Version 23 August 2011

# SPECIFICATION

## ESPON Scientific Platform/Tools Project 2013/3/8

# ESPON Online Mapping Tool
## (2012-2013)

### *(o) Territorial challenges relevant for ESPON 2013 projects*

The development of the European territory is facing several ongoing mega trends and impacts of policies:

- The integration of the EU in global economic competition is accelerating, offering more options for regions and larger territories in deciding on their development path as development is no longer a zero sum game for Europe.
- Interaction is growing between the EU territory and the surrounding neighbour countries as well as the other parts of the world, becoming apparent by e.g. migration pressure on more developed countries, which are themselves confronted with population decline and by access to and investment in new markets.
- Market forces and the evolution of society in general are supporting a geographical concentration of activities. The current economic downturn is having asymmetrical impacts on regions and cities, often mostly related to their national context and more local economic base.
- The ongoing demographic change with an ageing European population and migration is affecting the regions differently and boosts the competition for skilled labour.
- The occurrence of hazards is increasing due to climate change while different parts of Europe experience different types of hazards.
- Increasing energy prices and the emergence of a new energy paradigm have significant territorial impacts, some regions being more affected than others, some of which have particular potential for production of renewable energy sources.
- The enlargement of the EU to 27 Member States, and soon with additional countries, presents an unprecedented challenge for the competitiveness and internal cohesion of the Union.

ESPON results have revealed that territorial capital and opportunities for development are inherent in the regional diversity that is a characteristic of Europe. Consequently, different types of territories are endowed with diverse combinations of resources, putting them into different positions for contributing to the achievement of the Europe 2020 Strategy as well as to EU Cohesion Policy. Territorial diversity, particularly in the economic base, implies the need for tailor-made regional strategies building on endogenous potentials and synergies through cooperation in order for regions, cities and larger territories to achieve smart, sustainable and inclusive growth.

The ESPON 2006 Programme provided integrated analysis and long term spatial scenarios which enriched the European policy debate and knowledge base. The results and observations produced by ESPON on territorial structures, trends, perspectives and assessment of EU policy impacts had not been fully evident before and supported a better understanding of the European dimension of territorial dynamics. Therefore, interest is growing among policy makers and practitioners for the information, knowledge and understanding ESPON can offer.

The ESPON 2013 Programme shall bring this knowledge base one step further by carrying out applied research and targeted analysis, indicator development and data collection, capitalisation events presenting results, etc. All these actions will be related to an improved understanding of territorial structures, development trends, perspectives and policy impacts.

The European-wide evidence provided by the ESPON 2007-2013 Programme will potentially benefit stakeholders all over Europe at all levels. Policy makers dealing with territorial development require sound evidence and comparable regionalised information as well as medium and long-term development perspectives in order to draw up sustainable and efficient integrated policy responses for their territories.

All in all, the European process moves towards a more integrated approach to policy making which makes the territorial dimension important for policy makers. The aim of territorial cohesion included in the Treaty supports this approach by taking the territory as an element in the framework for policy making. Due to its provision of evidence based on analyses of territorial units the ESPON 2013 Programme is of strategic importance for the European policy development and cooperation.

By further extending and deepening the existing knowledge and indicators, the ESPON 2013 Programme will play a strategic role in supporting the policy process of the current period 2007-2013 and contributing to the development of Cohesion Policy beyond 2013.

## *(i) General objectives of projects under Priority 3*

The general objectives of scientific platform projects within the ESPON 2013 Programme are the following:

- Contribute to the consolidation of the scientific platform of the ESPON 2013 Programme and to the territorial knowledge base needed for informed policy formulation and application
- Ensure data, territorial indicators and tools that are usable for policy makers and practitioners at all administrative levels
- Respond to needs for public access to the ESPON data and tools
- Ensure availability of comparable and robust regional (and urban) data at as detailed geographical scale as possible as well as statistical quality control and data validation
- Ensure that European standards for spatial referencing and storage of data are respected (such as applying the ETRS1989 standard and the Inspire Directive).
- Support a concrete application and use of data for policy, strategy and planning processes, including tools and techniques for forecasting and modelling

- Continuously provide an updated basis for monitoring and assessing territorial development trends in relation to territorial policy objectives at European level based on relevant territorial indicators/indices.

This project shall contribute to these general objectives during its implementation, and in doing so make best use of existing ESPON results, new results in other ESPON projects as well as other research results and relevant studies.

## *(ii) Relation of this project to the ESPON 2013 Programme*

The priorities describing the work-programme of the ESPON 2013 Programme are structured in four strands:

**a) Applied research on territorial development, competitiveness and cohesion: Evidence on European territorial trends, perspectives and policy impacts**

The applied research projects will opt for information and evidence on territorial potentials and challenges focusing on opportunities for success for the development of regions. Cross thematic applied research will be a major activity integrating existing thematic analysis and adding future analysis of new themes. Territorial impact studies of EU policies will be another focus under this priority.

**b) Targeted analysis based on user demand: European perspective to development of different types of territories**

This priority responds to a clear demand of practitioners for user and demand driven actions within the ESPON 2013 Programme. By convening an analytical process where ESPON findings are integrated with more detailed information and practical know-how, new understanding of future development potentials and challenges may arise, which could be transformed into projects and actions.

**c) Scientific platform and tools: Territorial indicators and data, analytical tools and scientific support**

The scientific platform and analytical tools built up within the ESPON 2006 Programme will be maintained and further expanded. New actions shall be undertaken to develop current achievements and make use of the indicators, data and tools.

**d) Capitalisation, ownership and participation: Capacity building, dialogue and networking**

Under this priority, actions are foreseen that will be aiming at making the evidence and knowledge developed operational through measures raising awareness and involving stakeholders in the results and their practical use.

Priority 3 of the ESPON 2013 Programme, the scientific platform and analytical tools, represent a core element in the knowledge base of ESPON for the preparation of effective territorial policies. Tools for territorial analysis are necessary for the application and use of data for policy, strategy and planning formulation.

The project “ESPON Online Mapping Tool” aims at providing access to and enabling using the ESPON knowledge base in an easy and highly digestible manner. This will be done by

giving people the possibility to produce, visualise, analyse and download maps and diagrams of data and indicators that are directly coming from the ESPON 2013 Database.

This project will cover the implementation for the period 2012-2013.

### *iii) Thematic scope and context*

Tool development within ESPON 2013 shall be targeted to the use of policy makers and practitioners at all administrative levels (including cross-border and transnational groupings) and will enable the use of information and data by these particular groups of stakeholders. The tools will be an online tool, made available via the ESPON website. As such it will also be at the disposal of the general public, including researchers and university students, thereby contributing to the use of ESPON data and information and the consolidation of a European research field on territorial development and cohesion.

The Online Mapping tool should provide a tool to visualise and analyse data, available in the ESPON Database, in maps and diagrams. This tool should fill the gap between disseminating data in tables (by the ESPON Database) and disseminating data in fixed maps (by the ESPON Online MapFinder and ESPON projects).

At the moment a number of other relevant developments in the field of mapping and analysis tools are available on the web. Below a number of relevant tools are indicated, each with their own advantages and dis-advantages, but none of them completely suitable to fulfil the objectives set in section *iv)* and to provide the user with all the functionalities foreseen in the ESPON Online Mapping tool and described in the seven domains identified and described in section *v)*.

- The OECD eXplorer is developed by NCVA, Linköping University in collaboration with OECD. The main screen shows a large number of windows with maps, graphs, stories and explanations. A large number of techniques are included to visualise and analyse regional data including an interactive direct link between the map and the scatter diagram. No options are available to adjust the map itself. The user interface and lay-out of the screen is rather complex and only suitable for the more specialised users.
  The site: http://stats.oecd.org/OECDregionalstatistics/
- The Inflation Dashboard, published by the European Central Bank, is an interactive tool that helps to analyse inflation developments. This tool has four windows visualising various aspects of inflation development including maps, bar graphs and time series. Several options allow to change the variables and also to switch to a tabular view. No options are available to adjust the map itself. This user interface is easy to use and suitable for non-experts.
  The site: http://www.ecb.int/stats/prices/hicp/html/inflation.en.html
- Indiemapper, developed by Axis Maps, is a commercial on-line map-making tool allowing to make thematic maps from digital data using a visual approach. This tool is a good example of how data can be turned into different kinds of thematic maps in a fast, easy and userfriendly way using an online mapping tool.
  The site: http://www.indiemapper.com/
- The Interactive Statistical Atlas of Slovenia is developed by the Statistical Office of the Republic of Slovenia. The Atlas has a very easy-to-use interface and allows the

user to present and explore statistial data. The interface for selecting indicators works very user friendly. No options are available to adjust the map itself.
The site: http://stat.monolit.si/

- The Gapminder world is an example of a clear and easy user interface. The changes over time are visualised in changing maps and charts that are clear and good to follow. The indicators visualised can easily be adjusted. No options are available to adjust the map itself.
  The site: www.gapminder.org/world/
- GeoClip webmapping is a nice example of a userfriendly interface including icons for navigation through the tool, easy resetting of default settings, clear interface for configuring the visualisation of the indicator in the map, etc. They also integrated a simple help function to get started and a more extended user guide outside the application for more detailed information.
  The site: http://www.geoclip.fr/danseuse/carto.php?lang=en

The ESPON Online Mapping tool to be developed within this project shall be fully compatible with the ESPON 2013 Database and build on it. The user selecting data in the Online Mapping tool in order to analyse it or display it in a map, should be directly selecting data from the ESPON 2013 Database. This means that the Online Mapping tool should establish a link with the latest version of the ESPON 2013 Database and consider the use of their query functionality for selecting data.

An ESPON Online Mapping tool will be complimentary to the ESPON Online MapFinder as the latter is an application on the ESPON website allowing users to access a fixed set of most relevant ESPON maps resulting from ESPON projects and publications in a user-friendly approach. The ESPON Online MapFinder will only allow users to search, print and download the maps and to zoom-in and zoom-out on the maps presented on the screen. The ESPON Online Mapping tool will allow users to create a map using data included in the latest version of the ESPON 2013 Database.

The ESPON Online Mapping tool will also be complimentary to the ESPON HyperAtlas as the latter is an application based on multi-scalar territorial analysis concept supporting the assumption that the situation of a given region/territory should take into account its relative situation and localization. As a simple example, a local decision maker in a convergence region can easily compare and analyse the region's relative position at European, national and local scale for a whole set of criteria, such as GDP/inhabitant, unemployment, accessibility, ageing, etc. The HyperAtlas is a highly sophisticated analytical tool that can be used in addition to more simple mapping possibilities that should be provided by the ESPON Online Mapping tool.

### *iv) General objectives*

The ESPON Database 2013 is resulting in a very rich database with hundreds of indicators that can be used for mapping. The current ESPON Database project phase 2 does not include the development of such a mapping facility. The main objective of this project is to make ESPON data more accessible and useful for a wider audience by developing a tool for simple mapmaking and light but innovative analyses using the data available in the ESPON Database. This tool is target to the general public and should in particular benefit the non-expert users.

The online mapping tool should allow for the production, visualisation, analysis and download of maps and diagrams directly linked with the data, indicators and information included in the ESPON Database. This way the Mapping tool could fill the gap between the ready-made maps delivered by the ESPON projects and the data files included in the ESPON Database. The tool should be widely available for free for all relevant target groups.

The ESPON Online Mapping Tool should be a highly interactive mapping tool available via the Internet where users could select, combine and overlay indicators from the ESPON database, choose the geography and even include animations based on indicator time series such as available in the Gapminder and the OECD-eXplorer. To achieve the general objectives described above the following main domains are to be considered:

1. Data storage
2. Data visualisation
3. Data analysis
4. Output
5. User interface
6. User support
7. Web application

Within these domains the aims of the ESPON 2013 Programme, the ESPON themes and the coverage of variety of scales (5 level approach: from local to global) should always be taken into consideration.

As being a tool to visualise data available in the ESPON 2013 Database the project should be developed in close cooperation with the ongoing project on "ESPON Database and data development – Phase II" (M4D).

## v) *Analytical framework and deliveries expected*

This ESPON project, to be implemented during 2012-2013, shall be based on a clear planning with relation to its objectives.

As a first step the project is expected to review the most relevant existing web mapping tools and indicate those elements that are useful or are to be avoided within the ESPON Online Mapping tool to be built, to present a proposal on the various elements to consider in the ESPON online Mapping tool and finally to discuss the outcomes of this phase with the ESPON CU. Making this review should enable to project to learn from other experiences and include the most useful functionalities in the tool. Moreover, the project implementation should involve profound testing of prototypes and beta versions. This testing should be done in first instance within the TPG, but in a second phase the testing should also involve the ESPON CU and finally the ESPON MC and other potential users from the target group.

Regarding the link to existing data and indicators, the project is expected to cooperate closely with the TPG being in charge of the development of the ESPON 2013 Database. Furthermore, regarding the implementation of the Mapping tool on the ESPON website, the service provider is expected to cooperate closely with the service provider in charge of the ESPON website.

To achieve the general objectives described above the seven main domains that are to be considered are explained in more detail below. The proposal is expected to give a description on how each of the seven domains will be implemented in the Online Mapping tool.

**1. Data storage**

The main aim of the Online Mapping tool is to visualise data available in the ESPON 2013 database as a map, graph or diagram. Therefore the tool should not only be able to link to the data in the ESPON 2013 database, but should also incorporate a number of geometries and layers.

Concerning data and indicators, the Mapping tool should not include these in the tool itself, but the tool should make a direct link to the ESPON 2013 Database and use the data and indicators available there. This means that the data and indicators resulting from ESPON projects are stored on one location, i.e. in the ESPON 2013 Database. The Mapping tool should be an application that does not store the data itself, but uses the data in the ESPON 2013 Database. In this way it is easier to keep the data up-to-date and the user can visualise in principle all data included in the ESPON 2013 Database.

The Online Mapping tool should be able to visualise the data that is included in the ESPON 2013 Database in the following data categories: Regional data (via the web interface), urban data, neighbourhood data and world data. Moreover the integration of the OLAP Cube[1], a tool developed within the ESPON Database project (phase I) to converse data between grid and NUTS, should be considered.

Concerning the geometries and layers at least the following should be included in the Mapping tool: NUTS0 to NUTS3 geometries, geometries for the urban data, geometries for the neighbourhood and world data, the capital layer. The NUTS geometries should be integrated in 1999, 2003, 2006 and 2009 version, so that data from the ESPON Database can be linked to the correspondent NUTS version. The linking should in principle be done automatically. The geometries and layers mentioned above are in principle available via the M4D project.

**2. Data visualisation**

The Online Mapping tools should be able to offer visualisations of ESPON data and indicators via maps, graphs and time series. Next to the more standard techniques such as thematic maps used to visualise regional and statistical data also more innovative techniques could be used such as animations and 3D visualisation. The project could get some inspiration from a new cartographic language that will be developed for ESPON. Moreover, the tool should be flexible to adjust some of the elements integrated in the tool to a different cartographic language and to the way future images, scenarios and visions will be depicted, in particular expected from the ESPON Scenario project. The proposal is expected to indicate and shortly describe the visualisation techniques for maps, graphs and time series and the procedures to make a study area that will be implemented in the tool.

*Maps:*

All maps made using the ESPON Online Mapping Tool should follow the ESPON Map design (to be provided by the ESPON CU), giving visibility to ESPON. This includes a non-

[1] See: http://database.espon.eu/grid

removable disclaimer on all maps made using the ESPON Online Mapping Tool saying that the map does not necessarily reflect the opinion of the ESPON Monitoring Committee.

In the screen lay-out for the visualisation of data within a map the user of the Online Mapping Tool should be able to make selections for specific items, such as the dataset, the scale, geographical coverage, data classification, colour scheme, capitals and borders. The most important adjustments in the map to be made by users are described in more detail:

- As a *default* the map will be displayed that fits with the data selected. After that users should have the opportunity to change the view of the map by zooming in and/or out, pan the map, indicating a specific preselected or self-defined study area or by loading previously saved map-settings. A restore option (to default view) should be available. The representation and naming of countries and regions approved by the ESPON MC shall be used in the maps produced. A note on this issue will be made available to the TPG by the CU.
- The user should have the opportunity to edit the *title* (default title is the name of data set), the legend and insert some textual information. Moreover, the user should be able to change the font type, size and colour of all texts included in the map.
- As a default *classification* for the data displayed in the map, equal interval classification should be used with 6 classes ranging from the minimum to the maximum value available in the data and "no data" should be indicated. If positive and negative values are available, then 0 should be used as a break value[2]. After that the user should have the opportunity to change the classification using at least the possibility to change the minimum and/or maximum value, the number of classes and the type of classification (i.e. equal, quantiles, Jenks and manual intervals) and if 0 is a break value. A restore option (to default classification) should be available.
- The default *colour scheme* depends of the kind of values available and should follow the ESPON Mapping guidelines to be made available by the ESPON CU. Then the user should have the opportunity to make changes in the colour scheme from a set of at least 10 different colour schemes to be defined in cooperation with the ESPON CU. Moreover, if possible and if the user has indicated 0 as a break value then the user should also have the option to use two colour schemes. Finally, the user should also be able to change the colours of regions with no data, non-ESPON regions and the sea. A restore option (to default colour scheme) should be available.
- As a default the *capitals* should be indicated in the map displayed by their names and a symbol (●). The user should have the opportunity to make some changes in this with at least changes in the font type, font size, colour, symbol, symbol size and colour and if they are displayed or not. A restore option (to default view) should be available.
- As a default the *borders* should have a fixed setting on thickness and colour of the lines. This will be defined in cooperation with the ESPON CU. The user should have the opportunity to change the visualisation of the borders regions separately changing at least the thickness and colour of the border line and if they are displayed or not. A restore option (to default view) should be available.
- The user should also be able to retrieve information from the map by *hovering* over it, or in another user-friendly way be possible to retrieve information about the values in the map. The information that should then be displayed is at least the name and code

[2] If 0 is indicated as break value, then the classifications will have to take this into account, using 0 as a break value and dividing the intervals below and above 0 in a suitable way. The implementation of this is to be discussed with the ESPON CU.

of the region, the value of the data displayed and some contextual information about the data displayed (source, origin, property rights, date, etc.), to be available via the metadata in the ESPON 2013 Database.

*Graphs:*
The user should also be able to make a number of graphs that visualise the data selected in different ways. Graphs most commonly used should be included under which the following:

- Distribution of the values including an indication of average value and variation;
- Frequency diagram of the values;
- Scatter diagram of two indicators to be selected including the possibility to add an indicator for the size of the circles in the scatter diagram and including the possibility to add an indicator for the colour of the circles;
- Bar charts, sectoral diagrams and curves to compare geographical levels (regions, countries, urban areas, etc.);

*Time series:*
When an indicator is available for a time series the user should have the possibility to view the changes over time in a map and also graphically. This could be implemented using animations such as available in the Gapminder and the OECD-eXplorer where the indicator of the first year available is visualised and by pressing a 'run' or a 'next' button the data for all years available are visualised one after the other, or the next year available is visualised.

*Study area:*
In the Mapping tool predefined study areas, such as the Danube region, NWEurope, Baltic Sea and Mediterranean regions, should be available for the user. The geographical delineation of these macro-regions will be provided by the ESPON CU. But the user should also be able to define a study area based on a group of countries and/or regions (NUTS 0, 1, 2, 3, LAU 1, LAU 2). This could be done by selecting them from a list of countries/regions or by selecting them from a map. The end-user should be able to save this new study area locally in the settings-file of the tool or as a separate file.

**3. Data analysis**
The Online Mapping tool should also include some simple possibilities to analyse and interpret data. Some methods are already mentioned in the data visualisation paragraph above. Additional methods, most commonly used to analyse data, should be included among which the possibility to compare two or even more indicator sets using, for example using a scatter diagram, overlays (for example a choropleth map with symbols on top) and indicating the correlation coefficient, but also the possibility to show the changes between two years for one selected indicator. The proposal is expected to indicate what kind of methods will be implemented to interpret and analyse the data and indicators selected.

**4. Output**
The user should be able to receive output from the Online Mapping tool in the form of at least the following options:

- Print: One should be able to print the map as viewed to a selected printer via the normally used printer selection window;
- Print preview: A print preview should be made on the screen showing how the way the map will appear on paper when printing it;
- Save/Save as: One should be able to save the map made, locally, so that users can continue (re)building their maps in the Online Mapping tool.

- Open: One should be able to open the maps saved locally, so that users can continue (re)building their maps in the Online Mapping tool.
- Save map-settings: It should be possible to save the settings of a specific map lay-out locally in a separate file. These settings should incorporate those indications needed to remake the same map after selecting an indicator. This could then be used to make similar maps for different indicators.
- Open map-settings: It should be possible to open the settings of a specific map lay-out saved locally in a separate file. This option is linked to save map-settings.
- Export: One should be able to export the map made as a file in various formats such as pdf, jpg, png, svg and ai;

## 5. User interface

The expected users of the Mapping tool are people that do not have software (GIS) themselves to present data in maps. These users probably also do not have the ability and/or capacity to perform the often complicated mapping facilities of GIS. Therefore, this Mapping tool should be user-friendly, clear and structured for general users. It should be on the one hand as simple as possible for non-expert users and on the other hand provide the more advanced user possibilities to use more complicated features. The tool should respect the accessibility criteria standards (W3C) and a font size increase button should be foreseen.

The main target group is basic users like policy makers and practitioners. However the tool might as well be interesting for more advanced users like scientist, students and experts. A possibility that should be considered is to make an expert mode that makes extra options possible. The ESPON 2013 HyperAtlas tool[3] has this option integrated already.

## 6. User support

In order to support users in visualising data from the ESPON 2013 Database, an interactive help function should be available in the Mapping tool to give guidance to the user. This online help should include an interactive user manual, a search function to the corresponding help pages, practical examples and a glossary of the main terminology. A separate document explaining the tool and including practical examples should also be available for the (potential) users via the ESPON website.

User support should also be given in the form of stories, such as have been integrated in the OECD explorer. These stories should follow a logic way of reasoning and build upon descriptive text combined with interactive visualization. The aim of these stories is to discuss relevant issues through storytelling, raise awareness and increase the common knowledge on a certain phenomenon and at the same time show how the Mapping tool can be used to do this.

## 7. Web application

As mentioned before, the ESPON Online Mapping tool should be developed as a web application. The advantages of having a web version of a Mapping tool are:

(a) End-users can access the tool through their favourite Web browser without installing the application itself on their computer;
(b) End-users will always have access to the most updated issued version of the software and as such to possible new functionalities in the tool;

[3] See: http://hypercarte.espon.eu/

(c) End-users will always have access to the most updated data and indicator sets available.

The Online Mapping tool should be accessible via the ESPON 2013 Programme website. In practice this means that a link will be made to the application homepage of the Mapping tool. This homepage should be implemented as much as possible in line with the ESPON Corporate Identity and Lay-out. This means that it will have the same lay-out as the ESPON website and seems completely integrated in the website. In order to implement this, the project should coordinate its work with the contractor dealing with the ESPON web service. Moreover, the new ESPON Design, EC Publicity Requirements and a Terms and Conditions of use of the Online Mapping should be integrated in the tool. Specific details on these aspects will be provided by the ESPON CU during the project implementation.

The Online Mapping Tool should become available via the ESPON website and be closely connected to the latest version of the ESPON 2013 Database which is also integrated in the ESPON website. In practice this means that the Online Mapping tool should establish a direct link with the ESPON 2013 Regional Database when looking for data and consider the use of their query functionality to select data that is stored in this database. The Mapping tool should be an application that does not store the data itself, but uses the data stored in the ESPON 2013 Database.

The draft and final version of the Online Mapping Tool will be hosted on one of the for ESPON available servers (with operating systems Linux or Windows) and should be available via all of the commonly used Internet browsers. During the development of the tool, the tool should preferably be hosted by the project and be made accessible via an external link so that the various draft versions of the tool can be easily reviewed.

In general, open source approaches are encouraged by the European Commission and might give more freedom to ESPON as it makes possible that an application produced by a given research team at one moment can be transferred, further completed or expanded by the ESPON Programme later on. However, the choice for Commercial Off The Shelf (COTS) or open source applications should be made in function of the detailed requirements, and of technical and financial boundary conditions in order to identify which is the best solution for such a project.

Moreover, licences related to the use of COTS software in case of selection should be previously discussed with the ESPON CU and be granted to the ESPON 2013 Programme. Costs related to this issue shall be included in the project budget. The programme coding developed within the project should be given to the ESPON Programme by the end of the project so that it is possible within the ESPON Programme to adjust and/or expand the Online Mapping Tool in a later stage after closure of the project.

The geographical coverage of the project should encompass all the countries participating in the ESPON 2013 Programme. Furthermore, the TPG should include the possibility to visualise data in Croatia, for which the accession negotiations were closed, allowing for the signature of the Accession Treaty by the end of 2011, and in the EU Candidate Countries (i.e. The former Yugoslav Republic of Macedonia, Turkey, Montenegro) and/or the other countries of the Western Balkans (i.e. Bosnia and Herzegovina, Serbia, Albania, Kosovo under UN Security Council Resolution 1244), if available on the ESPON 2013 Database.

## *(vi) Expected results and timetable*

The work on an ESPON Online Mapping tool should start early 2012 and have a final delivery of an operational tool by mid 2013. The implementation of the project for 2012-2013 shall include a flexible approach to the individual work packages proposed where frequent contact meetings with the ESPON CU and feedbacks from the ESPON MC will continuously support the development of this project and clarify open questions.

The project is supposed to follow, as far as possible, a timetable and specifications of outputs as presented below:

**April 2012 (Inception Report):**

- Review of the most relevant existing web mapping tools including an indication of those elements useful or to be avoided for the tool to be built and a proposal on the various elements to consider in the ESPON online Mapping tool
- Detailed description of the project, taking into account the objectives envisaged, including the identification of priorities, resolution of problems, proposals (including screen designs) for all seven domains and definition of delimitations
- Presentation of a strategic overview of all activities and an overall time planning
- Presentation of the description and timetable of the various project deliveries
- Work plan until the Interim Report.

**November 2012 (Interim Report):**

- First beta-version of the Online Mapping tool including the main structure of the tool and a linkage to the ESPON 2013 Database
- Prototype of the remaining parts of the Online Mapping tool
- Table of Content for the user guidelines including a proposal for structuring the explanatory sections
- Short reporting of the activities, both planned and realised, resolution of problems and definition of delimitations
- Work plan until the Draft Final Report.

**September 2013 (Draft Final Report):**

- Draft Final version of the Online Mapping tool
- Draft Final version of the User guidelines
- Short reporting of the activities, both planned and realised, resolution of problems and definition of delimitations

**December 2013 (Final Report)**

- Final version of the Online Mapping tool
- Source code of the final version of the Online Mapping tool
- Final version of the User guidelines
- Short reporting of the activities, both planned and realised, resolution of problems and definition of delimitations

### *(vii) Budget*

The maximum budget foreseen for this project amounts to € 150.000. Proposals exceeding this value will not be considered.

All real eligible costs incurred for carrying out the approved project will be refunded 100% by the ESPON 2013 Programme.

### *(viii) Existing access points*

The access points listed below can serve the purpose of providing the TPG useful information for preparing a proposal. It is by no means meant to be exhaustive, but should be considered as information that can be helpful in tracing additional useful background information.

- ESPON 2013 Database: http://database.espon.eu/data
- ESPON 2013 HyperAtlas tool: http://www.espon.eu/main/Menu_ScientificTools/ESPONHyperAtlas/
- OECD eXplorer: http://stats.oecd.org/OECDregionalstatistics/
- Inflation Dashboard: http://www.ecb.int/stats/prices/hicp/html/inflation.en.html
- Indiemapper: http://www.indiemapper.com/
- Interactive Statistical Atlas of Slovenia: http://stat.monolit.si/
- Gapminder world: www.gapminder.org/world/
- GeoClip webmapping: http://www.geoclip.fr/danseuse/carto.php?lang=en