

Customers & Services – A perspective from EuroGeographics

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1. Introduction

This paper focuses on the role of EuroGeographics – the association of Europe's NMAs – in improving access to European public sector geographic information. In so doing it describes how Europe's NMAs aim to contribute to the development and implementation of INSPIRE (Europe's Spatial Data Infrastructure) and help unlock the value of geographic information in Europe to the benefit of good governance, private business and the citizen.

2. Geographic information

Geographic information is a broad term that covers any data that can be spatially referenced. Within this definition a distinction can be made between 'reference' and 'thematic' data. It is the former that is the primary concern of Europe's NMAs and, coordinated through EuroGeographics, steps are being taken to provide definitive and maintained reference data for Europe.

The Reference data and metadata INSPIRE working group has adopted the following definition for reference data:

- It is a series of datasets that everyone involved with geographic information uses to reference his/her own data as part of their work
- It provides a common link between applications and thereby provides a mechanism for the sharing of knowledge and information amongst people.

Reference data must fulfil three functional requirements:

- Provide an unambiguous location for a user's information
- Enable the merging of data from various sources
- Provide a context to allow others to better understand the information that is being presented

The components of reference data are:

- The geodetic reference system (both horizontal and vertical);
- Units of Administration;
- Topographic themes including transportation networks, hydrography, buildings and elevation data;
- Orthoimagery;
- Units of property rights (cadastral parcels);
- Addresses;
- Geographic names.

3. Vision

The vision for EuroGeographics is to achieve interoperability of reference and other geographic information within 10 years. This is illustrated in Figure 1 and is consistent with the vision for INSPIRE.

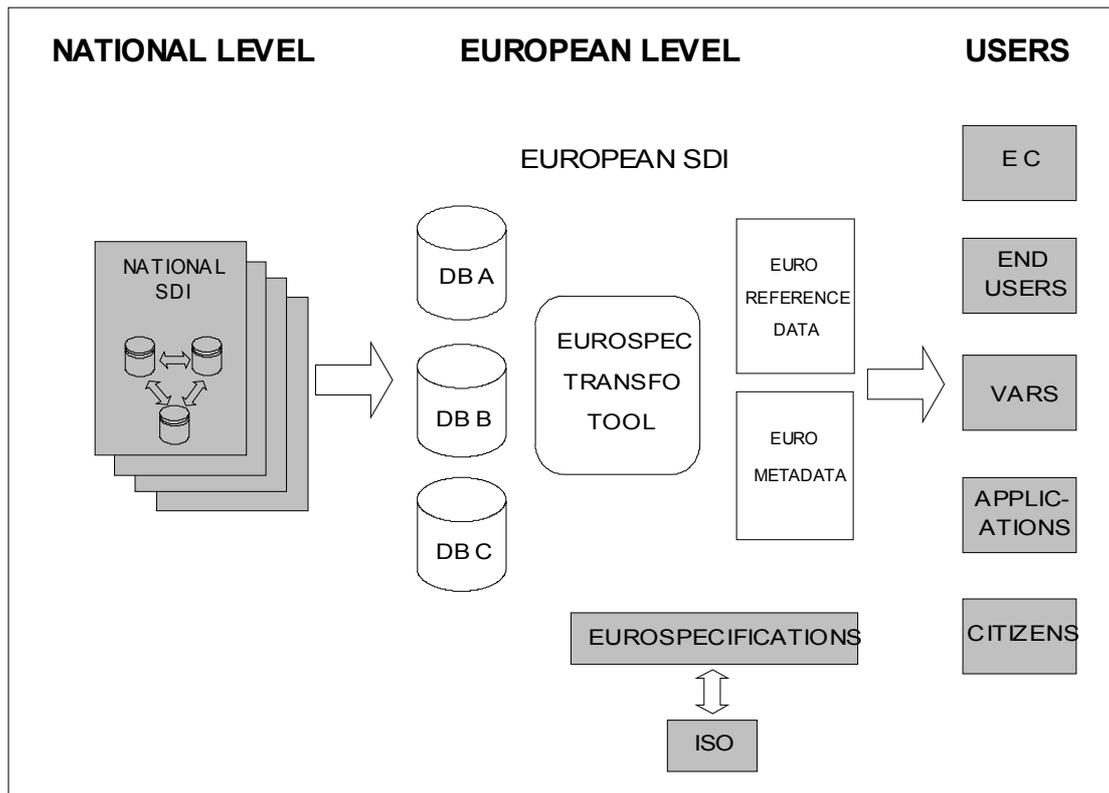


Figure 1: Diagrammatic View of the INSPIRE Vision

In this vision data will be held and maintained nationally and a user will be able to access data, using appropriate tools, according to European specifications as and when they require.

The goal is to make it easy for a user to:

- Identify easily what data is available;
- Be confident that the data identified conforms to known specifications, meets defined quality levels and is maintained by the most appropriate organisation at the most appropriate level;
- Access data under terms & conditions which are clear, unambiguous and which do not impede its use;
- Have tools available that allow data to be combined seamlessly.

It is a challenging, but increasingly realistic vision. A number of the technical obstacles are being removed as the vendors develop systems more tuned to the requirements of interoperability and as the NMAs move towards more generic and structured object (or feature) based data models. However, other major 'institutional' obstacles remain, including the need to improve pricing and licensing arrangements and develop greater cooperation between the key players ('organisational interoperability').

The next section describes the steps being taken by EuroGeographics to achieve the vision and its mission of improving the 'connectivity' between the NMAs and other GI players in Europe.

4. EuroGeographics strategy

4.1 Guiding principles

The following key principles will underpin our strategy to deliver the vision described above:

- Customer and business focused;
- “Think big, start small” – the vision of true European GI interoperability is bold and challenging and can only be achieved in small, clearly defined steps that deliver year on year results and benefits;
- Pragmatic – one size will not fit all in Europe and sustainable solutions will only be delivered where national differences can be accommodated;
- Partnership – perhaps the most important principle, yet likely to be the most challenging to realise, is the need to work in a more coordinated way towards the same goal.

Adopting the above principles, the aim in the short term (next two years) is to:

- Improve access to existing national datasets through implementation of a better metadata service – a European gateway for reference data - and ‘best practice’ for pricing and licensing;
- Create and maintain initial pan-European (small scales) reference datasets;
- Develop specifications that will allow a user to access and combine large scales national datasets seamlessly; and,
- Build the necessary partnerships and organisational structures to deliver the above.

4.2 Metadata

EuroGeographics has an existing metadata service - GDDD - available on the EuroGeographics web site. It provides information in 4 languages about datasets held by a number of the NMAs. Its centralised architecture means that maintenance of the data is difficult and time consuming, resulting in information that is increasingly out-of-date. The plan is to implement a more distributed model in which each NMA is responsible for the maintenance and provision of its own metadata with a European gateway that will provide access to ‘discovery level’ data based on the ISO TC211 standard.

4.3 Pricing and Licensing

Across Europe there is great variation in pricing and licensing reflecting the often complex arrangements that have evolved at the national level. It also reflects in part the different business models adopted by the NMAs to fund their activity and the almost universal move away from marginal costing (wholly government funded) to greater cost recovery (mixture of government funding and ‘user pays’). The variation amongst Europe’s NMAs is summarised in Table 1 below.

Table 1: NMA¹ business models

Percentage cost recovery	Number of NMAs
0 – 20 % (marginal costing)	4
20 – 40 %	5
40 – 60 %	5
60 – 80 %	3
80 – 100 %	-
Profit	1

Given this disparity it is unrealistic to harmonise pricing levels (have the same prices for equivalent data) across Europe, but it is feasible to develop best practice guidelines for licensing. This should lead to greater harmonisation of terms and conditions, even if prices for the 'same' data may vary from country to country. Initial preparatory work has begun on developing the guidelines for release in early 2003.

4.4 Reference data

Reference system: EuroGeographics working with EUREF has successfully defined a reference system for Europe, both horizontal (ETRS89) and vertical (EVRF2000). Work continues to collect the necessary transformation parameters to convert from national systems to the European system. Completion of this work is a significant achievement that provides Europe with an unambiguous and definitive reference system upon which all other reference and thematic data will be based.

Administrative boundaries: Seamless administrative boundaries data for Europe (SABE) already exists. Three versions of the data have been created and the aim is to provide a 4th (Census) version of the dataset later this year, which will include data for at least 30 Countries.

Topographic data: Small scales topographic data is being created through EuroGlobalMap and EuroRegionalMap. The former is at a nominal scale of 1:1,000,000 and covers the wider Europe; the latter is at a scale of 1:250,000 and is being created for 6 countries only at this stage. Both datasets will be made available during 2003.

Specifications for the future: Both SABE and EuroGlobalMap are created through a 'centralised' process in which national data is passed to a central or regional point for 'transforming' into the European specification. The national and European datasets therefore are maintained independently and to different specifications. In the case of EuroRegionalMap the national and European datasets will be the same specification. Thus the data maintained nationally will be more easily brought together at the European level, requiring edge-matching only. This is getting closer to the vision of interoperability described above. However, for a user to be able to integrate other larger scales datasets in the future will require further work on data specifications to create 'Eurospecifications' for the different layers of reference data. The major challenge will be to resolve semantic differences, but also to develop processes and procedures for more harmonised edge-matching and integration.

¹ Includes Member State NMAs (16 – GB & N.Ireland treated separately), plus Switzerland and Norway

4.5 Partnership

Achieving greater interoperability at the data level requires interoperability at the organisational level. There are a number of organisations working within and across Europe representing different interests and specialisations and EuroGeographics will aim to strengthen its relationships with other GI players. Where appropriate these relationships will be formalised within MOUs, but more importantly, the aim will be to focus on actions that take pragmatic steps towards realising the shared vision of INSPIRE.

5. Conclusions

The paper has summarised the vision and strategy for EuroGeographics within the context of improving access to public sector information. The vision is consistent with INSPIRE and we believe the action plan to deliver the vision is realistic and achievable. The main unknowns are how quickly the vision can be delivered and funded.