

# **EuroGeographics – Underpinning Europe’s Spatial Information Infrastructure: Obstacles and solutions**

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## **SUMMARY**

EuroGeographics is the association of Europe’s National Mapping and Cadastral Agencies, with 46 members from 41 countries. Our primary role is to bring together the national information held by our members for the benefit of the pan-European or cross-border customer. Achieving this vision of ‘interoperability’ requires the following components to be put in place:

- Specifications that define the content, structure and quality of the information;
- A pricing and licensing framework to improve access to information under consistent and easy to use terms and conditions;
- The service infrastructure which will allow distributed access to metadata and content;
- Partnerships; and,
- A sustainable financial (business model)

Using the above topics as its structure, the paper and presentation will describe the main obstacles and solutions that have been developed in ‘harmonising’ national datasets across Europe. It will also identify how this is being done within the context of INSPIRE - an evolving legislative framework within which Europe’s SDI will develop.

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## **1. INTRODUCTION**

The need for geographic information that is consistent across national borders is becoming increasingly clear within Europe to support better governance, private sector activities or the delivery of better services to the citizen. Making such information available through a European Spatial Data Infrastructure is becoming reality as the different components – specifications, datasets, pricing & licensing terms, web services and partnerships - are gradually put in place as data (information) and service providers respond to and anticipate the needs of different customers. In Europe this is being given greater impetus with the preparation of a European directive – INSPIRE – that will provide a legal framework within which Europe’s SDI can develop.

This paper provides an overview of some of the main challenges and solutions that EuroGeographics recognizes in building the ESDI from its perspective as one of the key, pan-European, information providers. It concludes that the main challenges are ‘institutional’ and not ‘technical’ and recommends that it is the latter which should be given highest priority when developing an SDI. It is not so much a Spatial Data Infrastructure that we need, rather a Network of Spatial Information partners.

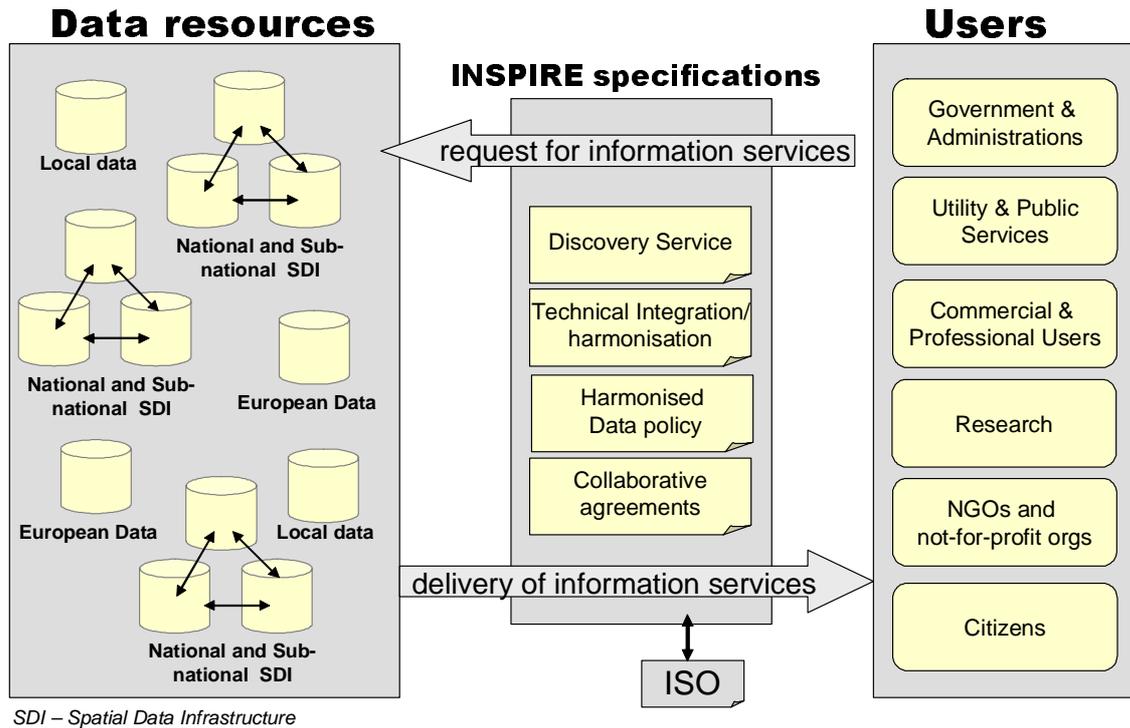
## **2. VISION**

The vision for Europe’s SDI is illustrated in Figure 1 below and is one in which a user can identify the information they require and access it easily, free from barriers of a technical, business or organisational nature. It will be built on national SDIs ensuring data is captured once and used many times, thus removing unnecessary and costly duplication.

EuroGeographics and its members fully support such a vision and set of principles and are working hard to deliver the reference information that will underpin the ESDI. Today, EuroGeographics has created two pan-European datasets (SABE – an administrative boundaries dataset - and EuroGlobalMap - a multi-purpose topographic dataset) and has started production of a third dataset, EuroRegionalMap. Datasets such as these are beginning to provide the basis for integration of other (thematic) information. Through other projects we are also testing the feasibility of opening up access to other (larger scale) information.

Based on our own experience and developments elsewhere it is clear that certain ‘building blocks’ must be put in place to implement a successful SDI or to deliver cross border information. These components – specifications, pricing and licensing, infrastructure and partnerships - are discussed in the next sections.

# INSPIRE Information Flow



**Figure 1:** INSPIRE Vision

### 3. SPECIFICATIONS

The proposed directive for INSPIRE has identified a list of priority datasets that are focused mainly on the needs of the environmental sector. EuroGeographics is concentrating on the 'reference' data (or 'basic' or 'fundamental' data as it is sometimes described) to which all other thematic information can be referenced. In other words it provides the 'key' that will allow integration of a wealth of geographic information.

Developing European specifications requires that at least two criteria are met. Firstly, an understanding of the (European) needs that the specifications must meet; and, secondly, an understanding of what is available today at the national level. Addressing the former requires that users are adequately involved in the definition of the specifications, a process that can work most effectively once they are able to test sample data. Viewed in this light the process of developing specifications becomes less of a technical issue and more of an organizational and financial issue i.e how best to engage with users to determine their needs and, having done this, to ensure that their needs can be met cost effectively?

The approach that we are taking in EuroGeographics is to focus on individual themes of information and their associated applications within each project. For each project, the appropriate project partners are identified ensuring adequate representation from the relevant

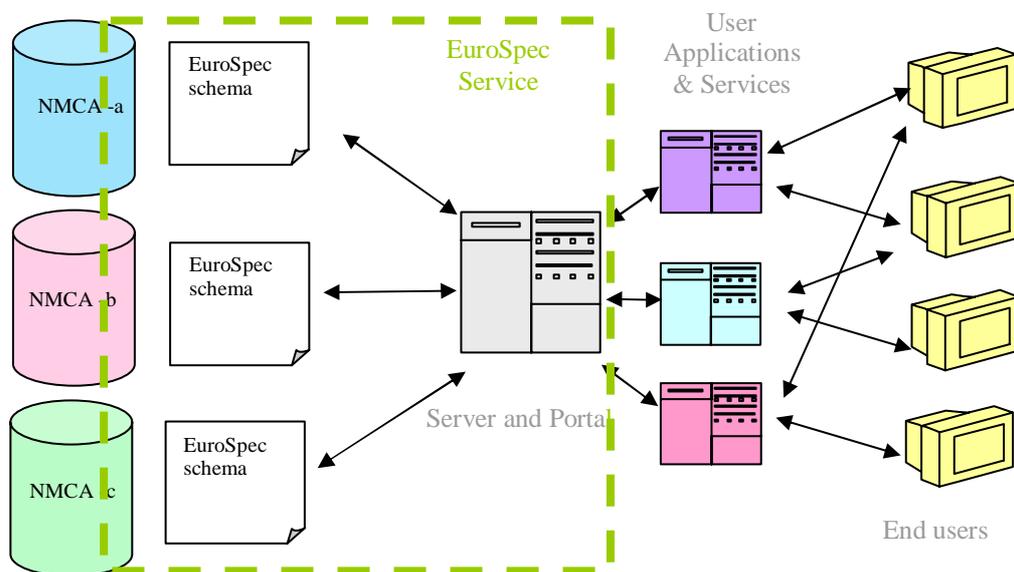
user communities. Thus, the EuroRoadS project – focusing on the delivery of a better road network for Europe – brings together partners from the road administrations, private and academic sectors.

To ensure consistency between projects an Information and Data Specifications Expert Group is developing an overall ‘global schema’ and ensuring each project adopts common methodologies and standards for the specification development. All of the EuroGeographics ‘interoperability’ projects are managed through the ‘EuroSpec programme’ which provides a management mechanism for building synergies between projects and managing them cost effectively. By adopting this process we believe that it will be possible to iteratively develop and improve a set of specifications that can respond to evolving requirements and which maximize the use of national information.

#### 4. INFRASTRUCTURE

Today, it is possible to go to the EuroGeographics website and order SABE and EuroGlobalMap on-line, but to receive the data off-line. The data has been created in a centralized process with each NMCA converting their national data to the European specification and a central organization bringing all national contributions together and edge-matching into a single dataset. Our aim is to move towards a more decentralized, distributed model in which national contributions can be translated into different European schemas – the specifications described above. This is illustrated in figure 2 below.

**Figure 2:** Distributed service architecture



The challenges in implementing such a model are, assuming the schemas are agreed and in place, again largely organizational and financial. For example, it is vitally important to understand how a user will want to access information and which partners will work together

and in what way to deliver the necessary solutions. The preferred approach of EuroGeographics and its members is to do as much of this as possible in partnership with the private sector and that requires the building of enduring relationships – building the technical architecture is relatively straight forward.

## **5. PRICING & LICENSING**

So far, this paper has contested that it is the ‘institutional’ rather than the ‘technical’ issues that are the most challenging to address. Into this category, can be added the issue of developing and agreeing common pricing and licensing models for access to European reference information.

The reasons why this is such a challenging topic are various. It reflects:

- the different business models under which the NMCAs operate, some (but very few) are funded by government, some (a minority) operate more as ‘commercial’ companies and others (the majority) somewhere in between. Each of these agencies must meet different financial goals, set by their government, and this in part will determine the pricing policy;
- changes in technology that create new ways to integrate and access information which current pricing and licensing models cannot cope with and for which no ‘off the shelf’ policies exist. This makes it very difficult to come up with stable models;
- the need to operate within an increasingly complex legal framework, including competition law, to which any pricing and licensing policy must be compliant.

Unfortunately much of the debate on pricing and licensing models tends to degenerate into a debate about ‘free’ data or charging for data. The reality, however, is much more complex and, recognising this, EuroGeographics has concentrated on understanding the different models and developing a common terminology and templates for licensing that can be used for our pan-European products. The aim therefore is to harmonise licensing terms, as far as this is possible, but not pricing levels – these are and will continue to be different from country to country, but the important point is that the user of the data will be able to use it under the same terms and conditions.

## **6. CONCLUSIONS**

The paper has identified some of the challenges that must be addressed in building an SDI or delivering interoperable reference information across Europe. In so doing it has also identified some of the solutions being developed by EuroGeographics and concludes that more of a focus should be given to the institutional rather than technical challenges.

## **REFERENCES**

Proposed INSPIRE Directive – European Commission, Brussels, 23/7/04 COM (2004) 516 Final. 2004/0175 (COD)

## **BIOGRAPHICAL NOTES**

Nick Land was appointed as Executive Director of EuroGeographics – the Association of Europe’s National Mapping Agencies – on the 1<sup>st</sup> January 2002. Prior to this he worked at Ordnance Survey GB with responsibility for research, market development and international activities.

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