. Secondly, and as there is no data on renewable energies at the regional level, it has been thought as useful to consider the potentials of wind energy and solar energy, as they may offer "future possibilities" in this respect; these data has been downloaded through ESPON 2013 DB, coming from ReRisk Project. Thirdly, for measuring sustainable development in relation to curbing greenhouse gas emissions, it is essential to take into account the transport sector and in this respect measurements on congestion have been introduced at NUTS2 level and a particular indicator available at URBAN AUDIT (EUROSTAT) on commuting.

In relation to growth measuring under the sustainable growth objective, one of the members of the Sounding Board asked for more indicators in this respect, apart from those already considered (i.e. @32, @33, @34). One which has been introduced by accepting the Sounding Board's direct advice is the public debt rate in percentage of GDP, which clearly compromises growth and is published yearly under the EU2020S framework through the Annual Growth Report; an effort has been made to obtain public debt at the regional scale across the European space but the feedback from partners has been discouraging: only in some countries is it possible to obtain the data for regional/state governments, but even in these cases it is unclear how to distribute the national/federal debt among regions; the only definitive option has been to map the state level. In relation to economic growth under the sustainable growth section, a second indicator which has been intensively searched for on a regional scale and that has finally been impossible to achieve is the contribution of medium and high-tech products to the trade balance; it is @35, whose data gathering problems have already been referred to in point 3.1.2.1 and is quoted as "compulsory" in the Innovation Union flagship initiative.

In relation to the shifts in the inclusive growth pillar, the new indicators have been basically obtained through intensive data searching at EUROSTAT. Comparatively, the third pillar in the first proposal of indicators list received less attention than the other two pillars (see **Annex C**), but this has further been considered as undesirable. In this respect, the indicator on the lowly educated population is understood to be a valuable measurement of the difficulties to attain jobs and better positions for significant proportions of the European workforce. In addition, it has been considered very important to measure the disposable income per capita, beyond the indicators of growth previously quoted; this new indicator was raised in the discussion in the seminar in Paris in February 2012 and was considered valuable by all partners, as GDP per capita is not reflecting the social implications of wealth distribution that

disposable income is offering. Furthermore, in terms of a specific indicator on long-term unemployment (12 months and more) has been introduced, which is important when referring to the rigidity of the labour market. Finally, the over-quotation of ageing problems has been worth considering through a standardised ageing index based on scientific literature on demographics and basic UN and EUROSTAT databases.

3.1.4. The Use of Trends in Mapping

As was mentioned above, the Atlas shall demonstrate the current territorial state and, when possible and applicable depending on data availability and thematic suitability, the recent trends of the EU regions in relation to the indicators selected to show the regional dimension of the EU 2020S. Considering the general problems related to the lack of large datasets at regional level, we must recognise that there is reduced possibility of developing maps showing more than a given year, although some interesting indicators that are detailed below are proposed as maps showing trends (development over time).

One particular condition which has been noteworthy for deciding when trends are applicable for mapping is the possibility to show the situation before the beginning of the economic crisis and the current moment. As the EU2020S combats the crisis, the cartography of the evolution of the different substantial issues during the crisis is relevant, that is, after 2008. However, the big problem is data availability, as most of the statistics at EUROSTAT for NUTS2/3 and cities are not beyond 2009, and even, in some cases, the last dataset is for 2007 or 2008. In two cases where the trend has been understood as substantial during the crisis, maps have been done at state level (NUTS0) in order to show the major shifts. This is the case of economic growth/contraction measured in GDP variation or public debt evolution for the period 2007-2011. Finally, one particular case which has been considered absolutely determinant in the evolution of crisis is the evolution of unemployment across the European space, which is available at NUTS3 for 2007-2010.

Another particular condition to gather maps based on trends is the expression of regional evolution, which is important to have for the EU2020S spatial analysis, not in years of crisis, but in the last decade. Usually the decade with data availability is 1999-2009. Prior to 1999 EUROSTAT does not systematically provide regional data for most of the Central and Eastern European countries and, indeed, because of recent statistical adjustments, now regional data for the last decade is not available for regions at NUTS2/NUTS3 in some Western European countries such as Austria or Italy. Again, it has to be emphasised that there are scarce datasets available at EUROSTAT and other feasible pan-

European databases prior to the last 5 years. Indeed, the intention of the SIESTA Project has been to have all the headline targets mapped in trends for the last decade, and the rank of possibilities is as follows:

- There are 3 headline targets that have highly acceptable data series for the last decade at NUTS2 scale: @1, @6 and @41. Thus this will be represented as trends.
- In relation to greenhouse gas emissions (@26), above mentioned, this indicator is only available for the country level as required for calculating the headline target base 100 referred to 1990. The map shows the trend in total human emissions of the 'Kyoto basket' of greenhouse gases in the period 1990-2010 according with the EEA[39] and, outside the European space, UNFCCC statistics.[40] In this respect, it must be said that an attempt has been made to represent the European neighbouring nations in order to give a broad picture.
- The resting headline targets (@8, @27, @28 and @47) are not available at regional level for around 2000. It must be remembered that some of them are even not currently available at the regional level for the current moment. In these cases, the evolution will be done at the state level (@8 and @28). However, in the case of @27 there is no available data prior to 2006 and the last available dataset is for 2009, which makes the comparison unreasonable. And in the case of @47, the time breaks in the data series are enormous, even at state scale level, and so it has been decided to represent the trend of @48 in the period of crisis, which, as has been stated before, can be understood as very similar to @47.

3.1.5. The Consideration of Urban Areas

The Specification required for making a special effort to address the urban aspects of the EU2020S in the development of the project. This is consistent with the fact that the predicted 2014-2020 Cohesion Policy is probably going to have a new specific urban dimension.[41] Once again, there are several problems with databases. Cities have been mapped when appropriate for the objectives of the SIESTA Project. It has to be reiterated that this is qualitative-driven research; that means that what is

39 Available at: <http://www.eea.europa.eu/data-and-maps/data/data-viewers/greenhouse-gases-viewer> (Access 2012-3-5).

40 Available at: <http://unfccc.int/ghg_data/ghg_data_unfccc/items/4146.php> (Access 2012-3-5).

41 Predicted to be so-called "integrated sustainable urban development", whose factsheet is available at: <http://ec.europa.eu/regional_policy/sources/docgener/informat/2014/urban_en.pdf> (Access 2012-3-24).

meaningful is the EU2020S. In other words, cities have been mapped when the indicator selected for its consistency with the EU2020S spatial analysis is available or maintains strong similarities and when differences are not noticeable. Four examples of these slightly different indicators being used for cities are:

- Indicator @48 expresses the percentage of people at risk of poverty by having a disposable income below 60% of the median. There is no identical dataset available at URBAN AUDIT (EUROSTAT) but there is a measure of the same for households and the latter has been selected.
- In the case of the new indicator on disposable income per person (see point 3.1.3), it is not available at URBAN AUDIT (EUROSTAT) but a measurement per households is available and it has also been mapped.
- Indicator @6 measures the drop out rate of early school leavers. The equivalent for cities is the rate of students not completing their compulsory education.
- Indicator @8 measures the share of population aged 30-34 having completed tertiary education. The equivalent for cities is the share of the total population having completed tertiary studies (beyond the age group). Indeed, this has been also mapped at the regional scale, as it has been understood that it makes sense to map the tertiary education attainment for the age group 30-34 by regions and, also, for the total population, as this will express if regions are performing (if the former share is increasing in respect to the latter).

In relation to urban areas, a particular point has to be made on urban definitions. In the SIESTA Project cities are always statistically considered as larger urban zones (LUZ), functional urban areas (FUA), metropolitan growth areas (MEGA) or any consistent metropolitan aggregation, as facilitated by previous ESPON research or EUROSTAT. Cities are not studied individually. This is consistent with the ESPON research in this respect, which has prevented urban areas in Europe being considered only by using the data of the central city in each case (see Projects FOCI in ESPON 2013 and 1.1.1 in ESPON 2006).[42] This means that URBAN AUDIT is only valid when it offers data at the LUZ/FUA level.

42 Available at: <http://www.espon.eu/main/Menu_Projects/Menu_AppliedResearch/foci.html> and <http://www.espon.eu/main/Menu_Projects/Menu_ESPON2006Projects/Menu_ThematicProjects/polycentricity.html> (Access 2012-3-25).

That said, it is true that ESPON 2013 DB includes the vast set of indicators developed by the FOCI Project. However, most of the FOCI indicators are proxies derived from NUTS2 or NUTS3 regions. The use of these proxy indicators would be redundant in the context of the SIESTA Project as NUTS 2 or NUTS3 are already being used for mapping and the double use of them would cause a duplication of the same datasets in different maps. In this sense, the SIESTA Project uses FOCI data when it is primarily produced, for instance, the valuable indicators on the presence of transnational company headquarters in urban areas and on the participation of urban areas in research projects in NBIC (nanotechnology, biotechnology, information technology and cognitive science, that is, the considered emerging technologies). Indeed, after taking it from FOCI, an attempt was made to obtain the indicator on participation in research projects at the regional scale under the smart growth pillar; it is true that the KIT project has calculated this indicator at NUTS2 level but, unfortunately, it is only covering the 5th Framework Programme (1998-2002)[43] and it is not extended towards 2006 as FOCI makes. Eventually, FOCI has been preferred, even though being only for urban areas.

Finally, it has to be remembered that, as explained in point 2.3.2, the use of ESPON region types, such as urban-rural at NUTS3 in the analytical research, will allow us to introduce specific consideration of the European urban areas through most of the SIESTA Project maps produced at NUTS2/3.

3.1.6. A Systematisation of Methodological Issues Related to Indicators and Maps

As it is clear from the previous points of this section, and beyond that of the general screening at EUROSTAT and other pan-European feasible data sources, there has been a screening of the availability in national statistical organisations and national thematic institutions through a checklist elaborated by the LP for each one of the suitable indicators pre-selected in WP2, including:

- Geographical scales (from NUTS0, that is, state level, to NUTS3, including functional urban areas and other metropolitan/urban geographical structures).
- Temporal period.

43 See p. 15 of the KIT *Interim Report – Scientific Report* available at: <http://www.espon.eu/export/sites/default/Documents/Projects/AppliedResearch/KIT/KIT_Interim-Report_Scientific-Report.pdf> (Access 2012-3-12).

- Additionally, other comments could be included in the checklist.

Each partner has had countries allocated as shown in Map 2. The precise and comprehensive results of this intensive screening basically developed during WP3 are quite critical for the development of the project in the sense that general data availability is unfortunately too scarce. In previous points it has been mentioned how the indicators have been shifting because of data availability problems. The general problems can be systematised as follows:

- Most of the indicators are not expressed at regional level (NUTS2/NUTS3) and, even a worse situation, cities. In fact, as explained in point 3.1.2.1, some of the indicators considered headline targets of the EU2020S are unavailable at the regional level.
- The time series available for most of the indicators are short at regional scale (NUTS2/NUTS3), with the exception of demographic data, which usually have a longer time series, but which are almost meaningless for the SIESTA Project when taking into account its scientific rationale. Also, other "traditional" measurements like the regional GPD per capita have acceptable time series but, as explained in point 3.1.4, they are geographically uneven.
- There are punctual data gaps in some selected indicators for some specific years, including recent dates.
- Sometimes the definitions of the indicators are not consistent across the EU space when comparing those provided by different national organisations, as repeatedly stated in the previous points. This strongly compromises the possibility of building robust new tailor-made datasets different from those found at EUROSTAT.
- In general, the impossibility of gathering data at the NUTS3 level which was understood to be "the ideal scale". The intense scrutiny of the databases has revealed the alarming lack of data on this scale, especially in the case of indicators related to energy, environment and sustainability.

Systematically, the databases used have been the following ones:

- EUROSTAT, which has provided the majority of the data, including EU-SILC, URBAN AUDIT, etc. EUROSTAT does not show all the existing datasets and there has been an interaction between the SIESTA team and EUROSTAT to widen the available databases.
- ESPON 2013 DB plays an important role in centralising data and indicators from other ESPON projects. However, the available indicators usually shown for a single year are outdated or come

from the combination of data extracted from other databases such as the EEA or EUROSTAT. In some cases, ESPON 2013 DB has re-directed the queries from SIESTA to particular projects in order to clarify the calculations and the methodologies related to specific datasets (see section 3.2).

- OECD, especially useful to develop the patents related indicators (REGPAT database).
- EEA, especially useful for the greenhouse gas emissions data.
- UN, especially useful for the greenhouse gas emissions data.
- National databases, intensively checked by partners, but, as previously said, showing that:
    - Most of the countries do not collect the data requested at regional level (i.e. @11 and @12).
    - As exemplified in point 3.1.2.3, data consistency across the EU space is very poor.

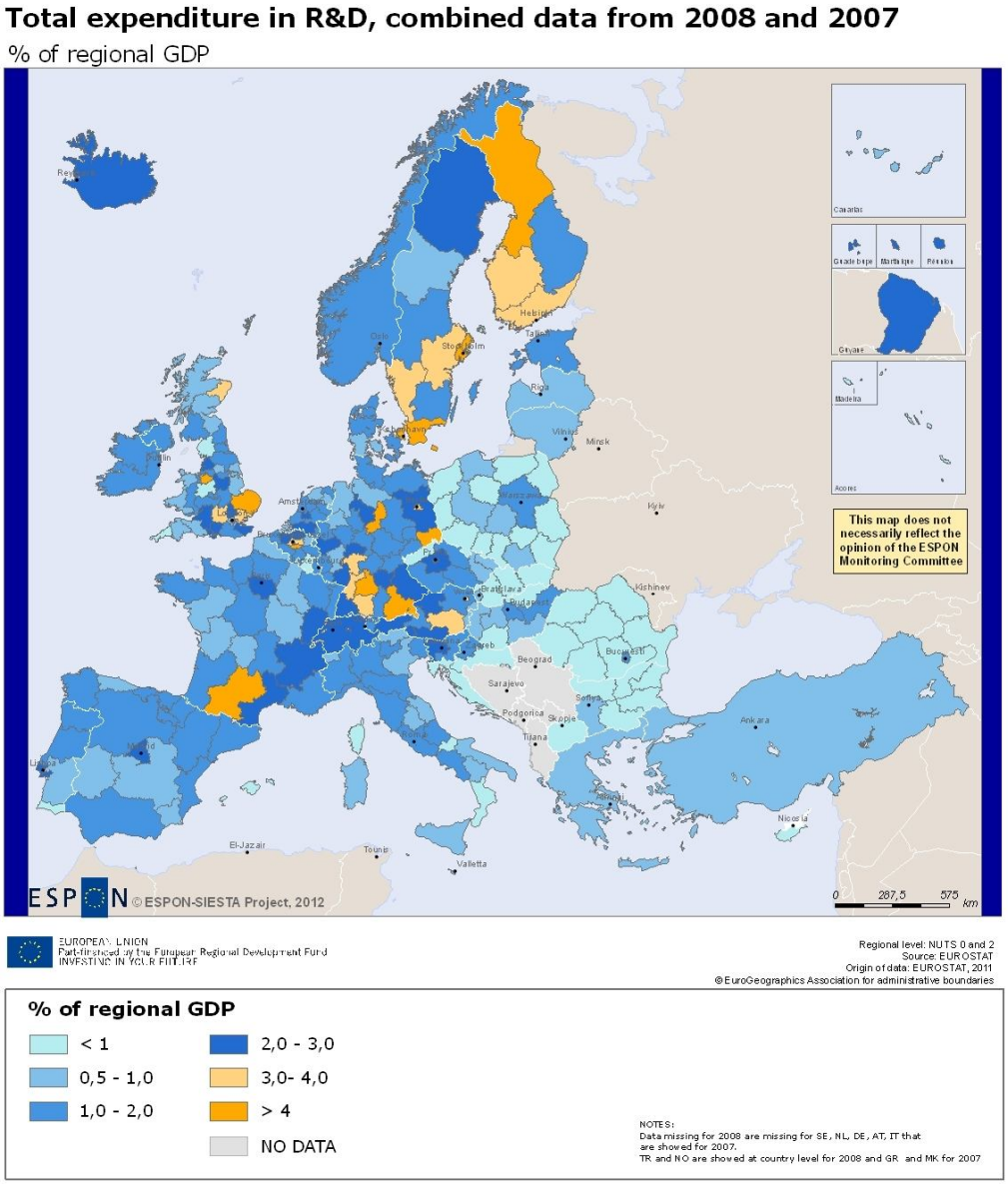
These databases have previously been quoted when explaining the different indicators initially checked or finally used, but it is considered worthwhile to list them in this point 3.1.6.

In relation with mapping derived from this data issues, two important decisions have been made:

- NUTS3, NUTS 2, NUTS1 and NUTS0 (states) scales have been combined in some cases as it is explained herein. For each map the scale where there is more available data has been used; if in some particular countries there is a gap in this same general scale but data is available at a smaller scale, the latter has been used. In addition, it has to be said that urban scale level is always represented in independent maps as some LUZ/FUA/MEGA are bigger than NUTS2/3 areas and it is not consistent to represent urban areas and NUTS areas on the same map.
- In some particularly extreme cases, a particular map combines different dates. This is absolutely consistent with the usual *modus operandi* of ESPON Projects, as inferred from the literature revision (see section 3.2 and **Annex D**).

Finally, it is important to note that when a dataset is not available at EUROSTAT at NUTS 3 level but it is at NUTS 2, the latter level has been chosen instead of trying to develop a new database at the former by ourselves. In this sense, it has not been tried to develop a survey of data at a larger scale country by country as this could be extremely controversial in terms of data harmonisation. EUROSTAT provides a

quality standardisation and this is agreed by SIESTA as the reasonable research basis.



Map 4 **Draft Version of the Map Showing the Percentage of GDP Expenditure in R&D. This is an Example of Combining Scales and Years.**

To sum up, it can be concluded that, unfortunately, the set of indicators available at EUROSTAT and other equivalent pan-European databases is scarce, especially when regarding specific thematic targets, as is the case of the SIESTA Project. As INTERCO and other ESPON Projects have repeatedly detected, it would be wishful to think that EUROSTAT and ESPON make an effort to improve the existing raw data material, especially at NUTS3 and city level.

“The official data collection is not yet fully adjusted to the newest political priorities and we are strongly urging the data providers to make the

missing data available for the researchers, the policy-makers, if not for the general public. INTERCO [and SIESTA] recommends to Eurostat and EU member countries to collect the respective data regularly (time frequency to be defined) at least at NUTS2 level, preferably at NUTS3, otherwise by relevant territorial typologies (e.g. degrees of urbanisation, urban/rural regional types, etc.). This should also apply to data provided by specific surveys." (INTERCO *Draft Final Report*, p. 9).[44]

3.1.6.1. Specific Reference to EU Candidate Countries and Western Balkans

The intention of the SIESTA Project regarding Croatia (acceding country), EU candidate countries (FYROM, Montenegro, Serbia and Turkey) and other Western Balkans countries (Albania, Bosnia and Herzegovina and Kosovo) has been to fully integrate them in the analysis at a regional scale through their consistent consideration in terms of indicators and maps (see point 2.1.3). However, the lack of data for many of the indicators selected has compromised this target. A first issue to take into account regarding these countries is that some of them have not adopted a regional classification similar to NUTS in the EU27. A recent specific ESPON technical report has given insights into data availability and the process of adopting a spatial administrative division following EU NUTS classification criteria.[45]

Croatia, FYROM and Turkey have adopted the EU NUTS classification. Data for these countries is provided by EUROSTAT at NUTS2 for many of the indicators and is also available for the EU27 regions, but in Macedonia NUTS2 is coincident with the whole country. The rest of the Western Balkans countries are currently in the procedure of adopting a NUTS classification. Although ESPON propose "similar NUTS" divisions which satisfactorily fulfil the NUTS population criterion, this classification does not match the official administrative boundaries of the Western Balkans countries; for instance, in the case of Serbia the regionalised data obtained by P6 is not coincident with the pre-NUTS proposed by ESPON. This fact led us to decide on showing Montenegro, Serbia, Albania and Kosovo at country level. The case of Bosnia and Herzegovina is exceptional in the sense that some (scarce) data has been obtained following the basic division of the country between two entities (Republika Srpska and the Federation of Bosnia and Herzegovina), as obtained by P4, and in this case the internal Bosnia and Herzegovina division is shown. In

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44 Available at: <http://www.espon.eu/export/sites/default/Documents/Projects/ScientificPlatform/Interco/INTERCO_DFR_Main-Report.pdf> (Access 2012-3-25).

45 Angelidis, M. (2011): *Analysis of the Availability and the Quality of Data on Western Balkans and Turkey*. Luxembourg: ESPON.

general, for the Western Balkans countries, data is only available at NUTS0 level but only for demography, economy and labour market. Be it as it may, the involved national statistical organisations of these countries have intensively been contacted by P4, P5 and P6, with disappointing results.

3.2. The Envisaged Use of Previous and Ongoing ESPON Projects

While various Projects funded by ESPON are very useful, none of them specifically deals with the EU2020S, although this document is quoted in some of the recent ones (for instance, in INTERCO, KIT or METROBORDER). That means that most of the Projects considered here are only partially useful. **Annex D** makes a systematic review of the most valuable projects and in this section (3.2) a general assessment of them is given, especially in relation to the indicators that have been selected or discussed from them (see section 3.1). In this respect, KIT, ReRisk, FOCI and ESPON CLIMATE have been highly valuable. INTERCO deserves particular attention in the sense that this project has intensively scanned data availability across the EU space and has proposed some particular indicators consistent with the EU2020S, logically coinciding with those used in SIESTA; INTERCO has also been important to note that previous ESPON projects are reporting the same data availability problems as SIESTA has found. Be it as it may, it is obvious that the projects quoted here in WP4 are going to be used again to sustain some of the analytical considerations and have an insightful background in each one of the topics.

In relation to research and innovation, KIT (Knowledge, Innovation and Territory) offers the number of effective research projects that has been developed across the EU space and FOCI (Future Orientation for Cities) introduces an indicator referencing the European FUAs involved in NBCI projects in order to measure the position of cities in innovative networks. As reported in point 3.1.5, both indicators have been discussed and eventually one of them was selected for SIESTA. The collaboration with KIT has also been very important in order to quickly obtain the databases, still not uploaded to ESPON 2013 DB. Apart from FOCI and KIT, GEOSPECS (European Perspective on Specific Types of Territories) has been important for the smart growth pillar.

With regard to sustainable growth, FOCI has also offered an indicator in relation to competitiveness and economic growth which shows the number of headquarters of transnational firms in cities and which has been finally

been selected (see point 3.1.5). In addition, ReRisk (Regions at Risk of Energy Poverty) explains the methodology for determining the employment in industries with high energy spending in its Final Report and this has been followed (see point 3.1.2.2) and two indicators on wind and energy potential developed by this project have also been incorporated through downloading from ESPON 2013 DB (see point 3.1.3). As reported in point 3.1.2.1, ESPON CLIMATE (Climate Change and Territorial Effects on Regions and Local Economies in Europe) provides a methodology to estimate the regional greenhouse gas emissions at NUTS3 level and our own calculation has used this procedure. Apart from these three ESPON projects, the following ones have been very relevant to screening on sustainable growth: EDORA (European Development Opportunities in Rural Areas), TRACC (Transport Accessibility at Regional and Local Scale and Patterns in Europe), DEMIFER (Demographic and Migratory Flows Affecting European Regions and Cities) and GREECO (Regional Potential for a Greener Economy).

With respect to the inclusive growth pillar, DEMIFER is relevant to SIESTA in terms of employment, skills and jobs because the project analyses working age population, impact of migration on population and the ageing demographic phenomenon in Europe. However, it is true that, after an intensive screening, no indicator has been found as useful for the SIESTA specific purposes. An upcoming project under Priority 1 on “Territorial dimension of poverty and social exclusion in Europe” could be of interest for SIESTA project in relation with this priority, but it is still not available. The same is applicable for the Project on “Territorial impact of the financial and economic crisis”, with strong parallelisms with SIESTA. Both were launched in the Call opened in August 2011 and that means that SIESTA is going to finish before the first results will be delivered.

3.3. Atlas Structure and Contents Through a Story Line

3.3.1. Introduction

The Atlas shows the territorial dimension of the Europe 2020 Strategy (EU2020S). Although specific considerations on the methodology of the Atlas, including comments on the scales of representation, are given in other sections of this revised Inception Report, it is essential to state at this moment that the territorial dimension is understood herein at the lowest regional level available and, when possible, including cities.

The EU2020S was launched to help the EU to come out stronger from the current crisis and become a smart, sustainable and inclusive economy.

The very basic structure of the Atlas is related to the thematic organisation of the EU2020S, whose basic framework is issued in these three priorities. They can be defined as the basic pillars or aims that are attempted to be attained by means of the EU2020S, in an inter-related manner:

- Smart growth: developing an economy based on knowledge and innovation.
- Sustainable growth: promoting a more competitive, resource efficient and greener economy.
- Inclusive growth: fostering a high-employment economy delivering social cohesion.

The three pillars are always distributed in the official documentation in this order: beginning with smart growth, followed by sustainable growth and finishing with inclusive growth. In coherence with this generally accepted and already decided arrangement, the Atlas maintains this thematic organisation.

Apart from the pillars, the EU2020S consists of two additional elements: the flagship initiatives and the headline targets. The former are the key programmes to boost growth, while the latter are the numerical goals that allow monitoring the success of the EU2020S. They are both attributed to each one of the pillars. It must be emphasised that the Atlas embraces the issues raised by the EU2020S itself, but also the flagship initiatives as they are constitutive part of the strategic document. In addition, the headline targets are automatically mapped in this Atlas as they are the pattern of the official achievement of the EU2020S. As a way to measure the overall positioning of the regions in relation with the EU2020S through the headline targets, an aggregate index is mapped, that allows for ranking which areas are currently achieving a high percentage of the objectives already fixed and which areas are lagging behind →**map01**.

3.3.2. Smart Growth

The smart growth objective deals with strengthening knowledge and innovation as drivers for future EU growth and moving towards a digital society. It is expected that, with the intensive development of these three economic sectors, the EU economy will become more productive, increase its global market share and boost the number of jobs and improve their quality. Indeed, these three economic sectors are understood to be the future hotspots of the EU economy and the Atlas basically intends to express how they are working territorially right now, allowing an appraisal of the areas that are already working well and those that are behind. The

section devoted to smart growth in the Atlas is divided in three subsections that are coherent with the internal division existing in the original EU2020S document.

3.3.2.1. Research and Innovation

In relation to research and innovation, the EU2020S document begins by comparing the R&D spending in the EU to the US and Japan and clearly states that the EU is below the latter two countries, a situation which is understood to be a severe weakness of the EU. It is clear from this strong point of departure that the first cartography in the Atlas is the percentage of GDP invested in R&D →**map02**. As this is an official EU2020S headline target, the distance between the regional percentage of GDP invested in R&D and the national target is mapped →**map03**. The trend during the last decade is also mapped →**map04**.

Research and innovation are not interchangeable concepts, although they are intermixed and related. In most of the literature on the EU2020S there is an overemphasis about innovation, but research is also quoted and for this reason maps on research are relevant in the context of the Atlas. In this sense, the cartography of the number of researchers across the EU space will inform about the distribution pattern of the human resources dedicated to research →**map05**. In relation with this map, the Innovation Union flagship initiative is particularly worried about the conditions to attract talented researchers in the EU compared to competitor countries and this map will inform about the internal distribution of researchers within the EU. Be it as it may, human capital is understood to be a key source of research.

The current state of the EU research can also be territorially assessed with the number of effective research projects that have been developed across the EU space, particularly those conceded by a competitive framework; this cartography expresses which geographical areas of the EU space are more competitive in attracting public funds for research and a very suitable measure is the number of NBIC (nanotechnology, biotechnology, information technology and cognitive science) funded research projects in the European urban areas →**map06**, keeping in mind that NBIC are considered to be the emerging technologies.

Considering the difference between research and innovation, it is relevant to point out that the EU2020S and the flagship initiative Innovation Union remark that there is a big difference between the EU and other countries such as the US or Japan: in the EU the participation of private sector in R&D is lower than in its counterparts, a comparison revealing a new weakness for Europe. This participation is halfway between research,

strictly speaking, and innovation, strictly speaking. The cartography of the business R&D expenditures as percentage of GDP is particularly valuable in this respect as it focuses on private sector involvement in R&D →**map07**. The representation of employment in knowledge-intensive activities →**map08** is also halfway between R&D and innovation.

Specifically on innovation, one of the basic indicators to monitor is per capita patent applications, as recommended in the Innovation Union flagship initiative and useful for measuring effectiveness in R&D in terms of transfer to innovation →**map09**. Particularly, the geographical consideration of high-tech patent applications reports on the quality of the innovation →**map10**.

3.3.2.2. Education

The education field receives strong attention in the EU2020S documentation. The transition towards a more knowledge-intensive economy can only take place with increasing levels of education and the diffusion of new knowledge and techniques is only possible with high levels of education. In fact, the EU2020S Communication itself reviews the weaknesses of two educational institutions, as follows: schools (the poor results achieved and the quite high percentage of students reaching medium qualifications but failing to match labour market needs) and universities (lower percentage of people holding a university degree in the EU compared to the US and Japan). This twofold distribution between education levels is used in this Atlas.

In relation with school's performance, the EU2020S is concerned about the high drop out rates of early school children in particular member states, especially because it is said that it is causing high levels of unemployment. Thus cartography at larger scale of such a topic provides valuable information about the geographical pattern of this weakness across the EU space →**map11**. As this is an official EU2020S headline target, the distance between the drop-out rates of early school leavers in relation with national targets is mapped →**map12**, as well as the trend during the last decade →**map13**. In addition, there is a specific dataset of students not completing their compulsory education for the EU urban areas →**map14** that it is thematically consistent with the cartography elaborated for regions in such respect.

In relation with universities' performance, the EU 2020S is concerned about the lower percentage of people having completed tertiary education; this is indeed one of the basic aims of the Youth on the Move flagship initiative in the sense that people with tertiary education are potentially more likely to get a job and have a higher income. The official headline target uses this percentage as a share of population aged 30-34

→**map15**. As usual, there is a specific map with the distances from national targets →**map16** and a cartography of the trend during the last decade →**map17**. Although the official headline target is expressed in relation to this particular 10-year group, a map of the share of population having completed tertiary studies is complementary to the former as it allows measuring whether the geographical region is performing or becoming worse in the younger generations in this respect →**map18**. The same dataset is available for cities, thus it has been particularly mapped →**map19**.

The specific preoccupation of the EU2020S for the youth generation is concreted in a particular flagship initiative, where the concept of NEET is raised. This acronym refers to young people neither in employment, education or training, particularly 20-24 years old, and the current figure is qualified in this flagship initiative as "an astonishing 15%". The NEET statistical consideration deserves a specific cartography concreting how this average 15% changes across the EU space →**map20**.

3.3.2.3. Digital Society

Digital society is basically understood by the EU2020S as the promotion of information and communication technologies (ICT) in general and, a case in point, internet. Both aspects are assessed as weaknesses of the EU in comparison with other countries of the world where internet works better or the ICT sector is stronger. And for a competitive economy high-speed networks are essential.

In order to assess ICT implementation, the number of ICT practitioners is usually quoted as a significant measure, including the EU2020S documentation itself. It is supposed that ICT practitioners will be required in the coming years, but it is said that in the EU there is a shortage, thus constituting a clear working niche. A map in this respect is shown →**map21**.

The geographical consideration of ICT can be appreciated by considering the innovation applied to the ICT sector. The use of ICT patent applications reports on the technological advancements in the ICT sector →**map22**.

In relation with the internet, the flagship initiative A Digital Agenda for Europe considers that internet is having the same revolutionary impact as the development of electricity and transportation networks had a century ago. That makes the internet especially important for the implementation of the EU2020S. However, the flagship document acknowledges that there is frustration when the internet does not meet the expectations in terms of services.

In particular, there are several problem areas in relation to internet development and the Atlas of the EU2020S consistently maps some of these shortcomings. Firstly, those households having access to broadband in order to obtain a picture of the uneven distribution of high quality internet access →**map23**; indeed the flagship states that it has to be ensured that by 2013 all Europeans have access to broadband and mapping the pattern can offer insights in this respect. Secondly, and in order to know if the internet is being used for commercial purposes, the percentage of population buying online →**map24**; this is substantial to know how internet is effectively penetrating in businesses across the EU space. Finally, as an indicator of the so-called 'digital divide' in territorial terms, it is clearly worthwhile to map population that have never used a computer →**map25**.

3.3.3. Sustainable Growth

The sustainable growth objective in the EU2020S documentation considers some of the typically associated notions to sustainable development (resource efficiency, renewable sources of energy, etc.), but in practice means primarily building a competitive economy. The strategy is that this competitive economy is based on green businesses, but the focus is clearly on competitiveness, and particularly in the manufacturing sector, as the flagship initiative An Industrial Policy for the Globalisation Era clearly indicates, by stating word for word, that "Europe needs industry" and that several manufacturing sectors are strategic, not only those which constitute the green economy. The section devoted to sustainable growth in the Atlas is consequently divided in two subsections: the first is dedicated to competitiveness and economic growth, while the second is focused on the green economy, particularly in climate change and clean and efficient energy issues.[46]

3.3.3.1. Competitiveness and Economic Growth

It is over-repeated in the EU2020S that recovering from the crisis means "return to growth path". Thus, the first aim of the EU2020S is growth, measured in GDP terms, as is stated in the EU2020S documentation, including the Annual Growth Survey that is elaborated annually in order to

46 This section on sustainable growth is the only one where the Atlas differs from the Specification. The latter proposed three sections: green economy; climate, energy and mobility; and competitiveness. But, taking into account the controversial use of 'sustainable growth' in the EU2020S as stated earlier (see point 3.1.3), the SIESTA Project simplifies this into two sections. The first one, devoted to competitiveness and economic growth, is related to the contents on economic growth of the EU2020S. The second one, devoted to green economy, embraces issues related to combating against climate change and moving towards a cleaner and more efficient energy consumption as it is understood that the green economy will be achieved through strategic decisions in energy and climate change. In addition, this two-fold division is consistent with the fact that this EU2020S pillar embraces two flagship initiatives on industry (thus, economic growth) and on resource-efficiency (thus, green economy).

report progress in relation with the EU2020S. For this reason, a map of the Atlas must reflect the uneven spatial distribution of the average level of economic wealth generated per person (measured in GDP/head in purchasing power standards) across the European space, at regional →**map26** and urban area level →**map27**. In addition, it is determinant to measure how this growth has evolved in the last decade as an indication of whether growth dynamics are experienced in all the EU space, thus indicating the regional pace of economic development →**map28**. As the crisis is compromising the European economy since 2008, the Atlas must reflect on the evolution of growth in the years of crisis (2008-2011), but this is only possible at the state level →**map29**.

The need to increase competitiveness for the EU is directly linked in the EU2020S documentation with achieving higher productivity. In this respect, the first appropriate cartography is on labour productivity for the EU space →**map30**. Competitiveness is also correlated with trade as the future of businesses depends on their capacity to export in the context of globalisation, following the flagship initiative An Industrial Policy for the Globalisation Era. That makes mapping the contribution of medium and high-tech products to the trade balance as a percentage of total exports particularly valuable, quoted as a highly appropriate indicator in the Innovation Union flagship and only available at the state level →**map31**. Another cartography which is consistent with the need to refer to the competitiveness and globalisation is on the transnational company headquarters in urban areas →**map32**.

In the EU2020S documentation, competitiveness is linked with the development of knowledge-intensive activities, on the one hand, and the development of innovative technological solutions that separate growth from energy use and facilitate a more resource-efficient economy, on the other hand. The former is comprehensively comprised in the section on smart growth, while the latter is mainly treated in the subsection on green economy. These general indications on competitiveness make it particularly appropriate to establish links with these other parts of the Atlas, but a repetition of contents will be avoided. However, the cartography of the green patents is particularly suitable in this section on competitiveness as it satisfies at the same time the very notion of R&D and innovation, on the one hand, and the aspects of green economy, on the other hand →**map33**.

One element which is particularly quoted in the documentation associated with the EU2020S as affecting economic growth and, at the same time, compromising competitiveness is public debt. In fact, public debt is a financial feature particularly relevant in the current crisis context, being usually understood as a limitation to economic progress. This can only be

represented at the state member scale →**map34** and is represented also as a variation in the years of the current crisis →**map35**.

3.3.3.2. Green Economy, Climate Change and Energy

As mentioned above, competitiveness is linked in the EU2020S documentation to the development of an economy combating against climate change (low-carbon) and tending to achieve energy efficiency. These two directions are the main aspirations of the flagship initiative A Resource-Efficient Europe and obviously comprised in the idea of implementing a green economy.

In relation to combating against climate change, the EU has international commitments in this respect that are understood to be substantial in global environmental terms but also relevant for the economy. A regional map of the heterogeneous current distribution of emissions across the EU space is issued →**map36**. In addition, a map reflecting the evolution since 1990 of the greenhouse gas emissions for the EU member states is done, as this constitutes an official headline target: reducing greenhouse gas emission 20% (or even 30%, if the conditions are right) compared to 1990 →**map37**. As in the other cases, there is going to be a specific map with the distances to national targets →**map38**.

The development of renewable sources of energy is understood to be a way to contribute to curb greenhouse gas emissions and also as a smart strategy with a high potential to create jobs. As the share of renewable energy in final energy consumption constitutes an official headline target, the maps reflecting the current state and the distance to national targets are provided →**maps39 and 40**. The maps about wind energy potential and solar energy potential are very illustrative of opportunities for further developments in renewable sources →**maps41 and 42**.

In relation with energy efficiency, the current state of the headline target is mapped, as well as the distances from national targets →**maps43 and 44**; as usual, the trend during the last decade is represented →**map45**. Two additional cartographies offer part of the current obstacles to the development of energy efficiency and curbing greenhouse gas emissions as shown by the main emission-intensive sectors, with higher energy consumption and pollution shares: the industries with high energy spending (measured in employment share →**map46**) and the transport sector (measured in commuting at the regional scale →**map47** and at the urban areas scale →**map48**). A transition towards a more sustainable transport sector, focused on urban transport and commuting, is quoted as essential in the flagship on resource-efficiency and directly referring to the last White Paper on Transport (2011).

The geographical areas which are advancing more towards a green economy can be detected through mapping specific features associated with an increasing environmental awareness and efficiency in resources consumption. Two cartographies seem particular appropriated in this respect: the coverage of waste collection (→**map49**) and the share of wastewater treatment (→**map50**).

A final point directly quoted in the flagship A Resource-Efficient Europe must be particularly mapped in the context of a green economy subsection. This flagship states that biodiversity conservation is essential, thus biodiversity loss must be prevented, and that this issue has to be considered when referring to a resource-efficient economy. The only clear indicator available to measure biodiversity conservation right now in Europe is the percentage of protected spaces. As the best way to standardise the various national legal arrangements, the Natura 2000 is a common framework which can be scanned across the EU →**map51**.

3.3.4. Inclusive Growth

The inclusive growth pillar deals with employment creation, skills and labour market reform and the reduction of poverty and exclusion. The basic aim is to increase employment rates and the quality of jobs, especially for those collectives particularly in trouble (women, young people, migrants, etc.), thus maintaining social cohesion. The section devoted to inclusive growth in the Atlas is divided in two subsections: the first is dedicated to employment, whereas the second is focused on poverty and exclusion.

3.3.4.1. Employment, Skills and Jobs

Once again, the EU2020S document begins its considerations on employment by comparing the EU with US and Japan in terms of the rate of working age population (20-64 year-old) that is employed. The EU is in a worse situation in relation to its counterparts, but the geographical pattern of this figure is uneven →**maps52**. As this constitutes a headline target, the distance between the regional rates and the national targets are specifically mapped →**map53** and also the trend during the last decade →**map54**. As has been repeated, it is particularly important to lay emphasis on the dissimilarities in employment by gender and they will be mapped in a specific map →**map55**.

The opposite of employment is unemployment. High unemployment is perceived as a threat to social cohesion leading to poverty and social exclusion. Unemployment will be mapped at a regional scale and at an urban area scale →**maps56 and 57**. The fact that unemployment is one of the basic features, if not the most, linked with the crisis deserves a

specific map on the evolution of unemployment in the years of economic emergency →**map58**. Unemployment is also considered particularly focused on specific social groups suffering more and it makes sense to consider its geographical distribution: women, whose gender dissimilarities are mapped for regions →**map59** and urban areas →**map60**, and young people, which is mapped for regions →**map61** and urban areas →**map62**. These maps focus on disfavoured groups in terms of unemployment, having evident links with exclusion issues (that are treated in the following subsection), and clearly raising potential problems of social cohesion.

In order to improve the worrying unemployment concentred specifically in several EU regions, the flagship initiative An Agenda for New Skills and Jobs establishes a wide set of actions. Some of them are related to education, thus with the Smart Growth pillar, whereas others are linked with obtaining a more skilled workforce. This can be measured with lifelong learning participants →**map63**. What is supposed is that skills need more development as there is a huge amount of population in the EU with low or very basic skills; this can be effectively measured considering the lower educated population across the EU space at a regional scale →**map64** and an urban area scale →**map65**.

The above mentioned flagship initiative stating an agenda for new jobs gives several indications about labour sectors that offer specific niches. For instance, ICT and R&D, both directly linked to the section on smart growth of this Atlas. But also the importance of the health sector is particularly quoted as a shortage is expected in the next years and it is also true that increasing demographical ageing implies that the health sector will be more challenged. That means that mapping the professionals in health sector links with several issues →**map66**.

Also the flagship initiative An Agenda for New Skills and Jobs quotes the importance of accounting for public servants in different sectors (public employment services, health, etc.), which makes the map of staff working in governments and other public agencies particularly relevant →**map67**. This cartography is very important and controversial, as well, because of the potential increase of unemployment in several countries where cuts in the public sector are taking place, thus there is a potential reduction of public workers.

3.3.4.2. Poverty and Exclusion

One of the most challenging headline targets of the EU2020S is reducing the number of people at risk of poverty or exclusion. This is calculated in a percentage (from 23% to 19%) affecting a total figure of people but the current state of people at risk of poverty or social exclusion can be

mapped across the EU space at the regional scale →**map68**. Being a headline target, it is also necessary to represent the distance to national headline targets →**map69**.

Referring to poverty, it is usually said that what is more important is not the measure of GDP per capita, as the EU2020S insists and this Atlas includes in the section on sustainable economy, but the measure of disposable income per inhabitant. Disposable income per inhabitant is indeed the base to calculate the at risk of poverty rate, and not GDP per capita. In this respect, it is very useful when considering poverty and deserves a particular map at the regional →**map70** and urban area scale →**map71**.

The flagship initiative The European Platform against Poverty and Social Exclusion considers that poverty and exclusion has to be measured not only with the aggregate index of the at risk of poverty or exclusion rate, but also embracing the three indicators in which this composite index is based on. Firstly, the percentage of people having an income below 60% of the national median income, thus specifying what can be understood by poor for each member state at the regional scale →**map72** and at the urban area scale →**map73**; this includes a last decade evolution at the regional scale, which is substantial to know the recent trend on poverty →**map74**, substituting the lack of data of the aggregate index on poverty and social exclusion. Secondly, a calculation of severe material deprivation that is strongly related with real development issues (→**map75**). Thirdly, the percentage of people living in households with very low work intensity, that is, exclusion from the labour market (→**map76**). They constitute valuable measures for understanding the geographical pattern of poverty.

Households with very low work intensity have basic correlations with long-term unemployment, an indicator that it is not only bearing witness to exclusion issues but also to the flexibility of the labour market. In this sense, it can be considered a link between the two topics of the inclusive growth agenda. This indicator is mapped for regions →**map77** and for urban areas →**map78**.

When considering poverty and exclusion, the ageing demographic phenomenon is quoted as a phenomenon having wide-range impacts and that makes this cartography especially relevant for regions →**map79** and urban areas →**map80**. In addition, the issues on ageing are related with the future sustainability of pension schemes across the EU space and this is understood to be an important point deserving unprecedented urgency. In this respect, the cartography of the differences between the retirement age and life expectancy is particularly illustrative →**map81**.

4. Further Proceeding Towards the Draft Final Report

This fourth section of the document deals with the orientation of the work towards the Draft Final Report. Firstly, the various steps during the implementation are described in a systematic way, including an associated calendar. Secondly, a list of likely risks that the Project implementation might face and how to cope with them is offered.

4.1. Next Steps

The first seven months of Project have been devoted to WP2 and WP3. From now until the Draft Final Report, WPs 4 and 5 have to be executed. Derived from explanations previously offered, the next steps for implementing the Project are the following ones:

- April and May 2012: Once cartography is elaborated, to allocate the three thematic EU2020S priorities among partners, as explained in point 2.3.2. Each partner will have the responsibility to produce a research paper about their own subject, not only giving a static picture, but considering diagnostic elements and policy-making recommendations. Two months have been scheduled for this task.
- April and May 2012: the LP will deliver a research paper as explained in point 2.3.2, developing an overall multi-variant analysis of correlations.
- June 2012: the research papers produced by partners will be enriched by the input of the research paper elaborated by the LP in order to work with correlations among different elements.
- 13-14 June 2012: Attendance to the ESPON Open Seminar in Aalborg, Denmark. From the perspective of SIESTA, this Seminar will be more suitable for presenting results than the first one in Krakow (Poland) in November 2011, held before submitting the first Inception Report.
- 25 June 2012: To share results of these analyses in an internal Project Steering Committee seminar in Bucharest. This seminar will be held the day before the workshop mentioned in the next point.
- 26 June 2012: To discuss in a second workshop with policy-makers and other relevant stakeholders some of these possible guidelines

and messages for policy-makers. The workshop will be held in Bucharest.

- 1st week July 2012: To produce a short piece of work reporting the research developments obtained in Bucharest, in collaboration between the LP and P6. This will be included in the Draft Final Report.
- May to July 2012: To produce the Atlas in its hardcopy version, basically putting together the maps and short explanations derived from the research explained above.
- May to July 2012: In parallel to the previous point, to produce the Atlas in its website version, as explained in point 2.4.2.
- July 2012: To elaborate the Draft Final Report, giving appropriate details about all these research steps and the applied methodologies, and including the short research papers produced during the implementation of the Project in a consistent way, as well as the final text of the Atlas. A specific section with a systematic set of policy recommendations inferred from the above explained research will be also included. The rules on the contents of the Draft Final Report established by the ESPON CU will be followed. The submission date is 8/8/2012.

4.2. Likely Risks and Possible Ways to Manage Them

Most of the possible risks that the SIESTA Project might face have been already mentioned, including some of the proposed solutions. For instance, the risks related to selection of indicators or the use of the urban area geographical scale have already been managed and it makes no sense to quote them here. In this respect, an extended explanation of the decisions made until this moment is mainly available in section 3. For this reason in this section a systematic list of foreseen risks in the next steps (explained in point 4.1) is developed, openly stating the strategy that is foreseen for managing them.

- An extremely non-convenient quantitative orientation of the Project because of the importance that indicators have → In relation to the Proposal, the Project has been slightly redefined in order to privilege a qualitative vision, as explained in section 2 of this document.
- In relation to the workshop in Bucharest in June 2012, lack of outcomes → It will be prepared in advance and each workshop has a clear target within the project development. For each project a

short report is prepared explaining the outcomes and its influence in the development of the project.

- In relation to the workshop in Bucharest in June 2012, contacted stakeholders cannot participate → It will be prepared in advance (indeed, it is under preparation since February 2012) and additional stakeholders will be contacted.
- Difficulties to develop the Atlas in website version, especially considering the 2.0 philosophy that should frame it → A permanent cooperation between LP and MCRIT will enable us to overcome possible troubles.
- Difficulties to generate guidelines and messages for policy-makers → The procedure established in section 2.3.2 seems to be suitable in this respect. The Steering Committee internal seminar in June 2012 will also make a shared vision of these guidelines possible. In addition, the workshop in June 2012 will test if some of these guidelines are useful for policy-makers and stakeholders.
- Lack of consistency between individual analyses carried out by Project Partners in WP4, on the one hand, and the EU2020S contents, orientations, intentions, actions, etc., on the other → Assure that the Background Analysis of the EU2020S is distributed and used for these analyses. Elaborate a guide that should help partners to produce consistent outcomes in this respect. The guide will be elaborated by the LP.
- Messages included in the Atlas are too long or too complex → Editing and applying the criteria for texts mentioned in point 2.4.2.
- Messages included in the Atlas do not have a policy-making orientation → Assure that contents about guidelines and messages for policy-makers attained in WP4 are transferred to the Atlas produced in WP5.
- Lack of dissemination → The Project Management Team is being very proactive in dissemination and it is obviously committed to the events, press releases, papers, etc. and other mechanisms of dissemination that were assumed, which constitute a quite ambitious dissemination agenda, including the webpage <http://www.siestaproject.eu/>. This is particularly explained in section 5.

5. Dissemination

The communication and dissemination activities are being implemented from the very beginning of the project, in August 2011, following the commitments taken in the Project Proposal that was selected in June 2011 for developing this research project. These activities are structured in three kinds of dissemination actions foreseen by the ESPON 2013 Operational Programme:

- Media and publications.
- European seminars and workshops.
- Transnational networking activities.

5.1. Media and Publications

5.1.1. SIESTA Website

The SIESTA website presents the project to all the stakeholders interested in it, being possible to link through <www.siestaproject.eu> in the Internet. The website is structured in seven sections, as follows:

- *SIESTA Management* presents the coordination and management structure of the project (the *Consortium* and the *Steering Committee*) and the *Schedule of activities* during the lifecycle of the project.
- *About SIESTA* explains the *Project Specification* and the *Main of SIESTA* Project. Furthermore, this section introduces also the *Methodology* applied by the project.
- *Discover our Maps* is the most significant part of the website contents and shows the *First Cartographic Production* elaborated by the SIESTA Project after the end of the WP3 (to be updated in the first week of April). In addition, this section includes the *Atlas* which will provide a public projection of the Atlas produced in the WP5 via the Internet, as explained in point 2.4.2. This interactive Atlas will host cartographic contents, taking as its structure and design reference the guidelines dictated by ESPON. The Atlas webpage will be enriched by the presence of image and video multimedia resources (but only on specific occasions to highlight very significant facts or situations and only if the guidelines dictated by ESPON consider adequate).

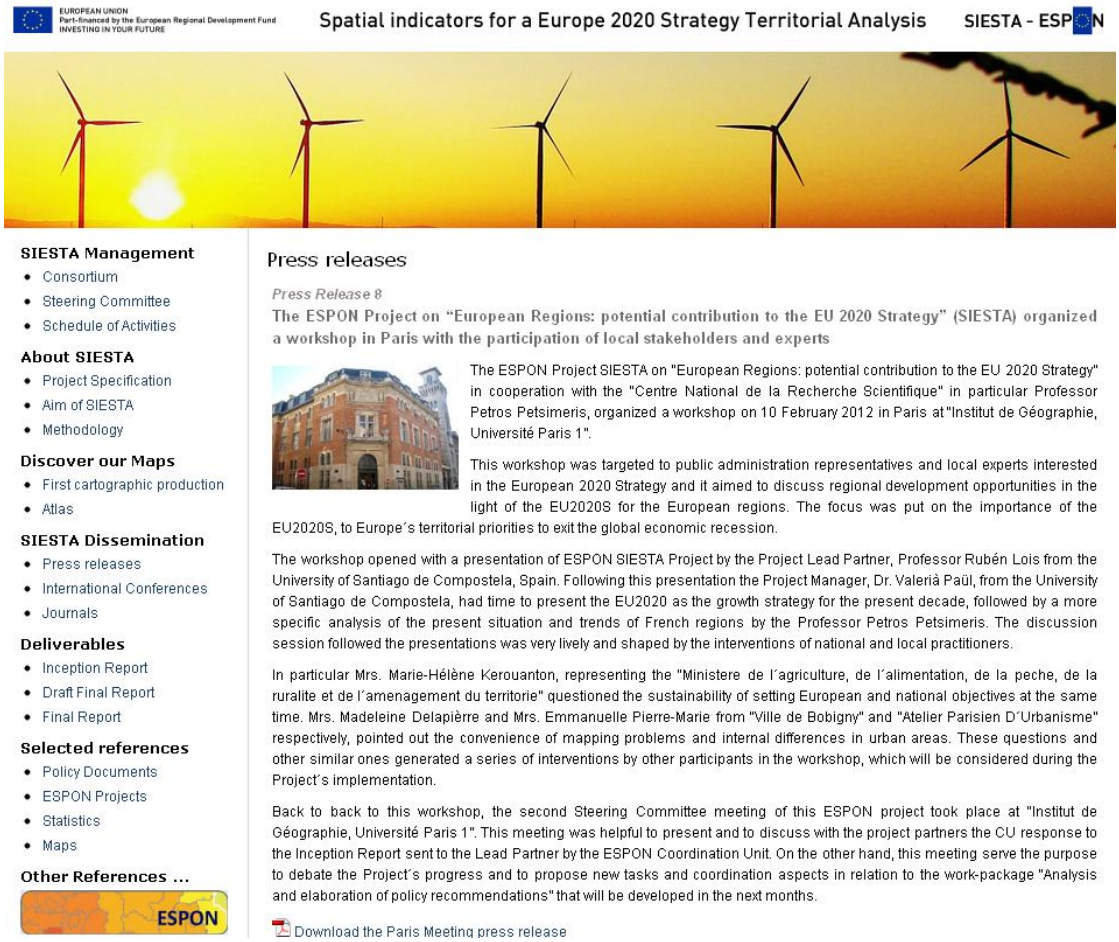

Figure 2 SIESTA Website.

- *SIESTA Dissemination* is publishing all the *Press Releases* in relation to the SIESTA Project from the beginning of the current applied research (from August 2011 until now). In addition, it is possible to consult in *International Conferences* where partners are attending during the lifecycle of the project. Finally, the *Journal* section will link with the scientific papers published during the project (but the access to these papers will not be always possible, depending on editors' procedures and copyright issues).
- *Deliverables* section groups the *Inception Report*, the *Draft Final Report* and the *Final Report*. In brief, it will be possible to link with the revised Inception Report version.
- The last sections of the webpage are in relation with *Selected References* and *Other References*. From these sections, the partners and other users can link to the ESPON website and another selected substantial websites for the SIESTA Project, such as the EU2020S website or the Territorial Agenda website. Moreover, the partners have the possibility of linking with *Policy Documents*, *Scientific Documents*, *Statistics* and *Maps* of interest to the SIESTA Project.

5.1.2. Direct Mailing and Electronic Press Releases

Informative e-mails and electronic press releases about the content of the project are being sending to policy-makers, practitioners and representatives of the scientific community at national, regional and local levels in each country involved in the project. In addition, we are sending information about the SIESTA Project activities to regional and local media. All direct mailing and press releases are published in the SIESTA webpage, until now as follows:

- SIESTA project will develop the Atlas of European regions contribution to the "Europe 2020 Strategy", the document of the European Commission to recover from the crisis.
- Main researchers of the European project SIESTA attended the kick-off meeting in Luxembourg.
- Rubén Lois and Miguel Pazos attend Info Days of CAFÉ-ESPON in Brussels.
- SIESTA Project managers express their satisfaction after the first meeting of the Steering Committee in Santiago de Compostela.
- Rubén Lois and Valerià Paül are in Krakow to participate in the ESPON Internal Seminar.
- Rubén Lois and Valerià Paül visited the partner Mediterranean University of Reggio Calabria in Italy.
- SIESTA ESPON coordinator and project manager at the USC visit the partner University of Bucharest in Romania.
- The ESPON Project on "European Regions: potential contribution to the EU 2020 Strategy" (SIESTA) organised a workshop in Paris with the participation of local stakeholders and experts.

5.1.3. Publication of Papers

The project foresees the publication of scientific papers and articles about SIESTA results in regional, national and European journals. These scientific papers and articles could be published after the end of WP4. The project partners will try to publish in some of the most renowned international journals in planning and related topics such as *European Planning Studies*, *Regional Studies*, *Environment and Planning A*, *Cities*, *Urban Studies* and *Journal of Environmental Planning and Management*.

5.2. European Seminars and Workshops

We have participated in the events as follows:

- Attendance at the ESPON Financial Managers Seminar on the management of projects and the ESPON reporting system, held in Oslo (Norway), in November 2011.
- Attendance and delivering a presentation on the SIESTA project by V. Paül (LP) at the ESPON Internal Seminar organised in Krakow (Poland), in November 2011.
- Organisation by P2 and LP of a workshop in Paris (France), with policy-makers and practitioners, in February 2012, as reported in section 2.2. This included the participation of all the SIESTA TPG partners and the keynote addresses by R.C. Lois (LP), V. Paül (LP) and P. Petsimeris (P2), subsequently followed by an open discussion with participants.

We are expecting to celebrate or participate in the events as follows:

- Attendance and delivering a presentation on the SIESTA project at the ESPON Internal Seminar organised in Aalborg (Denmark), in June 2012, at least by LP.
- Organisation by P6 and the LP of a workshop with policy-makers and practitioners in Bucharest (Romania), in June 2012. This is explained in section 2.3.
- Organisation by the LP of a workshop in Santiago (Spain) in order to present the results of the SIESTA project to domestic Spanish practitioners, while showing the research carried out by ESPON Programme as a whole, in October 2012.
- Attendance and delivering a presentation on the SIESTA project at the ESPON Internal Seminar organised in Pafos (Cyprus), in December 2012, at least by LP.
- Organisation by the LP of a two-day SIESTA International Conference at the end of the project in Santiago (Spain), in April 2013. The conference will aim to present the final results of the SIESTA project and the main results of the ESPON Programme. It is intended to invite policy-makers and practitioners working in European, national and regional institutions.

5.3. Transnational Networking Activities

The partners are going to participate in at least five international conferences organised by scientific networks in which they are involved at European or extra-European level. In the framework of these conferences the results of the SIESTA project will be presented, discussed and promoted among the scientific community. It is possible to confirm now the participation in three international conferences as following:

- IGU Urban Geography Commission Conference "Emerging Urban Transformations", to be held in Dortmund (Germany), in August 2012, with the following paper already accepted: "Digital Agenda for Europe as a Flagship Initiative of the Europe 2020 Strategy" (by J.C. Macía and F.J. Armas, LP).
- International Geographical Congress "Down to Earth", to be held in Cologne (Germany), in August 2012, with the following paper under revision: "The Regional Adoption of the European Growth Plan for Coming Out of the Crisis: the Challenging Translation of the Europe 2020 Strategy to the Regional Scale" (by J.C. Macía, R.C. Lois, A. Feal and V. Paül, LP).
- 13th Iberian Conference of Geography, to be held in Santiago de Compostela (Spain), in November 2012, with the following papers under revision: "Uneven European Geographies of the Current Crisis" (by R.C. Lois, J.C. Macía, V. Paül and A. Feal, LP) and "The Iberian Regions in the Europe 2020 Strategy, the Growth Plan for EU Recovery from the Crisis" (by A. Feal, V. Paül, J.C. Macía and R.C. Lois, LP).

6. Project Specific Part

The following points are mentioned in Annex III to SIESTA Subsidy Contract signed in November 2011. This Inception Report includes this last section 6 in order to emphasise how these points have been considered in the Inception Report.

a) Clarification on the territorial approach to the actual policy context

- In point 2.1.3 it is explained how a direct link with other relevant European policy documents, apart from the EU2020S, has been made. All these documents (the EU2020S and the directly-related

documentation) have been carefully scrutinised in the already finished Background Analysis.

b) Clarification on the analytical work envisaged

- The demanded checklist is included in **Annex B**.
- The Atlas will not be a mere description of data and maps, but shall include an analysis of the situation, trends and policy orientations. This is explained in point 2.4.

c) Clarification on the activities of data collection and harmonisation and an approach to overcome possible data shortcomings

- This has been already carried out and it is extensively explained in point 3.1.
- The demanded definitive table is included in **Annex E**.

d) Further elaboration of the story line, including qualitative elements

- The general methodology of the project (section 2) has been modified in order to cope with such a statement. It has been expressed by interlinking the different WPs in a progressive way. In addition, section 2 clearly states repeatedly that the research is embedded in a qualitative framework through the Background Analysis. Consistently, the other sections of this Inception Report acknowledge the importance of the Background Analysis and the qualitative orientation in this research, including the rationale of the decisions taken in relation with indicators (see section 3.1).
- The story line of the Atlas is facilitated in section 3.3.
- The research output, notably the Atlas, will be applicable and policy-relevant, stating the possible contribution of the European regions to smart, sustainable and inclusive growth as mentioned in the EU2020S.

Annex A. Overall List of Indicators Considered, Quoted and Recommended in the Background Analysis

Indicators	T1	T2	T3	T4	T5	T6	T7	T8	T9	%
[1] Employment rate of the population aged 20-64.	1	1			1			1	1	56
[2] % of GDP invested in R&D.	1	1	1				1	1		56
[3] Variation of greenhouse gas emissions compared to 1990 levels.	1	1	1			1				44
[4] Share of renewable energy sources in final energy consumption.	1	1				1				33
[5] Energy efficiency.	1	1		1		1				44
[6] Drop out rate of early school leavers.	1	1			1			1	1	56
[7] Share of population aged 30-34 having completed tertiary education.	1	1	1		1			1		56
[8] Variation of people living below the respective national poverty lines.	1	1							1	33
[9] Growth measured as GDP variation.	1	1								22
[10] Growth measured as GDP per capita.	1									11
[11] Internet velocity access.	1		1	1						33
[12] % of people aged.	1							1	1	33
[13] Working hours per worker.	1									11
[14] Public spending.	1	1								22
[15] Share of high-tech firms.	1									11
[16] Shangai index of universities of the world.	1									11
[17] Retirement age linked with life expectancy.		1								11
[18] Unemployment rate.		1								11
[19] At-risk-of poverty rate.		1							1	22
[20] Severe material deprivation.		1							1	22
[21] People living in households with very low work intensity.		1							1	22
[22] Decomposition of GDP growth.		1								11
[23] Real primary expenditure versus real GDP growth		1								11
[24] Evolution of price competitiveness relative to the rest of the euro area.		1								11
[25] Youth unemployment.		1			1			1		33
[26] Public debt level in % of GDP.		1								11
[27] Bank lending in the EU.		1								11
[28] Non-performing loans in the EU.		1								11
[29] Public interventions in the EU banking sector.		1								11
[30] Banking sector assets abroad.		1								11
[31] Total banking sector assets, in percentage of GDP.		1								11
[32] Employment rate by gender.		1								11
[33] Percentage of jobs with high or medium level skills.		1								11
[34] Percentage of jobs with low level skills.		1								11
[35] Lifelong learning participants.		1						1		22

Indicators	T1	T2	T3	T4	T5	T6	T7	T8	T9	%
[36] Investment in higher education (universities), measured in percentage of GDP.		1								11
[37] Social expenditure, measured in percentage of GDP.		1								11
[38] Public investment in education.			1							11
[39] Public investment in ICTs.			1							11
[40] Research ranking.			1		1					22
[41] Number of researchers.			1					1		22
[42] New doctorate graduates per 1000 population aged 25-34.			1							11
[43] Percentage youth aged 20-24 having attained at least upper secondary level education.			1							11
[44] International scientific co-publications per million population.			1							11
[45] Non EU-doctorate students per million population.			1							11
[46] Business R&D expenditures as % of GDP.			1							11
[47] Innovative SMEs collaborating with others as % of SMEs			1							11
[48] SMEs (more than 10 employees) introducing product or process innovations as % of SMEs.			1							11
[49] Patent applications.			1							11
[50] Contribution of medium-high-tech and high-tech products to the trade balance.			1							11
[51] Employment in knowledge-intensive activities.			1							11
[52] Percentage of household access to broadband.				1						11
[53] Percentage of citizens using the internet for accessing eGovernment services.				1						11
[54] Percentage of population buying online.				1						11
[55] Enterprises purchasing and selling electronically.				1						11
[56] Roaming average.				1						11
[57] Internet use.				1						11
[58] Internet use for disadvantaged people.				1						11
[59] Population that has never used the Internet.				1				1	1	33
[60] Public investment in ICT R&D.				1						11
[61] E-skilled jobs in percentage of total jobs.					1			1		22
[62] ICT practitioners.					1			1		22
[63] Students studying abroad.					1					11
[64] Investment in the university system, including public and private funding combined, and expressed as percentage of GDP.					1					11
[65] University students studying abroad.					1					11
[66] Percentage of European 20-24 year olds not working nor being educated.					1					11
[67] Vocational Education and Training (VET) students.					1			1		22
[68] Patent rates in clean energy technologies compared to patent rates in fossil technologies.						1				11
[69] Waste evolution.						1				11
[70] Variation of greenhouse gas emissions produced by the transport sector compared to 1990 levels.						1				11
[71] Protected areas included in Natura 2000 network, in percentage.						1				11
[72] Improvement in the status of protection of the Natura 2000 Network, measured in percentage of habitat and species assessments of the protected areas .						1				11
[73] Preparing for re-use and the recycling of waste materials…						1				11
[74] Preparing for re-use, recycling and other material recovery, including…						1				11
[75] Improvement in competitiveness, comparing the productivity and cost developments.							1			11
[76] Number of new jobs created in industry and industry-related services.							1			11
[77] Number of new jobs created in industry and industry-related services created in SMEs.							1			11
[78] Rate at which manufacturing output rises.							1			11

Indicators	T1	T2	T3	T4	T5	T6	T7	T8	T9	%
[79] Rate at which manufacturing output in the eco-industries rises.							1			11
[80] Share of medium- and high-technology manufacturing sectors in total manufacturing value-added.							1			11
[81] Share of medium- and high-technology manufacturing sectors in total manufacturing employment.							1			11
[82] Percentage of GDP of manufacturing sector in total GDP.							1			11
[83] Industrial production.							1			11
[84] Percentage of industrial employment in total employment.							1			11
[85] Innovation performance, that is, percentage of R&D transferred into innovation.							1			11
[86] Percentage of manufacturing companies with voluntary certified environmental management practices (schemes EMAS and ISO14001).							1			11
[87] Staff working in public employment services.								1		11
[88] Job losses for workers in temporary work.								1		11
[89] Unemployment among migrant population (non-nationals								1	1	22
[90] Percentage of highly-qualified workforce in relation to total workforce.								1		11
[91] Professionals in health sector.								1		11
[92] Percentage of workers in involuntary temporary work.								1		11
[93] Percentage of workers in part-time work.								1		11
[94] Percentage of in-work poverty.								1	1	22
[95] Undeclared work.								1		11
[96] Percentage of business which are small and medium-size enterprises (SMEs).								1		11
[97] Percentage of self-employment.								1		11
[98] Fertility rate.								1		11
[99] Immigration rate.								1		11
[100] Percentage of risk of poverty for the unemployed population.									1	11
[101] Percentage of working age population in households where nobody works.									1	11
[102] Women at risk of poverty.									1	11
[103] Children at risk of poverty.									1	11
[104] Young at risk of poverty.									1	11
[105] Elderly at risk of poverty.									1	11
[106] Percentage of children between 4 years old and the beginning of compulsory education participating in early childhood education and care.									1	11
[107] Volunteers.									1	11
[108] Percentage of the social enterprise sector in the total business.									1	11
[109] Long term unemployment									1	11

Table 1. Indicators considered in the EU2020S.
Table 2. Indicators considered in the Annual Survey Growth.
Table 3. Indicators considered in the Flagship "Innovation Union".
Table 4. Selection of indicators considered in the Flagship "A Digital Agenda for Europe".
Table 5. Indicators considered in the Flagship "Youth on the Move".
Table 6. Indicators considered in the Flagship "A Resource-efficient Europe".
Table 7. Indicators considered in the Flagship "An Integrated Industrial Policy for the Globalisation Era".
Table 8. Indicators considered in the Flagship "An Agenda for New Skills and Jobs".
Table 9. Indicators considered in the Flagship "The European Platform against Poverty and Social Exclusion".

Annex B. Checklist of Policy Concepts

General Concepts

- Global financial and economic crisis.
- Growth.
- Regional policy.
- Territorial cohesion.

Smart Growth

- Research and development.
- Innovation.
- Early school drop-out.
- Tertiary education attainment.
- Youth.
- Digital society.
- Internet.

Sustainable Growth

- Competitiveness.
- Climate change.
- Manufacturing sector.
- Green economy.
- Energy efficiency.
- Renewable energy.
- Protection and conservation of biodiversity.
- Mobility.

Inclusive Growth

- Employment and unemployment.
- Poverty.
- Gender imbalances.
- Life-long learning and skills development.
- Social exclusion.
- Ageing.

Annex C. First List of Indicators to be Used (2/12/2011)

Smart Growth

Innovation

- [2]→@1 % of GDP invested in R&D.
- [41]→@2 Number of researchers.
- [46]→@3 Business R&D expenditures as % of GDP.
- [47]→@4 Innovative SMEs (more than 10 employees) as % of SMEs.
- [49]→@5 Patent applications.

Education

- [6]→@6 Drop out rate of early school leavers.
- @7 Persons aged 25-64 with upper secondary education attainment.
- [7]→@8 Share of population aged 30-34 having completed tertiary education.
- [42]→@9 New doctorate graduates per 1000 population aged 25-34.
- [67]→@10 Vocational Education and Training (VET) students.
- [38]→@11 Public investment in education.
- [36]→@12 Investment in higher education (universities), measured in percentage of GDP.

Digital Society

- [52]→@13 Percentage of household access to broadband.
- [54]→@14 Percentage of population buying online.
- [55]→@15 Enterprises purchasing and selling electronically.
- [53]→@16 Percentage of citizens using the internet for accessing e-Government services.
- @17 Population that have never used a computer.

- [59]→@18 Population that has never used the internet.

Sustainable Growth

Green Economy

- [167] Areas covered by ecological agriculture→@19 Percentage of farmlands cultivated with organic agriculture.
- [79]→@20 Rate at which manufacturing output in the eco-industries rises.
- [112]→@21 Percentage of eco-industry in terms of employment.
- [86]→@22 Percentage of companies with voluntary certified environmental management practices (schemes EMAS and ISO14001).
- [161]→@23 Employment in industries with high energy spending.
- [69] Waste evolution →@24 Regional coverage rate of municipal waste collection.
- [69] Waste evolution →@25 Population connected to wastewater treatment.

Climate, Energy and Mobility

- [3]→@26 Variation of greenhouse gas emissions compared to 1990 levels.
- [4]→@27 Share of renewable energy sources in final energy consumption.
- [5]→@28 Energy efficiency.
- @29 Employment in renewable energies industries.
- [147]→@30 Number of hours lost in congestion.
- [122]→@31 Climate change vulnerability index.

Competitiveness

- [9]→@32 Growth measured as GDP variation.
- [10]→@33 Growth measured as GDP per capita.
- [118]→@34 Labour productivity.
- [50]→@35 Contribution of medium-high-tech and high-tech products to the trade balance.

- [51]→@36 Employment in knowledge-intensive activities.
- [119]→@37 Globalisation vulnerability index.

Environment

- [71]→@38 Protected areas included in Natura 2000 network, in percentage.
- [72]→@39 Improvement in the status of protection of the Natura 2000 Network, measured in percentage of habitat and species assessments of the protected areas.
- @40 Access of population to natural areas.

Inclusive Growth

Employment and Skills

- [1]→@41 Employment rate of the population aged 20-64.
- [32]→@42 Employment rate by gender.
- [17]→@43 Relation between the retirement age and life expectancy.
- [35]→@44 Lifelong learning participants.
- [62]→@45 People working in the ICT sector.
- @46 Staff working in governments and other public agencies.

Fighting Poverty

- [8]→@47 People at risk of poverty or social exclusion.
- [19]→@48 People at risk of poverty after social transfers.
- [20]→@49 Severe material deprivation.
- [21]→@50 People living in households with very low work intensity.
- [18]→@51 Unemployment rate.
- [25]→@52 Youth unemployment.
- [89]→@53 Unemployment among migrant (non-EU) population.
- [91]→@54 Professionals in health sector.

Annex D. Links of SIESTA with Previous and Ongoing ESPON Projects

This Annex D attempts to develop the necessary connections of the SIESTA Project with other projects carried out within the ESPON Programme, both from the first round (ESPON 2006) and second round (ESPON 2013). Most of the reports written during the different ESPON Projects have been downloaded from the ESPON webpage[47] and carefully scrutinised and analysed with the objective of determining which of them is of interest for the SIESTA Project.[48] In this respect, this Annex D informs about the milestone Projects from the SIESTA perspective. In order to do so, two pieces of information are presented herein in each section: (i) an executive abstract of the Project itself; and (ii) its significance for the SIESTA Project development. The analysis includes the revision of some indicators that were developed in the previous and ongoing projects that are of interest for SIESTA, and also the thematic considerations raised in these projects and their associated frameworks and methodologies.

FOCI

Europe's largest cities and urban agglomerations are evaluated in this project in order to analyse their current state, trends and development perspectives. Therefore, the Project offers indicators regarding competitiveness, socio-economic cohesion, environmental situation and polycentricism among cities that fit with some SIESTA research priorities. Moreover, FOCI project maps the European urban reality revealing new typologies of the urban system and some relevant tables and maps (present in the Final Report) are extremely useful for SIESTA and have been downloaded through ESPON 2013 DB, as explained in sections 3.1 and 3.2.

EDORA

Rural Development is one of the objectives related to sustainable growth in terms of the SIESTA Project. In EDORA, rural development is basically understood as job creation and economic growth in rural areas. The Project provides some indicators that may be of interest to the SIESTA Project in relation with development opportunities, socio-economic

47 When applicable, the Final Report. If not, in decreasing order, the Draft Final Report, the Interim Report, the Inception Report and the Specification.

48 Subsequently to the elaboration of this Annex E, it has been published an Overview of Projects by ESPON CU (in November 2011). This document has been also checked.

situation, employment and competitiveness in rural areas. This will be useful for the analytical tasks to be developed in WP4 (see point 2.3.2).

ESPON Climate

This project makes a vulnerability assessment of the climate change for all the EU regions, by identifying regional typologies. In addition, adaptation options are raised, coping with specific patterns of climate change. According to the methodological framework of the Project, anthropogenic greenhouse gas emissions contribute to global warming and thus to climate change. The climate change is characterised with the existing data and projections (for instance, in annual mean temperature or in annual mean precipitation) and also exposures to river floods or coastal storms are calculated for NUTS3. This leads to the elaboration of sensitivity to climate change maps, including those on potential impacts caused by several constitutive elements of climate change. An aggregate impact of climate change on Europe's regions is calculated; this could be an alternative for [122]=@31, but this index has finally been rejected for the SIESTA purposes as explained in point 3.1.2.3. Finally, the regional greenhouse emissions estimation is a reasonable point of departure for the SIESTA calculation of indicator [3]=@26 (see point 3.1.2.1). The last part of the Final Report of ESPON Climate is devoted to policy-making issues.

ReRisk

Energy prices, energy savings and the development of renewable energies are some of the issues contemplated in this project about regions at risk of energy poverty. On one hand, the Project focuses on new possibilities to support competitive and clean energy in Europe. On the other hand, the Project seeks to generate sustainable energy sources. Some ReRisk indicators are relevant for the SIESTA Project in relation to employment, industrial activity, energy and climate. For instance, ReRisk develops a methodology to consider employment in industries with high energy purchases in the EU regions ([161]=@23) and this has been used for SIESTA (see point 3.1.2.2). In relation to fighting poverty, ReRisk offers data on long term unemployment and disposable income in households, indicators that in the SIESTA Project are included in the priority block on inclusive growth.

TRACC

This project aims to deliver results which can advise and improve the European policy development in transport and accessibility. It is understood that good accessibility and connectivity are relevant factors for economic activities, territorial development, competitiveness and cohesion. TRACC project offers a set of accessibility indicators (p. 13) and

a map on the European road network (distinguishing between motorway, express roads, trunk roads and other roads) that could be of interest to the SIESTA project for a global accessibility analysis. SIESTA considers indicators in relation with mobility integrated in the Sustainable Growth priority and significant measures would be obtained from TRACC.

GEOSPECS

GEOSPECS is asked to discover strengths, weakness and opportunities in different types of Europeans regions, taking into account a classification which distinguishes border areas, highly or sparsely populated areas, inner periphery, mountain areas, islands, coastal zones and outermost regions. In part, SIESTA Project will use a similar classification in the "analysis and elaboration of policy recommendations" (WP4) borrowing ESPON region groups (see point 2.3.2). Territories with specific features could be integrated in new typologies of particular types of regions in Europe. Thus, the GEOSPECS Project characterises the region groups by considering a wide set of factors: demographic patterns, labour market and access to services, transport networks, education and training, natural resources, energy production, tourism opportunities, etc. Some of these aspects are taken into account in the SIESTA Project.

KIT

This Project begins by analysing the current policy context to explore the territorial dimension of innovation and knowledge. Beyond this point, the current state, patterns and potentials of regions are considered in order to identify new opportunities for innovation and knowledge development. KIT coincides with some of the matters selected by SIESTA in relation with innovation, education and digital society. It has been very useful for discussing indicators in the pillar on smart growth, as extensively reported in section 3.1.

GREECO

Some of the main results envisaged in this project are in relation with green economic activities and their potential. It seems to be useful to ask for particular information, although its Inception Report has still not been uploaded in the website (on 30/3/2012) and that means that it is not going to be considered by SIESTA.

KITKASP

This is a project under Priority 2 to identify and disseminate good practice in the use of data, indicators and indices, as well as to select a set of key indicators to inform Cohesion Policy. The SIESTA Project could obtain some relevant data, indices, maps, recommendations, etc. if keeping in contact with KITCASP, although its deadline is in 2013.

ESPON 2013 DB

This Project is developed in partnership with other projects from Priority 1 (TIPTAP, EDORA, DEMIFER, FOCI, and RERISK) and Priority 3 (Demography, Accessibility, Lisbon Indicators, Typology...). The Project has elaborated a substantial database (DB) on European regions and cities. This DB, available in the ESPON webpage, plays a major role in the promotion of ESPON network. This project tries to achieve the following aims, among others: (i) a very strict definition of rules concerning metadata and quality; (ii) the integration of various types of geographical objects; and (iii) the attempt to enlarge time series towards past and future. The ESPON 2013 DB Application, a complex information system dedicated to the management of statistical data about the European territory, spanning over a long period of time, has mainly been the applied result of the ESPON 2013 DB Project. This tool has been meticulously reviewed for the purposes of SIESTA, especially in order to download data from previous ESPON projects useful for SIESTA, as extensively reported in the section 3.1. In the future, SIESTA will upload its obtained data and metadata files to contribute to ESPON 2013 DB Project and to get a data harmonisation using the existing coding schemes. It has to be mentioned that SIESTA's coding scheme has been elaborated in consistence with the ESPON 2013 DB Project to provide TPGs with a unique code.

INTERCO

INTERCO is a project devoted to the development of indicators of territorial cohesion. Its main objective is to develop a set of indicators and indices that could be used to support policy makers in measuring and monitoring territorial cohesion related to European territorial development. From more than 600 potential indicators identified, the research process allowed the filtering and the prioritisation of the indicators, and finally the specification of 32 top indicators organised in 6 territorial objectives. It has to be said that the INTERCO team has taken into account the EU2020S in the definition of the indicators and 12 of the 32 indicators defined by them coincide with indicators using in SIESTA project. INTERCO has also highlighted that the indicators selected as suitable to overcome the issue of territorial cohesion are not available today at the required spatial level (i.e. NUTS3 or lower) and/or as sufficient time series; these problems are exactly the same as SIESTA has identified, as extensively reported in section 3.1, even quoting INTERCO for sustaining our conclusions.

Multi Dimensional Database Design and Development (M4D)

This project is oriented to maintain consistency and further expand the ESPON 2013 Database and the results derived from INTERCO Project. The

ESPON 2013 DB contributes to better understanding the current situation and past and future trends of different European regions. As soon as M4D integrates data on cities into the ESPON DB, SIESTA will consider the new database developed by M4D.

DEMIFER

This project analyses the regional effects of migration on the European demographic future. Some of the issues mentioned in this project could be relevant for SIESTA, especially for analysis purposes (see section 2.2). For example, in regards to inclusive growth the document shows several indicators linked with employment and skills. Thus, it is possible to find data about the impact of migration on population and labour force and the annual change in working age population. Closely related to the indicators selected by SIESTA, the DEMIFER Project provides data and maps showing the ageing of Europe, a substantial issue in the inclusive growth agenda.

CAEE and METROBORDER

The Case of Agglomeration Economies in Europe (CAEE) and Cross-border Polycentric Metropolitan Regions (METROBORDER) are projects under Priority 2. The first one examines the relationship between agglomeration economies and city/regional and metropolitan governance, whereas the second explains how cross-border polycentric metropolitan regions constitute a new phenomenon of European spatial organisation which have development potentials and opportunities. Some references as cross-border commuters in metropolitan areas, number of public transport connection between the main cities and high-technology manufacturing and knowledge-intensive service sectors could be of interest to the SIESTA Project when analysing (see section 2.2).

Upcoming Projects

“Territorial dimension of poverty and social exclusion in Europe” and “Territorial impact of the financial and economic crisis” are two upcoming projects under Priority 1 that might be of interest for SIESTA. The former is in relation with poverty and social exclusion as one of the EU2020 flagship initiatives. In this way, it could be relevant for the SIESTA Project because poverty is a central issue within it, under the inclusive growth pillar. The latter aims to analyse the global financial crisis, thus allowing for the delivery of strategic policy recommendations and messages. It is of interest to SIESTA as arguments are shared: whilst SIESTA is focused on the Strategy for coming out of the crisis, this forthcoming Project is going to be devoted to the crisis itself. However, still no progress on them is available.

Annex E. Definitive List of Maps of the Atlas (30/3/2012) and Associated Data Details

- Map 1. 2020 index.

Smart Growth

Innovation

- Map 2. R&D expenditures as % of GDP.
- Map 3. R&D expenditures as % of GDP. Distance to national targets.
- Map 4. R&D expenditures as % of GDP. Trend.
- Map 5. Human resources dedicated in science and technology.
- Map 6. NBIC projects per urban area population. Urban areas.
- Map 7. Business R&D expenditures as % of GDP.
- Map 8. Employment in knowledge-intensive activities as % of total employment.
- Map 9. Total patent applications per capita.
- Map 10. High-tech patent applications as a % of total patent applications.

Education

- Map 11. Early school leavers.
- Map 12. Early school leavers. Distance to national targets.
- Map 13. Early school leavers. Trend.
- Map 14. Proportion of students not completing their compulsory education. Urban areas.
- Map 15. Tertiary educated as % of age group 30-34.
- Map 16. Tertiary educated as % of age group 30-34. Distance to national targets.
- Map 17. Tertiary educated as % of age group 30-34. Trend.
- Map 18. Share of population having completed tertiary education (age group 25-64).

- Map 19. Share of population having completed tertiary education (age group 25-64). Urban areas.
- Map 20. Share of young people NEET.

Digital Society

- Map 21. Share of people working in the ICT sector.
- Map 22. ICT patent applications as a % of total patent applications.
- Map 23. Broadband penetration.
- Map 24. Share of population buying online.
- Map 25. Share of population hat have never used a computer.

Sustainable Growth

Competitiveness and Economic Growth

- Map 26. Growth measured as GDP per capita in pps.
- Map 27. Growth measured as GDP per capita in pps. Urban areas.
- Map 28. Growth measured as GDP per capita in pps. Trend.
- Map 29. Growth measured as GDP per capita in pps variation in the years of crisis. Trend.
- Map 30. Labour productivity.
- Map 31. Contribution of medium-tech and high-tech products to the trade balance.
- Map 32. Number of headquarters of transnational firms. Urban areas.
- Map 33. Green patent applications as a % of total patent applications.
- Map 34. Public debt in % of GDP.
- Map 35. Public debt in % of GDP in the years of crisis. Trend.

Green Economy, Climate Change and Energy

- Map 36. Regional estimation of GHG emissions.
- Map 37. Variation of GHG emissions compared to 1990 levels.
- Map 38. Variation of GHG emissions compared to 1990 levels. Distance to national targets.
- Map 39. Share of renewable energy in gross final energy consumption.
- Map 40. Share of renewable energy in gross final energy consumption. Distance to national targets.

- Map 41. Wind energy potential.
- Map 42. Solar energy potential.
- Map 43. Energy intensity of the economy.
- Map 44. Energy intensity of the economy. Distance to national targets.
- Map 45. Energy intensity of the economy. Trend.
- Map 46. Share of employment in industries with high energy spending in total employment.
- Map 47. Share of people commuting in total employment.
- Map 48. Share of journeys to work by car. Urban areas.
- Map 49. Rate of municipal waste collection.
- Map 50. Urban waste-water treatment capacity.
- Map 51. Protected areas included in the Natura 2000 network as a share of total area.

Inclusive Growth

Employment, Skills and Jobs

- Map 52. Employment rate of age group 20-64.
- Map 53. Employment rate of age group 20-64. Distance to national targets.
- Map 54. Employment rate of age group 20-64. Trend.
- Map 55. Gender balance in employment of age group 20-64.
- Map 56. Unemployment rate.
- Map 57. Unemployment rate. Urban areas.
- Map 58. Unemployment rate. Trend in the years of crisis.
- Map 59. Gender balance in unemployment.
- Map 60. Gender balance in unemployment. Urban areas.
- Map 61. Youth unemployment rate.
- Map 62. Youth unemployment rate. Urban areas.
- Map 63. Lifelong learning participants.
- Map 64. Share of low-educated population.
- Map 65. Share of people qualified at level 1 or 2 ISCED. Urban areas.
- Map 66. Professionals in health sector per 1000 inhabitants.
- Map 67. Staff working in the public sector.

Poverty and Exclusion

- Map 68. People at risk of poverty or social exclusion rate.
- Map 69. People at risk of poverty or social exclusion rate. Distance to national targets.
- Map 70. Disposable income per capita in pps.
- Map 71. Median disposable annual household income in pps. Urban areas.
- Map 72. At risk of poverty rate.
- Map 73. Share of households with less than 60% of the national median annual disposable income. Urban areas.
- Map 74. At risk of poverty rate. Trend.
- Map 75. Share of severely materially deprived people in total population.
- Map 76. Share of people living in households with very low work intensity.
- Map 77. Share of long-term unemployment.
- Map 78. Share of long-term unemployment. Urban areas.
- Map 79. Ageing index.
- Map 80. Ageing index. Urban areas.
- Map 81. Relation between the retirement age and life expectancy.

[]	@	Map	Definition	Source	Scale	Gaps	Years
-	-	1	2020s index	EUROSTAT	NUTS 2	AL, XK, ME, RS, BA, RS	2009
[2]	1	2, 3, 4	R&D expenditures as % of GDP	EUROSTAT	NUTS 2	AL, BA, MK, XK, RS, ME	1981-2010
[41]	2	5	Human resources in science and technology (% of total active population)	EUROSTAT	NUTS 2	BA, XK, RS, ME, AL	1995-2010
-	-	6	Research specialisation in NBIC: number of research projects participation of a city / population of the given city	ESPON 2013DB-FOCI project	MEGA-FUAS		2006
[47]	4	7	Business R&D expenditures as % of GDP	EUROSTAT	NUTS 2. NO, GR, TR and CH at NUTS 0 level (2008)	AL, BA, MK, XK, RS, ME	1981-2010
[51]	-	8	Employment in knowledge-intensive activities (% of total employment)	EUROSTAT	NUTS 2	RS, BA, XK, ME, AL, MK	2008-2010
[49]	5	9	Per capita total patent applications	EUROSTAT	NUTS 3	AL, BA, MK, XK, RS, ME, IS	1998-2009
-	-	10	High tech patent applications as a % of total patent applications	EUROSTAT	NUTS 3	AL, BA, MK, XK, RS, ME, IS	1998-2009
[6]	6	11, 12,13	Early leavers from education and training	EUROSTAT	NUTS 2	AL, BA, MK, XK, RS, ME	2008-2010
-	-	14	Proportion of students not completing their compulsory education in URBAN AUDIT cities	EUROSTAT- URBAN AUDIT	LUZs		1989-2009
[7]	8	15, 16,17	Tertiary educational, age group 30-34	EUROSTAT	NUTS 2	AL, BA, MK, XK, RS, ME	2008-2010
-	-	18	Share of population having completed tertiary education (Persons aged 25-64 with tertiary education attainment)	EUROSTAT	NUTS 2	Al, BA, ME, XK, RS, MK	2008-2010
-	-	19	Proportion of population aged 15-64 qualified at tertiary level (ISCED 5-6) living in URBAN AUDIT cities - %	EUROSTAT- URBAN AUDIT	LUZ		1989-2012
[66]	-	20	Percent of young people aged 15-24 not in work, education or training (NEET)	EUROSTAT	NUTS 2	SI, HR, BA, XK, RS, ME, AL	2008-2010
[62]	45	21	People working in the ICT sector (% of employees working in NACE code J)	EUROSTAT	NUTS 2	AL, BA, MK, XK, RS, ME	2008-2010
-	-	22	ICT patent applications as a % of total patent applications	SIESTA calculations using data from OECD REGPAT database	NUTS 3 (except DE and EL that are only available at NUTS 2 level)	AL, BA, MK, XK, RS, ME	1998-2009
[52]	13	23	Broadband penetration	Data provided by KIT project	NUTS 2	TR, HR, Al,	Average

[]	@	Map	Definition	Source	Scale	Gaps	Years
						BA, ME, XK, RS, CH	2006-2009
[54]	14	24	Percentage of population buying online	EUROSTAT	NUTS 2 except for: FR, DE, PL, SI and GR that are showed at NUTS 1 level and TR, HR, and RS that are showed at state level.	AI, BA, ME, XK	2008-2011
-	17	25	Population that have never used a computer (percent of total population)	EUROSTAT (Regional statistics) and Turkstat	NUTS 2 except for: FR, DE, PL, SI and GR that are showed at NUTS 1 level and TR, HR, and RS that are showed at state level.	AI, BA, ME, XK, RS	2008-2011
[10]	32	26	Growth measured as GDP per capita, EU 27 average =100	EUROSTAT Data for western Balkans calculated by DG REGIO (Source: WB, IMF, Eurostat)	NUTS 3 (except Turkey that is at NUTS 2 level and IS, CH, NO, AL, MK, XK, RS that are available at Nuts 0)		2000-2009
-	-	27	Growth measured as GDP per capita in PPS in URBAN AUDIT cities	EUROSTAT-URBAN AUDIT	LUZ		1989-2012
[9]	33	28	Growth measured as GDP variation, 2000-2009	EUROSTAT	NUTS 3 (except Turkey that is at NUTS 2 level and IS, CH and NO that are available at Nuts 0)	AL, XK, ME, RS, BA, RS	2000-2009
-	-	29	GDP change 2008-2011	EUROSTAT	Country		
[118]	34	30	Labour productivity	SIESTA calculation using data of GDP and employment from EUROSTAT	NUTS 2		2009
[50]	35	31	Contribution of medium-high-tech and high-tech products to the trade balance	OECD	NUTS 0		2007
-	-	32	Number of Headquarters of Transnational firms in the 2000 biggest world firms whose headquarters is in the LUZ	ESPON 2013DB- FOCI project	LUZ		2005
-	-	33	Green patent applications as a % of total patent applications	SIESTA calculations using data from OECD REGPAT database	NUTS 2 (except DE and EL that are available at NUTS 2 level)	AI, BA, ME, XK, RS, MK	1998-2009
[26]	-	34, 35	Public debt in % of GDP (General government gross debt. Percentage of GDP and million Euros)	EUROSTAT	NUTS 0	AI, BA, ME, XK, RS, MK	1995-2011
-	-	36	Regional estimation of GHG emissions (in Gg CO2 eq.)	Derived from UNFCCC GHG data at national level and allocated to NUTS3 areas in relation to population and valued added downloaded from EUROSTAT.	NUTS 3 (except TR that is only available at NUTS 2)	NO, CH, AI, BA, ME, XK, RS, MK	2008
[3]	26	37, 38	Variation of greenhouse gas emissions compared to 1990 levels (index	EUROSTAT and EEA	NUTS 0		1990-2010

[]	@	Map	Definition	Source	Scale	Gaps	Years
			1990=100)				
[4]	27	39, 40	Share of renewable energy in gross final energy consumption	EUROSTAT	NUTS 0	CH, IS, HR, RS, MK, TR, XK, IS, BA	2006-2009
-	-	41	Wind energy potential. Production potential of wind power stations. In 1/m/s	ESPON 2013DB- ReRisk project	NUTS 2	IS, DK, EE, LV, LT, SI, HR, TR, AL, BA, XK, ME, MK, RS, BA	2005
-	-	42	Solar energy potential. Potential for electricity production from PV panels. In kWh	ESPON 2013DB- ReRisk project	NUTS 2	IS, DK, EE, LV, LT, SI, HR, TR, AL, BA, XK, ME, MK, RS, BA	2005
[5]	28	43, 44, 45	Energy intensity of the economy: Gross inland consumption of energy divided by GDP (kilogram of oil equivalent per 1 000 Euro)	EUROSTAT	NUTS 0	IS, HR, TR, AL, BA, XK, ME, MK, RS, BA	1990-2010
[161]	23	46	Employment in industries with high energy spending (percentage of total employment)	SIESTA Calculations using EUROSTAT data and the methodology proposed by ReRisk	NUTS 2	TR, AL, BA, XK, ME, MK, RS, BA	2009
-	-	47	People commuting (in the same region and from another region) (percent of total employment)	EUROSTAT	NUTS 2	RS, BA, ME, MK, ME, XK, AL	2006-2009
-	-	48	Share of journeys to work by car in URBAN AUDIT cities- %	EUROSTAT-URBAN AUDIT	LUZ		1989-2012
-	-	49	Regional coverage rate of municipal waste collection	EUROSTAT	NUTS2	UK, IE, IS, FI, SE, EE, LV, CZ, FR, ES, GR, CH, AL, ME, RS, BA	2008-2009
-	-	50	Urban waste-water treatment capacity	DG REGIO	NUTS 2	NO, IS, CH, TR, AL, BA, XK, ME, RS	2007
[71]	38	51	Protected areas included in the Natura2000 network, in percentage of NUTS 3 area	DG REGIO	NUTS 3	NO, IS, CH, TR, AL, BA, XK, ME, RS	2009
[1]	41	52, 53,54	Employment rate, age group 20-64	EUROSTAT	NUTS 2		1999-2010

[]	@	Map	Definition	Source	Scale	Gaps	Years
-	-	55	Gender balance in employment: (female employment rates-male employment rate)	EUROSTAT	NUTS 2		1999-2010
[18]	51	56	Unemployment rate	EUROSTAT	NUTS 3 (some countries are only available at NUTS 2 level as IS, NO, TR or PT)	ME	1999-2010
-	-	57	Unemployment rate in URBAN AUDIT cities	EUROSTAT- URBAN AUDIT	LUZ		1989-2012
-	-	58	Map 55 evolution				
-	-	59	Gender balance in unemployment: (female employment rates-male employment rate)	EUROSTAT	NUTS 3 (some countries are only available at NUTS 2 level as IS, NO, TR or PT)	ME	1999-2010
-	-	60	Unemployment rate by gender in URBAN AUDIT cities	EUROSTAT- URBAN AUDIT	LUZ		1989-2012
[25]	52	61	Youth unemployment rate (unemployment of the population age 15-24)	EUROSTAT	NUTS 3 (some countries are only available at NUTS 2 level as IS, NO, TR or PT)	ME	1999-2010
-	-	62	Proportion of residents unemployed 15-24 in URBAN AUDIT cities	EUROSTAT	LUZ		1989-2012
[35]	44	63	Life-long learning participants (Participation of adults aged 25-64 in education and training)	EUROSTAT	NUTS 2	BA, XK, ME, AL	2008-2010
-	-	64	Population low educated (Persons aged 25-64 with lower secondary education attainment)	EUROSTAT	NUTS 2	BA, XK, ME, AL, RS	2008-2010
-	-	65	Proportion of working age population qualified at level 1 or 2 ISCED in URBAN AUDIT cities	EUROSTAT- URBAN AUDIT	LUZ		1989-2012
[91]	54	66	Professionals in health sector: Physicians or doctors per 1000 inhabitants	EUROSTAT	NUTS 2	BA, RS, MK, ME, AL, XK	1994-2010
[87]	46	67	Staff working in the Public sector: Public administration, defence, education, human health and social work activities(NACE Rev. 2 codes O-Q)	EUROSTAT	NUTS 2	BA, RS, MK, ME, AL, XK	2008-2010
[8]	47	68, 69	People at risk of poverty and social exclusion	EUROSTAT	NUTS 2 and NUTS 0 (FR, UK, BE, NL, DE, AT, HU, HR, PT)	TR, BA, RS, XK, ME, MK, AL	2004-2010
-	-	70	Disposable income (in Purchasing power standard based on final consumption per inhabitant)	EUROSTAT	NUTS 2	BA, RS, MK, ME, AL, CH, IS, TR	2004-2010
-	-	71	Median disposable annual household	EUROSTAT	LUZ		1989-

[]	@	Map	Definition	Source	Scale	Gaps	Years
			income. In URBAN AUDIT cities				2012
[19]	48	72	At risk of poverty rate: People at risk of poverty after social transfers (percent of total population). At-risk of poverty is defined as having equivalised disposable income of less than 60% of national median.	EUROSTAT	NUTS 2 and NUTS 0 (UK, BE, NL, DE, AT, HU, HR, PT)	TR, BA, RS, XK, ME, Al, PT, FI19	
-	-	73, 74	Percentage of households with less than 60% of the national median annual disposable income in URBAN AUDIT cities	EUROSTAT	LUZ		1989-2012
[20]	49	75	Severely materially deprived people (percent of total population)	EUROSTAT	NUTS 2 and NUTS 0 (FR, UK, BE, NL, DE, AT, HU, HR, PT)	TK, BA, RS, XK, ME, Al, PT, FI19	2003-2010
-	-	76	People living in households with very low work intensity (population aged 0 to 59 years).	EUROSTAT	NUTS 2 and NUTS 0 (FR, UK, BE, NL, DE, AT, HU, HR, PT)	TR, BA, RS, XK, ME, MK, AL	2004-2010
[109]	-	77	Share of long-term unemployment (12 months and more)	EUROSTAT	NUTS 2	BA, RS, MK, ME, AL	1999-2010
-	-	78	Proportion of Long-term unemployment in URBAN AUDIT cities	EUROSTAT-URBAN AUDIT	LUZ		1989-2012
[12]	-	79	Ageing index: population above 65/people below 15	EUROSTAT	NUTS 3		2000-2011
-	-	80	Ageing index: population above 65/people below 15 for URBAN AUDIT cities	EUROSTAT-URBAN AUDIT	LUZ		1989-2012
[17]	43	81	Relation between the retirement age and life expectancy	EUROSTAT (life expectancy data) and OECD (real retirement ages)	NUTS 2, except RS and BA that are showed at state level		1990-2010

EU 2020S headline targets

ID	Country_name	ID	Country_name
ES	Spain	**HU**	Hungary
PT	Portugal	**RO**	Romania
BE	Belgium	**IE**	Ireland
FR	France	**FI**	Finland
DE	Germany	**DK**	Denmark
LU	Luxembourg	**SE**	Sweden
NL	Netherlands	**UK**	United Kingdom
CZ	Czech Republic	**CH**	Switzerland
EE	Estonia	**BA**	Bosnia and Herzegovina
LV	Latvia	**RS**	Serbia
LT	Lithuania	**LI**	Liechtenstein
PL	Poland	**AL**	Albania
SK	Slovakia	**XK**	Kosovo
AT	Austria	**MK**	Macedonia
IT	Italy	**TR**	Turkey
MT	Malta	**HR**	Croatia
SI	Slovenia	**ME**	Montenegro
CY	Cyprus	**IS**	Iceland
GR	Greece	**NO**	Norway
BG	Bulgaria		

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