European Innovation Partnership on Raw Materials

Application for a Raw Materials Commitment

European Minerals Information Network

Acronym: EUMINET

Links to the Strategic Implementation Plan:

- **II. Non-Technology Pillar**
  - II.C Priority Area: Knowledge
    - Action area n° II.8: EU Raw Materials Knowledge Base
      - 1) Appropriate conditions for the development of the EU Raw Materials Knowledge Base (EURMKB)
      - 2) Data input and EU / global standards for interoperability with national databases and other relevant databases
      - 3) Raw materials intelligence - methods, tools and analysis
      - 4) Public data reporting and related expertise and skills
      - 5) Collaboration with the rest of the world on raw materials information
      - 6) Improvement of data collection

Objectives of the commitment:

This commitment is a contribution by National Geological Surveys, represented by their association EuroGeoSurveys, towards the European Union Raw Materials Knowledge Base. Building on the ongoing EGDI-Scope and Minerals4EU projects, its general objectives are, by 2020, to stimulate investment in the exploration and exploitation of EU mineral resources assets, as well as to provide data, knowledge and tools for their sustainable management. Its specific objectives are:

- Development of interoperable/harmonised data models and digital information services;
- Development of a multilingual EU data infrastructure, compliant with the INSPIRE Directive, providing access to national/regional data assets;
- Providing annual publications of an EU minerals yearbook and minerals foresight;
- Set up a coordinating body to develop and manage the needed common data models and interoperability arrangements.

Description of the activities:

The National Geological Surveys of Europe, united under their umbrella organisation EuroGeoSurveys, are responsible for the national geological data management of their respective countries. Their public databases can be considered as one key element of the European Union Raw
Materials Knowledge Base (EU-RMKB).

To ensure the development and operations of the EU-RMKB, the following activities of National and Regional Geological Surveys are needed:

(1) Continue maintaining, updating and constantly improving the national databases on mineral deposits and occurrences, taking into account needs from various end-users. This includes improving of knowledge and exchange of best practice regarding the development of methods and techniques in the area of exploration (marine and on land).

(2) Harmonising the existing mineral resources relevant public, digital, data assets over specific high-potential zones; developing interoperability schemes and multilingual metadata/data access, sharing the best practices and expertise on economic geology and raw material data management between National Geological Surveys within Europe and worldwide, taking into account the specific needs arising from building up of EU-RMKB.

(3) To actively improve the mineral statistic data and to participate on foresight studies on mineral raw materials.

(4) To promote standardised geological services and improve existing services for various end-users, like companies, decision makers, and citizens.

This will deliver:

(1) An information infrastructure with coherent interoperable databases.

(2) Access to Pan-European, high-quality mineral resources related geological data.

(3) High quality data on mineralised areas, exploration and mineral production and flows; intelligence and foresight studies for public and private decision-makers, raw material producers and society.

The members of EuroGeoSurveys have already started the work, actively participating in the FP7-funded Minerals4EU project developing a structure to ensure the continuation of the minerals intelligence network beyond the lifetime of the project. Parallel to that, the EGDI-Scope project, also funded by FP7, is preparing for a pan-European Geological Data Infrastructure.

The current situation with regards to data availability is quite variable within Europe. National Surveys hold national databases, but there are great differences between them - different content, not harmonised, different rules on accessibility, etc. Several projects on harmonisation (e.g. ProMine, EURARE, EuroGeoSource) have made progress but are often not sustainable, not fully pan-European, not interoperable with national datasets or do not cover all resources.

Minerals4EU aims to address this by setting up a permanent network and information system, whilst the EGDI-Scope study will investigate possible infrastructures for a pan-European Geological Data Infrastructure. These initiatives, alongside others, are part of the EuroGeoSurveys Strategy towards the development of a European Geological Service (EU Geological Knowledge Base, including raw materials, but also other geological information).

This commitment aims at sustaining the outcomes of these aforementioned projects as well as those to come in the future, while also strengthening connections with the secondary mineral resources communities to provide more complete datasets and thus a complete overview of EU's mineral endowment.

**Description of the expected impacts:**

The successful data harmonisation, knowledge sharing, and construction of a single pan-European geological data service will have diverse impacts on European level. This will contribute to a more secure and sustainable supply of raw materials. This will contribute to reduction of import...
dependency and promotion of exports by improving supply conditions from EU and providing resource efficiency, including recycling and alternatives in supply. This will also contribute towards putting Europe at the forefront in raw materials sectors by making Europe a leader in the capabilities related to exploration and recycling by 2020, as well as mitigating the related negative environmental and social impacts.

Existing literature, such as the report published in 2010 by the Prospectors and Developers Association of Canada (PDAC) “Government geoscience to support mineral exploration: public policy rationale and impact” documents the vital role of public geoscientific data assets and their value to society as a public good, as a same data set can lead to several discoveries by different economic players. Lambert (1999), based on the Australian experience, found that every $1 spent by government on pre-competitive geoscience led to discovery of in-ground resources worth $100 to $150.

**Expected innovation outcomes:**
New processes
New services

**Name of the coordinating organisation:**
EuroGeoSurveys

**Country:**
Belgium

**Entity profile:**
Other

**Other:**
International non-profit association

**Role within the commitment:**
To coordinate the activities of the network of European Geological Surveys, providing a communication channel in between the individual partners but also between the geological survey community and the stakeholders (EU Institutions, industry, public, etc.). To ensure alignment of these activities with the EIP SIP. To coordinate and play an active role in communication and dissemination activities.

**Other partners:**

**Name of partner:**
Geologische Bundesanstalt (GBA)

**Country:**
Austria

**Entity profile:**
Governmental/public body

**Role within the commitment:**
Providing digital datasets on mineral deposits and occurrences in Austria (IRIS, mine inventory).

**Name of partner:**
Hrvatski Geološki Institut - Croatian Geological Survey (HGI-CGS)

**Country:**
Croatia

**Entity profile:**
Governmental/public body
Role within the commitment:
Actively contribute within the capacity of HGI-CGS to support minerals planning, to improve its capacity and competence for addressing primary and/or secondary minerals planning, and include stakeholder participation in the development of minerals plans.

Name of partner:
Geological Survey Department (GSD) - Ministry of Agriculture, Natural Resources and Environment
Country:
Cyprus
Entity profile:
Governmental/public body
Role within the commitment:
GSD as a member of EGS participates in the Minerals4EU project (in WP2, WP4 and WP5). Also, GSD carries out its own industrial mineral exploration and maintains a mineral statistics database and plans the evaluation of selected secondary sources (mining wastes) for mineral raw materials.

Name of partner:
České Geologické Služby - Czech Geological Survey (CGS)
Country:
Czech Republic
Entity profile:
Governmental/public body
Role within the commitment:
CGS is a member of EGS and participates fully in the Minerals4EU project (in WP2, WP4, WP5 and WP6). CGS will contribute with mineral statistics, a mineral yearbook, geoinformation infrastructure and a wide expertise in raw materials including the foresight studies on mineral raw materials. The National Competence Centre for Effective and Ecological Mining of Mineral Resources will support all necessary activities in the frame of this Commitment.

Name of partner:
Geological Survey of Denmark and Greenland (GEUS)
Country:
Denmark
Entity profile:
Governmental/public body
Role within the commitment:
GEUS contribution will strengthen the EURMKB through three key areas: 1) studies and analysis of global RM flow and its implications for the EU, 2) improving knowledge about deposits in the EU and other areas of relevance to EU’s RM demand (especially the arctic) and 3) establishing and maintaining of INSPIRE and EGDI compliant database structures for data concerning RM. GEUS is willing to take leadership or co-leadership on this.
Geologian tutkimuskeskus (GTK)

Country: Finland

Entity profile: Governmental/public body

Role within the commitment:
To provide expertise on: (1) mineral data management and services, (2) primary mineral raw materials with special emphasis on Precambrian terrains, (3) mineral potential mapping, and (4) assessment of undiscovered ores.

Name of partner: Bureau de Recherches Géologiques et Minières (BRGM)

Country: France

Entity profile: Governmental/public body

Role within the commitment:
Knowhow in the development of data models and interoperability arrangements. Involved in relevant FP7 projects such as EURARE, Minerals4EU, EGDI-Scope, InGeoClouds. Experience in: improvement of datasets quality, of the system performances, the development of new services, and the introduction of the 'Big Data' concept as well as for the implementation of knowledge discovery in databases techniques in order to fully exploit the knowledge base.

Name of partner: Bundesanstalt für Geowissenschaften und Rohstoffe (BGR)

Country: Germany

Entity profile: Governmental/public body

Role within the commitment:
Data harmonization of metadata in selected projects, foresight studies and exchange of knowledge and information including for marine mineral resources, the related environmental monitoring as well as the development of exploration methods. Provide knowledge on the development of exploration methods, including fast chemical, mineralogical and geophysical semi-quantitative and quantitative methods for exploration, mining and recycling of minerals.

Name of partner: National Centre of Sustainable Development - Institute of Geology & Mineral Exploration (EKBAA-IGME)

Country: Greece

Entity profile: Governmental/public body

Role within the commitment:
EKBAA-IGME is a full member of EGS and participates fully in the Minerals4EU project (in WP2,
WP4 and WP5) and in the EURARE project. Also, EKBAA-IGME carries out its own programmes of minerals intelligence (NSRF projects-ending 12/2015) specifically related to detailed mapping of areas of mining interest and application of modern technology methodologies for research and evaluation of selected secondary sources of mineral raw materials.

**Name of partner:**
Geological Survey of Ireland (GSI)

**Country:**
Ireland

**Entity profile:**
Governmental/public body

**Role within the commitment:**
GSI participates fully within EGS. GSI's Director is the current Vice-President of EGS. GSI is a full participant in the Minerals4EU project with special responsibilities in WP3 Communications and Dissemination Strategy. GSI carries out its own programmes of minerals intelligence specifically related to minerals databases and the documentation of Ireland's minerals endowment and historic mine sites.

**Name of partner:**
Istituto Superiore per la Protezione e la Ricerca Ambientale (ISPRA)

**Country:**
Italy

**Entity profile:**
Governmental/public body

**Role within the commitment:**
ISPRA, through the Geological Survey of Italy, is a full member of EGS and Minerals4EU project partner (in WP2 and WP3). Moreover, together with ISTAT (the Italian Institute of Statistics), ISPRA collects standard and harmonized data about raw materials in Italy in the frame of a National Working Group on Extractive Industry. In particular, ISPRA provides data about mines, quarries and wastes from extractive industries.

**Name of partner:**
Servizio Geologico, Sismico e dei Suoli (SGSS) della Regione Emilia-Romagna

**Country:**
Italy

**Entity profile:**
Governmental/public body

**Role within the commitment:**
The role within the commitment will be to extend and harmonize the datasets for mineral and thermal water resources, historical mining sites for building stones, extent estimation and characterisation of subsurface resources. We will share the expertise of the staff in field data collection, data homogenization through INSPIRE Directive compliance and the establishment of public, open-access web services.

**Name of partner:**
Nederlandse Organisatie voor Toegepast Natuurwetenschappelijk Onderzoek (TNO)
Country: Netherlands
Entity profile: Other
Other: Semi-independent research and technology organisation
Role within the commitment: TNO-GSN commitment has 3 elements: - Geology: keeping Dutch surface mineral resource information (aggregates, clay, etc.) up to date (value-added product of shallow 3D mapping programme GeoTOP); ~35k€/y - Information technology: enabling aggregation and dissemination of minerals information from varying sources; ~67k€/y, provided that there are appropriate calls - Networking and representation: EGS Mineral Resources Expert Group and ETP-SMR; ~20k€/y

Name of partner: Geological Survey of Norway (NGU)
Country: Norway
Entity profile: Governmental/public body
Role within the commitment: NGU is currently a partner in a number of international cooperative projects on geological maps, services and resource databases. NGU is committed to contribute to all issues related to development, organisation, presentation, and harmonisation of mineral resource data, services and intelligence on both national and European scales.

Name of partner: Polish Geological Institute - National Research Institute (PGI-NRI)
Country: Poland
Entity profile: Governmental/public body
Role within the commitment: PGI-NRI's commitment to EURMKB would be connected with contribution to several tasks, especially those dealing with development of methodologies, data models and best practices in recycling, urban mine and waste harmonizing data information and logistic solutions, providing data for EU minerals yearbook and statistics as well as development of a European minerals intelligence capacity and cooperation with Eastern European countries.

Name of partner: Laboratório Nacional de Energia e Geologia (LNEG)
Country: Portugal
Entity profile: Governmental/public body
Role within the
**Commitment:**
Partner within larger consortium responsible for data generation/gathering from Portugal.

**Name of partner:**
Institutul Geologic al României (IGR)
**Country:**
Romania
**Entity profile:**
Governmental/public body
**Role within the commitment:**
IGR will contribute to the development of a national database on the raw materials in Romania, a well-known mining country, as well as to help the development of a regional database. “Orphelline” sites will be re-investigated and new occurrences will be added. Metadata and GIS charts will help the better access and analytical re-investigations and re-interpretations of the old mining sites are to be expected.

**Name of partner:**
Štátny geologický ústav Dionýza Štúra (SGUDS)
**Country:**
Slovakia
**Entity profile:**
Governmental/public body
**Role within the commitment:**
SGUDS is a full member of EGS and Mineral4EU project partner (in WP4, WP2 and WP3). SGUDS is member of EIP RM Operational Groups 1 and 5 and back up the participation at the Sherpa and HLSG as the alternate of the statutories of the Ministry of Environment of the Slovak Republic. SGUDS has been since 2013 a full member of the ERA-MIN.

**Name of partner:**
Geološkega zavoda Slovenije (GeoZS)
**Country:**
Slovenia
**Entity profile:**
Governmental/public body
**Role within the commitment:**
GeoZS is a full member of EGS and Mineral4EU project partner (in WP2 and WP5), we participate also in on-going projects Minventory and Snap-SEE. We were a leader of WP "Interoperability of the Georesources attributes and the data exchange format" in EuroGeoSource project. Otherwise, GeoZS carries national programmes of Mining Public Service related to national mineral resources management including primary and secondary raw material data.

**Name of partner:**
Instituto Geológico y Minero de España
**Country:**
Spain
Entity profile:
Governmental/public body

Role within the commitment:
- Create and continuously develop mineral intelligence infrastructure in Spain, including relevant informatic support.
- Collect and regularly produce primary and secondary raw materials production statistics in Spain; design and execute material flow and end-of-life products studies.
- Map and evaluate mineral potential in Spain; model national mineral deposits.
- Cooperate in world-wide mineral data networks

Name of partner:
Sveriges Geologiska Undersökning (SGU)
Country:
Sweden

Entity profile:
Governmental/public body

Role within the commitment:
SGU has a role as a partner in this commitment. SGU participates fully within EGS and participates in the Minerals4EU project. SGU compile databases on Sweden's mineral resources including commodities, mineralogy and geology of Swedish deposits, production of statistics for Swedish mines and reserves & resources on mineral deposits. Databases on mine waste, both waste rock from mining and tailings from dressing plants, are under construction.

Name of partner:
Geoinform of Ukraine (GOI)
Country:
Ukraine

Entity profile:
Governmental/public body

Role within the commitment:
State Research and Development Enterprise (SRDE “GeoInform of Ukraine”) is subordinated to the State Geological and Subsurface Survey of Ukraine (SGSSU) and is the specialized entity which collects, stores, analyzes and provides information received from geological study and use of subsurface. In the consortium, GeoInform will supply the information on mineral resources of Ukraine to be involved in the European networks and relevant studies.

Name of partner:
British Geological Survey - Natural Environment Research Council (BGS)
Country:
United Kingdom

Entity profile:
Governmental/public body

Role within the commitment:
Compilation of European and global mineral statistics (Minerals4EU); analysis and review of mineral statistical data (competitiveness of EU raw material sector); analysis of mineral extraction permitting policy; compilation of spatially-related mineral information
Existing EU contribution:  
Yes

Source:  
FP 7
Other

Period to implement the commitment:  
Thursday, 1 May, 2014 to Wednesday, 1 January, 2020