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**Toponymic data files and gazetteers:**

**Data services, applications and products**

**for example, gazetteers and web services)**

Status Report on the EuroGeoNames (EGN) Project –  
Implementing a sustainable European gazetteer service

Submitted by Germany \*\*

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## Summary

The EuroGeoNames (EGN) project funded by the eContentplus programme of the European Commission (EC) started on 1<sup>st</sup> September 2006 and the funded period lasted until 28<sup>th</sup> February 2009 with a project budget of 1,8 M € During the funded period a European geographical names infrastructure was established by connecting existing national official data sources of the participating National Mapping and Cadastral Agencies (NMCAs). In this way the geographical names data is updated in a consistent way and maintained at the source level by the responsible organizations.

Recognised as a very successful project by the European Commission and the project partners EGN now provides excellent opportunities for EuroGeographics and its members, the European Association of National Mapping and Cadastral Agencies (NMCAs), to meet future requirements (e.g. INSPIRE) in their role as reference information providers for national and European spatial data infrastructures.

Between 2009 and today, the overall management of the EuroGeoNames infrastructure was conducted by EuroGeographics together with the German Federal Agency for Cartography and Geodesy (BKG).

Implementation continues in 2012 as EGN moves closer to its aim to achieve at least EU27 coverage as a part of an initiative to make EuroGeoNames self sustaining.

A new architecture and management approach for EGN was explored partly within the ESDIN project (a European Spatial Data Infrastructure Network) in collaboration with a EGN Coordination Committee. In this project best practice is sought for reaching INSPIRE compliance and creating harmonized pan-European location data and services. As Geographic Names was one of the 5 themes delivered by ESDIN in 2011 there were a number of insights and improvements which are now included in the EuroGeoNames implementation.

## 1. Background

According to United Nations Resolution VIII/6 [UNCSGN, 2002] as well as to the Directive 2007/2/EC of the European Parliament and of the Council [INSPIRE, 2007], EGN addresses the setup of a European (gazetteer) services' infrastructure which provides access to the authoritative, multilingual geographical names data held at the national level across Europe.

Access is provided by a network of distributed Web Feature Service (WFS) interfaces implemented at each data provider's database [OGC, 2005] [ISO, 2001]. The user as well as value added service providers have access to this EGN infrastructure and searching is enabled by using names in almost all official European languages, including minority languages (if authoritative data is available). [UNGEEN, 2006], [UNCSGN, 2007], [UNGEEN, 2009] [UNGEEN, Bulletin], [UNGEEN, 2010].

## 2. Status of the EuroGeoNames infrastructure

Since development of this infrastructure the main task has been to ensure the service can be sustained in the medium to long term. Boosting the number of connections to achieve a "critical mass of content"<sup>1</sup> continues as we progress toward full EU27 coverage.

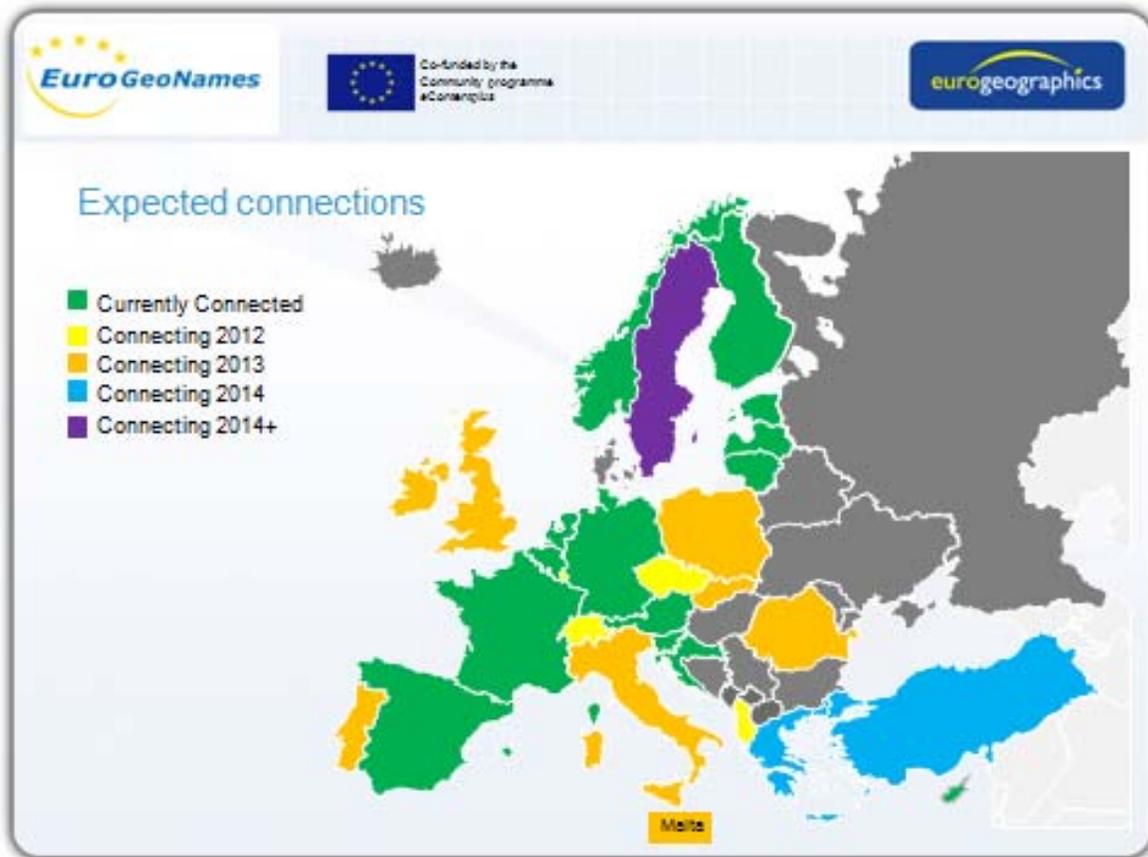


Figure 1: Overview of connected National Mapping and Cadastral Agencies and plans for the EU27+ (NMCAs)

Within the initiation phase of EGN remarkable time was required for analyzing the data to be aggregated during the project. As for a gazetteer service the scale information is not relevant. It is of more importance that e.g. all geographical names of 'administrative units' are available.

<sup>1</sup> As stipulated by the European Funding Programme eContentplus

Currently, the connected German service provides about 90,000 entries, the Finnish one about 800,000 entries. Thus, assuming that 15 countries mentioned above are connected to EGN in 2012, the quantity of geographical names may lie in between 2,8 million and 3,5 million entries (endonyms). In addition, about 8000 exonyms and other variant names will be linked to the national databases.

### **3. Target user and their needs**

Within the EGN project, the market in terms of potential applications and related business actors and stakeholders from both public and private sectors was analyzed as well as user and business requirements based on the outcome of the market analyses described.

As for the target user groups the following ones can be distinguished:

- emergency services; health and safety,
- cross border market analysis & asset management,
- border crossing routing; transport and delivery service networks,
- hotel reservation services, tourism,
- private sector map and atlas producers,
- educational establishments, libraries,
- mass media (broadcast, TV),
- location based services (LBS).

Generally, the INSPIRE geoportal is potentially a user for EGN as well as agencies of the European Commission, such as Eurostat and also commercial actors like Google, Yahoo, Microsoft, Tele Atlas, Nokia, etc.

The unique selling points (USP) of the EGN infrastructure and services for Europe and its quality are that:

- the names data provided are from a primary source,
- it is continuously updated,
- it is more detailed than other names data,
- it is closer to the experts that collect the names,
- there is a better quality control through official cooperation,
- it is based on European standards,
- the data is generated by trustworthy institutions providing unbiased products.

## 4. ESDIN: A European Spatial Data Infrastructure

ESDIN – a European Spatial Data Infrastructure with a best practice network- is dedicated to maximising the use of data from our National Mapping and Cadastral Agencies (NMCAs). Funded by the eContentplus programme of the EU the project promises to provide the guidance needed to meet the demands of the INSPIRE legislation. The project emerged during an exciting period in the history of digital content. ESDIN embraces the trends we have seen developing in the use of GI and in parallel markets as the world wakes up to the power of geographic information and insists on simpler ways to access it.

As Geographical Names is one of the themes ESDIN covers, the project offered the chance to demonstrate Geographical Names services as the corner-stone of a future European Spatial Data Infrastructure. As a result EuroGeoNames is referenced for the proposed extended INSPIRE specifications that ESDIN offers and implementations within the ESDIN project include EuroGeoNames.

Exploiting expertise from the National Mapping, Commercial development and academic world the twenty partners offer best practice when maximising the use of public sector mapping data.

## 5. Making EGN Sustainable

### Value Chain Analysis

Analysis of internal Company Resources



Figure 2: A value chain analysis describes the improvements needed to make EGN a viable and sustainable service

EuroGeoNames continues to be supported and extended by EuroGeographics together with the German Federal Agency for Cartography and Geodesy (BKG) and the Finnish Geodetic Institute (FGI).

As a first stage, in spring 2009, the EGN project coordination was transferred to EuroGeographics. BKG continued to function as the “Service Center” for hosting the EGN Central Service, the Reference Application and the Exonyms and other variant names database as well as for providing technical support to NMCAs and pilot customers. By mid 2012 the Finnish Geodetic Institute (FGI) will take

over the role of hosting the EGN central service of providing technical support to the NMCAs willing to get connected to EGN. The maintenance of the exonyms and variant names database (EVN-DB) will be kept by BKG.

EuroGeographics and its partners have been successful in growing the connections to 15 by the beginning of 2012 and the initiatives to grow this further include awareness campaigns and activities with key users, suppliers and influential groups. These activities include:

- Involvement with the United Nations group of experts on Geographic Names
- Providing necessary advice, software and on-line tools to ease the task of mapping to the EGN specification and creation of Local Web Feature Services
- Workshops and questionnaire with National Mapping and Cadastral agencies on proposed pricing and licensing, access and supply preferences.
- Increasing basic coverage for the whole of Europe by including names data from alternative sources
- A test programme, interviews, questionnaires and meetings with all key customer groups.

The Creative Problem Solving approach by the EGN Coordination Committee sets out a plan to improve accessibility and usability of the offering and now shapes the proposition for a sustainable EuroGeoNames.

EGN is aiming for compliance with the INSPIRE requirements in 2013 as well as progressing to provide further output formats like the gazetteer model. This broader approach provides excellent opportunities for EuroGeographics and its members to meet future requirements in their role as reference information providers for national and European spatial data infrastructures.

After 2012 the ambition is for EGN to become a component in EuroGeographics services infrastructure.

## **6. Future Plans**

Events like the one day workshop on EGN at the UNGEGN regional conference in Zagreb (February 11<sup>th</sup> 2011) have helped EuroGeographics and its partners to engage with suppliers and users at the same time. Such activity will boost the number of connections as we gain a unique insight on core issues and take the opportunity to address them.

Our future plans are backed up by a budgeted commitment from EuroGeographics specifically to;

- Improving user interfaces to meet user requirements
- Implement a new and more flexible and performant cloud based architecture to accommodate different feeds and cache NMCA data
- Launch with an off-line Gazetteer product
- Continue with a phased approach to other offerings
- Increase the exonym and variant names data base content
- Iteratively improve the quality of content by providing free analysis of supplier data
- Transfer the hosting and technical support responsibilities from BKG, Germany to FGI in Finland.
- Implement a simplified data model that is both standards compliant, removes some complexity for the suppliers and yet retains the ability to provide multi-linguality and the association of Exonyms to Endonyms.

EGN is EuroGeographics' first example of a European Location Framework service; a framework of key geographical references from authoritative sources that help assure the reliability of services using and re-using Public Sector Information. This common reference will help services interoperate and make cross border and pan-European services far more consistent and reliable.

## 7. References

The outcomes as well as all project deliverables are available through the EuroGeoNames website: [www.eurogeonames.com](http://www.eurogeonames.com)

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