

PROGRESS REPORT

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Project acronym: EuroGeoSource

Project title: EU Information and Policy Support System for Sustainable Supply of Europe with Energy and Mineral Resources

Project type: Pilot A Pilot B TN BPN

Periodic report: 1st 2nd 3rd 4th

Period covered: from 01-04-2010 to 31-03-2011

Project coordinator name: Ir. Stephan Gruijters

Title: Project Manager

Organisation: Nederlandse Organisatie voor Toegepast
Natuurwetenschappelijk Onderzoek

Tel: +31 (0)88 86 64886

Fax: +31 (0)30 25 64855

E-mail: stephan.gruijters@tno.nl

Project website address: <http://www.eurogeosource.eu/>

PUBLISHABLE SUMMARY

Summary of project objectives

EuroGeoSource is a three year project funded by the ICT PSP Call, theme 6.2 Geographic information That started in april 2010 and will end in April 2013. The project has a budget of 2.5 million EUR divided over 11 work packages (see figure 1) and the project consortium consists of 11 geological surveys, 2 commercial companies and one university.

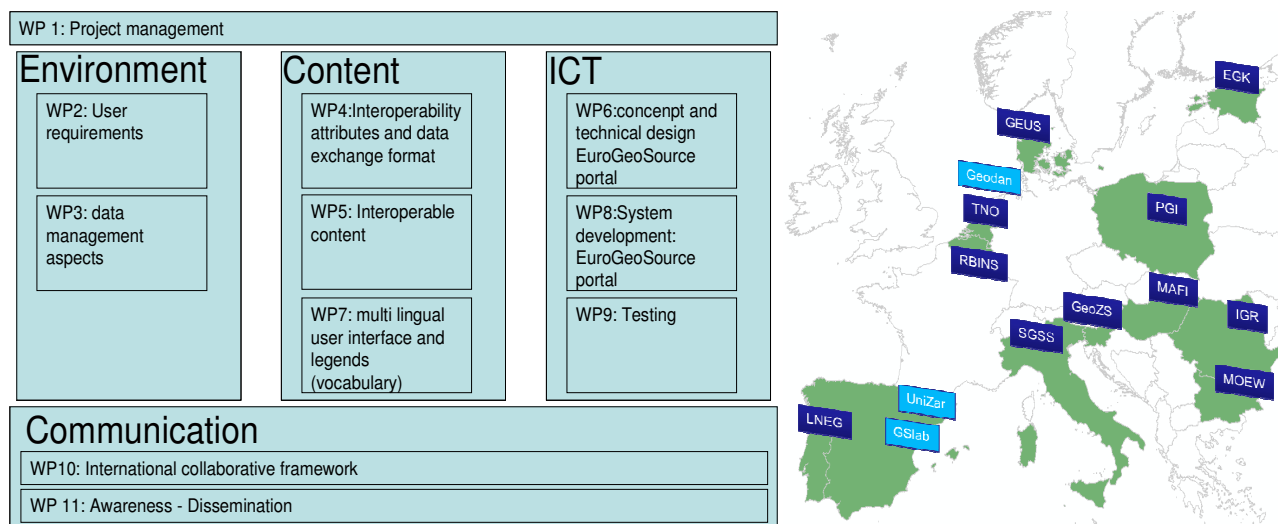


Figure 1: project structure(left hand side) and consortium partners (right hand side)

The main objective of the project is to develop an information and policy support system for sustainable supply of energy and mineral resources in Europe (EuroGeoSource). The system will allow users to identify, access, use and reuse aggregated geographical information on geo-energy and mineral resources, covering at least ten European countries. The multilingual system will provide basic services for the visualization and overlay of the information layers obtained from distributed sources, as well as more advanced spatial and temporal analysis on the data. The implemented solutions will be in accordance with OGC specifications and compliant with INSPIRE. The developed web services will enable the creation of value-added services (such as demand-supply modeling) by third parties. EuroGeoSource is aimed at users from the EC (including the EC Directorate-General for Energy and Transport, EuroStat, the EC JRC Institute for Energy), commercial parties (oil gas and mining companies, investment companies), geological surveys, research institutes and universities, and (inter-)national geo-energy and mining authorities.

Work performed since the beginning of the project

We have send out 1040 potential users of the future EuroGeoSource portal and invited them to give us their opinion on desired content and functionality via an internet questionnaire. We analysed the 187 returned answers statistically and composed a list of user requirements (WP2).

Furthermore, an inventory of the current situation regarding data and information on energy and minerals in the participating countries (WP3) has been made via an internal questionnaire.

Based on this inventory we collected the existing standards, data types and data models used for hydrocarbon and mineral resources from the participating data holders and identified relevant existing data models within the scope of the EuroGeoSource project. From this we selected a set of available key attributes (WP4) that

met the user requirements and organized them in a data model. The attributes were mapped on the draft versions of the INSPIRE guidelines (TWG Geology and Mineral resources and TWG for Energy) and on the EarthResourceML Data Exchange Model.

The architectural design of the EuroGeoSource system has been drafted (WP6), including a first internal version of the actual portal..

Main results achieved so far

The analysis of the results of the internet questionnaire showed that there is a lack of data accessibility due to differences in format, lack of harmonization and uncertainty on update frequency. Potential users see the EuroGeoSource portal therefore as a real necessity. This conclusion is backed by the results of the inventory of data availability and involved organizations within the consortium. The internet questionnaire led to a number of conclusions on the content, expected use, scope and functionality of the portal. Different user groups had different wishes on type and detail of the information that should be present at the portal, and also had different views on desired functionality. All user groups agreed that the portal has to be compatible with other already existing datasets (OneGeology, Corine Land cover 2000...) and that the data is compliant with the INSPIRE directive. Finally they want the portal to work with a map viewer, using a GIS interface and have a downloading option for personalised search results. The respondents showed a primary interest in non metallic resources, secondly on energetic resources and finally on metallic resources. The EuroGeoSource portal will serve data on all three types of resources.



The inventory of the current situation regarding data on energy and mineral resources within the members of the consortium shows that the content and structure of the data differs substantially in each country. Access and use is further complicated by the fact that the data can be acquired in several different institutions and at different levels of processing. None of the countries possesses a system that could be regarded as an example for setting up the harmonised database of the EuroGeoSource project, not even on a meta database level.

The attributes on mineral and energy data that the project selected as key attributes are shown in figure 2. The consortium chose to use the UNFC (The United Nations Framework Classification for Fossil Energy and Mineral Resources) classification system because it covers both minerals and energetic resources. This system is already in use in three of the participating countries, the reserves calculated in the other countries will be mapped as close as possible. From discussions at several meetings outside the project on the use of UNFC we learned that this system is gaining in popularity, and countries are taking steps to implement it in their own environment.



The compliance of the data model to INSPIRE will be monitored by the direct participation of consortium members in the TWG Geology and Mineral resources and the TWG for Energy. Furthermore EuroGeoSource is registered as an SDIC within INSPIRE, volunteering to act as a pilot project and offering our expertise. This means that we are in close collaboration with INSPIRE, maximising the exchange of knowledge and optimising the development of the INSPIRE implementing rules.

The results of WP2, WP3 and WP4 have been used as input for WP6 to design the first prototype of the EuroGeoSource portal (see figure 3). We used a set of use cases, based on the received information from potential end users, to create a first functional design of the system. Together with the recommendations and references from OGC, INSPIRE and EGN, we set up a first conceptual architecture and a prototype of the EuroGeoSource system. This prototype implements two of the most important use cases and demonstrates

the advanced interaction envisioned to be necessary to search, show and filter to information. For the prototype, a national test data set matching the first data model has been made available through services. Furthermore a tiling service which tiles, transforms and caches data from the OneGeology EU project has been implemented in the cloud, ensuring fast access to a large dataset by a large number of people.

General data

GENERAL DATA OF SITE		Data of location	
INSPIRE ID of site		Coordinates: longitude, latitude	
local ID		depth below surface (m)	
Name of site		water depth (m)	
Type of resource		geographical location	
start of production		ADMINISTRATIVE DATA	
end of production		licence ID	
status of site		type of licence	
References		Name of licensee / operator	
Remarks		Duration of licence	



Minerals and Energy

ECONOMIC DATA	
UNFC	
in situ ore / substance reserves	
Data of extracted material	
Production	
Period of Production	
GEOLOGICAL DATA	
primary commodities	
secondary commodities	
Age of host rock / Reservoir rock age	
Host Rock type / Reservoir rock type	
Geological characteristics regional / of field	

Minerals

ECONOMIC DATA	
Dimensions of deposit	
Mining method	
GEOLOGICAL DATA	
main ore minerals	
secondary ore minerals	
morphology of deposit	
age of mineralisation	

Energy

DATA OF ENERGY RESOURCES	
Nr. of oil producing wells	
Nr. of gas producing wells	
Nr. of gas injecting wells	
Nr. of oil/gas producing wells	
Nr. of water injecting wells	
Nr. of water/gas injecting wells	
Nr. of CO2 injecting wells	
Nr. of producing/injecting wells	
Production strategy	
Installations	
Oil Initially in Place	
Gas Initially in Place	
Cumulative oil production	
Cumulative gas production	
Cumulative water production	
Cumulative gas injection	
Cumulative water injection	
Year of reporting	

Figure 2: set of key economic attributes for minerals and energy resources

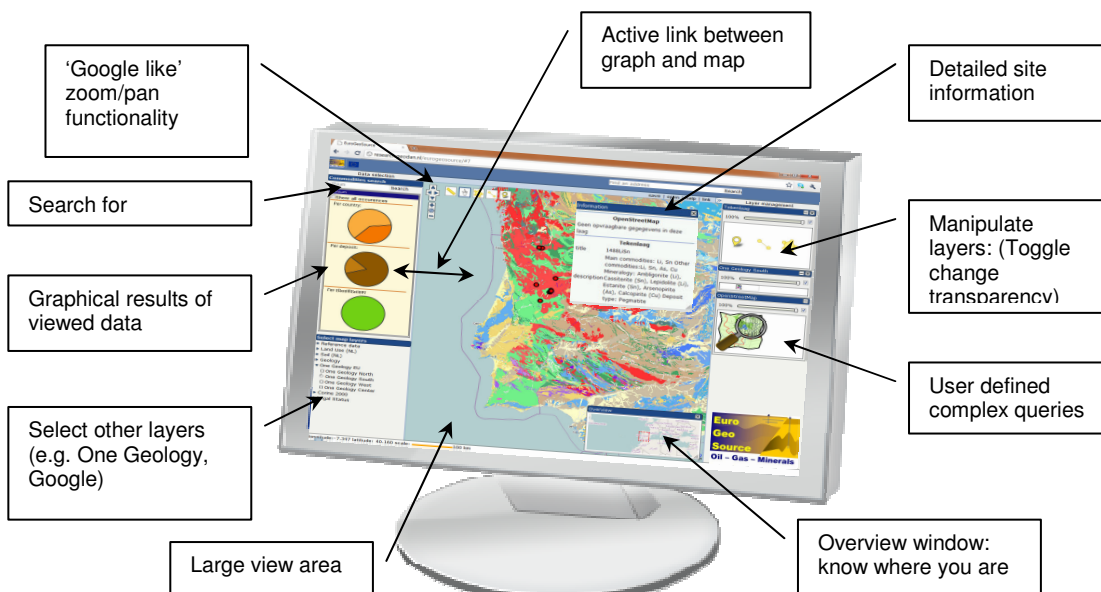


Figure 3: Screenshot of prototype of EuroGeoSource portal, showing implemented functionality

Collaborative framework

One important task within the project is to build a collaborative framework between the major players in the energy and mineral resources sectors of the EU economy. This framework will be built by organizing three workshops during the execution of the project. The first of these workshops was organised on the 10th of March 2011 in Budapest Hungary. Almost 100 attendants listened to representatives from the project, experts from OECD, DG Enterprise and Industry (Unit 3), EESC, JRC, Euromines, OGP, Academia (University of Luleå) and a Representative from the Mining Authority from Portugal. In the audience the workshop had participants from Geological Surveys, Academia, Mining and Oil Industries, representatives from Promine, consulting companies, EU strategy/policy entities and representatives of the EuroGeoSource's advisory board.



The workshop allowed the project team to get some very valuable inputs, both from the invited experts speakers and the participants. The general feedback was very positive. In addition, the workshop was an important communication tool for dialogue between the potential community of users and the project team with the consequent added value to the future project developments. At this workshop an open invitation was made for other data owners to join the project as a data provider. By doing so they will enlarge the information potential of the portal, and will gain a first experience with mapping their data to INSPIRE.

If you want us to tailor EuroGeoSource to your needs, join us at our next workshop, or give us your feedback at our website.

Expected final results and their potential impact and use

In the coming two years the actual portal will be built and tested, including the web services and a multi lingual user interface. We expect that the portal will be an example of the next step in functionality for distributed web GIS information systems. The collaborative network will be extended. The visibility of the project will be strengthened by our presence at the 26th Geoscience Information Society in Windhoek, the INSPIRE 2011 conference in Edinburgh and the eChallenges 2011 conference in Florence.

More information and feedback on the project

Our website gives the latest information on the progress of the project and has had about 260 unique visitors each month in 2011 from more than 24 countries worldwide. Any visitor can view and download all public deliverables and presentations there.