Atlas of European ornamental stone resources

Tom Heldal¹, Jorge Carvalho², Željko Dedić³, and Kostas Laskarides⁴

¹Geological Survey of Norway, Trondheim, Norway (tom.heldal@ngu.no)
²The National Laboratory of Energy and Geology, Portugal
³Croatian Geological Survey
⁴Hellenic Survey of Geology & Mineral Exploration

Ornamental stone is today a raw material produced with great skills all over Europe, SME's and larger enterprises exploiting the vast diversity of European ornamental stone resources. Today's European stone industry is not only large and important but also highly dispersed throughout Europe, making a backbone industry for particularly rural areas. In Italy alone, there are more than 1000 stone quarrying enterprises and the sector in total employed more than 50 000 in 2011. Ornamental stone has contributed significantly in shaping our rural and urban landscapes, through its use in our built heritage from different historical periods. Yet, the actual use of local and regional stone resources in Europe is under threat due to sterilization of resources by urbanisation, infrastructure development and other land uses. Consequently, important resources are “unknowingly” lost for future production, and so are vital geological knowledge and skills for producing them. Loss of such resources will not only make it more difficult to maintain and restore our architectural heritage, but also prevent the use of traditional materials in the future.

The motivation behind the EuroLithos project, as a part of the GeoERA partnership, was to reverse this gradual process of loss, by providing a European scale knowledge base for ornamental stone resources; their spatial occurrence and distribution, their technical properties and quality, as well as providing guidelines for how to assess economic and non-economic values.

A major challenge in the project is to collect data from many national repositories and display them in a harmonised way. The spatial extent of ornamental stone resources can basically be measured by the spatial distribution of the geological units containing the valuable quarries and future resources of same quality. Another challenge is how to link geological units with ornamental stone commodities of the INSPIRE standard, and a third is how to collect and display technical information about ornamental stone and how to link that to the spatial data. So far, EuroLithos has provided agreement among 15 partners in 14 countries on how to meet these challenges, and guidelines on how to deliver data according to this agreement. Ongoing, 12 case studies across Europe covering different aspects of resource valorisation are currently running. EuroLithos will be running until July 2021, and more results can be viewed at www.eurolithos.org.