

## **Abstracts**

**Suzie Allard, University of Tennessee**

### **Identifying and Talking with Stakeholders**

Scientific knowledge should be used to inform decisions that affect society. However engaging decision-makers and members of society with science requires targeted messages that impart the key information in language that doesn't rely on jargon or technical expertise. Additionally, the move toward data-intensive science suggests that data-driven messages and strong visualization tools are important ingredients in reaching these key audiences. This talk will outline the basics of message targeting, the ways to use data as a part of the communication strategy, and the challenges associated with protecting data in this open environment.

**David Arthurs, Hickling Arthurs Low Corp.**

### **Perspectives: How Economic Analysis Changes with One's Point of View**

Economic analysis is used by many stakeholders for many purposes. The tools, measures and assumptions that are appropriate in different situations change with the objectives. However, this is causing confusion; particularly among the audiences for such studies, but also to some extent among the analysts who create them.

For example, one person's cost is often another person's benefit. Choices need to be made about how to categorize and handle impacts: private versus public, economic versus social, local versus national, short run versus long run. A private company will have a very different point of view from an individual user, a local politician, or a federal department. Each will consider different things to be significant or irrelevant; each will position different indicators in the numerator and denominator of a return on investment ratio. Such decisions are significant to the calculation, interpretation, and presentation of findings, and the comparison of studies across investments, regions, and time.

Using examples drawn from Canadian experiences with the analysis of the socio-economics of geospatial information, technologies, and programs, this presentation will explore the decisions that need to be made regarding the choice of techniques, manipulation of data and presentation of results. Recommendations will be made on the best practices for preparing meaningful economic estimates and for communicating them in a manner that is informative, but not misleading.

**Tina Svan Colding , Ulla Kronborg Mazzoli, Danish Ministry of the Environment,  
Danish Geodata Agency, Copenhagen, Denmark**

## **Good basic Data in Denmark**

Good basic data for everyone is part of the common public-sector digitization strategy for 2011 to 2015 (eGOVERNMENT strategy 2011-2015), adopted by the government, Local Government Denmark and Danish Regions (see page 20). The vision is that basic data is to be the high-quality common foundation for public sector administration; efficiently updated at one place, and used by everyone – including the private sector. Open basic data will benefit public-sector efficiency as well as innovation and value creation by Danish society in general. With basic data as a new digital raw material, commercial products can be developed, and public information and services can be improved, providing for greater insight and stronger democracy.

On the first of January 2013 Denmark released this digital raw material. As a general rule, all basic data is to be made freely available to all public authorities, private businesses and individuals. This makes basic data a common digital resource, which can be exploited freely for commercial as well as non-commercial purposes.

A positive business case contributed in convincing Danish politicians to approve the basic data program. Once the initiatives have been fully implemented, the revenues for society are expected to be approx. DKK 800 million annually. Private-sector revenues will be up to DKK half a billion annually, and it is expected that e.g. the real estate, insurance, financial, and telecom sectors, as well as GPS (sat-nav) manufacturers, public companies and entrepreneurs will be among those to benefit hugely from the initiatives. The financial gain for the private sector of open geographical data alone is expected to be approx. 100 million DKK annually.

As part of the Basic data program The Danish Geodata Agency (Ministry of the Environment) gave free access to all topographic data, cadastral maps and Digital Elevation Model on Jan. 1<sup>st</sup>, 2013. The Danish Geodata Agency has decided to measure the effect of the open geographic data in the public sector (efficiency) and in the private sector (growth). The effect will be measured by using reference data (baseline analysis) from 2012. The reference data will cover statistics about who was using which dataset, for what, and what was the value of the use of data.

This presentation briefly introduces the process behind open geographical data in Denmark, including a presentation of the positive business case. It outlines how open geographical data was implemented in the Danish Geodata Agency within three month, and a first response of open data in the private and the public sector. Finally the presentation will present the preliminary research design of measuring the effect of open geographical data in Denmark.

**Giovanna Conti, Trilogis, Rovereto, Italy**

**The societal impact of standardisation in the geospatial community.**

**The point of view of SMEs and public administrations.**



In recent years, several initiatives dealing with interoperability of geospatial applications including, but not limited to, INSPIRE, EIS/EIF and ISA have significantly increased the awareness, among Public Administrations (PA), on the issue of interoperability in the geospatial domain. The combined impact of the aforementioned initiatives, amplified by several concurrent actions and regulations (including specific legal frameworks) at the European, National, Regional and local level, have produced, as result, a profound cultural shift.

Most interestingly such a rising attention towards interoperability has built on emerging interest in domains such as Linked and Open Data, fostering –in turn– a positive feedback loop. The implications of such a trend are manifold and are of technical, administrative, operational, economic and cultural nature.

This presentation will bring forward two different points of view, analysing such a fast evolving scenario from both the point of view of a public administration, the Autonomous Province of Bolzano (Italy) and the experience of a SME operating in the geospatial domain.

Public Administrations are, without any doubt, the institutions being mostly affected by initiatives such as INSPIRE. The profound implications at the operational activity level often gets unnoticed within official economic analysis and studies, yet they are rapidly affecting an increasing number of daily activities, bringing significant advantages to public administrations and often streamlining otherwise complex tasks through simple referral to existing norms, guidelines, implementing rules. One of the many typical examples of this trend can be seen in public procurement and tendering procedures, which are being streamlined through explicit reference to existing norms.

From an economical and business standpoint, the definition of articulated frameworks – such as INSPIRE- is also creating a wide range of new market opportunities, especially for SMEs with high-specialised competences. New opportunities in fact emerge in terms of training, development of new specialised solutions for various levels of public administrations. For instance the evolution towards federated systems reduces the need for complex cartographic products, often beyond the capacity of most SMEs, favouring business opportunities among SMEs. These often leverage on use of open source technologies, to compensate for limited financial resources from smaller public administrations. This, in turn, is contributing to create close ties between public administrations and an emerging community of SMEs with strong links with the surrounding territory.

**Ed Parsons. Google**

The geospatial industry has often found it challenging to measure or even estimate its economic impact on the broader economy. Part of the problem may be in our inability to agree on the size and scope of the industry itself, perhaps in the past we have taken a rather narrow perspective reflecting the specialised nature of geospatial technology. Today Geospatial technology is no longer specialised, it is not longer "special" it is more widely used than ever before by a much broader section of the economy, so is it time to re-assess its impact?"

**Aurelie Moulins, CIMA Foundation**

**SEAWETRA, a prototype for marine environment management.**

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Data from earth observations, *in situ* surveys, human activity monitoring systems, oceanographic and biological models and administrative areas is fundamental multi-disciplinary data sources to program and manage efficiently environment protection. To gather such geographical information inside a unique platform is a great challenge for environmental protection however, nowadays, environmental stakeholders suffer the lack of such multi-disciplinary platforms. Moreover, the INSPIRE Directive is clearly stating how geographic information should be organized in order to be easily understood, visualized and interoperable. In this context, SEAWETRA have been developed as a WebGIS prototype dedicated to the marine environment data of the Mediterranean Sea, with special regards to cetacean data. Indeed, cetaceans are bio-indicators of the marine ecosystem as umbrella species and are listed as bio-descriptor 1 and 4 for the Marine Strategy Framework Directive. SEAWETRAs conception is organized in two main objectives: 1) to collect, archive and visualize geographical information coming from multiple sources over a large spectrum, in an interoperable format; 2) to develop dedicated tools to help stakeholders and decision-makers. The presentation will first introduce the type of data that has been selected to populate SEAWETRA. Some data is static while other data is dynamic. We use earth observation data and oceanographic models from the open-data service MyOcean2 (MyOcean2 is a project granted by the European Commission within the GMES Program). All data is dynamic and some data is multi-dimensional. For *in situ* datasets, we use two different levels of providers. The first database is provided by a scientific organization expert in cetacean sciences; while the second is crowd data collected by Ushahidi platform (an application for smart phone and web). Both are dynamic data and can be collected in near real-time to produce static layers partially INSPIRE compliant. In the case of the human activity data, SEAWETRA is archiving local data of the "Automatic Identification System"

(automatic ship tracking system). Raw data is directly visualized into the WebGIS and allow to create static layers that may be afterward exported as WMS. Administrative areas are static layers. In this case, SEAWETRA aims to point directly to existing WMS layers provided by different authorities, when available, even though those are not totally INSPIRE compliant. All static and dynamic data is integrated with other static information, implemented for SEAWETRA, in agreement with the INSPIRE Data Specification (on Protected Sites, Habitats and biotopes, Species distribution). The second part of the presentation will present the architecture of the database (using the open source PostgreSQL with the PostGIS extension). The third part, will detail the format and working mode of the WebGIS. The last section of the presentation will discuss SEAWETRA potentiality for sustainable development in agreement to socio-economical interests in marine environmental protection and its contribution to improve communication between scientists, citizen-scientists and end-users.

**Guenther Pichler & Nick Land, Esri Inc.**

#### **Funding public sector information – someone has to pay.**

The discussion about charging for public sector information is often characterized as either the data should be ‘free’ or the user should pay. In practice the key questions are: ‘who should pay, and where are the payment points’?

The presentation will review the different funding options for public sector organizations particularly in light of an increasing drive towards ‘open’ data. These options include user payment, central funding from government (where geographic information is seen as necessary ‘infrastructure’ for a country), and the ‘freemium’ model in which some data is available at no cost, whilst (usually) higher quality (premium) data is available for a fee. The presentation will illustrate the different models with reference particularly to the funding of National Mapping Organizations and recent developments in several European countries.

**Franco Siccardi**

#### **Civil Protection Agencies beyond the simple rescue: prediction and prevention in a scenario of climate changing.**

The speech will briefly address the policies of the Civil Protection Agencies, with reference also to the role of ECHO-MIC in Europe and UNISDRR in a global context, in the field of extreme events related to meteorology.

The planning of adaptation to climate change must take into account, in the built environment of every part of the world, actions to predict the impact of disasters of meteorological origin.

Some recent examples of extreme events will be presented to clarify that it is necessary to go down through the spatial and temporal scales in the representation

and exchange of real-time observations, as well as in modeling the meteorological and hydrological processes, and the impact on the territory. The size of the data files and their rate of exchange, as well as the correct georeferencing, will be crucial for the development of knowledge-based planning.

**Alan Smart, ACIL Tasman**

### **Valuing geospatial information – a review**

Understanding the value of geospatial information to society and economic welfare has been a major challenge for the sector. Knowing this value is important for a number of reasons. It is important to understand the significance and contribution of the sector. It is also important for formulation and prioritisation of policy, for investment decisions, for investment in skills and training and for investment in research and innovation.

The paper reviews the approaches to valuing geospatial information applied around the world over the past 15 years. The advantages and disadvantages of valuation approaches are discussed and the main findings reviewed. The paper outlines emerging issues for industry and government in understanding the significance of the sector to society.

But perhaps the most interesting effect of all is the transformation at the cultural level that all these initiatives are contributing to. The culture of interoperability and the importance of data harmonization and accessibility, also following open data approaches, is being significantly and positively affected, with long-lasting effects that are difficult to predict and that go far beyond the limits of the initiatives that have generated them.

The implications in educational and training terms and in terms of change management are also very significant and, in turn, will create further business opportunities of great relevance for the geospatial market.