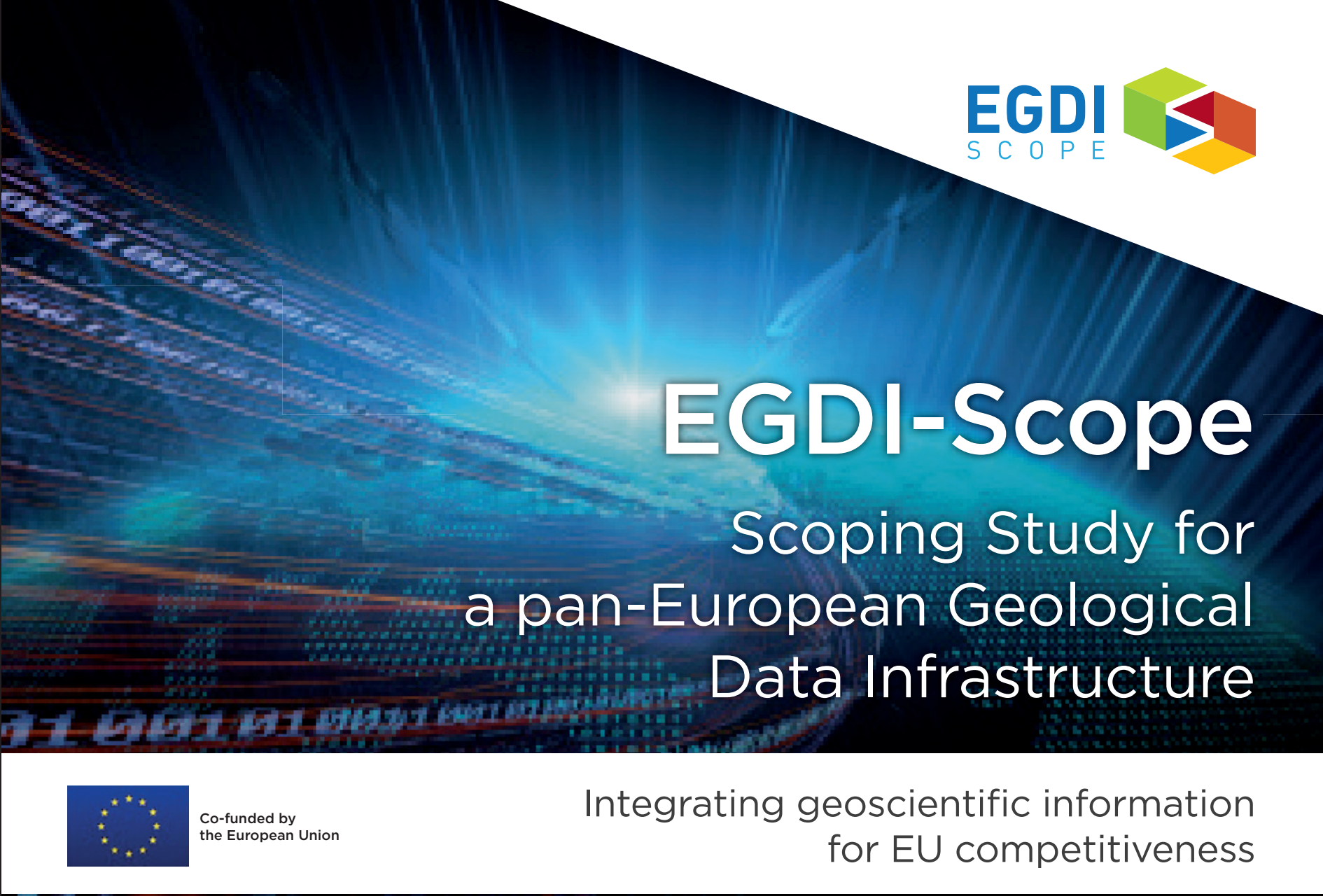


EGDI-Scope

Scoping Study for a pan-European Geological Data Infrastructure

Co-funded by
the European Union

Integrating geoscientific information
for EU competitiveness

The EGDI-Scope an EU-funded research project under the 7th Framework Program. The project is administered by the European Commission's DG Connect and executed by a project consortium of four Geological Surveys (NL, UK, FR, DK), the EuroGeoSurveys Secretariat (EGS) and the Catholic University of Leuven (BE). It is embedded within the framework of close cooperation of 32 Geological Surveys in Europe.

EGDI-Scope will run for 2 years and will focus on:

- Preparing the realization of pan-European, interoperable, thematic geological data and derived information (with regard to e.g. mineral resources, sustainable energy resources, groundwater quality, underground storage space for e.g. CO_2 and nuclear waste, active faults, active landslides, subsidence, geo-hazards, etc.)
- Preparing an implementation plan for a European Geological Data Infrastructure (EGDI) to provide access to the above mentioned data with due consideration to the needs of various end user groups.
- Sustaining results from past, on-going and future European projects.
- Integrating 3D geological and hydrogeological models into an EGDI.

EGDI-Scope is a feasibility study for a **European Geological Data Infrastructure** (**EGDI**), which will provide the backbone for serving interoperable, pan-European geological data, and data from past, ongoing and future European projects. **EGDI-Scope** will assess how such an e-infrastructure should be designed and organized in order to become the central, virtual repository of the shared knowledge (in the form of primary and derived data) of the Geological Surveys of Europe. An **EGDI**, based on the collaboration between the Geological Surveys of Europe and other institutes holding relevant and openly available geological datasets, aims to contribute to the development of international policy, industry and science in Europe.

Objectives EGDI-Scope

The primary aim of **EGDI-Scope** is to "establish an implementable concept for the future **EGDI** e-infrastructure". In order to do so, **EGDI-Scope** has the following specific objectives:

- To identify and consult the main stakeholders on their most urgent data needs for pan-European, cross-border and international purposes
- To make an inventory and relevant selection of available datasets
- To design the technical infrastructure of the EGDI and to identify hardware, software and skills needed for implementing the EGDI, both at a central level and at a national level within the individual national geological surveys
- To identify possible legal barriers to the accessibility of data - and to develop an outline for a legal framework of the EGDI, including governance and licensing issues
- To develop an overall implementation plan for the EGDI, including governance, funding and exploitation issues.

Why is EGDI-Scope Study important?

Today, the composition, properties and dynamics of the subsurface is much better understood than just a few decades ago, but the information is not always easily accessible. This study prepares the way towards easier access to digital geological data on a European scale; this will contribute to cope with the economic crisis and many other challenges that the EU nowadays has to face. Such challenges include sustainable supply of energy, water, and mineral resources; mitigation of natural hazards for the health and safety of EU citizens; hazardous substances in the environment (e.g. radioactive waste, contaminants); mitigating climate change by exploiting renewable energy and capturing and storing greenhouse gases; and addressing conflicting claims on the use of subsurface space.

In this framework the **EGDI-Scope** study will provide an implementation plan for a future European Geological Data Infrastructure aiming to connect and disseminate the comprehensive datasets and information systems that are already in place at the national geological surveys.

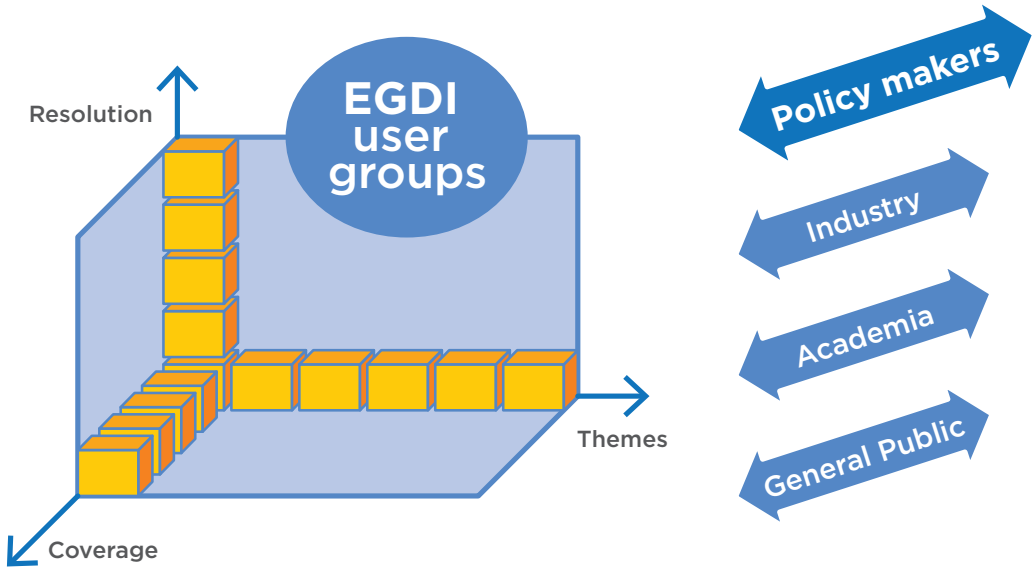


Figure 1 shows the global structure of the EGDI-Scope project. One of the axes of the cube is the thematic axis, the second axis indicates the potential increase in coverage of datasets (the number of countries and regions covered), the third axis shows the potential increase in resolution of the involved geological data (information and models), not only in scale, but also in dimension (including 3D, 4D (dynamics) or even 5D (error bars, etc.).

Pan-European geological information can have a considerable impact on the EU economy.

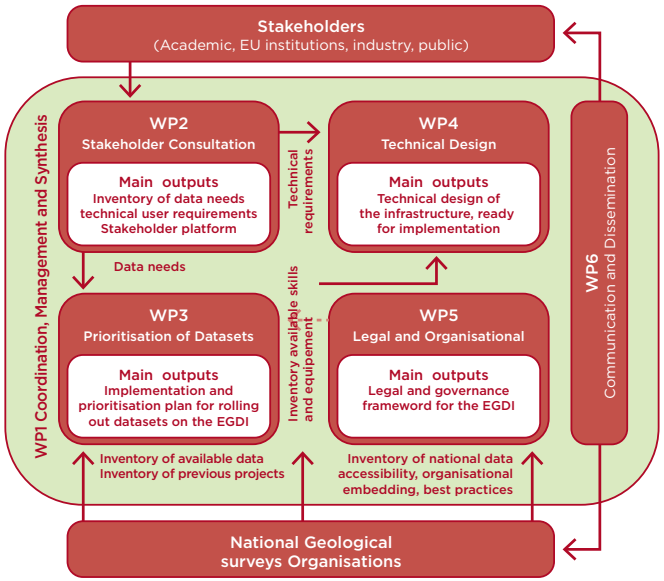
The potential role of subsurface data as an engine for economic growth and recovery is in fact significant at this time of very real economic stresses both within Europe and globally.
For instance, rapidly emerging technologies in fields such as telecommunications and renewable energy depend on rare earth elements and critical raw materials – there is a real need to know the potential of explored and unexplored European mineral resources. The harmonisation of data on energy related resources such as shale gas would contribute to exploration efforts and quantification of reserves that exist in Europe, as well as in setting European-wide standards for a sustainable extraction of such resources. In the area of natural hazards there is a need for standardized geological information that can contribute to prevent, manage and monitor hazardous events like floods, landslides, subsidence or earthquakes, for example through bringing together the national data on active faults.

How do we plan to do it?

33 countries and European organisations are involved.
The working team has been subdivided into 6 Work Packages (WP) lead by National Geological Surveys Organisations (TNO, GEUS, BGS, BRGM), EuroGeoSurveys (secretary of the Association of 33 European surveys) and the Catholic University of Leuven

- WP1 Coordination, management & synthesis
- WP2 Stakeholder Consultation
- WP3 Prioritization of datasets
- WP4 Technical design
- WP5 Legal and organizational aspects
- WP6 Communication & dissemination

The Work Packages are closely interrelated ensuring an integrated and complementary approach.



The Executive Board (WP-leaders) coordinates and supervises the whole project, ensuring the development of the activities and a continuous information exchange within and between work packages. A Steering Group (executives from EGS) advises on new points of interest and on coordination with other EuroGeoSurveys (and their members') activities.

The requirements of end users and data providers are essential for the scoping of the **EGDI**. A stakeholders panel with representatives of the European Commission and other important user communities has been established to advise the Executive Board on external developments relevant to achieving progress towards the objectives of the project. A larger group of stakeholders from other relevant communities (representing providers, policy agencies, industry, professionals, researchers and others) is furthermore consulted through workshops, meetings and questionnaires in order to ascertain the solidness of the implementation plan and thereby the long-term success of the **EGDI**.

Results and Deliverables

The project will develop strategies and establish coordination structures for large or highly distributed and heterogeneous scientific databases (including service architectures, applications and standardization). It will reflect on feasibility and conceptual design for e-Infrastructures for the 2014-20 timeframe, and the embedding within other international comprehensive data infrastructures.
The study will analyse legal, technological, operational and organizational barriers currently existing within and between national geological surveys towards making geological data openly available, and will propose possible solutions , including licensing. EGDI-Scope will identify potential user communities of the future EGDI, and through significant promotion and dissemination activities aim to engage academic, governmental, business and public support for the **EGDI**.

In conclusion

EGDI-Scope will lay the foundations for a strong European research infrastructure that can consistently deliver harmonised geological data through the increasing collaboration between the Geological Surveys of Europe. The study will lead the way towards an effective data infrastructure implementation plan to better support Europe's industry and economic development contribute to maintaining Europe's competitive position, make available important information for policy decision makers on a national and European level in the field of job growth, economic recovery and innovation, and support mitigation of natural hazards for the health and safety of EU citizens, as well as public outreach:
a "European Geological Data Infrastructure".

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