

**Press release**  
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## **AGEMERA redefines mineral exploration with muography, seismic innovation and public insight**

**As Europe’s demand for critical raw materials intensifies, the question is not only where to find them, but how to explore responsibly. AGEMERA, a Horizon Europe-funded project, is addressing both challenges by developing new non-invasive exploration technologies and placing societal acceptance at the centre of its work.**

As Europe moves toward a green and digital future, the demand for critical raw materials is increasing at an unprecedented pace. From lithium in electric car batteries to rare earth elements in wind turbines and smartphones, these resources are essential for building climate-neutral technologies. Yet the EU remains heavily reliant on imports, often from politically unstable regions, making secure and sustainable access to critical raw materials a strategic priority. AGEMERA has spent the last two years developing tools and insights to make that transition smarter, safer and more accepted by society.

From 3D imaging using cosmic-ray muons to ambient noise seismic surveys and an open-access WebUI for exploration data, AGEMERA has introduced tools that minimise environmental impact while enhancing accuracy. But just as importantly, the project is leading a Europe-wide dialogue on public trust in the extractive sector — through large-scale surveys, inclusive workshops and education initiatives.

“With AGEMERA, we are not just building better tools for mineral exploration — we are building trust, transparency, and a shared vision for sustainable resource development,” said **Jari Joutsenvaara**, AGEMERA Project Coordinator from the University of Oulu.

New mining and exploration projects often face strong public opposition due to environmental concerns, lack of transparency, or limited community involvement. AGEMERA addresses this challenge head-on by combining cutting-edge non-invasive exploration tools with open engagement practices. Through its Europe-wide survey and inclusive research approach, the project brings community perspectives into the heart of exploration planning and policy development. “Innovation alone isn’t enough — we also need public support and shared understanding. That’s why AGEMERA integrates societal perspectives from the start,” Joutsenvaara added.

The innovative technologies have been developed by [Radai](#) (electromagnetic and seismic surveys), [Muon Solutions](#) (muography), [OPT/NET](#) (data integration and the WebUI platform), and [Lithica](#) (geoscientific modelling and analysis). The progress and prototypes developed during the project will be introduced at the AGEMERA Open Innovation Seminar “Exploring Tomorrow: Innovations in Mineral Tech and Beyond” taking place on **6 May 2025**. The seminar can be attended online.

*AGEMERA (Agile Exploration and Geo-Modelling for European Critical Raw Materials) is a research and innovation project funded by the European Union’s Horizon Europe programme. The project aims to advance non-invasive, socially responsible and digitally integrated methods for mineral exploration, with a focus on critical raw materials essential for Europe’s green and digital transitions. AGEMERA brings together universities, technology developers, and policy*

*experts across Europe to develop cutting-edge tools, foster public engagement, and strengthen the EU's strategic autonomy in raw material supply. The project runs from 2022 to 2025.*

Info and registration: <https://agemera.eu/events/2/agemera-open-innovation-seminar-tallinn-6-may-2025>

For further information, please contact:

**Karin Käär**

Taltech

[karin.kaar@taltech.ee](mailto:karin.kaar@taltech.ee)

**Jari Joutsenvaara**

Project Coordinator

[jari.joutsenvaara@oulu.fi](mailto:jari.joutsenvaara@oulu.fi)