Reflections about a global forum for GI management

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Acronyms mostly used:
EU European Union - **EC** European Commission - - **GI** Geographic Information - - **INSPIRE** Infrastructure for Spatial Information in Europe - **MS** Member State - **PA** Public Administration - **SDI** Spatial Data Infrastructure .

The opinions and the ideas expressed in the paper are of the author even if they are based on official documents.

Rationale of the position paper.

Along with and in support of the INSPIRE Directive and ever since the early decision of taking this initiative to set up an EU infrastructure for spatial data, the European Commission (EC) has established a number of activities. Research projects, thematic networks and pilot industrial projects have been financed in order to set up scientific, technical, operational solutions and practices together with exploring and setting up adequate and sustainable models for maximizing and exploiting the use of GI within the EU.

Projects receive financial support through the European Union Framework Programs for Research, which bundle all research-related EU initiatives together under a common roof playing a crucial role in reaching the goals of growth, competitiveness and employment, and specific programs such as *e*-Contentplus[1] which provides measures to make digital content in EUROPE more accessible, usable and exploitable. These projects are defining specifications, common data models, guidelines, best practices as well as services to access and download relevant data models in a number of vertical domains corresponding to several themes of the Annex I to III of the Directive, ranging from geology to natural areas from planning to addresses, from places names to marine and coastal areas, etc.

In order to contribute to concretise the resolution ,already taken during the Eighteenth United Nations Regional Cartographic Conference for Asia and the Pacific in Bangkok, 26-29 October 2009, *"….. omissis …. of the possible creation of a United Nations global forum for the exchange of information between countries and other interested parties, and in particular for sharing best practices in legal and policy instruments, institutional management models,… omissis ….. "* , the position paper presents some of the relevant issues to be addressed. The brief discussion is based on the project's results and methodology of a thematic network project which aimed to the promotion of cross border dialogue and exchange of best practices on SDIs throughout Europe, bringing together key stakeholders of European SDIs and to realizing a platform for communication and exchange of knowledge at all levels, from local to global.

Before entering in the discussion some information is needed. Already in the early stage of INSPIRE initiative to become a directive it has been clear to some of the experts that the main task of geo- data interoperability, which represents the basis GI management, could be impossible to achieve without the full involvement and appropriate participation of the sub-national administrations which form every European nation. They have their own administrative structure and are politically independent generally having their own elected councils and president. The way

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[1]   http://ec.europa.eu/information_society/activities/econtentplus/index_en.htm

how they are elected varies from nation to nation nevertheless according to the devolution process , globally recognized as a trend, their commitments steadily increase.

The previous situation together with some other, technical considerations already experimented in some countries were driving the few experts , among which I was , to set up a project proposal which has been approved in a specific call of *e*-Contentplus program of the EC. The project is called *eSDINet+*

The paper intends to present some ideas built on the methods and the actions put in place for carrying out the project with specific reference to the involvement of sub-national SDI coming from different nations having different languages and administrative structures and different political framework as well.

The results of the project may be usefully used for foreseeing and tailoring the actions to build the forum and the network mentioned within the already mentioned resolution. The peculiarities of each of the nations in Europe together with their own characteristics realise an effective test-bed for helping to take decisions at global level of the UN.

The objectives of a project for GI management.

The main objective of *eSDI-Net+* has been defined to bring together in Europe 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 was aiming and succeeded to promote high-level decisions, low-level technical discussion and information exchange, in order to increase awareness concerning the importance of GI enrichment and of SDI's for GI reuse.

Having in mind all the objectives experimented within this project it is possible to consider that the most suitable ones to be discussed for further development of a global forum are the following :

- Bring together SDI key players and target users in a platform for communication and exchange between stakeholders involved in creation and use of SDI's.
- Promotion of high-level decisions and bottom-up technical discussion, and information exchange.
- Increase awareness concerning importance of GI enrichment and SDI's for GI reuse.
- Increase the accessibility to GI with particular reference to the cost of data.
- Allow integrated view of experts and foster creation of integrated guidelines, standards, and implementation of best practices.
- Establish communication mechanisms between global (UN) and local (Nation) levels to maximize benefits deriving from sustainable e-communities.
- Develop solutions for multicultural and multilingual access, exploitation, use, and reuse of digital GI content .
- Stimulate aggregation of existing national data sets of core GI into cross-border data sets.

Issues to be addressed and tools to be used.

Learning from the already mentioned project: one of the main issue present in the context where *eSDI-Net+* project was operating was to overcome the lack of reusability and to solve the problem of clustered data. In its thematic workshops, the *eSDI-Net+* network analysed the reusability and interoperability problems and solutions and made the knowledge about developed solutions available to the GI community. It has been demonstrated during the project that network activities lead to the generation of Europe-wide (*defacto* international) standards, and thus to data exchange, interoperability and harmonisation.

It has also been monitored that co-operation and co-ordination between public sector organizations is limited, and the issues of barriers, fragmentation and lack of harmonisation and interoperability are widespread all over Europe (again at consistent international level) . It was not the mandate of the project *eSDI-Net+* to solve the lack of knowledge at national or at sub-national level but the need of effective coordination mechanisms to integrate the regional and local experiences at International level, and to promote greater harmonisation and interoperability among countries has been proved.

The isolation of data (which has been clearly addressed by INSPIRE presenting the well known slide of data duly saved within safe-boxes on isolated islands without any link among them) needs dialogue between the SDI stakeholders at the local, regional and national levels. It has been demonstrated that the most effective way for avoiding isolation and aiming to real integration is to foster exchange of best practices.

Another relevant issue concretises in the legal barriers (data policy on data ownership and licensing, which includes sections on intellectual property rights -IPR, distribution mechanism and pricing of data) and in cultural and linguistic barriers. These are major issues where probably the global dimension addressed by UN may obtain effective results discussing high level solutions for insuring the global benefit of the human being.

It has been learned during the project that the demand should be never considered disconnected from the real user needs. The intelligent and effective use of GI goes through the understanding, the involvement of the user community which often concretises in e-communities through appropriate e-government initiatives, programmes and projects. This point is specially relevant in a global context where the cultural, semantic, local, characteristics of understanding and using GI vary from region to region and often from village to village in the same nation.

Conclusive and recommending remarks.

In the assumption of starting the global forum mentioned in the afore mentioned resolution an effective co-ordination, collaboration and communication body among the network members should be started in order to ensure the fulfilment of the overall goals within the time and budget constraints. Furthermore, it should serve as a common interface towards the external partners and the network/forum environment, by representing the forum towards the public and private. It has also to be taken into account the network/forum enlargement, which should in the hands of Co-ordination body which will develop strategies to attract new members and plan long-term sustainability measures.

It should be honestly recognised that the most challenging part of handling network/forum of complex entities such as the public authorities dealing with GI is how to foster participation of these bodies. It has been learned from the project that it is more easy to assemble in a network best practices since they are generally willing to present their achievements and results. The identifying of best practices may be carried out through a benchmarking exercise taking into consideration technical aspects (e.g. related to core and application data, metadata and SDI) and socio-economic issues (e. g. related to core and application data, metadata and SDI). At the beginning of the individuation process, some common definitions should be agreed in order to build a common layer of understanding and operations. This is a delicate point since the GI issues span from geo sciences to geo informatics, from cadastral issues to environmental issues, from statistics to planning and moreover. The dominion of SDI is more clearly defined and the literature provide a widely accepted definition. 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.

The dissemination and awareness objective is also a relevant issue to be taken into account . This issue may be managed using appropriate dissemination channels, e.g. mass media should guarantee the distribution of information material so as to reach the defined target groups. It is absolutely crucial to estimate how many final user organisations and public authorities may be reached in the first step of the launch of the network/forum. Periodical international conferences should be also planned in appropriate geographic locations in order to maintain alive the network/forum identified key issues.

A sustainability plan should be put in place at the starting of the network/forum in order to continuously monitor the development of the initiative.

The widely accepted and scientifically demonstrated statement saying that SDI is an evolving entity should be taken in high consideration for the GI management issues and for coordinating and running the network/ forum as well. The already mentioned project *eSDI-Net+* demonstrated that to individue and to evaluate SDIs is an ambitious and challenging task mainly due to the fact that they are different in structure, having different final goals and completely depending on local needs, culture , socio economic and political circumstances.

The evaluation of SDI through qualitative and quantitative parameters may be an appropriate solution but it should be clearly taken into account the difficulties related to set up appropriate parameters and measurement tools. Nevertheless European project *eSDI-Net+* succeeded filing more than 120 SDIs with their own characteristics.

What may be primarily suggested is the creation for the network/forum participants is an ID CARD. The ID Card should contain **:** Country name, NUTS level/s 4, Sub-national name, Sub-national SDI/GI management tool name, Mission statement, Objective, Legal status, Funding mechanisms, Human resources of the permanent team (if any), Legitimacy, Year of creation, Partners in the SDI/GI management organisation (who pays, who benefits from), Binding mechanisms for the partners, Development status (inception, in development, in operation),URL.

 To summarise and to address the key issue for setting up a network/forum on GI management the following tools are highly recommended to be considered: how to identify the participants, how to maintain the participation to an adequate level of attention, how to gear the network through best practices showing case system, how to "humanise" the participation within the network (workshops, interviews, meetings, etc.), how to shape the coordination body and how to deal with the sustainability issues.

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