Project Facts

CALL
Resilient Value Chains 2023 (HORIZON-CL4-2023-RESILIENCE-01)

TOPIC
Earth Observation platform, products and services for raw materials (HORIZON-CL4-2023-RESILIENCE-01-06)

DURATION
48M (2024-2028)

START DATE
01 January 2024

COORDINATOR
Institute of Communication and Computer Systems

Partners

AuroraGeo Consulting Earth Scientists and Engineers

ARISTOTLE UNIVERSITY OF THESSALONIKI

CANTERAS INDUSTRIALES S.L. Montevives

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TERNA MAG GEK TERNA GROUP

TERRAQUE

THARSIS MINING

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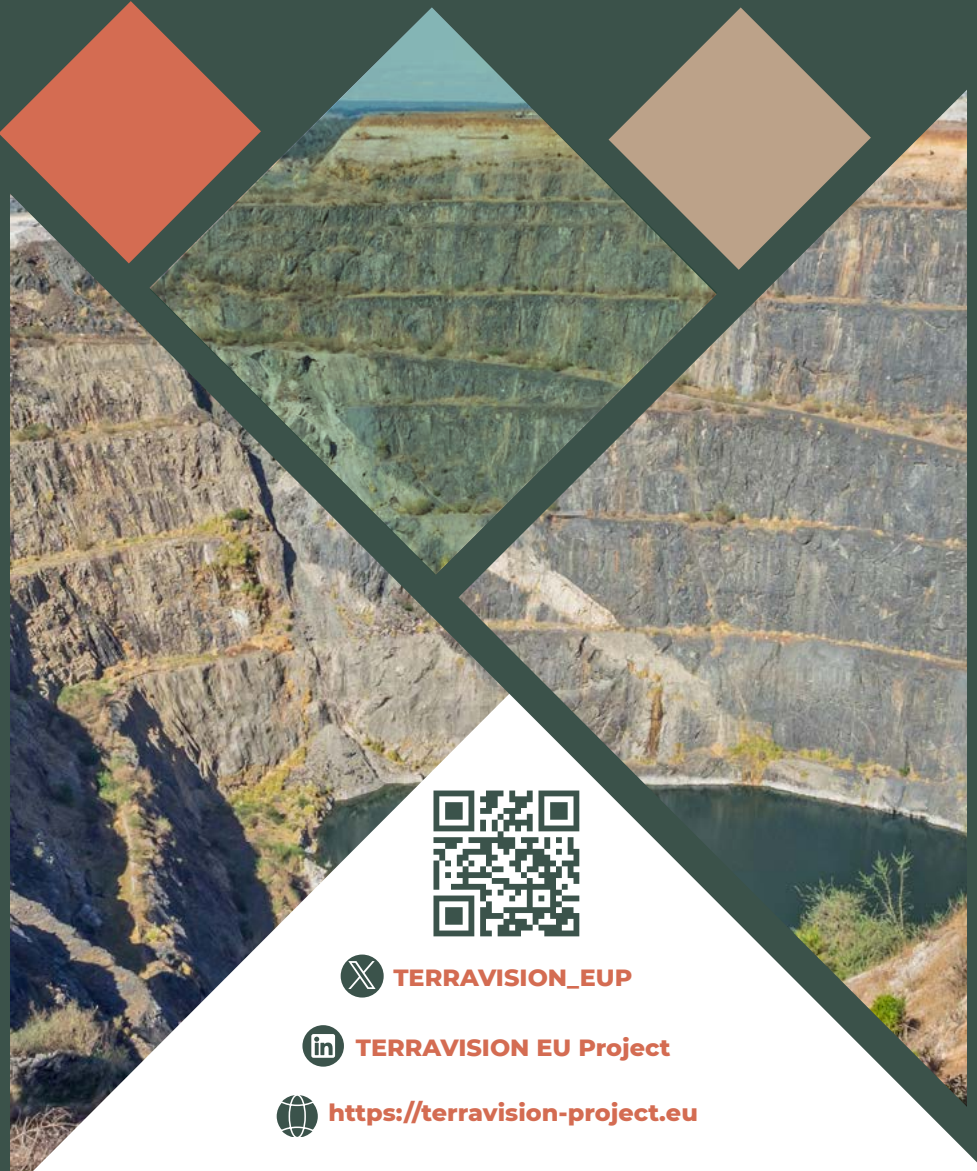
TERRAVISION

Integrated Earth Observation Based Platform to Enhance the life cycle of Critical Raw Materials



TERRAVISION_EUP

TERRAVISION EU Project

https://terravision-project.eu

What are Critical Raw Materials?

Critical raw materials are raw materials that hold high importance to the EU economy. They are also at a supply risk!

Why critical?

Because they are linked with industry.

Because they are key components of modern tech products, such as smartphones.

Because they are closely linked to clean technologies, such as solar panels, and electric vehicles.

Raw materials are of high importance to the EU digital and green economy, formulating an essential basis of the European industry as well as a precondition for Europe's Green Deal. Improving resource accessibility, efficiency and circularity is essential for ensuring EU resilience in the raw materials sector. To ensure access to a secure and sustainable supply of critical raw materials, the CRM Act has been fomulated by the EU.

EO for Greener Mining

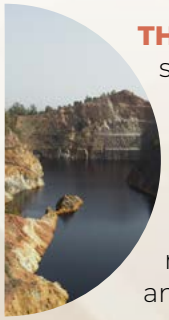
The EU action plan on Critical Raw Materials (CRMs) and Strategic Raw Materials (SRMs) promotes the use of Earth Observation (EO) and the Copernicus program as a valuable tool for the exploration of relevant resources as well as for monitoring the environmental performance during the mining life cycle.

TERRAVISION will establish and deploy an integrated platform to enhance the entire critical raw materials value chain towards implementing sustainable mining practices.

Pilot Sites

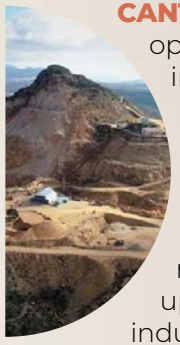
TERRAVISION EO Mining Services Platform will be supported by 4 innovation pillars; the Data Ecosystem for Large scale EO mining services; the Analysis Ready Data and Raw material spectral library; the EO services for the mining industry; and the Green & Resilience Accountability component.

The Platform will be demonstrated by validation campaigns at 6 different sites, in 3 mines



THARSIS focuses on the further exploitation of primary and secondary deposits of CRMs and ERMs in the Iberian Pyrite Belt, SW Spain. The importance of the pilot site lies in the validation of remote sensing methods coupled with ground raw data and in-situ instruments for raw material exploration; to assess, in near real-time, ongoing hazards, evaluate potential risks related with ground instabilities at mining sites, and to provide key inputs about environmental and resilience indices, in particular at waste dump locations.

TERNA MAG, which currently exploits 2 magnesite deposits on the island of Evia, Greece, is a demonstration site that will focus on the modernization of the exploration activities currently undertaken in the underground and open pit mines, by expanding the operations based on EO services. Remote sensing and real-time assessment of dynamic hazards will be implemented to mitigate the potential risk of the surrounding areas of the mines.



CANTERAS INDUSTRIALES,S.L. is the owner of the open cast mining concession "Aurora" on the Montevive hill in Granada, Spain; the largest reserve of natural strontium sulphate (aka Celestite) in Europe. Strontium has significant applications in different fields, more importantly including the manufacturing of semi-conductors (chips) and permanent magnets. CANTERAS is applying the best available mining and production techniques in order to minimize blasting, extraction and waste, concentrating and upgrading low quality mineral for the strontium carbonate industry. TERRAVISION's EO technologies will be employed to achieve these ambitious goals.