INSPIRE data harmonisation of mineral resources: contribution of MINERALS4EU project

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Georesources support society at different levels, depending on their technological development, and thus strongly impact on the economic, societal and environmental sustainability pillars. The project MINERALS4EU (http://www.minerals4eu.eu/) created the European Mineral Knowledge Data Platform (EU-MKDP, http://minerals4eu.brgm-rec.fr/), to provide geospatial harmonised data related to mineral resources across Europe, as well as statistical information, e.g., minerals yearbook. The nuclear pillars of the EU-MKDP architecture were based on the data models and harmonised terminology developed by INSPIRE and Commission from the International Union of Geological Sciences/Commission for the Management and Application of Geoscience Information (IUGS/CGI), represented by GeoSciML and EarthResourceML. The Portuguese input to this platform was based on mineral occurrences and resources national information system, SIORMINP (http://geoportal.lneg.pt/geoportal/egeo/bds/siorminp/). The SIORMINP contains geospatial information regarding categorization of mineral resources, regional and local geology, mineralogy, past mining licenses and mining activity, and commodities. It was designed and created to broaden geoscientific, technical and economic knowledge of mineral occurrences, resources and reserves, contributing for the mining development and its sustainability. The SIORMINP dataset was harmonised according to the MINERALS4EU project data model and vocabularies, and published using OGC compliant Web services in EU-MKDP. A first step was the detailed analysis of the Database model, which allowed us to understand the needed information and define the data available to fulfil the model. The model was conceived taking into consideration the former European-funded mineral resources INSPIRE projects, Eurogeosource and ProMine, in which LNEG participated and helped in further developments. The following step was to identify which fields in the Minerals4EU data model could be fulfilled using the information already classified according to INSPIRE data specifications within the former projects based on SIORMINP. Three distinct situations were identified: I) a complete match between INSPIRE codelists - no need for further reclassification; II) a partial match - partial need for reclassification; III) no match with CGI codelists - need for reclassification. Given the specificities and requirements of the data model, concerning genetic and geological settings, data reclassification had to be done by the mineral resources experts. In addition, based on available data in the SIORMINP, a fourth situation was considered to be done by the experts: IV) classification of "new" data. This work shows how the data harmonisation was undertaken to integrate the national database into the EU-MKDP and more recently to improve the national mineral resources geodatabase in LNEG geoportal, in order to be INSPIRE compliant.

PALAVRAS-CHAVE

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