Press Release NEXT – New Exploration Technologies

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EU project NEXT (New Exploration Technologies) started

Rovaniemi, Finland, 04.07.2018. On 23 and 24 May 2018, the research project NEXT, financed by the European Union as part of the HORIZON 2020 Research and Innovation programme, started with a kick-off meeting in Rovaniemi, Finland. NEXT will develop new geomodels, novel sensitive exploration technologies and data analysis methods, which together are fast, cost-effective, environmentally safe and potentially more socially accepted.

The NEXT consortium is coordinated by the Geological Survey of Finland (GTK) and consists 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. They represent the main metal-producing regions of Europe: the Baltic Shield, the Iberian Variscan Belt and the Central European Belt. "These economically most important metallogenic belts have diverse geology with evident potential for different types of new mineral resources," says Vesa Nykänen, Research Professor and Scientific Coordinator of the project. "The mineral deposits in these belts are the most feasible sources of critical, high-tech and other economically important metals in the EU."

The project is built on three pillars of technological advances: (1) Mineral systems modeling, (2) exploration methods and approaches as well as (3) data processing and data integration tools. NEXT will combine the knowledge derived from the geological mineral systems research with the new advanced exploration techniques. The development of data analysis techniques is a crucial step in getting most out of the vast exploration data with lower costs and better accuracy. With these principles in mind, NEXT is taking steps toward more efficient and economically and environmentally sustainable mineral exploration. "This will eventually lead into better success rate in exploration and new discoveries, which is important for the raw materials supply for European industrial development now and in the future", highlights Vesa Nykänen.

The most important components of the project are:

- Produce robust conceptual 3D models for selected target sites that in combination with pathfinders allow to predict the location and the size of ore deposits at depth,
- Develop new geophysical EM airborne methods (also with UAVs),
- Improve, facilitate and promote cost-efficient and environmentally-friendly multi-source surface geochemical exploration techniques for target scale mineral exploration,
- Integrate spectral, multiscale, multisensory exploration data,
- Develop self-organizing map software, which enables analysis of large amounts of data in order to find typical pattern for certain deposit types,

- Develop practical guidelines and generate strategies that improve relationships between industry and local actors and communities.

“Methods developed will reduce the current high exploration costs and enhance participation of civil society from the start of exploration, raising awareness and trust”, explains Project Manager Juha Kaija from GTK. “Moreover, the reduced environmental impact of the new technologies and better knowledge about the factors influencing social licensing will help promote social acceptance of both exploration and mining and therefore support the further development of Europe´s extractive industry.”

The project has a budget of 6.9 M€ and it will run for 3 years.

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