ET 2050

Territorial Visions and Scenarios for Europe

An ESPON 2013 Programme Project

Information note for METREX Members

Introduction

ET 2050 and PolyMETREXplus

METREX addressed the need for a European Territorial Vision through the PolyMETREXplus Project, under Interreg IIIC. The project involved 19 partners and 10 contributors and concluded in 2007 (see www.eurometrex.org)

The outcome was the **Framework** for Polycentricity and Better European Territorial Balance. METREX produced a summary of the strategic outcomes of the project in the booklet "This is not a Plan" - Giving Spatial Expression to the Concept of Territorial Cohesion.

The Network is, therefore, well placed to participate fully in the new ESPON project, over the period 2012 to 2014, to produce a European Territorial Vision.

This Note for Information is taken from the published information on the ESPON web site about the ET 2050 project (see www.et2050.eu). It is for the PolyMETREXplus partners, and other Members of METREX, to give them an understanding of the ET 2050 project and to enable them to consider the most effective way in which to interact with, and participate in, its activities over the period to 2014.

As a first step, METREX colleagues will be asked to give Expressions of Interest in being part of a METREX Expert Group on the EP 2050.

The Note for Information highlights sections of the text that are relevant to what has already been considered in PolyMETREXplus.

ET 2050

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Project Specification

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 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 at a later stage maybe to more, 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 Lisbon and Gothenburg Agendas as well as to Cohesion Policy. Territorial diversity, particularly in the economic base, implies that strategies other than opting for a knowledge-based economy might be more appropriate and viable for some regions.

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 proposed by the Commission 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, namely by contributing to the development of Cohesion Policy.

Aim of ET2050

ET2050 aim is supporting policy makers in formulating a long-term integrated and coherent vision for the development of the EU territory.

This aim is twofold: content-wise, a product, namely a vision for the European Territory, has to be developed; and process-wise, those who will elaborate this product, namely policy makers, have to be supported by sound scientific knowledge. As is often the case in territorial development policy, the process is essential to achieve a successful result. This process is complex, since it entails involving a wide array of key-players, inviting them to widen their thematic, temporal and territorial horizons, i.e. to imagine a future that deliberately transcends sector-based, short-term and domestic policy considerations towards the definition of the European Territorial Vision. The "smart, sustainable and inclusive" policy-aims included in the above mission-statement of the project paraphrase the EU 2020 strategy.

Through the participatory process, that will be customised according to the characteristics of the different groups of stakeholders identified in the project specifications, the required steps towards the European Territorial visions will be:

- Present State of Europe: What is the current state of the European territorial structure?
- Baseline Scenarios for 2030 and 2050: What will be the future state of the European territorial structure based on the hypothesis that development trends and policies remain stable?
- Extreme/exploratory Scenarios 2050: What can be feasible future states of the European territorial structure in three territorially extreme/exploratory scenarios?
- European Territorial Vision 2050: What is the room for manoeuvre to politically steer (the development of) the future state of the European territorial structure and what is the range in which a realistic territorial vision can be formulated?
- Midterm targets and pathways 2010-2030: What could be sensible midterm targets in order to steer territorial development into the direction of the desired long-term vision? And what policy actions and interventions are required to meet these midterm targets?

Different from other ESPON projects, mostly expert-driven, this project will also be policy-driven. The main stakeholders to join the participatory process, together with European and National policy-makers and policy-analysts, will be other policy-makers (from different sectors, from local and regional institutions...), private associations, research institutes and business companies, as well as independent experts on many fields.

A Five-Step Methodology

ET2050 methodology is based on the following five steps:

- First Step: Analysing the Present State of the European territory
- Second Step: Building the 2030 and 2050 Baseline Scenarios
- Third Step: Building the 2050 Territorial Scenarios
- Fourth Step: Developing a 2050 Territorial Vision
- Fifth Step: Elaborating 2030 Midterm Targets and Pathways

First Step: Analysing the Present State of the European territory

A comprehensive and harmonised description of the current state and trends of the European territory will be produced, considering issues of strategic importance for the future of Europe. The territorial state will review thematic aspects (demography, economy, transport and energy, land-use change, environment, and governance) at different geographic scales (local, regional and macro-regional, European, and rest of the World). The Present State will be analysed from a retrospective point of view (specially the 1950-2010 period), to facilitate to all participants a better understanding of the past evolutions leading to the actual situation.

Basic information on the European territory available in various official documents (Fifth Cohesion Report, revised Territorial State and Perspectives and "Territorial Agenda 2020" to be adopted shortly) will be exploited critically. The findings of other ESPON 2013 projects (and other studies) will also be capitalised upon, in particular the thematic or geographically specific information on the European territories in relation with the most relevant challenges for the future. This information will be fundamental for the elaboration of scenarios (see Chapter III for a detailed list of issues to be considered and ESPON related studies).

The project will take place at a strategic time, just before a new programming period (2014-2020) of the EU structural funds and significant reforms of other EU policies (CAP, transport, neighbourhood policy, etc.) with significant territorial impacts. These major policy reforms will be studied in the analysis of the current situation, as they will sizeably contribute to shape the mid-term (2030) or even the long-term (2050) future.

Second Step: Building the 2030 and 2050 Baseline Scenarios

A baseline scenario is not just the extrapolation of existing trends and policies. The point is not necessarily to extend the current state of things on a business-as-usual basis, nor to anticipate the most probable future ahead. A baseline scenario may contain many of these aspects, but it is mostly the image of the future most commonly accepted by mainstream scientific studies and included into policy documents. In a way, it represents a balance between more extremist views, and, therefore, it provides for a useful reference for all. In order to build up the 2030 and 2050 Baselines, the starting activity will be to explore the trends ahead, as presented in thematic and territorial studies. The scenarios will be a structural description of the European territory, as it might function in 2030, and 2050, according to the basic choices to be made. Drawing on the former ESDP categories, the basic structural elements to be studied and discussed may comprise the:

- Urban settlement systems (hierarchy and networks);
- Semi-urban areas (various categories);
- More rural areas (various categories);
- Areas with a high heritage value (which may be part of the former categories);
- System of transport and communication corridors;
- As well as the areas protected for their natural values (Nature 2000).

The Baseline Scenarios for 2030 and 2050 will concentrate in particular on changes in the following areas:

- Regional median age and territorial concentration/growth (or dispersal/decline) of the population;
- Territorial concentration/growth (or dispersal/decline) of employment;
- Location and organisation of knowledge-based clusters;

- Organisation of settlement systems (functions, hierarchy and networks);
- Organisation of transport systems, in accessibility and flows;
- Territorial organisation of the tourist, culture and leisure economy.
- Functions of semi-rural and deeply rural areas.

The Baseline Scenarios will highlight territories which:

- Perform significantly better in future than in the present period;
- Are subject to specific problems (congestion, depopulation, insufficient accessibility, negative impacts of climate change etc.);
- Are characterised by insufficiently exploited assets (renewable energy, tourism, residential
 economy, city networks, heritage, cross-border and transnational territorial synergies –
 including at the external borders of the EU, non-European accessible markets, bridging
 functions of outermost regions with other continents etc.).

The Baseline scenarios have to integrate a number of long-term heavy trends, which recent changes and dynamics cannot significantly affect. These are, among others:

- Population ageing in most European countries and probable decline in a growing number of regions;
- Growing number of small-size households:
- Growing number of households with persons with different nationality
- Growing globalisation of the economy at world scale, especially under the influence of emerging countries;
- Growing world demand for energy, raw materials and food products and resulting price increase:
- Progressing socio-economic and territorial integration within Europe;
- Growing importance and generalisation of ICT in society and economy;
- Continuation of the move of the European economy from manufacturing activities to more intangible service and knowledge-based activities;
- Progressing climate change;
- Further development of renewable energy sources.

In contrast with these heavy trends, volatility and uncertainty are relatively high in a number of other fields. Hypotheses and choices have to be made to structure the long-term scenarios with regard to the:

- Long-term impacts of the economic/financial crisis of 2008/2009 and the related currency instability;
- Flows of FDIs towards central and eastern Europe;
- Level of international migrations from outside Europe, with particular regard to present changes in countries of the southern Mediterranean region and the Middle East;
- Possible emergence of oil depletion and the related level of oil price in future.
- Possible departure from nuclear energy production and accelerated promotion of renewable energy sources
- Technological innovation.

With regard to public policies, the baseline scenarios stick to the principles of the Europe 2020 Strategy and of the revised Territorial Agenda, not only for the coming decade, but also farther ahead in time.

Smart growth (fostering knowledge, innovation, education and digital society), sustainable growth (making production more resource-efficient while boosting competitiveness) and inclusive growth (raising participation in the labour market, acquisition of skills and fight against poverty) remain until 2050 the leitmotifs of EU policies.

The implementation of public policies is however handicapped by budgetary restrictions imposed by the convergence criteria and the management of sovereign debts. The development of Transeuropean Transport Networks, for instance, does not seem likely to progress at the speed envisaged before the economic crisis. Uncertainty prevails, however, in a number of policy fields, a fact which will make choices necessary in the starting phase of the baseline scenarios.

The 2030 and 2050 Baseline Scenarios should strive to generate consensus. They will largely result from the exhaustive analysis of existing foresight information sources and scenarios produced at different geographical scales and for various sectors, including a number of baseline scenarios elaborated in the context of ESPON. They will update scenarios developed years ago by confronting them with the current perspectives, while introducing new aspects, particularly in relation to territorial issues. Story lines from 2010 to 2030 and 2050 will be developed to illustrate the causes and consequences of the evolutions.

The baseline scenarios for 2030 and 2050 will be supported by a strong quantitative approach. An intensive modelling exercise using complementary state-of-the-art models will support the elaboration of the scenarios. Forecast and foresight models will be used, which will exploit information from all available sources.

Third Step: Building the 2050 Territorial Scenarios

Territorial Scenarios are considered prospective, in the sense that they are consistent futures, theoretically possible, even if not desired, or just desired by specific groups. As any image of a long-term future, they are embedded into prejudices and stereotypes that first need to be made explicit. They are expected to explore the space of possible futures, and in this respect can be considered as extreme possibilities.

The three alternative scenarios indicated in the project specifications will be taken as starting point for discussions. Their main commonality is the focus on territorial elements as central hypotheses, instead of general, socio-economic driving forces. For these scenarios to be consistent and internally coherent, a series of questions will be studied in order to define the scenarios assumptions to be discussed with the ESPON MC and CU. Next, some of these questions are introduced:

A Exploratory 2050 Scenario "Europe of Cities"

The scenario is presented as resulting from the active concentration of population, economic activities and public investments in cities, considered as engines of European development. In addition to economic development, it promotes the intensified use of urban space, strong preservation of open space and the reduction of long-distance traffic.

The following guestions, among others, will be studied and discussed:

- Is it admitted that by 2050, in the context of a mature globalised world, the European economy will rely almost exclusively on urban-based services and knowledge-based activities, including in the countries of central and eastern Europe and in peripheral regions?
- Is it admitted that by 2050 the wealth of cities is well spread throughout Europe or, on the contrary, that the pentagon's cities and those in adjacent areas may have progressed more rapidly?
- Is it admitted that by 2050 non-urban areas will play a marginal role, except for functions which are directly determined by cities (recreation, leisure, housing, production of renewable energy etc.) and that agriculture is not subsidised anymore?
- Which types of cities are supposed to be most supported by public policies: mainly the large metropolitan areas or a more balanced urban system with a polycentric dimension?
- In how far is the objective of reducing long-distance traffic compatible with the increasing networking activities of cities, which ensure their prosperity?
- Is the objective of social integration in cities a significant part of public policies in the scenario?
- Is the case of cities with a declining population and economy compatible with the scenario hypotheses?
- Does the prosperity of cities make a significant influx of immigration from outside Europe necessary?
- Is the objective of increasing territorial integration at Europe-wide scale important in the
- Does the scenario suppose closer ties and exchanges with the countries of the European neighbourhood or not?
- Does the scenario suppose significant changes in the field of territorial governance at the scale of metropolitan regions and urban agglomerations?

"Europe of the Cities" opens various possibilities as to the types of cities likely to concentrate most growth and development opportunities (only the large metropolitan areas or more polycentric systems of cities). A more extreme (but not unrealistic) possibility could be an even stronger concentration of advanced functions in the megalopolitan regions of North-West Europe, which would become a kind of de facto capital region and Europe's main development engine.

B Exploratory 2050 Scenario "Europe of flows"

The scenario is presented as resulting from the active concentration of population, economic activities and public investments in the main Eurocorridors, enhancing connections, long-distance networks and global integration.

The following issues, among others, will be studied and discussed:

- How far is the scenario compatible with trends of growing energy prices, and, possibly, energy scarcity? Is it admitted that by 2050 new transport technologies will be sufficiently mature to make transport costs independent from oil price, and the use of fossil transport fuel irrelevant?
- Are transport corridors supposed to have by 2050 the same strategic importance as nowadays in the context of a strongly progressing intangible economy?
- Is it admitted that areas with a lower accessibility, outside main corridors, will play a marginal role and that the rural economy is not a politically significant priority in the scenario?
- Is the scenario meant to be conducive to stronger city networks?
- Is strengthened economic integration of European peripheral regions with more developed ones a major objective of the scenario?
- Does the strengthening of ties with countries of the European neighbourhood play an important part in the scenario?
- Is the territorial integration along European corridors supposed to benefit to urban nodes of various sizes, forming linear polycentric urban systems?
- Is the case of regions with strongly declining population compatible with the scenario hypotheses?
- Does the scenario suppose significant changes in the field of territorial governance at the scale of major corridors?

C Exploratory 2050 Scenario "Europe of the Regions"

The scenario is presented as mainly driven by regional endogenous factors, benefiting both to urban and rural regions. Public policies support the diversity of regional potentials. Political focus lies on issues such as regional self-reliance, small-scale development and landscape protection.

The following issues, among others, will be studied and discussed:

- Does the general context considered by the scenario in 2050 look like a mature globalised world or, instead, like a self-reliant Europe facing a problematic global environment prone to periodic severe crises?
- If regions with strong regional potentials are promoted in the scenario, is it admitted that regional disparities may increase in the European context?
- Considering that regional potentials are in a number of cases directly linked to the privileged
 position of specific urban nodes in large-scale networks (concentration of business
 headquarters, of significant research centres, gateway cities), in how far is this compatible
 with regional self-reliance and small-scale development?
- Considering that the economic profitability of some regional potentials largely depends upon external framework conditions, shall the scenario be based on the assumption that energy prices and the world demand for food products are sufficiently high by 2050 to make the production of renewable energy and agricultural products in rural regions profitable without significant subsidies?
- Is the tourist industry considered to be a major driver by 2050 in the scenario? If so, to what extent is this compatible with small-scale developments?
- Is the residential economy likely to become, by 2050, a significant driver of development in attractive, more rural regions of central and eastern Europe?

- Is significant immigration from outside Europe considered necessary by the scenario, especially for the development of regional potentials in areas subject to declining population and labour force shortage?
- Does the scenario suppose that regions seriously affected by climate change will benefit from substantial public resources to mitigate/prevent the related impacts or to re-structure their economy?
- Does the scenario suppose significant changes in the field of territorial governance at the regional and micro-regional scales?

The answers to these questions may lead to the redefinition of the scenarios. Some alternatives and variations to these scenarios may be envisaged. For example, none of the three outline scenarios highlights enough the concept of "cooperative network of cities". A possible scenario could evolve around the emergence of several powerful networks throughout the European continent, as privileged areas catalysing development and territorial integration. The scenario would also emphasize the importance of corridors linking up the various cities of each network and also these networks themselves. Large metropolitan areas in neighbouring regions of the present EU (for instance St Petersburg or Istanbul) should then be considered in such networks.

Fourth Step: Developing a 2050 Territorial Vision

The territorial vision to be elaborated will be a structural picture of the European territory, as it should function by 2050, according to the basic choices to be made by the MC and CU in the light of the outcome of the three roll-forward scenarios. The commonly accepted long-term vision of Europe is based on a model of smart, sustainable and socially inclusive development. Drawing on the ESDP categories, the basic structural elements of the Vision may comprise the:

- Urban settlement systems (hierarchy, form and networks);
- Semi-urban areas (various categories);
- More rural areas (various categories);
- Areas with a high heritage value (which may be part of the former categories);
- The system of transport and communication corridors

The territorial vision will analyse in particular the functional interactions between these structural elements in different parts of the European territory, which can vary substantially. For instance, a small town plays a stronger functional role in sparsely populated areas than in metropolitan ones. The territorial vision will highlight the territorial and functional changes compared with the present situation and especially the:

- Urban nodes of the settlement system (metropolitan areas or others) which will fulfil new functions in terms of interactions with other urban nodes (centres or parts of networks);
- New technology clusters and networks (which may be a specific category of urban nodes);
- Functional impacts for areas exposed to specific challenges related to climate change;
- Functional impacts for areas exposed to substantial population change;
- Functional impacts for areas going through significant economic adjustment strategies to cope with accelerating globalisation;
- Corridors or areas with strong progress of territorial integration, including those linking Europe to neighbouring areas in the east, the south and the north;
- Rural areas subject to functional intensification in relation to energy production, food production or "green consumerism";
- Areas subject to a significant enhancement of specific endogenous potentials (various forms of tourism, cultural and leisure activities, organic farming, exploitation of raw materials and natural resources etc.)

The Territorial Agenda 2020 will not provide national and regional governments with guidelines and policy recommendations for the very long-term (2050). New contributions are therefore needed to provide guidelines to forward-looking territorial development policies. This will entail in particular updating and refining the ESPON 3.2 project material.

Fifth Step: Elaborating 2030 Midterm Targets and Pathways

The issue of targets in European territorial development is relatively new. The Europe 2020 Strategy defined for 2020 specific targets for employment, innovation, climate change and energy, education and poverty. European, international and national policy-documents (e.g. international agreements, European Communications and White Papers...) have also defined policy targets for 2030 and beyond. Concerning 2050, policy targets are mostly related to the decarbonisation of the economy, leading to a paradigm shift in the area of energy and transport technologies, and inducing behavioural changes impacting on territorial patterns. More targets are however necessary and relevant to ensure a harmonious and sustainable territorial development, for instance as thresholds related to population (density, change, immigration), economy, accessibility, services of general interest etc. For the territorial cohesion objective of the new Treaty not to remain wishful thinking, a consistent implementation strategy is needed, going far beyond the first steps already taken, which will also require new targets.

In this step, but also in the previous ones, the robustness of the scenarios and the Vision, as well as the pathways, will be tested with "Wild cards" such as unexpected events, which may suddenly counteract heavy trends or inertias and generate strong structural and territorial impacts. Testing the robustness of scenarios against wild cards means assessing their sensitivity to such unexpected evolutions. Wild cards will be used, first, to determine which of the scenarios to be designed are most sensitive to specific wild cards and, second, to gauge more precisely the range of validity of the respective scenarios.

In the current fast changing context and environment, the significance of wild cards is far from negligible. Not every wild card however is relevant for scenarios on territorial development at the European scale. Some wild cards are more important than others for the scenario approach, essentially conceived as a tool for European cooperation. Those included in the following non-exhaustive list will be studied and discussed when assessing the scenarios:

- Sudden influx of massive immigration into Europe related to the emancipation of oppressed populations (North Africa, Middle East etc.) or caused by natural hazards in other world regions;
- Sudden and abrupt increase of energy price as a consequence of oil peaking or of large-scale political troubles in oil and gas producing countries (impacts on mobility and economic development; search for self-reliance solutions etc.);
- Strong decrease of foreign investments into Europe, especially into the countries of central and eastern Europe, to the benefit of the BRIC and of less developed countries in the European neighbourhood;
- Collapse of the American currency caused by the extremely high level of sovereign debt in the USA (impacts on the world and European economy, impacts on European exporting regions);
- Intense food scarcity at world scale as a consequence of climate change (increased pressure on European rural area; immigration);
- Crisis of European governance as a consequence of economic and political crises within and outside Europe (re-nationalisation of various European policies; stop in European integration processes).

Participatory Approach

Participatory approach are adapted to the needs and capacities of the different stakeholder groups and is planned in their timing and formats

Participatory activities aim to facilitate, first, the free expression of many diverse or even conflicting ideas and, second, to guide a convergence process, geared towards the consensus vision to be developed.

ET2050 project partners responsible for conducting participatory activities have a long experience of similar processes at the European, national and regional/local levels, and do not underestimate its difficulty. Therefore, the ET2050 project team will devote the necessary resources to the participatory process and will assist the ESPON CU in organising and conducting them.

Therefore, the design of the participatory process we propose is based on the three following concepts:

- The process will be customised to stakeholders. Various stakeholder groups will be encouraged to contribute, but not every group will necessarily participate in all activities. Targeted activities and formats for interaction will be developed; well structured workshops, virtual interaction and on-line surveys, as well as personal in-depth interviews, all coordinated with the ESPON Coordination Unit. From the outset, all the participants will be clearly informed about the purpose of the exercise and the activities planned over the three-year period. To this end, a Participatory plan will be defined.
- The process will be catalysed by experts, who will initiate and provide guidance to the interaction of opinions. During the process, the broad expertise available within the consortium will provide an excellent basis to guide the visioning process. First, they will provide assumptions and hypothesis to be discussed and make sure that room is made for all opinions to be expressed. Second, they will promote convergence around key issues, essentially by providing insights based on sound scientific research from state-of-the-art forecast models and Territorial Impact Assessment methods.
- The process will be iterative as we are clearly dealing with many plausible and legitimate forms of territorial visions. It is highly improbable (and even non-desirable) that a degree of consensus will be achieved at early stages of the process, since it often leads to business-as-usual, or just "politically correct" recommendations. At the same time, convergence in areas where empiric evidence and facts are available should be facilitated since the beginning.

Supporting the participatory approach with an appropriate communication strategy will be instrumental to the process. A wide array of innovative visualisation tools will be exploited, from cartography to small movies illustrating the scenarios and the Vision.

To avoid any duplication of efforts, and increase the synergies, full advantage will be taken of opportunities for interaction already provided by the ESPON CU, including regular ESPON events (Open Seminars, Internal Seminars and Workshops), as well as the ESPON website (Partner's café, Linkedin...) and newsletters. Therefore, the Participatory plan presented later in this proposal has to be considered as a starting point for discussion with the ESPON CU, and will be adjusted to the CU requirements during the first weeks of the project and submitted in the Inception Report.

The ET2050 website (linked to www.espon.eu as appropriate) will be permanently updated to inform the ESPON CU in advance concerning actions related to the participatory and dissemination activities.

Scientific Approach

The scientific approach is based on the following principles:

- Political evaluation of scenarios and the Vision through Territorial Impact Assessment
- Scientific assessment of consistency of scenarios with forecast modelling tools
- Specific geographic features at different scales: applying the 5-level approach
- Analysing the possible futures of rest of the World

Political evaluation of the scenarios and of the Vision through the Territorial Impact Assessment

The political assessment of scenarios will be made by confronting them with the fundamental political objectives to be achieved (based, among others on the principles of smart growth, sustainable and inclusive development) by applying the Territorial Impact Assessment evaluation framework (TIA). This method, both quantitative and qualitative, enables to assess in an objective manner the consistency of policies envisaged to reach the desired image of the territory, with the most likely outcome. In this way, all scenarios will be evaluated against pre-defined policy-aims, to be agreed upon by consensus in the ESPON MC. The territorial impact evaluation of baseline and exploratory scenarios will give useful insights to define the desired territorial scenario, or European Territorial Vision for 2050, as well as to defined specific regional pathways, since the impact evaluation is regionalised.

The different driving forces hypothesized or emphasized in the different scenarios may generate differential effects on different classes of regions; these possible effects will be addressed with appropriate suggestions for policy response, included in the "desirable" final Vision.

The full assessment process is divided into five main phases, most of them carried out in close consultation with policy-makers and policy-analysts:

- Definition of the impact fields or criteria associated to policy aims: impacts on society, economy, environment, and, more in depth, on competitiveness, employment, migrations, accessibility, emissions, landscape, urban and settlement structure, local identities (a)
- Definition of the indicators by which these impacts will be measured (b)
- Weight, or political relevance of the single impact fields or criteria (c)
- Quali-quantitative measurement of these impacts on EU regions (d)
- Calculation of "summative" impacts or effects on regions in terms of territorial cohesion, through a weighting system appropriately defined (e)

The definition of impact fields and policy criteria (a) and the relative weights reflecting their political relevance and priority (c) will result from a consultation process with ESPON MC members, on the basis of the project experts' proposal (this is a crucial step in the consensus-building process. Formal methodologies to facilitate consensus may be applied, see Chapter III, point III.7). The definition of indicators (b) and the measurement of territorial effects of each scenario (d) will be carried out by the modelling teams on the basis of a close synergy and integration. Quantitative forecast models will provide a first set of regional impacts indicators to the TIA model on the basis of the single specific scenario assumptions; in the fields that are not covered by quantitative modelling, a second impact set will be provided by the TIA experts through the elaboration of impact indicators for the EU regions, on the basis of thorough internal discussions among all the ET2050 partners and discussed with stakeholders. The calculation of "summative" impacts (e) will be carried out by the TIA experts on the basis of a prior agreement on the aggregation and compensation possibility of single impact indicators with the ESPON CU, MC and DG REGIO.

Interaction with the ESPON MC will mainly consist of policy workshops. The results of the TIA exercise will be politically sensitive and stimulating for comparing the scenarios and devising appropriate policy responses. The application of this methodology is expected to facilitate consensus-building on policies and visions.

The TIA methodology has been developed and applied in multiple ESPON projects.

Scientific assessment of the consistency of scenarios by applying forecast modelling tools

The discussions with policy-makers and experts of the scenarios and the Vision, as well as the political evaluation carried out in the TIA, need to be supported by a scientifically solid and comprehensive foresight investigation. The scientific and political consistency of scenarios will be secured by applying sound modelling tools, legitimated by their application in many previous policy-oriented studies at the European level, especially for short and medium-term horizons, up to 2030, as well as to define realistic midterm political targets and feasible pathways.

Forecast models from key sectors already developed and applied in European-wide studies, particularly ESPON projects, will be used while striving to favour their effective interlinking. The core of advanced forecast models will include a set of complementary and well-tested models (demography, economy, spatial development, transport, and land-use) already used in the ESPON context and in other specific policy assessment exercises at the European level. These modelling tools will be adapted and enhanced to meet the project needs. The following models will be applied: MULTIPOL, for demography and migration, MASST, for regional economy, TRANSTOOLS/IC, for transport, METRONAMICA, for land-use change, and SASI, an integrated spatial development model. All have been applied in many strategic studies at the national and European levels.

Since forecast models are pushed to their limits of knowledge when exploring scenarios very distant or very different from the present situation for which they were calibrated, foresight scenario-building models will also be applied for extreme 2030 and 2050 scenarios and for the European Vision 2050 (TV+ adapted from the TRANSVISIONS study by DGMOVE, and PASH+ adapted from the PASHMINA 7th European Framework Programme). Foresight tools are softer, can be programmed easily (e.g. on spread sheet or dynamic-system's commercial applications), and usually integrate pre-existing forecasts into heuristic formulations; these kind of tools are more suitable to carry on the backcast exercises required to define midterm targets and pathways. For these reasons, a combination of advanced forecast tools applied to key sectors and foresight scenario-building tools will be used. Midterm targets will be validated by forecast models and the pathway will be defined and validated through the foresight tool.

An important aspect of the quantitative modelling work will be to study the sensitivity of the scenarios to the small variations of key variables, and their robustness. The wide range of modelling tools considered will allow to investigate in the best possible way a large number of major changes.

Shedding light on specific geographic features at different scales: applying the 5-level approach

In many future-oriented studies, the territory is considered as passive; it may constrain or facilitate future development opportunities that may result in territorial impacts at the end, but often the interaction overtime between the human activities and the territory is not really investigated, assuming that territorial patterns are resilient to change and evolve slowly. Such an assumption may be acceptable at large geographical scales in the short-term (e.g. the European Territory from now to 2020). When dealing with more detailed geographic scales or longer time horizons however, territorial interactions have to be explicitly considered. It is precisely the investigation of these interactions overtime which represents the paramount scientific challenge of the scenarios to be defined.

Stakeholders and regional and even local level have to be necessarily involved in the participatory process, as well as experts. To integrate in the study and discussions the diversity and complexity of the European territory, the ET2050 team includes eight institutions covering eight macro-regions in which can be divided the ESPON space and neighbouring countries, with some overlapping zones, for the purpose of this project. These institutions have experience on future-oriented and territorial studies and will be involved in the definition of future scenarios, and the Vision. Therefore, a bottom-up combined with a top-down approach will be used to define the baseline scenarios and, later on, the exploratory scenarios at European level, across the 5-level territorial scale. Instead of "territorialising" European abstract scenarios, or "validating" them at regional and macro-regional scales, the territorial dimension of scenarios will be considered from the beginning, and interaction between partners working at various territorial scales when developing the scenarios will be promoted. On the other hand, in a given scenario or Vision for the whole of Europe, the trajectories of various cities, regions or countries may be very different. ET2050 will pay significant attention to territorial diversity, which are in the core of the project. (the identification of transnational study areas and the partners responsible is included in Chapter II, Sutask 2.3.1). Therefore, regional and national spatial planning and foresight studies will be carefully reviewed.

Analysing the possible futures of rest of the World

The major bifurcations ahead are at World level and Europe can impact on them to a very limited extent. Examples of such major bifurcations include global migratory flows (e.g. from Africa, Latin America, Asia), climate change (e.g. most emissions are expected from USA, China...), geopolitics (the path toward democracy or authoritarianism in a large number of countries, or the path toward peace or conflicts in neighbouring countries like the Arab countries and the Middle East), technological innovations (major breakthrough innovations – biotechnologies, nanotechnologies... – are adopted at world level and can change the way of life of everybody, regardless of where they are developed. Each of these factors is expected to impact on the European territory. Because of their dependence upon the development of these factors, some cities and regions will be in a better or worse position than others. While maintaining the primacy of an intra-European territorial approach, the project will thus also analyse the possible evolutions at world scale and take them into account where appropriate and necessary.

ET2050 Activities

Work Programme

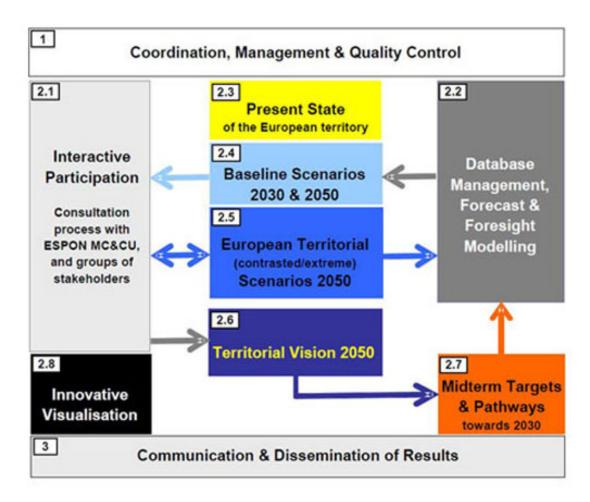
The ET2050 Work Programme is divided in three main groups of tasks or work packages (WP):

- Coordination, Management and Quality Control (WP1)
- Research Activities (WP2)
- Communication and Dissemination of Results (WP3)

Research Activities (WP2) includes eight main research tasks:

- 5 content-based tasks (Tasks 2.3 to 2.7) matching the five steps (and related deliverables) detailed in the project specifications (Present State, Baseline Scenarios 2030 & 2050, European Territorial Scenarios for 2050, Territorial Vision 2050, Midterm Targets and Pathways towards 2030).
- 3 support-oriented tasks: Resources for interactive participation (Task 2.1), Database management, forecast and foresight modelling resources (Task 2.2), and Innovative visualisation (Task 2.8).

The content-based tasks will be performed sequentially; and WP1, WP3 and the three support-oriented tasks simultaneously all over the three-year research period. The whole project will be carried out in close consultation with the ESPON MC and CU.



Day	Month	Year	Event
23	June	2011	1st reporting period begins
	Sep.	2011	Kick-off meeting in Luxembourg
	Sep.	2011	1 Steering Committee in Luxembourg
	Oct.	2011	1 TPG meeting in Barcelona ESPON Internal Seminar Krakow (Poland), Expert's workshop:
29-3	0 Nov.	2011	Discussion/survey on the adjusted territorial scenarios
,	Dec.	2011	ESPON Internal Seminar Krakow (Poland), MC Policy-oriented
1			workshop: Discussion of Participatory plan (and existing policy references or alternatives for the "kind" of Vision to be developed?)
31	Dec.	2011	INCEPCION REPORT
-	Dec.	2011	Small groups and interviews
1	Jan	2012	2 nd reporting period begins
-	Feb.	2012	Small groups and interviews ESPON MC Internal Meeting
	March	2012	ESPON CU Thematic workshop
	March	2011	2 Steering Committee in Brussels
	March	2012	2 TPG meeting in Brussels with Sounding Board
	April	2012	Small groups and interviews
30	April May	2012	I" Activity Report submission to CU Small groups and interviews
31	May	2012	INTERIM REPORT 1
	June	2012	ESPON Open Seminar (Denmark), Expert's workshop: Trends hypothesis for baseline and extreme territorial scenarios. Transnational specificities. World futures and Common Reference Framework.
-	June	2012	ESPON Open Seminar (Denmark), MC Policy-oriented workshop: Discussion on the nature of the Vision to be developed. Presentation of the Participatory activities being carried out, as well as trends
1	July	2012	hypothesis for baseline and extreme territorial scenarios. 3 rd reporting period begins
-	July	2012	Small groups and interviews
	Aug.	2012	Small groups and interviews
	Sep.	2012	ESPON MC Internal Meeting
	Oct.	2012	ESPON CU Thematic workshop
	Oct.	2012	3 Steering Committee Meeting 3 TPG Meeting
	Oct.	2012	Small groups and interviews
31	Oct	2012	2 nd Activity Report submission to CU
•	Dec.	2012	ESPON Internal Seminar, Expert's workshop
•	Dec.	2012	ESPON Internal Seminar, MC Policy-oriented workshop
1	Dec. Jan	2012	Small groups and interviews 4th reporting period begins
	Feb.	2013	Small groups and interviews
	Feb.	2013	ESPON MC Internal Meeting
	March	2013	ESPON CU Thematic workshop
	March	2013	4 Steering Committee Meeting
30 30	April	2013	INTERIM REPORT 2 3 rd Activity Report submission to CU
	April May	2013	Small groups and interviews
	June	2013	ESPON Open Seminar, Expert's workshop
-	June	2013	ESPON Open Seminar, MC Policy-oriented workshop
1	July	2013	5th reporting period begins
	July	2013	Small groups and interviews
•	Aug. Sep.	2013	Small groups and interviews ESPON MC Internal Meeting
	Oct.	2013	ESPON CU Thematic workshop
	Oct.	2013	5 Steering Committee Meeting
	Oct.		To appropriate a second control of the secon
		2013	4 TPG Meeting
- 21	Oct.	2013	Small groups and interviews
31	Oct. Oct	2013 2013	Small groups and interviews 4th Activity Report submission to CU
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Note that the five March and October Thematic Workshops (shown in yellow) may offer the opportunity for METREX participation (see page 19 and 26)

T2.1 Resources and Activities for Interactive Participation

Coordinator IGEAT
Other partners involved MCRIT, TERSYN, RKK, POLIMI, S&W, ERSILIA
Duration 36 months; from 1 to 36

Aim

Developing the resources and activities needed to facilitate the participatory process that will be carried out in close consultation with the ESPON Coordination Unit. Participatory activities will be targeted according to different subjects and stakeholders, and will have different communication formats, ranging from in-depth personal interviews, phone interviews, on-line interaction through email lists and on-line surveys, to brainstorming sessions, structured policy-oriented workshops and expert focus groups

Subtasks

Participatory plan (subtask 2.1.1)

The Participatory plan, to be submitted in the Inception Report, will include an indicative scheduling of activities, as well as the format of each one. It will be discussed and designed together with the ESPON CU. It will detail:

- The type of participatory process, in relation to the role to be played by the different stakeholders in each of the five steps in the development and validation of the scenarios and Vision.
- Which actors will participate, and how to establish a communication flow with them through the process.
- Which type of activities will be organised, from political and scientific workshops to personal
 interviews and on-line interaction, as well as the precise format and the tentative schedule
- Which communication and dissemination resources and activities are needed to be carried out to generate interest and attention on the project during the process of participation (for the stakeholders) and to increase the awareness of wider audiences once the project is over (see Chapter IV for further detail).

Next, a first draft suggestion of the type and number of activities, as starting point for discussions with ESPON CU, is included

Policy-oriented workshops (targeted to ESPON MC)

Policy-oriented workshops aim at fully reviewing and discussing the 2030 and 2050 scenarios and collectively developing the 2050 European Vision will be organised with the ESPON MC and DGREGIO. They will be dedicated to discussions on the Baseline Scenarios (months 9 and 15), the Territorial Extreme Scenarios (months 9 and 15), to consensus building on the Territorial Vision (months 15 and 21) and its consolidation (months 27 and 33). These workshops should then be organised during ESPON Seminars (not during MC meeting days, as the agenda is already quite full). Policy workshops can also be organised during other MC meetings and /or meetings of the Network of Territorial Cohesion Contact Points (NTCCP).

Scientific or experts workshops and thematic workshops will help in the development process of outputs to be discussed and validated, if it is the case, in the Political workshops.

Scientific workshops (targeted to experts, specially involved in ESPON projects)

During ESPON seminars (twice a year), specific participatory activities will be planned to exploit the great diversity of expertise and geographic backgrounds of the experts attending the ESPON Seminars. General presentations and focus groups will be organised. Focus groups could be set up on a geographic or thematic basis. The topics and organisation may vary depending on the type of ESPON seminar concerned (open seminars in June and internal seminars in December)

Thematic workshops (targeted to other policy-makers and/or private institutions)

Participatory activities may take place in the framework of ESPON one-day workshops, usually organised in Oct/Nov and Feb/March. These workshops can be more policy or scientifically oriented depending on project needs. They will be open to ESPON MC and DG REGIO and to other European institutions. Stakeholders from local and regional bodies may be invited to discuss the main features of the territorialisation of the scenarios in a Europe-wide set of transnational territories. An initial thematic workshop (month 5) is planned for the discussion on the Present State (this workshop may be open to policy-analysts and policy-makers from different European institutions, or restricted to members of the ESPON MC), then the thematic workshops will serve to discuss the basic assumptions of the scenarios and the Vision to be developed. It is expected that ESPON MC members may also participate, as experts, in these workshops.

Small group consultations (targeted to other policy-makers, mostly in European institutions)

Small group consultation with European Institutions members, policy-makers and policy-analysts of different DG and different sectors having as a main goal the exchange of information and the discussion of specific issues, but also, after decision from MC and DG REGIO, in search of a large consensus on the long term vision.

Personal interviews (targeted to policy-makers and/or private institutions)

Conversations with key experts and/or members of the private sector and members of European Institutions, with experts and policy makers from each transnational area identified, by phone, or on line.

Permanent on line activities

Permanent interaction through the interactivity facilities provided by the ESPON CU website (or similar ones, to be implemented)

The Participatory plan will be a roadmap covering the three years that will define the purpose, format, and participants of each activity.

Participatory resources (subtask 2.1.2)

Resources for participation will be developed in this subtask, all in close cooperation with ESPON CU:

- A directory of stakeholders, for the four target groups. The directory will remain open to be expanded along the process.
- The website, to enable participants to contribute to the project by sending comments, providing reference materials or any other suggestion they may wish. For this purpose, the website will be partitioned in four spaces: one public, a second space restricted to all participants in the process, a third space for the ESPON MC and DG REGIO and a fourth space for project partners and the ESPON CU. It will be designed following the ESPON CU graphic criteria, making possible an immediate migration to the ESPON CU website, should the CU so wish. To avoid any confusion concerning the purpose and role of the website and any duplication of facilities already made available by the ESPON CU the ET2050 website design and development will be discussed with the ESPON CU during the first 12 weeks of the project and included in the Inception Report.
- The methods for interaction. Structured questionnaires, and formalised group-dynamic techniques will be used to guide the participatory process, in a number of physical and on-line activities. The restricted access website will report on all the activities, allowing participants to review the report and introduce or comment modifications. Both the DELPHI method and Analytic Hierarchy Process (AHP) will be applied to facilitate formalised and objective methods to facilitate consensus.
- Reports on activities will include graphic and multimedia material. Conclusions will be open to further electronic debate on the website. Participatory activities will be coordinated with Task 2.8 (Visualisation) to design and produce attractive and explanatory multimedia and other resources for interactivity.

Participatory activities (subtask 2.1.3)

This Subtask will be responsible for carrying out the Participatory plan presented in the Inception Report. Participatory activities will be the critical milestones along the process, and therefore the schedule of internal TPG meetings, contacts with ESPON CU, participation on ESPON related activities and communication and dissemination activities are planned consistently.

Taking account of the tentative ESPON schedule for future activities, a preliminary draft plan for participatory activities has been included in Chapter III devoted to dissemination activities.

T2.2 Data Gathering, Forecast and Foresight Modelling Resources

Coordinator MCRIT
Other partners involved POLIMI, IOM, S&W, RIKS
Duration 36 months; from 1 to 36

Aim

Updating and harmonise databases, improve the design and/or geographic coverage of the models according to the needs of the exercise, to establish linkages between the various models to be used, and to specify the kind of policy-relevant indicators most likely to be needed for the Territorial Impact Assessment while clarifying the models' ability to provide them. A first common database with key indicators on past trends and the current state of Europe will also be assembled, drawing on the results of this task.

Subtasks

Database update and harmonisation (subtask 2.2.1)

Forecast models included in the proposal already have large databases at NUTS2 or NUTS3 level for the different sectors covering the EU27 or the ESPON space, depending on the model. The efforts invested in database updating and harmonisation will concentrate on expanding geographically the available databases in order to cover the entire ESPON space and, if needed, extra neighbouring countries and on updating databases by gathering retrospective information for key indicators at global and European aggregated scales (from 1950 to 2000).

To complement already available databases in relation to the needs of the project, the following key information will be investigated: for the demographic model, data concerning the origin of migrants coming from outside EU27; for the economic model, data on the interactions between European and world economies; for the transport model, data concerning short-distance trips, and extension to the entire ESPON space and neighbouring countries; for the land-use model, the extension of the coverage to the entire ESPON space; and for the integrated spatial development model, the influence of neighbouring countries. In each case, the availability of reliable data and the feasibility to enrich the model with them will be investigated during the first weeks of the project and conclusions will be drawn concerning the needs and opportunities to improve existing databases included in the Inception report (see next section, Subtask 2.2.2).

Data about the past evolutions of Europe, mainly from 1950 up to 2000, will cover key indicators, those used to define quantitative targets for European policies. Data will be structured according to ESPON CU standards to be included as soon as possible in the ESPON database, after full validation. It is expected to use NUTS2 level as the geographic reference for most indicators and scenarios, but information will also relate to transport networks and land-use cells. In the case of countries for which NUTS 2 matches the national level, data at sub-national level will be looked for.

Adapting forecast modelling resources (subtask 2.2.2)

Models proposed to be applied in ET2050 are the included in the next table:

Domain Forecast Models Coverage Partner responsible

Demography

MULTIPOL Cohort-component, hierarchical, multiregional, supranational model of population dynamics ESPON at NUTS2 IOM

Regional Economy

MASST Econometric: macroeconomic, sectoral, social and territorial. ESPON at NUTS2 POLIMI

Transport

TRANSTOOLS/IC+ Integrated modal split and traffic assignment based on TRANSTOOLS OD trip matrices.
EU27 at NUTS2
MCRIT

Land-use

METRONAMICA Spatial and dynamic land use model that uses constrained cellular automata to allocate land uses
EU27 at Cells 1 km2
RIKS

Integrated

SASI Dynamic System linked to transport networks ESPON and Western Balkans at NUTS3

In contrast with the four specialised forecast models, the SASI model is an integrated Dynamic System which includes demography, economy, transport and spatial development potential impacts. It will assist in establishing links between the other models, and favour their mutual consistency. Forecast models will be first documented according to the SPQR protocol to clarify the data (or samples), the formulation (or postulates), the legitimate questions they can answer, and the results they produce. This information is needed to give full transparency to the models and facilitate their integration, in terms of data exchange. SPQR forms will be completed and included in the Inception Report.

Models will be adapted and extended to meet the project needs as far as possible, in three main respects: first, to include additional data to cover the entire ESPON space where necessary; second, to increase their capacity to interact with other models (in terms of exchanging outputs); third, to provide the indicators needed for the TIA. Each model will provide a first set of specific key indicators for the past and present state of Europe with a view to assembling a common reference database to be used in Task 2.3 (Present State).

Developing foresight modelling resources (subtask 2.2.3)

Since forecast models are based on equilibrium formulations and/or calibrated on actual data, they can hardly provide relevant predictions for "extreme" situations (e.g. negative economic change, continuous mobility reduction...). Therefore, foresight-modelling resources will be developed (as already explained in Chapter I, and further developed in Chapter III). Two foresight modelling tools are considered to complement the forecast models for extreme and very long-distant situations (2050):

TV+, developed in TRANSVISIONS study (DGMOVE, European Commission, 2009), that will be disaggregated at NUTSII level, and indicators expanded to cover those indicators needed for the TIA

analysis and not totally covered by ET2050 forecast models, mostly related to social and environmental aspects.

PASH+, developed in PASHMINA 7th EU Research Programme, that will not be modified, since it will be used just in relation to the rest of the world.

Territorial impact assessment methods (subtask 2.2.4)

The application of TIA to assess territorial impact of 2030 and 2050 scenarios will involve defining the criteria and weights to be considered in the evaluation of scenarios, and identifying the relevant indicators needed. There is no need to further improve the existing TIA software support, but , instead, to adapt it to import results from the forecast and foresight models. Criteria and respective weights will be determined through a participatory procedure involving all the TPG experts and the ESPON CU and MC. In terms of impact indicators, most of the necessary inputs to the TIA model will be provided by the estimation and simulation procedures of the quantitative models and tools utilised in the project. Where this will prove unfeasible, the partner responsible for TIA application will provide sets of complex indicators built with statistical elaborations on the basis of group work and discussion inside the TPG. This analysis will start once the first database with key indicators is developed in Subtasks 2.2.1, 2.2.2 and 2.2.3 In this Subtask, the work will focus on:

- Defining the relevant impact criteria (to be subsequently validated by the ESPON MC). This task
 will be carried out on the basis of the EU Impact Assessment Guidelines (2009) and will involve
 an aggregation process leading to a smaller number of impact criteria, the "exposure fields"
 defined in the ESPON ARTS project (about 40 fields to be restricted into 10-15 impact criteria);
- Identifying the most likely indicators needed for each criterion of the impact assessment:
 modellers will analyse the actual capacity (including possible improvements) of their models to
 produce these indicators, given the scope of the project. This preliminary definition of criteria
 and indicators will be based on the ESPON experience already available in the area of TIA
 applied to a relatively large number of European policies and directives, and will be validated
 through the participatory process.

In the first to be organised (month 9), still devoted to the discussion on the Present State and on the Baseline 2030 scenario, a discussion towards the definition of criteria and relative weights for evaluation will be carried out, and results maybe refined and discussed again during the second policy workshop (month 14), devoted to the Baseline Scenario 2050. This process will allow, once a consensus is reached between the MC and the TPG, to involve a wider arena of experts and policy makers through some light questionnaires to be distributed and collected during thematic and experts workshops. Main questions will concern: policy and political priorities (to be translated into criteria weights), sensitive areas to be covered through appropriate impact indicators, political acceptability of possible potential regional disparities in future trends concerning favourable and unfavourable impacts of trends and scenarios, policy options - local and/or generalized - to be devised as policy response to expected impacts.

T2.3 The Territorial State of Europe in 2010

Coordinator IGEAT

Other partners involved MCRIT, TERSYN, MTA-RKK, BEST-POLIMI, CEFMR, S&W, RIKS, NORDREGIO, UTH

Duration 15 months; from 1 to 15

Aim

Producing a synthesis of the State of the European territory, with particular regard to spatial patterns and related dynamics, for Europe as well as for the different transnational or macro-zones.

Subtasks

The European territory in 2010 (subtask 2.3.1)

The subtask will consider as starting point the results of ESPON projects, which already cover most relevant social, economic, environmental, political, and geographic issues at the European level, such as the systems of cities and the rural differentiation, the economic dimension of territorial development (sensitivity of regions to globalisation; spatial diffusion of innovation and knowledge; processes and factors behind the development of convergence regions), the various dimensions of accessibility and its impacts on economic development and the attractiveness of regions for new residents and visitors, as well as the vulnerability of regions to energy constraints, hazards, and the environment.

From an initial synthesis, a transversal, cross-thematic exploration of various macro-regions will be conducted to take full account of the territorial diversity of Europe (e.g. islands, inland and peripheral rural areas, mountains and coastal zones, medium-sized and large cities...). A number of transnational zones will be considered covering the ESPON space, and partners responsible of each one will synthesise the current territorial state and perspectives, and also identify existing long-term forecasts of relevance, scenario-based studies, territorial visions and regional and national spatial planning documents to be used as a reference for Subtask 2.3.2, and later on for drafting scenarios.

Transnational zone or macro-region Partner responsible

- South West countries (Spain, Portugal) with extensions to Maghreb countries (Morocco, Algeria, Tunisia) MCRIT
- Mediterranean countries (Italy, southern Balkans, with extensions to some Mashrek countries (Libya, Egypt) - POLIMI
- North-West Europe (Ireland, UK, France, Benelux)- TERSYN and IGEAT
- Germany and Alpine countries (with junction to the Danubian area) S&W
- Baltic Sea Region and Nordic and Northern Peripheries (with extensions to the Arctic and Barents area) - NORDREGIO
- Danubian countries (with extensions to Moldova, southern Ukraine and the northern part of the Black Sea Basin) - RKK
- South-East European region, (Greece, south-eastern Balkans with extensions to Turkey, the southern parts of the Black Sea Basin, the Trans-Caucasian Republics and the Middle East) -UTH
- Eastern European countries between the Danube basin and the Baltic Sea region (with extensions to north-west Russia, Bielorussia and northern Ukraine) SWE
- Outermost regions MCRIT

Trends of the European territory 2010-2050 (subtask 2.3.2)

Future sector-related trends as well as potential territorial impacts will be identified, at the European level, or even at the global level, as appropriate. For each sector, the analysis will be coordinated by one of the partners:

Sector

Partner responsible

- Demographic trends and potential territorial impacts in Europe- CEFMR
- Economic trends and potential territorial impacts in Europe POLIMI
- Technologic trends and potential territorial impacts in Europe MCRIT
- Transport trends and potential territorial impacts in Europe S&W
- Energy trends and potential territorial impacts in Europe TERSYN
- Land-use trends and potential territorial impacts in Europe RIKS
- Environmental trends and potential territorial impacts in Europe IGEAT
- Governance trends and potential territorial impacts in Europe IGEAT

For each sector, the following elements will be identified: The seeds (or "porteurs d'avenir"), changes which, even if marginal, may trigger transformations in the future; the predominant moments of inertia (or "heavy trends / tendances lourdes"); the limits, or carrying capacity thresholds constraining future evolutions, particularly those related to the territory, the wild cards, or unexpected, rather unlikely

events, which could dramatically impact on future evolutions. Key interdependencies and causalities between socioeconomic and territorial variables will be identified, and checked against the explanatory capacity of the models used in the project.

The analysis will be first carried out at the European level and the partners responsible for the different transnational macro-zones will provide insights into the respective potential territorial implications. The probability of reaching midterm targets for 2030 and 2050 approved by European institutions in official policy documents will be assessed, in relation to the trends for each sector and territory.

Understanding the future of Europe and the world (subtask 2.3.3)

On-going scenario-based studies and research carried out by European and international institutions world-wide in the field will be reviewed in order to identify and classify the different types of scenarios and visions proposed, as well as their territorial implications. The purpose is twofold: first, getting a world-related reference for the definition of territorial scenarios in Europe; second, providing all participants in ET2050 participatory activities with a sufficiently large set of scenarios and visions already developed, as a reference.

On the other hand, a literature review of the visions of most influential social, economic and political contemporary thinkers will be carried out, drawing on previous similar exercises already available, in order to better understand the present state of Europe in the world context, and the nature of the most influential visions towards 2030 and 2050. The aim is to highlight comprehensive explanations of observed events while deconstructing conventional visions. Commonality of views and contradictions between the most influential thinkers24, will be mapped and classified in groups of dominant lines of thought.

T2.4 Baseline Scenarios 2030 and 2050

Coordinator TERSYN
Other partners involved MCRIT, IGEAT, RKK, POLIMI, CEFMR, S&W, RIKS, UTH, ISIS
Duration 15 months; from 1 to 15

Aim

Developing the Baseline Scenarios for 2030 and 2050. The research work will involve four main components: definition of baseline assumptions and validation through the participatory process, elaboration of the scenarios, assessment of the scientific consistency and likelihood of the scenarios based on the modelling tools, and assessment of the consistency of the scenarios with territorial policy aims by applying the TIA. This process will be iterative.

Subtasks

Definition of baseline assumptions (subtask 2.4.1)

The main assumptions will be elaborated as follows:

- Synthesis document related to assumptions made in available baseline scenarios (ESPON Project 3.2.; SPAN-3 (SS-LR), DEMIFER, ReRisk, EDORA and FOCI as well as non-ESPON scenarios). The comparison will concentrate on the main hypotheses underlying the scenarios, on the number and nature of drivers considered and on the transferability of outcomes.
- Elaboration of qualitative assumptions for Baseline 2030 and Baseline 2050, and whenever feasible elaboration of quantitative assumptions as working hypothesis to be validated and refined by the application of the modelling tools.
- Validation of the consistency and realism of assumptions (on trends and policies alike) through
 quantitative indicators by the application of the forecast models, and presentation of key
 tendencies for five- or ten-year periods, for the whole ESPON space, and EU27, with reference
 to the neighbouring countries and the rest of the world. Assumptions will refer to both
 dominant tendencies and limits or thresholds, considered as invariants. Modification of the
 qualitative assumptions, if needed.
- Detailed analysis, at the level of each of the transnational study areas, of assumptions adopted under consideration of the dynamics of particular sectors or territories. Preparation of

material for the presentation and discussion of assumptions on policy-oriented and scientific workshop foreseen in relation to baseline scenarios.

Elaboration of the baseline scenario for 2030 (subtask 2.4.2)

The elaboration of the baseline scenario will consist of a top-down exercise from the European (and global scale), combined with a bottom-up approach for the territorial transnational zones considered, through a number of iterations. The scenario will be first elaborated as narrative and story-line based on the assumptions validated and refined by the application of forecast models, that now will also assess the sensitivity of the scenario to marginal changes in the initial assumptions. Samples and illustrations of the overall narratives by presenting the case of selected cities or regions in each transnational territory considered will be elaborated, as well as cartographic and multimedia visualisation will be developed (in coordination with Task 2.8) to support the scenario.

Once the territorial impact assessment is carried out (see Subtask 2.4.5), results will be used to refine the scenario if needed, and added to the scenario in a final section or appendix. Personal interviews, small group discussions and on-line interaction with policy-makers and experts in relation to Baseline 2030 assumptions, carried out all along the process. Preparation of the first scientific-oriented workshop, and the policy-oriented workshop (month 9) to discuss the Baseline 2030 with the ESPON MC

Elaboration of the baseline scenario for 2050 (subtask 2.4.3)

This subtask will be carried out similarly to subtask 2.4.2, taking 2.4.2 outputs as starting point. The major methodological difference will lie in the use of TVIS+ and PASH+ foresight scenario-building tools, complementary to the forecast modelling tools, and in the greater consideration to be given to expert qualitative opinions. TV+ and PASH+ will be calibrated with the Baseline 2030 results provided in Substask 2.4.2 by the forecast model, and will contribute both to the definition of the baseline as well as the extreme scenarios for 2050.

The first thematic workshop (month 12) will cover Baseline 2050 (also 2030) assumptions. The second policy-oriented workshop will be devoted to the discussion of Baseline 2050 scenario (and the TIA of both baseline scenarios).

Territorial assessment of the baseline scenarios for 2030 and 2050 (subtask 2.4.4)

The process, to be carried out simultaneously to the previous subtasks in order to provide for useful references to the discussions on the policy-oriented workshops, will be as follows:

- First, the preliminary criteria and relative weights to evaluate potential territorial impacts and the achievement of key policy-goals and indicators to measure them, already studied in Subtask 2.2.3, will be discussed with the ESPON MC, in the first policy-workshop (month 9), in order to achieve consensus on one sets of weights.
- Second, based on the results produced by the forecast models, TIA will be applied to the 2030 horizon and reviewed critically on each single impact criterion. The situation of different regions and transnational zones will be assessed.
- Third, the results achieved will be summarized and grouped into major impact areas (to be
 thought of as macro-criteria: e.g. economy, society, environment, and to be discussed with the
 MC), and into a single "summative" impact, providing a synthetic, at-a-glance, picture of the
 regions more advantaged and disadvantaged by the expected trends included in the baseline
 scenario.
- Fourth, the results obtained will be discussed, and the relevant weights will be adjusted as appropriate. Similarly, based on these TIA results, the 2030 scenario will be redefined if necessary.
- Fifth, TIA will be applied to the 2050 Baseline in the same way as for the 2030 scenario. Initial results will be presented and discussed in the thematic workshop (month 12)
- Sixth, presentation of the baseline scenarios (together with their assessment) to the MC in the second workshop devoted to the discussion of Baseline 2050, as well as 2030 if needed. Elaboration of a synthesis of their reactions and observations.

T2.5 Territorial Exploratory Scenarios 2050

Coordinator TERSYN

Other partners involved MCRIT, IGEAT, RKK, POLIMI, CEFMR, S&W, RIKS, SWE, NORDREGIO, UTH, ISIS Duration 15 months; from 1 to 15

Aim

Defining the space of possible futures for the European territory in a 2050 perspective. To this end, three outline exploratory scenarios will be provided, "for illustration and inspiration". They do not exclude other possibilities of territorial organisation. These extreme scenarios are mostly considered as prospective (possible future ahead, even if not desirable).

Subtasks

Definition of scenario assumptions (subtask 2.5.1)

Defining assumptions for the three alternative extreme scenarios is the most critical challenge, because it will directly impact on the delineation of the area of plausibility for possible futures and on the usefulness of scenarios for elaborating, later on, the Territorial Vision. It is proposed to proceed as follows:

- Elaboration of a short synthesis document (15-20 pages) showing the relevance and variety of drivers to be considered for foresight territorial development (departing from baseline evolutions);
- Elaboration of possible scenario hypotheses. These will accommodate the three aforementioned scenario outlines but also possible alternative elements (see Chapter I). For each possible scenario presented, a list of issues related to precise assumptions will be elaborated (in the case of the three scenario outlines mentioned, the lists of questions to be examined is already contained in Chapter I).
- Consultation with experts and other stakeholders in the second thematic workshop (month 18), and continuation of small group discussions, personal interviews and on-line interaction with the various groups of stakeholders.

Elaboration of the exploratory scenarios for 2050 (subtask 2.5.2)

Once detailed qualitative and quantitative hypotheses and assumptions for the three exploratory scenarios have been discussed, the elaboration of the three scenarios will combine the following approaches and steps:

- Bottom-up approach: elaboration of the three scenarios by the ET2050 partners responsible for each of the macro-regions concerned, according to a common format;
- Top-down approach: elaboration of regionalised demographic, economic, transport, land-use and spatial development simulations using forecast and foresight modelling tools; Integration of the bottom-up and top-down approaches (including necessary adjustments), leading to narratives and storylines with sufficient geographic differentiation and quantified references; this phase may include some iterative loops;
- Simulation of land use changes, highlighting the main differences between the three scenarios;
- Development of cartographic and multimedia visualisation to support the scenarios (in coordination with Task 2.8);
- Consultation of experts on the outcomes of the three scenarios; synthesis of comments received; and adjustment of the scenarios, in the Scientific-oriented workshop (month 21).
- Preparation of the scientific-oriented and policy-workshop with the MC (month 21), aimed at
 examining in detail the hypotheses, assumptions and narratives of each of the possible
 scenarios proposed; to facilitate the consensus building process, questionnaires may be
 addressed to MC members before, during and after the workshop, following an structured
 format (e.g. a DELPHI process).

Assessment of the three exploratory scenarios for 2050 (subtask 2.5.3)

The assessment of the three scenarios will comprise several steps:

- TIA, on the basis of results produced by forecast models and foresight meta-models. The TIA results will be synthesized in a small number of major impact areas (economy, society, environment, etc.) and in a single "comprehensive" impact providing a snapshot-differentiated picture of the positively and negatively affected regions for each scenario;
- Elaboration of short, comparative discussion documents related to the three scenarios (TIA results, main emerging territorial issues) in view of future consultations;
- Elaboration of a synthesis document gathering all elements of relevance for the preparation of the Territorial Vision.

T2.6 Elaboration of the Territorial Vision for 2050

Coordinator IGEAT

Other partners involved MCRIT, TERSYN, IGEAT, RKK, POLIMI, CEFMR, S&W, RIKS, SWE, NORDREGIO, LITH

Duration 13 months; from 16 to 29

Δim

Developing the Territorial Vision is considered as a "normative" roll-backward scenario, starting with a desirable image of the European territory by 2050 and investigating the territorial trajectories likely to achieve it.

Subtasks

Assumptions and objectives for the Territorial Vision 2050 (subtask 2.6.1)

In contrast with the roll-forward exploratory scenarios, having a prospective character, the starting point of a Territorial Vision is not related to drivers of territorial development, but, on the opposite, to territorial development objectives and policy options in their most concrete form, including territorial differentiation and policy orientations addressing specific future territorial development issues. The approach for this normative or desired scenario (or Vision), will consist of the following steps:

- Translation of the outcomes of the scenario exercise into orientations for a more desirable territorial development presenting various possible territorial options as well as possible territorial categories to be selected for structuring the Vision. Already existing territorial visions for specific European areas will be considered as to their relevance for both territorial development options and territorial categories structuring such visions. The results obtained in the TIA exercise for the three exploratory and for the baseline scenario will be considered as a key reference to formulate the Vision.
- Organisation of a thematic workshop (month 24), mostly targeting policy-analysts from regional, national and European spatial development institutions, aimed at selecting the most desirable territorial development options among those presented.
- Organisation of the Scientific-oriented workshop and the policy workshop with ESPON MC (month 27). Consensus-building may be facilitated by the use of questionnaires submitted to MC members; this process could also involve other EU institutions (European Parliament, other DGs of the Commission, Committee of the Regions, etc).

Stepwise elaboration of the Territorial Vision (subtask 2.6.2)

The elaboration of the Territorial Vision will be carried out stepwise, collectively with the MC and CU in the context of an iterative process:

Grouping of the territorial elements to be included in the Territorial Vision (see Chapter I for
further detail) into three layers: (1) cities and settlement systems; (2) networks (infrastructure
and flows); (3) open spaces (devoted to different economic, social and ecological functions).
 Stepwise elaboration of the Territorial Vision The elaboration of the Territorial Vision will be
carried out stepwise, collectively with the MC and CU in the context of an iterative process:

- Grouping of the territorial elements to be included in the Territorial Vision (see Chapter I for further detail) into three layers: (1) cities and settlement systems; (2) networks (infrastructure and flows); (3) open spaces (devoted to different economic, social and ecological functions).
- Elaboration of proposals (with possible alternatives) for each layer, covering the ESPON space, including macro-regional and territorial specificities; submission of these proposals to the MC;
 Integration of the revised options of the three layers.
- Elaboration of a synthesis document gathering the options and objectives validated by the MC, in view of the elaboration of the Territorial Vision and indicating the relevant territorial categories selected; the results from the Territorial Vision will be reviewed in the thematic and policy-workshop planned for month 30 and month 33 since they will be focused on midterm targets and pathways from 2010-2030 towards the achievement of the 2050 Vision (see Subtask 2.7).

Territorial assessment of the Territorial Vision (subtask 2.6.3)

After validation and integration of the elements of the three layers, a test of global consistency will be carried out on the basis of several criteria according to the TIA approach, as applied in the previous assessment processes. Results of TIA for the European Territorial Vision 2050 will be available as a key element in its discussion in month 27.

The Vision achieved in the Work package will still be considered as a draft final result, and refined during the next months in relation to the analysis for midterm targets and pathways.

T2.7 Elaboration of Midterm Targets and Pathway towards 2030

Coordinator MCRIT
Other partners involved TERSYN, IGEAT, RKK, POLIMI, S&W, RIKS
Duration 4 months; from 25 to 29

Aim

Extracting sensible midterm targets (2030) that need to be met in order to guarantee that the European territory sufficiently develops into the direction of the Territorial Vision for 2050. On the background of the baseline scenarios and the territorial vision for 2050, the mid-term targets will point out the added value, which has to be achieved through appropriate policies. The midterm targets will be tangible and quantified. The targets preferably follow a territorial logic meaning that they are expected to address different types of territories. Furthermore territorially differentiated trajectories (from now towards 2030) to be followed by different types of regions will be investigated in order to reach the midterm targets.

Subtasks

Estimate of realistic quantitative targets for strategic factors (subtask 2.7.1)

The mid-term targets to be considered have to be in line with the general objectives contained in official EU documents (balanced economic growth, sustainable development, economic, social and territorial cohesion etc.). Indicatively, the mid-term targets for territorial development could be related to a number of thresholds concerning the population (density changes, shares of immigrants etc.); the economy (employment rate, regional disparities, unemployment); the accessibility and connectivity (Europe-wide and intra-regional); the energy sector (ratio of renewable energy production in regional energy consumption); the urban expansion (land-use change); the environment (greenhouse gas emissions, share of protected areas etc.), among others to be studied.

The assumptions on target choice and territorial differentiation in the determination and application of targets have to be discussed in the thematic workshop (month 30) and the policy workshop (month 33).

Pathways (subtask 2.7.2)

The elaboration of the pathway will comprise various steps:

- Analysis of discrepancies between the present situation (2010) and mid-term targets to highlight the necessary trajectories of regions (or groups of regions) to reach the targets;
- Test of the degree of realism of the targets, using forecast and foresight models and, if
 necessary, adjustment of targets. Particular attention will be paid to the trajectories of lessfavoured regions (lagging behind, peripheral, outermost, subject to depopulation, etc.). This
 step will require mostly the application of foresight meta-models, specially adapted to
 backcast exercises.
- Definition of a realistic pathway of territorial development for the mid-term horizon (2030). Pathways will be discussed together with midterm targets in the thematic, scientific and policy workshops.

Definition of policy inputs (subtask 2.7.3)

The definition of policy inputs corresponding to the pathway for 2030 will refer to the definition and combination of public policies (policy mix), insisting on synergy effects; the adjustment of the policy mix to specific categories of regions and/or to macro-spaces; the impacts of possible changes in EU policies (intensity and content of cohesion policy; transport and energy policy, CAP etc.) analysed by the application of the modelling tools.

Characteristics of the territorial governance system (subtask 2.7.4)

The requirements of the mid-term strategy (targets, pathway, policy input) for changes and improvements in the territorial governance system will refer in particular to the institutional arrangements of relevance for addressing territorial development issues at the EU level (codification, procedures); the coordination of EU policies; the vertical interactions in the definition and implementation of territorial development policies.

T2.8 Innovative Visualisation

Coordinator ERSILIA
Other partners involved MCRIT, TERSYN, IGEAT, RIKS
Duration 36 months; from 1 to 36

Aim

Representing the results of the project in a communicative, user-friendly manner, and exploiting different media. From cartography, maps and infography, to animations and short videos, a variety of media formats will be explored during the project, and presented to partners, the ESPON CU and MC, in order, first, to validate them and, later, as a useful means helping to make scenarios and visions better understood among stakeholders.

Subtasks

Multimedia (subtask 2.8.1)

The work will start by creating a virtual library of images (pictures, drawings, schemes, graphics, slide shows, animations, movies...), and continue later on by developing original infographic products for each scenario and for the vision, using various kinds of techniques. For each scenario and for the Vision 2050 a 3 minutes movie will be produced for communication purposes, integrating key messages and representative images of the scenario, in different media, mostly life video and virtual animation. First versions of the movies will be used in the participatory events to illustrate scenarios and later on redesigned whenever needed. In order to make more understandable the scenarios, fictional characters (persons, firms, cities or regions) will be included in the visual presentation of the scenarios.

Cartography (subtask 2.8.2)

Maps will be produced in line with the ESPON design layout, to represent the future territorial scenarios of Europe, and according to sound scientific criteria. Partners responsible for the modelling work will produce the maps required to represent their main results, and in Subtask 2.8.2 they will be assembled and combined to represent in a synthetic manner the scenarios and the Vision. A web-based tool to display pre-defined maps interactively will be developed for communication purposes, using royalties-free software tools and cartographic information sources allowing to attach the data used for the production of each map and full metadata description of the data itself and the modelling tools producing them (the SPQR form). This web-tool will not be, strictly speaking, a GIS. All GIS-based information will be transferred to the ESPON CU, together with other databases to be incorporated into the ESPON database. In the Inception Report the technical details will be presented, after discussion and agreement with ESPON CU. The capacity to easily disseminate maps and data attached to scenarios is considered essential as a tool to trigger stakeholders towards more active and informed participation in the discussions; in this respect, the tool must facilitate readers and visitors (those registered as stakeholders, having access rights according to the Participation plan to be developed) to comment and discuss with ET2050 all outputs.

Posters, brochures and leaflets (subtask 2.8.3)

A number of printed products (posters, brochures and leaflets presenting the project and its main results) will be designed in line with ESPON design layout and produced in view of their dissemination, , targeting different audiences. The dissemination of this material will always be discussed with the ESPON CU.

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Deliverables

1st Interim Report

The first interim report is due in May 2012. The main content elements of this report will be:

- Draft final report on present state
- Proposals for hypotheses and storyline of the baseline scenarios
- First proposal for hypotheses of the territorial exploratory scenarios
- Detailed overview of indicators and models used to support the scenarios
- Revised participation plan according to needs and experiences. First overview of main policyrelevant issues that come out of the analysis of the present state and the proposals for scenario hypotheses
- Detailed research plan until the second interim report

2nd Interim Report

The Second Interim Report is due in December 2012. The main content elements of this report will be:

- Final version of the present territorial state of Europe
- Final version of the baseline scenarios
- Final version of the territorial exploratory scenarios
- Results of the TIA on the scenarios
- Main policy-relevant issues that come out of the baseline and territorial scenarios
- Proposals for the general form, content and storyline of the vision, as well as the detailed approach towards elaborating the vision and ensuring consensus for the vision, including a revised participation plan according to needs and experiences
- Proposals for the methodology and type of content of the mid-term targets and final policy recommendations
- Detailed research plan until the draft final report

Draft Final Report

The draft final report is due in February 2014. The main content elements of this report will be:

- Final version of the vision
- Final version of the mid-term targets and policy recommendations
- Final version of the TIA on the vision and targets

Final Report

The final report is due in June 2014. The main content elements of this report will be:

- Final version of the vision
- Final version of the mid-term targets and policy recommendations
- Final version of the TIA on the vision and targets

ET2050 Management

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Steering Committee

The Steering Committee bears responsibility for the internal quality control and will participate in any relevant decision related to the project coordination and management.

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Internal Expert Panel

Before initiating the participatory processes concerning the trends and baseline scenarios, the extreme/exploratory scenarios profiles and the vision for the future, an internal consultation process is carried out through on-line surveys between the ET2050 partners to validate first scenario assumptions and then complete scenario narratives. At least three experts from the 13 TPG partner institutions (up to 50 people) are integrated in this permanent internal Expert Panel.

RR/METREX/Glasgow/March 2012