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eSDI-Net+
European Network on
Geographic Information Enrichment and Reuse

Documentation of identified problems and good practices
at local, regional and national levels

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¹ OJ L 79, 24.3.2005, p. 1.

Abstract

The deliverable “D.2.2-2 Documentation of identified problems and good practices at local, regional and national level” summarises the experiences made in the eSDI-Net+ project regarding the identification and analysis of good SDI practices in particular during the preparation and realisation of 12 national and regional SDI workshops in different European countries.

The goal of the activities described in this document was to select promising European SDI solutions in order to present them at the eSDI-Net+ Best Practice Award in Turin, Italy on November 26-27, 2009. The SDI selection methodology, introduced in detail in the project internal deliverable “D2.1 List of common parameters to assess SDI initiatives”, provided the basis for all activities performed within the work package 2 and consequently also for this document.

This deliverable reflects the situation at the sub-national, national and regional levels described by the eSDI-Net+ partners in their national reports. Furthermore, it includes the results of the workshops evaluation by the workshops organisers and their participants. The report on experiences made at the early stage of the SDI selection process and described in the initial version of this deliverable D2.2-1 has been reviewed, extended and further detailed according to the progress made. The final version of this document will be available after the finalisation of the SDI selection process and the end of the work package 2.

This report illustrates concrete steps done by the eSDI-Net+ network towards its major goal to promote cross border dialogue and exchange best practices on Spatial Data Infrastructures (SDI's) throughout Europe.

Keywords

SDI Best practices , workshop evaluation, WP2, deliverable

**D2.2-2 Documentation of identified problems and good practices
at local, regional and national levels**

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1 Introduction

This document is a public deliverable within the European project “eSDI-Net+ European Network on Geographic Information Enrichment and Reuse” within the eContentplus programme.

The objective of eSDI-Net+ is to bring together existing SDI key players and target users in a Thematic Network to be established as a platform for communication and exchange between different stakeholders involved in the creation and use of SDI’s. The network promotes Europe-wide decisions as well as sub-national, national and regional discussion and information exchange, in order to increase awareness concerning the importance of GI enrichment and of SDI’s for GI reuse, to allow an integrated view of the experts and to permit the creation of integrated guidelines, standards, and implementation of best practices.

The activities described in this report provide significant contribution on successful realisation of the project goals. These activities encompass the identification and analysis of existing SDI solutions at the sub-national level and promotion of the best practice and knowledge exchange between stakeholders involved in the creation and use of SDI’s through the organisation of national workshops. 12 national and regional SDI Best Practice workshops organised by the eSDI-Net+ network are the most important communication mechanism between the European and local levels, implemented to maximize the benefits of INSPIRE, GMES and GALILEO, regarding digital GI content.

The SDI workshops are part of work package 2 “Identification and Analysis of Best Practices in the field of sub-national SDI” and address also such political issues as integration of SDI-related developments in e-government policies.

This report describes the overall progress and experiences made in identifying and analysing best practices in SDI and bringing them together in 12 national and regional workshops. The chapter 2 introduces the common methodology to select promising SDI solutions based on the methodology developed in the deliverable D2.1 List of common parameters to assess SDI initiatives. The procedure of identification and analysis of good practices in SDI is described in Chapter 3 of this report. The description and evaluation of national workshops bases on the contributions received from the eSDI-Net+ partners responsible for workshops organisation, based on the results achieved so far. The experiences from the workshops in Belgium, Netherlands and Scandinavia will complement this report after the finalisation of the national reports.

Chapter 4 summarises the experiences made so far and provides conclusions and recommendations for the next steps toward the SDI Best Practice Award 2009, which will take place on November 26-27, 2009 in Turin, Italy.

It must be considered that this report makes no claim to be complete. The findings about the main problems and lessons learned base on the current status of activities as well as on the national reports and information material provided by the partners involved.

2 Methodology to select SDI best practices

The eSDI-Net+ methodology to identify, analyse and assess SDI's proposes seven categories of key questions for which an answer is requested.

The methodology described below was a guideline for interviews of sub-national SDI officials and for recording the results of the national workshops, which were held in the framework of the eSDI-Net+ project.

2.1 Definition of an SDI

At the beginning of the SDI selection process, the consortium agreed on some common definition of an SDI. Consortiums view, what an SDI is and what are its functions, is described in detail in the deliverable D2.1.

Literature provides a definition of what a Spatial Data Infrastructure is². SDI's are formal arrangements which main goal is to increase access and availability of geographic data across a given area. The goal is to reduce costs, to share experiences or data between the organisations involved, to realise or to foster their services, and to enhance the diffusion of public data to other stakeholders, especially private companies and citizens.

SDI differs from, for example, a complex geographic information system of a territorial body as an SDI cannot operate without catalogues, assign key role to metadata and serve data to external users. It requires solving issues related to integration and harmonisation of data from different owners and data producers. Similarly Web services and Web GIS differ. The former is a mechanism over the Web offering services regarding data where the latter offers the usual GIS functionalities (mainly analysis functions) over the Web.

Extended goals of an SDI include to enable easier GI development and use, enhance collaboration between participants (individuals and organisations) in order to enhance the knowledge of the area and its shared comprehension. Thematic communities and communities of practice are often organised in a SDI. The SDI is meant to be used at the user level.

Following issues related to the definition of an SDI were raised during the eSDI-Net+ SDI Best Practice workshops, meetings and discussions about the SDI analysis and section:

- *Definition of an SDI best practice:* A first general conclusion made during the performance of the SDI analysis and assessment campaign is that a mature SDI is difficult to find. E.g, in France most of sub-national SDI's created are less than 3 years old. But if one considers mature SDI components, not only at a technical level, they do exist in different regions. E.g, in Italy, Piemonte region can be considered as a best practice in relation of the data policy issue, Lombardia region in relation to the subsidiarity issue, Sardegna region in relation to technological aspects and Friuli Venezia Giulia region in relation to the legal status.

² 'FORMAL' DEFINITION: The technology, policies, standards and human resources necessary to acquire, process, store, distribute and improve utilisation of geospatial data' – GSDI Cookbook.

'INFORMAL' DEFINITION: The basic arrangements for combining, processing and making available spatial data in forms and ways which meet user needs and capacities.

- *Definition of SDI:* some SDI solutions, e.g. in Italy, used the term GIS to identify their name. This fact highlights an interesting issue: these regions look at SDI's as an evolution of their GIS.
- *Definition of geoportal:* it is evident the lack of understanding of the definition of Geoportal. Most regions are advertising their systems as geoportals, but apparently these systems are WebGIS publishing locally managed resources.

In many countries, spatial data infrastructures are developed at a sub-national level. In the context of eSDI-Net+, sub-national means NUTS 1, NUTS 2, NUTS 3 levels or any of their aggregations according to the administrative structure of the countries, referring to the nomenclature defined by of the European statistical office EUROSTAT³. It means that SDI developed at lower levels (NUTS 4 or NUTS 5) are not considered unless they are identified as real best practice at the national level or NUTS 4 (or groups of NUTS 4) play effectively a stronger role in some countries than NUTS 3. Some flexibility is thus considered. It may exist sub-national SDI's that are not fitting with the administrative structure of the country. They have also been considered if they have either a large extension (at least as wide as a NUTS 3 area) or have a trans-national nature.

2.2 Sub-national SDI identity card

The basis for the information about the SDI has been obtained by filling in the SDI ID Card, which contained following data:

Country name:	
NUTS level/s 4:	
Sub-national name:	
Sub-national SDI name	
Mission statement:	
Objective:	
Legal status:	
Funding mechanisms:	
Human resources of the permanent team (if any):	
Legitimacy:	
Year of creation:	
Partners in the SDI (who pays, who benefits from):	
Binding mechanisms for the partners:	
Development status (inception, in development, in operation):	
URL:	

Table 1. SDI ID Card

³ http://ec.europa.eu/comm/eurostat/ramon/nuts/home_regions_fr.html

⁴ http://ec.europa.eu/eurostat/ramon/nuts/home_regions_en.html

2.3 Content of the SDI analysis

Evaluating the information collected during the preparation phase and the interviews, analysis of following criteria has been performed:

- **Qualitative Analysis:**
Information obtained here tackled the quality of data, metadata and services. In particular, compliancy to standards and INSPIRE Implementing Rules has been assessed.
- **Quantitative Analysis:**
Quantitative aspects of data, metadata and services have been assessed. It included information about number of information layers, percentage of information layers and services provided with metadata compliant with INSPIRE Metadata IR, availability of discovery, view or download services.
Interviewer could take this information during the direct interview but had to verify it analysing the geoportal.
- **SDI usage assessment:**
This set of questions intended to analyse SDI usage based on user requirements and satisfaction. The basic information to acquire is if the SDI development has been based on clear and well defined user requirements. The definition of the users in his specific context (and their classification) has been let to the interviewed persons. It was also investigated the existence of actions to verify user satisfaction. No direct interviews with the users were foreseen and made.
- **Social impact:**
Information has been obtained about the SDI workflows, influence on the relationships between citizens and Public Administration and SDI's impact in comparison with GIS impact.
- **Networking and consensus building:**
This set of questions intended to understand the networking issue the sub-national SDI has to face in order to create a climate of opinion, to identify common interest, shared interest, and to build consensus. It relates to the humanware and tries to identify what exists beyond the digital façade (the emerged part of the iceberg visible on the net).
- **Socio-economic impact analysis:**
This set of questions intended to evaluate whether the sub-national SDI has undertaken socio-economic impact analysis. To assess this aspect different methods can be used such as cost benefit analysis, cost avoidance. The objective here is to collect results, if any, and identify innovative methods.
- **Organisational aspects:**
This set of questions intended to assess the place of the sub-national SDI in the overall organisation of the territory. Questions in the area of administrative area governance, funding and responsibility and other organisational aspects have been raised.
- **Coping with legal aspects:**
Legal aspects of sub-national SDI are two fold. On the one hand it copes with the laws and regulations that the SDI has to comply with and on the other hand what is the legal status that the SDI should have to reach sustainability.

- **General remarks:**
General remarks about the future perspective and sustainability of the SDI have been made.
- **Geoportal evaluation:**
These questions asked for information about visibility, multilingualism, consistency in the nomenclatur and effectiveness of the view service. This section was not part of the interview. It had to be filled by the interviewer in back-office after appropriate analysis on the web.

The methodology described above was used as a main guideline by all workshop organisers and partners involved in the process of identification and analysis of promising SDI solutions. The methodology has been considered as appropriate to be introduced at the governmental level during the implementation of INSPIRE. Also lacks have been identified, they were overcome by the interviewers. Furthermore, dependent on the SDI representatives, there was sufficient flexibility allowed to adopt to the needs of the SDI contact persons. The workshop discussion and the conclusions taken in some of the areas, address the issues to be considered at the European level with respect to the INSPIRE development and the introduction on the technical, political and user level.

2.4 Experiences made

Using the methodology as a guideline, following experiences were reported by the organisers of the eSDI-Net+ SDI Best Practice workshops:

SDI data and services – qualitative and quantitative analysis:

- Data accessibility: some of the SDI solutions, e.g. in Hungary, have dual accessibility, intranet-based for internal use, and open website to ensure the widest possible public access. The content of this latter should be gradually enhanced.
- Metadata availability and services as well as visualisation should be further enhanced.

SDI Usage assessment:

- Users: the target users are generally internal users;
- User requirements: While data policy is regulated by the national legislations, metadata availability at free of charge is a high priority requirement. An imperative requirement is to adopt and use relevant standards.

Cooperation and subsidiarity, networking and consensus building:

- Principle of subsidiarity: it is often applied by sub-national regions in supporting Public Administrations at lower administrative level that do not have enough resources and capacity to implement their own systems for publishing and sharing spatial data. According to this principle of subsidiarity, which is often regulated by a national law, a Public Administration at a higher administrative level, in this case a

region operates on behalf of administrations at a lower level when these have not the possibility to fulfil a specific task. This has happened to traditional GIS, and is happening today to SDI's, e.g. in Italy.

- Agreements on data sharing: agreements exist in relation to the mentioned subsidiarity, but not explicitly dedicated to the SDI;

Socio-economic impact:

- Data policies: There is heterogeneity of data access possibilities and costs. Possibilities for the private sector to access data and build value added services on them have not been mentioned;
- Readiness for EU and INSPIRE: There are SDI solutions at the national and sub-national levels, which are appropriate to be registered on the EU level, among others 6 SDI's presented at the Hungarian workshop.

Organisational aspects:

- Funding schemes: sub-national SDI's have very heterogeneous funding, normally including national and European funding, e.g. in France.
- Coordination: only in some cases there is a dedicated coordination committee, while most of the regions claim that such a structure is not needed at local level, but at the national level.

Legal aspects:

- Legal status: there is evidence that the majority of SDIs operates informally, although issues on legal structure are more and more on the agenda. As an example, sub-national SDI's representing 9 in 26 NUTS2 regions in France do not have formal legal structure, and in Italy, only one region was identified as having a law explicitly dedicated to SDI's.

Technical functionalities and facilities

- Technological aspects: there is a growing attention to the INSPIRE directive, but there is also a lack of understanding of its technological implications. Some regions in Italy claim to have an INSPIRE compliant WMS service. This is not yet possible since INSPIRE will likely require WMS version 1.3 and current software solutions do not yet provide WMS versions according to that standard. Only three Italian Regions have published a WMS, and only one has published a WFS. Apparently, other regions have implemented such services, but they are not explicitly published and available (the binding URL is not available).

3 Process of selection of good SDI practices and experiences made

The identification and analysis of best practices in SDI's on the sub-national level was based on the methodology for the evaluation of SDI solutions developed at the beginning of the project and described in the deliverable D2.1 List of common parameters to assess SDI initiatives. Workshop organisers were encouraged to apply the common methodology and to follow the recommendations for running the national workshops described in the deliverable D2.1.

In the context of eSDI-Net+, sub-national means NUTS 1, NUTS 2, NUTS 3 levels or any of their aggregations according to the administrative structure of the countries, referring to the nomenclature defined by the European statistical office EUROSTAT⁵. Some partners representing larger regions demonstrated their intention to work with national representatives of countries not represented by eSDI-Net+ project partners but willing to participate in future workshops. This is the case of South-East European Region. Agreements with national representatives were made in order to benefit from their background knowledge of existing SDI solutions in their country.

Following SDI selection procedure has been applied:

1. Identification and Preparation
2. Questionnaires and Interviews
3. Assessment and Selection
4. Workshop
5. Report
6. Recommendation of Best Practices for the Award

The general methodology followed to identify and analyse best practices for national workshops is described in the following text sections and is illustrated in the figure below.

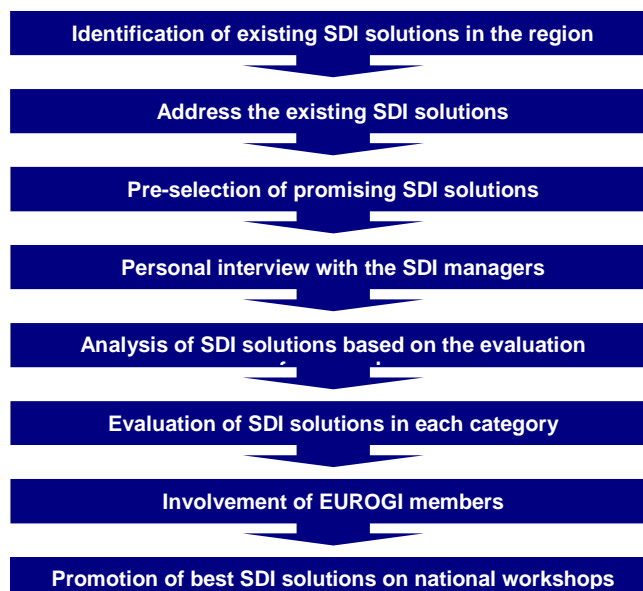








Figure 1: Used procedure to identify and analyse best practices for national workshops

⁵ http://ec.europa.eu/comm/eurostat/ramon/nuts/home_regions_fr.html

The table below illustrates the timeline and status of the activities towards the selection of SDI's good practices for the Best Practice Award in Turin, on November 26-27, 2009.

SDI Selection Timeline	2008								2009							
	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	
Southeast Europe																
UK / Ireland																
Portugal / Spain																
Hungary																
CZ / Slovakia																
Italy																
Germany / Switzerland																
Netherlands / Belgium																
France																
Scandinavia																
Poland																
Romania																

Figure 2: SDI Selection Timeline

-  Identification and Preparation
-  Questionnaires and Interviews
-  Assessment and Selection
-  Workshop
-  Report
-  Recommendation of Best Practices for the Award

According to the status of activities the reports of following European countries and regions have been considered in this report:

- Czech Republic and Slovakia
- France
- Germany and Switzerland
- Hungary
- Italy
- Poland
- Portugal and Spain
- Romania
- South-East Europe
- UK and Ireland
- Belgium and Netherlands
- Scandinavia

3.1 Identification of existing SDI solutions on the sub-national level

The aim of the identification phase was to find the existing SDI solutions on the sub-national level, which meet the requirements stated in the Announcement “Identification and Analysis of Spatial Data Infrastructures Best Practices Towards the SDI Best Practice Award 2009 - GET INVOLVED!“:

- They must have been operating at least for the last one year
- They should meet the overall profile outlined in the current invitation
- The SDI application must also be web-based
- The application must include an accessible web address

For the identification of existing SDI’s, the following methods were used: partners background knowledge of existing SDI’s in the region and existing contacts of the partners with GI networks, collection and analysis of presentations related to SDI experiences and proceedings in conferences, such as the annual ASITA National Conference in Italy, GI printed/on-line newspapers’ articles, web browsers, such as www.google.com. Keywords searched on the internet were SDI, portal, map, region etc.

Some SDI solutions identified were mainly related to the daily work of municipalities and utility services, were developed locally and its thematic defined by the application used. This was the case of Hungary, where preference in identifying SDI’s was given not only to local SDI service providers but also to a balanced representativeness of diverse thematic applications.

In France, due to previous workshops organised in Poitiers 2005 and Marseille 2006, the selection of sub-national SDI’s was done based on AFIGÉO knowledge of the French stakeholders. So nearly 50 SDI’s have been identified and selected for following enquiry.

In UK and Ireland, there is a lack of consistent regional administrative arrangement. Therefore the identification of sub-national SDI’s was not as straightforward as in more regionally organised countries – although the UK (from early 2009) now has a UK SDI programme at national level and in late 2008 the Irish Organisation of Geographic Information (IRLOGI) was contracted to encourage registration of SDI’s in Ireland and to conduct interviews and run the workshop. In this joint workshop 12 sub-national SDI’s participated – 9 from the UK and 3 from Ireland.

In Portugal and Spain, each country adopted different strategies to identify existing SDI’s. The Spanish identification process of SDI’s, was based on workshops that are organized each 3 months to follow up the development of the SDI strategy and Portugal followed the “methodology for the evaluation if SDI solutions developed in the deliverable D2.1 List of common parameters to assess SDI initiatives”. In the joint workshop, 20 sub-national SDI’s participated – 7 from Portugal and 13 from Spain.

The German and Swiss workshop was organised in collaboration with two key players in the GI field in Germany, InGeoForum, GDI-DE and DDGI, in order to attract the key audience and speakers and to increase the visibility of the workshop results. In the workshop preparation phase, it was an obstacle to obtain all information necessary for the SDI analysis and selection since the idea of a competition and the fact of publishing the information about the SDI’s caused sceptic behaviour in the majority of the identified and contacted SDI’s. It was also mentioned by the SDI responsables, that there was a lack of available resources. This visibly decreased the feedback received from the SDI’s. Nevertheless, a sufficient number of

SDI's showed their interest on the eSDI-Net+ project and the workshop. They provided great support and information to make the workshop a successful endeavour.

In Poland, the method for identifying SDI solutions was based on the methodical approach described above. Such information sources as contacts obtained at conferences, scientific articles, news groups and internet were used to search for SDI's. 19 sub-national SDI's have been identified.

For the South-East European workshop, each of the 11 countries represented at the workshop (Albania, Bosnia-Herzegovina, Bulgaria, Croatia, FYROM, Greece, Kosovo, Romania, Serbia, Slovenia and Turkey) identified a responsible expert to identify the existing SDIs.

3.2 Invitation of the identified SDIs

The invitation of existing SDI solutions to participate in the activities of the eSDI-Net+ project was developed using the document "Announcement - Identification and Analysis of Spatial Data Infrastructures Best Practices", prepared by the project office. In this invitation, an application form composed of 8 basic questions was included. Besides this, the evaluation framework developed in the work package 2 has been introduced to the applicants. Some partners have translated the document to national languages in order to reach all SDI representatives, e.g. Italian, German, Czech, Hungarian and Polish.

According to the methodology described in the deliverable D2.1, partners verified in this step, if the contacted organisations fulfilled the requirement to be a real SDI and not only a complex GIS. This led to intense discussions about the definition of an SDI.

Portugal invited representatives from all SDI's that filled in the SDI ID card, even if some of them were not completely compliant with the SDI pre-requisites. It was decided that it could be interesting to promote and encourage their efforts to become an SDI in the future, by exchanging experiences with other more mature SDI's represented at the workshop.

Some difficulties experienced during this phase occurred due to the difficulty of involvement of commercial companies in an EU project (lack of motivation, insufficient time to participate, not interested to be compared with other solutions, etc.) and overcoming their idea that the project members were gathering detailed technical information for their own purposes.

3.3 Pre-selection of promising solutions

After the invitation, in total 238 applications were received: 15 in Czech Republic, 49 in France, 38 in Germany and Switzerland, 6 in Hungary, 15 in Italy, 19 in Poland, 17 in Portugal and Spain, 14 in Romania, 54 in South-East Europe and 11 in United Kingdom and Ireland. The number of received applications in Netherlands, Belgium and Scandinavia will be added in the next iteration of this document.

The answers to the 8 questions used in the call for participation gave useful information for further SDI evaluation. The questions covered most of the criteria, which should be taken into account during the evaluation. Some partners have experienced that most of the SDI representatives described the SDI solution in a more detailed way in this application form than subsequently, while using a more extensive evaluation framework.

The data of the identified promising solutions have been included in the eSDI-Net+ database available in English, which will be submitted as a separate deliverable (deliverable D3.1) after the finalisation of the work package 2. The information in the database is based on the identity card defined in the document D2.1 List of common parameters to assess SDI initiatives.

3.4 Personal interviews with the SDI managers

Following the pre-selection, the SDI's with promising solutions were contacted to schedule an interview in person or via phone conference with the responsible manager in order for each partner to get more detailed information and to further evaluate these SDI solutions based on four key aspects for successful SDI selection:

1. technological, innovative level and originality of the project;
2. implementation and/or readiness for the INSPIRE principles;
3. level of fostering cooperation between different users (proof of visibility and/or user feedback); and
4. possibility of extension to other countries and regions.

While some of these interviews were performed by phone, others were carried out personally. Following, the workshop organisers produced a report including information collected during the interviews and using the Evaluation Framework as a guideline. It was sent to the interviewed persons to confirm its contents and to integrate eventually missing data and information. At the end it was returned to the workshop responsible. Some partners, such as Italy, have completed the analysis of the SDI's with an internet-based performance control of the SDI geoportal.

In some cases, e.g. in Spain, it was not necessary to arrange personal interviews with SDI's since the necessary information was already available due to advanced development in the SDI area in the country.

Some partners make a point of attention for the timeframe to arrange a personal meeting, which is predicted to last approximately two weeks. In addition, in case of need to translate the evaluation framework the recommendation is to have also the original version in English available during the interview as some specific terms used by the GI community do not have proper translation in the national languages.

Some difficulties experienced by the partners occurred due to following factors:

- the extension of the evaluation framework, which took in average two hours to complete;
- the redundancies of questions in the framework addressing the same issue;
- the subjectivity of some questions that are more based in the manager's personal opinion;
- the non-applicability of some questions to the interview-partner and the evaluated SDI (complicating the direct comparison with other evaluated SDI's);
- the simplicity of most of the questions and;
- the relevance of some questions to the four main criteria stated above.

3.5 Analysis and evaluation of SDI solutions

The activities described in the previous sections were helpful to get an overview about the state-of-the-art of SDI's, to collect experiences, success cases and obstacles in each country performing the workshop. It also helped to understand the different primary goals and focuses of existing SDI's (e.g. involvement of participants on communal level, technical interoperability, addressing financial / technical obstacles of participants).

The analysis of the interviewed SDI solutions was based on two documents, the application form in the call for participation (8 basic questions) and the evaluation framework (8 set of questions focusing on different topics).

The call for participation and the evaluation framework questionnaires applied during the interviews provided following information necessary for the SDI analysis and selection: SDI branding, evolution, legal status, coordination funding, data sharing, data collection & management, users, data policies, technology, INSPIRE readiness, Geoportal, extensibility to others and measurement of success.

3.6 Involvement of EUROGI Members

EUROGI members were asked to contribute with their experience and knowledge on the analysis of SDI solutions participating in the eSDI-Net+ project. The involvement of the EUROGI members has been threefold:

- In some cases, EUROGI members were directly involved since the very beginning of workshop-related activities;
- Some others were indirectly involved by cooperating with the eSDI-Net+ partners of their countries;
- The network also benefits from the direct participation of some EUROGI members as partners of the eSDI-Net+ project.

For more information about the participating EUROGI members in this phase of the project, see Table 2.

Country Partner	EUROGI Member
Belgium	CC Belgium
Czech Republic	CAGI – Czech Association of Geoinformatics
France	AFIGÉO – Association Française pour l’Information Géographique
Germany	DDGI e.V. « Deutscher Dachverband für Geoinformation »
Hungary	HUNAGI – Hungarian Association for Geographic Information
Ireland	IRLOGI – Irish Organisation for Geographic Information
Italy	AM/FM Italia
Netherlands	Geonovum
Poland	No Eurogi members
Portugal	IGP – Instituto Geográfico Português
Romania	Spatial Applications Division (SADL), K.U.Leuven R&D (Danny Vandenbroucke)
Scandinavia	ULI - Swedish Development Council for Geographic Information
Spain	AESIG – Asociación Española de Sistemas de Información Geográfica
South-East Europe	No Eurogi members
Switzerland	SOGI - Swiss Organization for Geographic Information
United Kingdom	Robin Waters (individual member)

Table 1: Identification of EUROGI members participating in this phase of eSDI-Net+ project

The other nationally based EUROGI members, such as AGEO (Austria), CC Belgium (Belgium), GTIM SIG (Luxembourg), LISA (Iceland), and PROGIS (Finland) contributed on the networking towards raising awareness of the ongoing activities and some of them are expected to be involved in the actions of the eSDI-Net+ project.

3.7 Promotion of best SDI solutions on national workshops

The final step of the identification and analysis phase was the presentation of selected best practices in each category on national workshops. Invitations have been sent to the SDI's selected for participation in the workshops, mostly by e-mail. The information about the event was published on-line and in printed media.

Some partners combined the eSDI-Net+ workshops with other GI conferences and events in order to foster the participation of SDI's.

The organisers of the national workshops were encouraged to prepare and to perform their events according to the common SDI selection methodology and procedure the eSDI-Net+ partners agreed on. It is described in detail in the chapter 3. The organisers of the workshops have finalised their activities and have provided their national reports, which contain information about the different phases of the workshops preparation and implementation as well as particular results drawing the picture in their region. These reports will be published on the eSDI-Net+ website.

Following the recommendations for national SDI Best Practice workshops listed and explained in the document "D2.1 List of common parameters to assess SDI initiatives", chapter 4, the eSDI-Net+ workshops were held during one or two days, a period that was considered as appropriate to represent each SDI solution and to exchange experiences.

The eSDI-Net+ network invited all types and sizes of stakeholders in charge of SDI developments from any region of Europe and at any level, from local through regional to national. Organisations facilitating access to geographical content or providing geo-information services to end-users were invited to participate in the SDI best practice selection process.

SDIs to be considered had to meet the following criteria:

- They must have been operating for at least the last one year
- They should meet the overall profile outlined in the current invitation
- The SDI application must also be web-based
- The application must include an accessible web address

Following workshops have been performed:

European region(s) represented at the workshop	Workshop location	Date	Point of contact
France	Strasbourg, France	June 5-6, 2008	AFIGÉO
Hungary	Budapest, Hungary	August 29, 2008	HUNAGI
Czech Republic, Slovakia	Brno, Czech Republic	September 10, 2008	INGR
Italy	Rome, Italy	September 25, 2008	AMFM
Romania	Bucharest	December 11-12, 2008	ICIA
Poland	Krakow, Poland	January 29, 2009	AGH-UST
Portugal, Spain	Lisbon, Portugal	February 5, 2009	USIG, UJI
SE Europe: Albania, Bosnia-Herzegovina, Bulgaria, Croatia, FYROM, Greece, Kosovo, Serbia, Slovenia and Turkey.	Thessaloniki, Greece	February 5-6, 2009	SEERC, AGISEE
United Kingdom, Ireland	Liverpool, UK	February 11, 2009	RSW Geo
Germany, Switzerland	Darmstadt, Germany	February 12-13, 2009	IGS, FHG-IGD
Netherlands, Belgium	Brussels, Belgium	April 28, 2009	AGILE, SADL
Scandinavia: Sweden, Finland, Iceland, Norway, Denmark	Stockholm	April 27, 2009	LIU-IDA

Table 2: List of eSDI-Net+ national and regional workshops

The workshop programmes included the presentation of survey results and best practices per topic of the methodology and organisation of a round table for discussion of key topics, such as:

- Communication and cooperation between sub-national SDI's and with the national SDI's: key features that differentiate an SDI and a complex corporate GIS, main drawbacks in sub-national SDI implementation, dealing with IPRs and managing geographic data licensing issues, management of sub-national SDI's/national SDI's relationship, etc.
- Subsidiarity among regions and municipalities in producing topographic databases; building a shared data model for structural urban planning; management of Intellectual Property Rights in a SDI; technological aspects. These issues were specifically addressed in the workshop organised by Italy.

Some countries, like Czech Republic and Slovakia have awarded the best participating SDI solutions in each selected category for their countries.

Other workshops took place in the context of related events. On the one side they attracted more interested stakeholders, but on the other side allowed further presentations in the context of INSPIRE and GMES. The goal was to initiate further discussion and exchange of experiences in the national and regional context.

The planning of the workshops including the interviews and the reporting was coordinated to ensure the consistency and the comparability of the results. Dependent on this constraint, the local organizers acted very independently and adapted the methodology to their local needs. To ensure a best possible coordination, the local organizers were asked to provide a proposal on the planning including the procedure, timeline, budget, and requested funding to the work package leader and the project coordinator.

3.8 Recommendations for the SDI Best Practice Award

After the implementation of the national and regional workshops each workshop organiser provided a report with the experiences made in his country or region. Besides this, evaluation forms were filled in by workshop participants and workshop organisers.

The basis for the workshop evaluation provided the evaluation forms for workshop organisers and participants developed within the work package 5. These questionnaires are part of the eSDI-Net+ network and workshop assessment concept documented in the deliverable D1.7-2 Progress Report Nr. 2, Annex B. The efforts of the organisers and the results of the workshops were analysed. The figures extracted from the evaluation forms have been considered for the review and adaptation of the eSDI-Net+ success indicators, as stated in the D1.7-3 Progress Report, chapter 2.3.

Based on the workshop results, the local organisers recommended SDI solutions in their country or region which should get the opportunity to present themselves at the SDI Best Practice Award 2009.

4 Lessons learnt and future perspective

Within the work package 2, and in particular in the national and regional SDI Best Practice workshops significant results were achieved towards characterisation of the existing SDI implementations throughout Europe. The workshops focussed on common issues, usability and socio-economic impact of SDI's and addressed the integration between SDI's and e-government policies. They brought together stakeholders, and showed use cases and questions.

In total, between 4 and 15 best practices were identified in the event and 2 to 6 political decision makers were involved. National workshops had between 24 and 200 participants and their average evaluation of the workshop was positive (4/5) or very positive (5/5)⁶. Generally, all workshop organisers have demonstrated great commitment to disseminate information about the event and the eSDI-Net+ project, which is shown by the elaboration of press releases considering the GI and other publications.

The identification and analysis of best practices in SDI's was based on the common methodology for the evaluation of SDI solutions developed at the beginning of the project and the recommendations for running the national workshops described in the deliverable D2.1 List of common parameters to assess SDI initiatives. All workshop organisers applied the common assessment methodology and the SDI selection procedure to their national circumstances.

In general, the SDI assessment methodology and process applied have been considered as suitable to be introduced in the governmental work during the implementation of INSPIRE. The methodology considers the cultural, technical and legal differences in different European countries and provides a common evaluation framework applicable for SDI's in Europe.

In order to use experiences and lessons learnt for the next steps towards the SDI best practice selection at the European level, consortium suggests a number of adaptations of the assessment criteria in order to create a strong evaluation basis for the SDI Best Practice Award 2009. First of all, the eSDI-Net+ consortium suggests the classification of the information used for the SDI assessment in five main criteria:

1. Quantitative aspects
2. Data and services quality
3. Co-operation and subsidiarity
4. Sustainability
5. Users and usability

In the framework of these five major criteria groups, about 32 indicators are currently in the definition process in order to obtain detailed information about the SDI. These indicators should be used to obtain following information:

⁶ See for details Annex B of this report.

Quantitative aspects:

- Number of information layers,
- Percentage of information layers provided with visualisation or download services (WMS),
- Percentage of information layers and services provided with standard metadata (ISO19115, INSPIRE IR, Dublin Core, etc.)

Data and service quality:

- Importance of precision and quality,
- Promotion of value-adding services (spatial analysis, cartography, indicator computation, etc.)
- Availability of geoportals facilities to support data sharing
- Availability of discovery or view services
- Availability of a metadata catalogue with a search engine
- Availability of WebGIS for view functions

Co-operation and subsidiarity:

- Information on parties responsible for the SDI development and implementation
- Handling of costs
- Information about the structure and networking
- Provision of users training

Sustainability:

- Socio-economic impact
- Sustainable business model and specific budget
- Legal status and dealing with legal aspects (IPR, PSI, DBP)

Users and usability:

- Multilingualism
- Consideration of user requirements
- Level of openness (Access, payment)
- Target users (public or private sector)
- Consideration of SDI usage and user satisfaction
- Availability of service performance measurements

These main criteria and indicators provide the basis and structure for the database of good practices (deliverable D3.1), which will be finalised within in the work package 3. A complete set of data obtained during the identification and analysis of promising SDI solutions throughout Europe is currently being collected and documented in this ACCESS database.

WP2 & WP3 Meeting took place on January 15-16, 2009 in Thessaloniki, Greece with the focus on discussion of the current status of the workshops organised so far as well as the SDI assessment criteria to be applied at the Best Practice Award 2009. The final discussion on the assessment criteria list took place at the 4th Consortium Meeting in Leuven, Belgium in March 2009. The final list of criteria and indicators to assess SDI's will be a part of the

deliverable D3.1 Pool of categorised best practices (database / list), which will base on the findings and results of the work package 2.

Based on the work performed within the work package 2, the next step towards the promotion and dissemination of SDI best practices in Europe is currently in preparation, the SDI Best Practice Award 2009. Following to the described identification and analysis process, the eSDI-Net+ project will award the European SDI Best Practices at sub-national level on November 26 -27, 2009. The overall competition will be based on the SDI evaluation criteria and indicators which were defined during the process of SDI analysis.

The SDI's registered for the identification and analysis phase will automatically be considered for the 2009 Award, providing they have been positively evaluated during the described process. In addition to the already evaluated candidates from the identification and analysis phase, further SDI's throughout Europe are welcome to submit their application until July 17, 2009. Based on the concluding presentations and exhibitions of the finalists a final ranking will be applied. All finalists' solutions will be actively promoted to relevant stakeholders and media. For further details please see Announcement of the SDI Best Practice Award available at the project website www.esdinetplus.eu in the Get involved section.

Through the currently ongoing process for the Identification and Analysis of SDI Best Practices at sub-national level, the eSDI-Net+ project offers limited opportunity for SDI's throughout European countries and regions to present themselves in personal interviews and at the SDI Best Practice Award 2009, both to Spatial Data Experts and local SDI stakeholders. The aim of this international event is to give SDI's the chance for participating, as well as provide input for the definition of the key references and criteria.

The project activities described in this report as well as the SDI Best Practice Award 2009 aim to promote existing, working, accessible and intelligible solutions, to communicate the purpose and aims of the INSPIRE directive, to improve the overall knowledge about SDI's and to encourage local collaboration in setting up innovative solutions in terms of efficiency and effectiveness.

Annex A: Evaluation Framework