

Winds of Societal Change: The Public Spatial Information Sector in Europe

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SUMMARY

Governments around the world are the largest producers of spatial information. Public sector spatial information is an asset, which could and should be a fundamental building block of the information society.

The increasing economic pressure within the public sector results in improving the service with reduced staff based on organizational reforms and new technology applied. Finally however the key factors for success are based on shifting the mindset. This public sector reforms forced communication within governmental agencies but also increased the exchange of data and communication between institutions of the public sector in general.

In many countries the National Mapping and Cadastre Agencies (NMCAs) are heading these reforms by increased sharing of data, and promising initiatives on inter-institutional processes optimizing on collecting and dissemination of data. However there are still potentials for improvements based on public - private cooperation and on knowledge sharing.

The European Union provides even funds for these improvements aiming at harmonized services and improved accessibility of spatial information. Relevant directives are a trigger for pushing that development. Last but not least these activities resulted in reengineering the business processes across organizations.

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1. WINDS OF CHANGE

We are generally unaware of the impact of slowly evolving changes. Evolution, in contrast to revolution, does not tend to create historical milestones. Nevertheless, our living space, together with social environments, is changing significantly. In our business environment a number of significant changes have taken place in the way we use information technology for our communication and our way of decision making. Within the sector of spatial information management these changes are obvious. Availability of spatial information became an essential part of a national infrastructure and driving factor for economic development – similar like the networks for traffics or telecommunication in the past. In addition to the traditional user groups of highly skilled experts using spatial information much bigger and faster growing user communities with a “black box” approach is coming up. Are all the parameters (tools, providers, processes and data of spatial information management) well in place? Can the public spatial information sector cope with the expectations?

2. IMPACTS TO SPATIAL INFORMATION MANAGEMENT

At the policy level there is enormous impact of EU driven initiatives and directives directly addressing the public spatial information sector. This development provides mayor opportunities for changes – some institutions however may even see them as risks for loosing instead of gaining.

At the operational level of spatial information management the changes can best be observed by considering three inter-related areas: Geo-tools, Geo-data and Processes.

Last but not least the success of human as well institutional interactions and the acceptance of users decide on benefit and success of all the work and resources invested.

2.1 EU-initiatives and programs referring to the spatial information sector

Among many other initiatives the e-Europe initiative had the leading role with components focusing on issues like e-Services, e-Government and e-Learning co-financing specific projects as well as networks. The role of the networks of interest groups and user communities would be to facilitate the decision making process. The following directives became the drivers for shaping the processes on the operational level: EU-PSI directive and EU-INSPIRE-directive.

The NMCAs achieved a lot within that context however could have taken more advantages of theses offers to cooperate among each other and with private sector.

2.1.1 E-Government initiatives

It is now widely acknowledged that e-government is a key tool for public sector reforms towards better governance. Implementation requires not just investment in technical tools but also enhancement of skills and reorganisation of working processes. As the Information Society evolves it is radically changing the way citizens, administrations and businesses are interacting.

Today, all EU-Member States have e-government policies in place and e-government is at the core of national policies for the Information Society. Although 80% of users [EU-Commission, 2004] are happy with the quality of public e-services, it seems that progress in e-government supply is not matched by proportional increase in demand. To address this problem, two different strategies for improvement of services have been identified: process integration (back office) and service delivery (front office).

The concept of process integration refers to the degree to which the service is re-engineered by the responsible authority in the transformation from an off-line service to an e-service.

The concept of service delivery refers to the channel and distribution strategies in the provision of government services. The demand side benefits are that the website and the service become easier to find. Both strategies need to be further stressed to match the supply and demand of e-government.

2.1.2 The eContentplus programme

The eContentplus programme aims making digital content in Europe more accessible, usable and exploitable. The next 4-year programme (2005–08) will have a budget of €149 million to tackle organisational barriers and promote take up of leading-edge technical solutions to improve accessibility and usability of digital material in a multilingual environment.

The Programme addresses specific market areas where development has been slow: geographic content (as a key constituent of public sector content), educational content, cultural, scientific and scholarly content.

The programme aims at facilitating access to digital content, its use and exploitation, enhancing quality of content with well-defined metadata, and reinforcing cooperation between digital content stakeholders. European Land Information Service (EULIS) can be mentioned as successful project within the history of eContent programme.

2.1.3 The eTEN programme

eTEN programme helps to stimulate the deployment of innovative, trans-European e-services of social or economic interest. Thus it facilitates to bring pilot services to full deployment. eTEN financed projects like GEOCOMPASS - a GIS map-based geo-navigational Internet service for tourism – addressed a broader user group than NMCA's usually do and it shows the potential for spatial information providers.

2.1.4 EU-Twinning programme

The EU Twinning programme aims to help beneficiary countries in the development of modern and efficient administrations, with the structures, human resources and management skills needed. 4 NMCAs in the EU are registered as mandated bodies. Is it really not attractive to share knowledge on ongoing developments and to cooperate with support of funds provided by the EU ?

2.2 Networks of interest groups and user communities

The EU provides also funds for networking within the EU-programmes like eContentplus and EU-TEMPUS. Other themes like statistics resulted even in a formal EU-structure like EuroSTAT, which has not been achieved by the interest groups on spatial information. Instead the cooperation of NMCA's is much more on the level of a NGO and the networking is split into several organizations (PCC, UN-ECE-WPLA etc.). On the other side the EU commission is well aware about the need for spatial information and co-funded developments like the activities within EUROSTAT: GISCO - Geographic Information System of the EC.

2.2.1 EuroGeographics

One of the focuses for EuroGeographics seems to be the issues of content and Back-office fulfillment with the risk to neglect the Front-Office aspects like promotion and impact public value. EuroGeographics itself explains the difficult situation:

“EuroGeographics has set itself an ambitious goal to achieve ‘interoperability’ of its members (national) data.. In practice, we find ourselves in a situation where:

- *There are many good things going on, but these are largely disconnected – there is a danger that we will not have ‘interoperability’ amongst our own activities and deliverables and we will fail to learn from each other and, in the worst case, ‘reinvent the wheel’ for each new project/activity;*
- *In some cases we are not able to progress activities because of a resource and/or skills shortage. This may be compounded by uncertainty as to what exactly we need to do and how it fits with other activities and how it will lead to the overall goal of ‘interoperability’.*

Finally, both the NMCAs and EuroGeographics as their voice in Europe is doing a lot for building up the framework for establishing, maintaining and providing of spatial information. Thus they contribute to e-government, but do not promote enough about their achievement under that umbrella.

2.3 Spatial information requiring tools, data and processes

2.3.1 Geo-tools

In the past only experts had the education and training to use complex geo-tools and large organisations were required to finance the introduction of the technology. Today these tools are widely used by the general public, often without them being aware of it. Handheld devices, similar to conventional mobile phones (and now becoming incorporated into mobile phones), have become capable of informing the users about their current geographic position. These tools, and the services they provide, require improved access to relevant databases. The geo-industry is now moving ahead rapidly to provide the appropriate geo-tools to support the growing availability of geospatial information.

2.3.2 Geo-data

In recent years geo-data became more available in the public arena. Within the last decade significant volumes of geo-data have been digitised creating valuable data sources. The impact of this data availability has been to create significant inroads into social interaction both at the individual and organisational level. The experts are working hard to harmonise related reference systems that will ensure the interoperability of user friendly data. Users will be able to combine information gathered in the field with positional information derived from GNSS-services (GPS, Galileo) and others. Today, we are addressing some of the major user complaints by combining data associated with different reference frames and different databases. Without this awareness of the issues surrounding the use of some datasets, misinterpreted data could create a potential weakness of such systems.

2.3.3 Processes

One of the major challenges facing the emerging spatial society is how to improve the processes associated with the wide use and availability of spatial information. In the past the general public was not particularly interested in spatial issues with the consequence that decision making was often regarded as being shrouded in mystery. However, within the last decade individuals have been able to experience the benefits to be gained from improved processes such as new public management and e-government initiatives. These public sector reforms have focused public administration's attention on the citizens' interests, promoting the need for comparable services within the public and private sectors. Among the initiatives being devised are efforts to improve transparency, together with legal and financial issues such as EU-INSPIRE.

2.3.4 Human Interactions

A key issue is how we can introduce the improved use of geo-tools, spatial data and processes. Successful organisations tend to encourage employees to adopt common value systems which ensure that the activities of individuals are in line with the mission and vision of the organisation. Doing so allows us to go beyond traditional mental perceptions without

risking the focus of the organization. This approach also applies to societies where government initiatives are designed to invest in the long term, such as the educational system in Finland, with the intention of creating a shifting mindset.

It is difficult to influence or train the approach of customers to geo-related processes and services, but there are good examples of technical innovations being introduced within the last decade without any training at all. Mobile telephone - a complex technological device – is usually sold and used without any training. Services in the sector of spatial information like ‘*Google Earth*’ are provided without requiring additional skills in using GIS. This drift tends to suggest that technology is no longer the challenge, nor is it impeding the take up of these systems. The real challenge is to understand people’s approach to the utilisation of services and to make decisions at the policy level. This may well lead to a situation where there is a need for society to undergo a fundamental change in the way that it thinks about jobs and service delivery which require integrated processes using Geo-data and some Geo-tools.

3. CONCLUSION

Public sector has to use expectations as a trigger: The Geo-industry is ahead to service and data provider of the public spatial information sector, which is a natural thing and can be used to initiate next steps of improving performance. Also the expectations of user communities are always ahead. Even that is a usual tension within business -well known from the software sector: While developing already a new version the marketing is still promoting a selling version which will be obsolete soon.

Public sector has to increase cross-institutional communication: Whenever people communicate they convey knowledge highly contextualised to their current work situation. The way of creating, managing and disseminating knowledge artefacts (e.g. a protocol of a meeting) has already changed considerably in recent years. The integration of spatial information, including temporal aspects, will increasingly be embedded in processes leading to optimised decision making and transparency. Communication, cooperation and networking form the basis for knowledge sharing processes, and will create a shifting mindset that is more efficient and dynamic, enabling geodata to be used effectively in the development of a modern society. Hopefully the NMCA’s in Europe will transfer some of these challenges to an advantage.

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BIOGRAPHICAL NOTES

Gerhard MUGGENHUBER has some 20 years of professional experience in management of Cadastre and Geo-Information from projects in Austria as well as from consultancy abroad with recent project involvements in Serbia, Hungary and BiH based on activities of World Bank, EU and Austrian Development Agency. In his present function as Vice-head of dept. S6 - International Relations at *BEV – Federal Office of Metrology and Surveying*, He contributed to numerous international initiatives in Eastern- and Central Europe like the World Bank “Initiative on Real Property Rights”. From 2002-2006 Gerhard Muggenhuber is elected Chairman of FIG-Commission3. From 1996-2001 he was member of bureau of the Working Party on Land Administration, an advisory body to the UN-ECE in Geneva.

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