FORSEE Regional ICT Foresight Exercise for SEE countries

Regional Foresight Methodology Plan

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1 Underlying principles and basic definitions

1.1 The aim of this proposal and its underlying principles

This document presents the second version of the methodology plan developed for the FORSEE Regional ICT Foresight Exercise for SEE countries. Working definitions of the important terms used in the proposal are presented in section 1.2.

The methodology plan is not intended to be an *ideal* one for an *ideal* regional foresight project. It should be a feasible one. Thus, it takes into account the resources (time and funds available for the project, methodological experience in the SEE region) as well as some major features of the region. Thus, the methodology plan is a *modular* one, on the one hand, and contains *optional* elements, on the other.

First, it is *modular* as it is planned to consider several themes of regional relevance and other themes of relevance in various group of countries. These groups of countries are not identified in advance. In practical terms, some tasks are identical for all project partners, namely analyses of the regional themes, while other tasks are to be performed by a group of country teams, for which countries a certain theme is of relevance.

Second, some of the proposed methods are *optional*: a choice on the use of a certain method can be made by taking into account the nature of the theme/topic to be analysed, as well as the availability of resources.

This document presents the major building blocks of the methodology plan with the first, brief version of a step-by-step guide. For some steps a set of more detailed guidelines shall be produced. It should be stressed at the outset, however, that foresight processes cannot be fully "mechanised": there is no perfect, detailed blueprint to conduct a foresight process. Issues to be tackled by a foresight process are varied, and contexts in which foresight processes are conducted are diverse. Experience shows that a certain degree of flexibility is always needed; at least some methods need to be modified as the foresight process is progressing. A rigid project plan, therefore, would be more a liability than an asset. Still, of course, methodological rigour is of prime importance and budget restrictions must be respected.

It is not detailed in this document, but an internal, self-evaluation of the foresight process is also to be conducted, mainly following an on-line evaluation tool, available at:
 http://www.doingforesight.org/

The immediate objective of this document is to summarise the methodology for the FORSEE Regional ICT Foresight Exercise for SEE countries, but it can also be used as an input for one of the final products of the FORSEE project, namely the guidelines for future regional foresight exercises.

All the major elements of a draft proposal have been *thoroughly discussed by the FORSEE project consortium*, and the requested modifications are taken into account in this draft methodology plan. *The final version shall be approved by the project consortium* once the necessary consultations with stakeholders are concluded. The ultimate responsibility to conduct a pilot regional ICT foresight exercise is with the project consortium, and thus it has been actively involved in devising the methodology for the ICT regional foresight, and not just "rubber-stamped" a proposed methodology.

1.2 Working definitions

Foresight:
- ⚔ one of the many methods/approaches to conduct prospective analyses
- ⚔ considers multiple futures (not aimed at predicting a single future)
- ⚔ action-oriented (vs. aimed at publishing a scientific paper), and thus meant for decision-makers and opinion-leaders (policy-makers, business executives, managers of academic organisations, NGOs, etc.)
- ⚔ participatory: involves at least 2-3 different groups of stakeholders (vs. a small team of advisors)

Regional foresight:
- ⚔ considers issues (themes) relevant at a (multi-country) regional level
    - ◦ these issues (opportunities or challenges) are present in all or most countries of the region
    - ◦ joint/coordinated/orchestrated actions to address these opportunities or challenges are feasible and expected to be effective, or
    - ◦ considering these opportunities or challenges jointly, tackling them by country-level actions, and exchanging ideas, sharing experience on the implementation and impacts of these country-level actions are feasible and expected to be mutually beneficial
    - ◦ the benefits of joint/coordinated/orchestrated actions outweigh coordination costs, or
    - ◦ the benefits of exchanging ideas, sharing experience on the implementation and impacts of country-level actions outweigh costs
- ⚔ major actors of the region (e.g. policy-makers, businesses, academe, NGOs) are willing to act together in a coordinated/orchestrated way, or
- ⚔ major actors of the region (e.g. policy-makers, businesses, academe, NGOs) are willing to exchange ideas and share experience.

Issues (themes) relevant at a sub-regional level:
- ⚔ these issues are present in a group of countries in the region (that is, in a sub-region)
- ⚔ joint/coordinated/orchestrated actions to address these opportunities or challenges are feasible and expected to be effective, or
- ⚔ considering these opportunities or challenges jointly, tackling them by country-level actions, and exchanging ideas, sharing experience on the implementation and impacts of these country-level actions are feasible and expected to be mutually beneficial
- ⚔ the benefits of joint/coordinated/orchestrated actions outweigh coordination costs, or
- ⚔ the benefits of exchanging ideas, sharing experience on the implementation and impacts of country-level actions outweigh costs
- ⚔ major actors of the sub-region (e.g. policy-makers, businesses, academe, NGOs) are willing to act together in a coordinated/orchestrated way, or
- ⚔ major actors of the sub-region (e.g. policy-makers, businesses, academe, NGOs) are willing to exchange ideas and share experience.

As already mentioned, the consortium has decided not to select groups of countries in advance. As the work is being progressed, these groups of countries will – or not – emerge.

Theme: a broad field to be analysed during the foresight project (e.g. a major application field – economic sector, societal issue – for ICT, or a major ICT domain).

Topic: an important segment of a broad field, which can be analysed on its own.

See examples in the box to the right.

Energy is a *theme*, smart grids and renewable energy are *topics*. Security is also a *theme*, with a number of *topics,* such as security concerns/ potential threats related to:

- ⚒ movement of people across borders (migrants, tourists, students, workers)
- ⚒ major infrastructures such as road, rail, airports, energy, ICT
- ⚒ cyber security.

In these exemplary cases the question for the foresight process is how ICT can contribute to tackle various security concerns.

2 Major building blocks of the proposed methodology

2.1 Overall objectives and focus of the foresight process

"The overall objectives of the FORSEE Regional ICT Foresight Exercise for SEE countries are to consider options of future development and propose actions that would contribute to enhanced competitiveness and improved quality of life. R&D and innovation activities are in the centre of these prospective analyses and dialogues. As a pilot exercise it intends to experiment with foresight methods at a regional level, that is, not to cover all the major ICT themes. Further, lessons learnt are to be identified in order to encourage future regional foresight activities in the South-East European region."

- ⚓ Foresight is a decision-preparatory process. It is up to decision-makers in policy, business, academia and opinion-leaders in civil society to consider recommendations stemming from such a process, then make and implement decisions, considering other pieces of advice and information, too.
- ⚓ The objective should be phrased in such a way that lay people, e.g. a journalist of a daily newspaper, can understand it easily.

As for the focus of the FORSEE Regional ICT Foresight Exercise for SEE countries the consortium has decided to consider both the techno-economic (competitiveness) and societal aspects of the themes to be analysed, that is, a combined rationale to follow (as opposed to a single focus).

The main advantage of this approach is that it does not pre-define if the competitiveness or the societal aspects should have a decisive role when considering future developments, their consequences and recommendations. Thus it can be regarded as a flexible, open-minded approach. Yet, it is fairly likely that there would be conflicts between competitiveness and societal considerations: e.g. a certain action (a certain type of strategy) might enhance competitiveness at the expense of quality of life, or the other way around. In these cases extra care is needed to conduct a proper analysis, and derive appropriate recommendations.

Further, this combined rationale necessitates special attention that certain important issues would not be ignored: e.g. digital divide is likely to be a major issue for a foresight process with a societal focus, but not necessarily considered during a foresight project with a techno-economic (competitiveness) focus.

The decision on the focus of the foresight exercise has repercussions on the types of participants, too. This combined rationale requires the participation of researchers (both S&T and social sciences), business people, societal stakeholders, and several types of policy-makers.

2.2 Themes

In principle the FORSEE regional foresight process can cover two types of themes:

- ⚓ type A = relevant for all (or most) countries in the SEE region, and it can be assumed that there is willingness to take joint/coordinated/aligned actions to seize opportunities and tackle challenges
- ⚓ type B = common/similar challenges/opportunities in all (or most) countries in the SEE region, *not requiring joint actions*; in these cases synthesis reports, comparative analyses would be useful, e.g. in encouraging stakeholders to establish contacts, exchange ideas/experiences to

find better solutions (to be implemented at a national level, or by several co-operating countries).

The consortium makes a decision on the themes and topics by 31 May 2012, using an assessment framework, that is, taking into account several dimensions:

- regional relevance
- economic value ("size")
- "impact on" and "impact of" ICT relative to a theme.

Open source and *software development* shall be considered when a certain theme is analysed and not as a topic on its own.

2.3 Time horizon

The overall time horizon would be in the range of 2020-2025. It is likely to vary by themes, as it depends on the "nature" of the selected themes (the time needed for major changes) and thus the consortium makes a decision on the time horizon for each selected themes.

2.4 Major steps of the foresight process, including the so-called open consultation process

Overview

The following steps shall be taken to complete the FORSEE foresight process:

1. Initial SWOT analyses: clarifying the situation

2. Open consultation: engaging stakeholders and validating themes

3. Final SWOT analyses and devising "futures" (considering potential future developments): refinement phase

4. Choosing the most favourable future state: defining goals

5. Drawing recommendations

2.4.1 Initial SWOT analyses

As a first step, the starting situation should be assessed and described in the form of SWOT analyses. It is important that the strengths and weaknesses are individually identified for the themes (or topics, in case the consortium takes that decision), while opportunities and threats may often be similar across themes. For the opportunities and threats, a PESTLE analysis may be useful.

Main outputs: Initial SWOT analyses for the selected themes (or topics)

One project partner is responsible for one theme (hereafter: the "host partner").

These 7-9 initial SWOT analyses are to be completed by 5 September 2012, by performing the following tasks, per theme:

1) data collection (incl. trend analysis) + literature survey as background analyses assisting the

invited experts, whose task is to identify SW

Trend analysis should be based on available reports on markets, S&T trends, regulation, demography, supply & demand, etc.; in general: relevant factors are to be considered, and it is dependent on a given theme to a large extent.

More detailed guidelines are to be provided by the MT.

efforts needed: 5-8 person-days, including trend analysis

> **PESTLE** analysis stands for "Political, Economic, Social, Technological and Legal analysis". It helps clarify the general or environmental factors influencing the theme under study.

2) PESTLE to identify Opportunities and Threats for the SWOT analyses. More detailed guidelines are to be provided by the MT.
   efforts needed: 2-3 person-days

3) expert judgements/opinions collected (using optional formats, see below)

4) synthesis of expert judgements/opinions: the first draft of the initial SWOT is to be written up by an experienced author (one of the internal or invited experts or the facilitator (the facilitator can also be a staff member of the host partner, with adequate skills and experience)
   efforts needed: 1 person-day

5) this first draft of the initial SWOT is to be circulated among the experts who have contributed; the second draft of the initial SWOT is produced by the same author, based on the comments received
   efforts needed: 0.5-1 person-day

6) the second draft is circulated among all project members (who can comment on it themselves, or can ask external experts and/or stakeholders to offer comments)
   efforts needed: 0.5-1 person-day

7) the third draft of the initial SWOT is produced by the same author, integrating these comments
   efforts needed: 0.5-1 person-day

The third draft of the initial SWOT is used as an input for the national open consultation events.

Given the nature of this task, a face-to-face WS to develop the main elements of the initial SWOT is preferable. In case resource constraints do not allow organising a face-to-face WS, a different option can be followed, composed of the following main steps:

i) the partner responsible for a theme ("host partner") arranges a series of bilateral video-conference discussions with the other partners involved in analysing a given theme, as well as experts nominated by the participating partners, to identify major factors, discuss major points, and set the scene

ii) the host partner organises a half-day SWOT WS, attended by experts from its own country (in case resource constraints do not allow to invite experts from other cities, some of the experts might join the WS virtually)

iii) the host partner (either its own staff member or an external expert commissioned by the host partner) produces the first draft of the initial SWOT

iv) this first draft is to be validated by the experts who attended the SWOT WS (e.g. via e-mail exchanges or videoconference/phone discussions)

v) a questionnaire is developed by the host partner: the main observations of the first draft of the initial SWOT analysis is turned into a set of statements and relevant questions are formulated in order to collect comments and suggestions on this first draft

vi) this questionnaire is circulated by the host partner among the participating consortium members, as well as experts and stakeholders identified by the respective consortium

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members (comments/suggestions re to be collected from at least 15-20 experts and stakeholders)

vii) the host partner produces a revised initial SWOT, taking into account the contributions received from the other consortium members, experts and stakeholders

Project partners are asked to observe the process itself, take notes on the advantages and disadvantages of the method they follow (a face-to-face SWOT WS vs. a series of steps outlined above). ZSI will process these observations, to be used when producing the guidelines for future regional foresight processes.

2.4.2 Open consultation (OC)

The OC process is organised to achieve three major aims:
- ⚲ validate the themes (and topics, if time permits) for the foresight process
- ⚲ discuss the initial SWOT analyses
- ⚲ discuss future-oriented questions to collect stakeholders' aspirations

Implicitly the design of the foresight process shall be validated, too, as it is described in the Green Paper, and stakeholders would discuss the Green Paper. (see below)

Inputs for the OC are to be summarised in the Green Paper in the following structure:
chapter 1: offers background information, presents the objectives of the FORSEE project
chapter 2: describes the foresight process – including the ways of stakeholders' involvement throughout the process –, and explains how the OC fits into this process
chapter 3: explains how the themes have been selected.

The Green Paper shall also refer to national reports, made available on-line by that time (as detailed background information).

Initial SWOT analyses (per theme) and future-oriented questions can be presented either as short, standalone documents, or as chapter 4 of an extended Green Paper.

2.4.2.1 National OC events

National OC events shall be organised first, and their results are to be used at the regional OC event. The preparation of OC events can be assisted by individual discussions with stakeholders, and especially by the national Task Force members.

National OC processes are to be finished by early November as the regional OC is to be held in the second half of November.

National OC events shall follow one the following options:

Option A): a series of 1-day WSs to tailored audiences by themes, each attended by 15-20 experts, policy-makers, business people, lay persons, and representatives of NGOs

Option B): a single 1-day WS, attended by 50-60 experts, policy-makers, business people, lay persons, and representatives of NGOs different types of stakeholders;
an introductory plenary session would present the FORSEE project and the aims of the WS
themes are discussed in parallel sessions,
followed by a debriefing at the closing plenary

Option A) is preferable when not enough experienced facilitator is available on the same day to facilitate several parallel sessions.

In either case the main aims of these WSs are the same, namely, to validate the list of themes for the foresight process, discuss the initial SWOT analyses, and collect answers to future-oriented questions. Given the nature of these tasks, experienced facilitators are needed either for the series of smaller WSs (option A) or for the parallel sessions of the larger, single WS (option B).

As the FORSEE regional foresight process is a pilot project, and it is not aimed at covering all the major possible themes, *new themes cannot be suggested during the OC events*.

Following the national OC WSs, the project partners
- summarise and process the results/feedbacks (e.g. broken into survey statements and related questions)
- open up a wider national OC process using online survey tools (allowing the involvement of a large number of participants and an easy way to gather their opinions, assessments, and aspirations)
- process and analyse results obtained through the online consultation
- prepare inputs for the regional-level OC (synthesis of the national OC process)

2.4.2.2 Regional-level OC

The regional-level OC shall be conducted by taking the following steps. The responsible partner:
- organises a 1-day meeting in the second half of November, attended by 15-20 invited experts, policy-makers, business people, lay persons, and NGOs (representing all the participating countries of the FORSEE project) to validate the suggested list of themes for the foresight process, discuss the initial SWOT analyses, and collect answers to future-oriented questions; project partners also attend this meeting
  - o the number of invited ("external") participants depends on the available funding, the above number of them (15-20) is based on the first estimation
  - o the invited 15-20 people and the project partners can work in a meaningful way in 2-3 groups
  - o in case of a larger number of participants, a 60-90-minute plenary session can be organised, which can only serve dissemination purposes
  - o however, this is a relatively early stage of the foresight process, i.e. there is not much to disseminate
  - o moreover, with a large group only a one-way communication is possible, while a proper dialogue – a two-way communication – is preferred in a foresight process
- summarises and processes the results (e.g. broken into survey statements and related questions)
- opens up a wider regional OC process using on-line tools (survey, discussion fora, …)
- analyses the results obtained through the on-line consultation.

Outputs of the national and regional OC
- a validated list of themes
- comments on the initial SWOT, by adding what the stakeholder esteem necessary, summarised

in a paper per theme
- short images of the future per theme, based on the answers to future-oriented questions
- implicit validation of the methodology of the foresight process.

Project partners shall distribute these results via the web for further comments, and invite stakeholders to have a look at results of the OC and provide feedback.

Efforts per event for organisational tasks: 2-4 days
PP7 is responsible for the regional OC event.
Total efforts for organisational tasks for the 8 events: ~ 16-32 days

When organising OC events it is important to make sure that the participants have an overall good experience (interesting discussions, nice environment to work) and thus the FORSEE project can generate interest for its future activities, and build commitment in the stakeholders to participate in the planned future activities.

Update (Feb. 2013): It needs to be stressed that it is essential and necessary to use external expertise for all envisaged events as well as the foresight outputs to be generated. As was stressed from the start and as both the National and Regional Open Consultation Conferences have proven, conducting such activities without a proper facilitation by adequate external experts can be risky and jeopardise the quality of the outputs produced and results achieved. External expertise needs to be used at least for all remaining workshops as well as project outputs such as the self-evaluation, the Regional Innovation and Entrepreneurship Enhancement Strategy Roadmap, or the Sustainability Plan. In most cases, the budget for external expertise is already allocated. For those instances where this is not the case, a budget modification is highly recommended.

2.4.3 Final SWOT+ futures [images of a future state]

Main outputs per theme (regional and sub-regional levels):
- the final SWOT analyses per theme (or topic, depending on the decision of the involved partners)
- 2-4 futures per theme (or topic, depending on the decision of the involved partners)

Major inputs:
- background information and analyses produced for the initial SWOT analyses (trend analyses, literature survey, PESTLE)
- initial SWOT analyses
- comments on initial SWOT analyses collected during the national and regional OC process
- aspirations of stakeholders (answers to future-oriented questions collected during the national and regional OC process)

The final SWOT analyses and 2-4 futures (per theme or topic) are to be devised by the end of February 2013.

The same partner is responsible for producing the final SWOT and developing futures per theme as for the initial SWOT analyses. The host partner coordinates the activities needed to complete the analyses,

with contributions from the other participating partners.

Activities to be conducted and resources needed (per theme):

- ✦ revision of the initial SWOT analyses at a face-to-face WS, attended by the respective project partners and/or external experts nominated by them, also relying on inputs from the same group of experts who have devised the initial SWOT analyses,
this WS is facilitated by an experienced facilitator (preferably the same person, who has facilitated the first SWOT WS)
2-4 hours (depending on the feedback received during the OC process)

- ✦ devising 2-4 futures at a face-to-face workshop per theme, attended by the respective project partners and/or external experts nominated by them, also relying on inputs from the same group of experts who have devised the initial SWOT analyses (this task is conducted by the same participants who are involved in finalising the SWOT analysis, as a continuation of the SWOT WS)
1-day face-to-face WS for the skeleton of futures, facilitated by the same facilitator

- ✦ *writing up the final SWOT*
0.2-1 person-day, preferably by the same expert who has written the initial SWOT analysis

- ✦ writing up the futures (2 paragraphs to highlight the core features, 5-7 pages of important details)
1 person-day, preferably by the same expert who has written the initial SWOT and the final SWOT

Optional activity: Delphi survey can be run as part of finalising (some of) the SWOT analyses

Two facilitators might be hired by the consortium to run this series of WSs to maximise consistency in terms of the methods/approaches followed. (A different option can also be considered: each host partner hires its own facilitator and there is central coordination – e.g. training of facilitators – to ensure consistency. These options are to be thoroughly discussed during PM4 meeting, and the consortium makes a decision in due course.

2.4.4 Selection of the most favourable future

Main output per theme: the most favourable future

Activities to be conducted and resources needed (per theme):

- ✦ development of a short questionnaire (4-6 closed questions + 1-2 open questions) to be used for the web-based assessment of the futures by the stakeholders; lead by ZSI (*2 person-days*), with contributions from the consortium members (*0.5 person-day each*)

- ✦ web-based assessment of the futures by the stakeholders

- ✦ evaluation of the answers collected through a web-based assessment tool ZSI and the partners responsible for a theme; *7-9 person-days (1 person-day per theme, depending on the number of respondents)*

This assessment process is by invitation only. Participants from OC are to be encouraged to participate.

The most favourable future (per theme or topic) is to be devised by the end of March 2013.

2.4.5 Recommendations

Main output per theme (regional and sub-regional levels): recommendations to take actions by
- whom (e.g. policy-makers, academia, business, societal groups)
- when (immediate, short-, medium-term)
- what to do (e.g. regulate, apply other policy tools, invest, conduct joint research, etc.)

Main inputs (per theme):
- the most favourable future
- SW (where we are)
- policy intelligence (available policy analyses, expertise of external experts, Task Force members, and stakeholders)

Given the nature of this task, a face-to-face WS is preferable, attended by the respective project partners and/or experts and stakeholders nominated by them. In case resource constraints do not allow organising a face-to-face WS, a different option can be followed, composed of the following main steps:

i) the partner responsible for a theme ("host partner") arranges a series of bilateral video-conference discussions with the other partners involved in analysing a given theme (and/or external experts nominated by the partners) to identify major elements of the recommendations, and thus set the scene

ii) the host partner organises a half-day WS, attended by experts and stakeholders from its own country (in case resource constraints do not allow to invite experts from other cities, some of the experts might join the WS virtually)

iii) the host partner (either its own staff member or an external expert commissioned by the host partner) produces the first draft of the recommendations

iv) this first draft is to be validated by the experts who attended the WS (e.g. via e-mail exchanges or videoconference/phone discussions)

v) a questionnaire is developed by the host partner: the main elements of the first draft of the recommendations are turned into a set of statements and relevant questions are formulated in order to collect comments and suggestions on this first draft

vi) this questionnaire is circulated by the host partner among the participating consortium members, as well as experts and stakeholders identified by the respective consortium members (comments/suggestions re to be collected from at least 15-20 experts and stakeholders)

vii) the host partner produces a revised set of recommendations, taking into account the contributions received from the other consortium members, experts and stakeholders

Recommendations are to be devised by the end of May 2013.

Recommendations can be further elaborated either at a dedicated project meeting, hosted and financed by the lead partner, with active participation of respective partners and Taskforce members and/or during the final project conference, to be held in Vienna (e.g. by organising break-out group discussions on respective themes/topics, attended by invited regional experts). The consortium will consider these options and make a decision in due course (during PM4).

The OC process and further consultations with the stakeholders will show if the consortium should use an alternative term – e.g. "options for future developments" – instead of "recommendations". As already stressed, it is up to decision-makers in policy, business, academia and opinion-leaders in civil

society to consider recommendations stemming from a foresight process, then make and implement decisions, considering other pieces of advice and information, too.

In sum, the main product of the regional foresight process (including the OC) would be (per theme)

- a structured, sound description of the current situation
- where to go (the most favourable future)
- how to get there (recommendations tailored to stakeholders/actors).

Other outputs and impacts would include

- networking across communities, and across borders
- joint actions (in case of commitments of decision-makers)
- exchange of ideas/solutions
- unexpected/ unforeseen impacts, as in the case of many foresight processes.