



Collecting, harmonizing and sharing data on European Raw Materials

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Geological raw materials cover a wide range of materials from sand and gravel over granites and marbles to precious or critical metals and minerals. Man has extracted these materials from the (sub)surface since prehistorical eras, and these indispensable substances have to a very large extent contributed to the evolution of humankind.

In the latest decades, raw materials of economically and strategically importance for society but with high-risks associated with their supply, referred to as Critical Raw Materials (CRMs). To a large extent they form the basis for modern society as they are essential in key industry sectors. In the latest years, access to CRMs is a strategic security question for Europe's road towards the green transition.

In September 2020, The European Commission launched a new list of CRMs as well as a strategy to enhance Europe's resilience as most of these substances are sourced from other continents, and as the global competitions is increasing (EC, 2020). Among others, one of the suggested actions in this strategy is to 'strengthen the sustainable and responsible domestic sourcing in the European Union'. Although Europe has a long tradition of mining and extractive activities, it is acknowledged that there are several challenges to reach a situation with European sourcing of a certain amount of CRMs. Challenges include lack of interest in investment, strict permitting procedures or low levels of public acceptance. Nevertheless, it is recognized that the European geological conditions carry significant potential for CRMs, but more harmonised knowledge across borders is needed. This is where the Geological Survey Organisations of Europe play an important role as they are key partners in collecting and storing information on raw materials at national levels, and in making these available for endusers as policy and decision makers.

All European countries have a national geological survey organization, some in addition a number of regional surveys. Most host data on raw materials, however, data are typically organized in different ways from one country to another based on different geological traditions and legal commitments. In the GeoERA MINTeLL4EU project we build on previous projects as Minerals4EU, ProSUM, SCRREEN, ORAMA, and cooperate with ongoing projects as RESEERVE to collect raw material data in central database and to visualize these data in harmonized way at the European Geological Data Infrastructure (EGDI). Data includes, among other things, the location of individual

mineral occurrences, mines, etc. stored in a central database called MIN4EU, and aggregated statistical data at national level on production, trade and reserves etc, compiled in what we know as the electronic Minerals Yearbook. The methods used for collecting (harvesting) and storing data will be discussed, and examples of harmonized visualizations will be shared.

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