NEXT – New Exploration Technologies project fulfil expectations

European Union Horizon 2020 project NEXT, was created to develop new geomodels, novel sensitive exploration technologies and data analysis methods which together are fast, cost-effective, environmentally safe and, potentially more acceptable to local actors and communities.

"NEXT project has been a success and it has fulfilled expectations. NEXT results have been already used by mineral exploration companies with a great success", says Science Coordinator **Vesa Nykänen** from Geological Survey of Finland (GTK).

Great achievements

"We had seven work packages and 10 objectives to start with, in this project. Results show that cooperation between partners have been fruitful and we have achieved excellent results in all work packages", says Project Manager **Juha Kaija** from GTK.

The project has been also noticed by European Commission Innovation Radar. Independent experts of the Innovation Radar ranked the product of the NEXT project, Novel electromagnetic (EM) survey system on UAV for mineral exploration, as a top innovation with high market potential in the near future.
"This survey system is a remarkable result of the NEXT. Finnish SME Radai Oy started the development of it within the NEXT project and already it has proven to be highly versatile. Now they are developing the system further for commercial use", Nykänen explains.

The other remarkable achievement of NEXT is SOM (Self-Organizing Maps) Software Tools. The aim in the Project was to develop a new modern software and tools for data processing and integration. A new open-source software tool GisSOM for geoscientific data integration with combination of artificial neural works and self-organizing maps is available in GitHub.

"GTK and BEAK worked together to create data fusion tools. GTK is responsible for open-source SOM software tool and BEAK is more involved to develop it for commercial use", Nykänen explains.

Large number of publications

"The large number of publications in the project is particularly gratifying. There are more than 40 scientific articles already published or submitted in the NEXT project", tells Nykänen. All the publications will be released on open access.

Social License to Explore (SLE) is important element of nowadays exploration activities. In the NEXT two comparable case studies were conducted to find out the attitudes to the new sensitive versus the conventional exploration to achieve and understanding the importance of sensitive exploration technologies to social licencing. One of the outcomes was the NEXT SLE Toolkit. It presents the advances in mineral exploration and the outcomes of the research on the SLE thematic in an easy-to-grasp language. Toolkit brings recommendations, which are foremost addressed to mineral exploration and mining companies, about why, how, when and where to communicate with local communities during the mineral exploration stages.

Help for clustering

Clustering was one of the objectives of NEXT. For this a new open-access module "Projects Map" through Horizon 2020 Collaboration Network of CORDIS (The Community Research and Development Information Service) allowing to explore synergies, to optimize clustering and strategy thinking in the European

"jungle", was developed conjointly by the Publications Office of the European Union and Université de Lorraine teams https://cordis.europa.eu/datalab/p2co.php?lv=en

The NEXT consortium was coordinated by the Geological Survey of Finland (GTK) and consisted of 16 partners from research institutes, academia, service providers and mining industry from the six EU member states Finland, Sweden, Germany, France, Malta and Spain. Horizon2020 6,9 M € project NEXT had it Final event in September 2021.

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Project page https://new-exploration.tech/