Mapping mineral data of SE Europe

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Geological Survey of Slovenia

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EIT RM proj. RESEERVE

12 COUNTRIES

Albania
Bosnia and Herzegovina
Croatia
Montenegro
North Macedonia
Serbia

14 PARTNERS

• Funding: European Insitute of Innovation and Technology (EIT)
• Duration: 4/2018 - 6/2021
Connecting West Balkan (SEE) region to pan-European Minerals Intelligence Network INSPIRE aligned data (EGDI)

* This designation is without prejudice to positions on status and is in line with UNSCR 1244/1999 and the ICJ Opinion on the Kosovo declaration of independence.
Main Objectives

• Creating **West Balkan Mineral Register** (PRM & SRM) by mapping mineral resources from 6 countries

• Integrating **West Balkan** into **pan-European Minerals Intelligence Network**

• Creating **West Balkan mineral community** to determine available and further **needed information** about MR

• Increasing **capacity** of **West Balkan countries** for **MR management** on national level
West Balkan Mineral Register

- 473 mineral deposits (PRM data)
- 1461 mining and metalurgic waste sites (SRM data)

Impacts

- Making Southeast Europe’s mineral potential visible to investors
- Bringing Southeast Europe to common EU mineral market
- Special emphasis put on CRMs (110 records on: Mg, Borates, Sn, Phosphates, Pt, Co, Li...)
- Knowledge transfer of RM data mapping to INSPIRE
West Balkan Mineral Endowment

✓ Primary MR – active and abandoned extraction sites
Secundary RM data

✓ hundreds of polymetallic ore deposits & metallurgical heaps;

✓ in the past extraction focussed on 1-2 metals from polymetallic deposits;

✓ mine tailings & metallurgical heaps are sources of secondary raw materials, including CRM.

✓ Collection & validation of metal concentrations data (e.g.: Sb, Ga, In)
Critical Raw Materials

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<th>Element</th>
<th>Numbers of Deposits</th>
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<td>Mg</td>
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<td>Sb</td>
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<td>Co</td>
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Battery Minerals

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<td>Mn</td>
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<td>Li</td>
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<tr>
<td>Co</td>
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(Numbers of deposits)
<table>
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<tr>
<th>Mines (INSPIRE)</th>
<th>Greenfields (INSPIRE)</th>
<th>Municipality</th>
<th>Country (INSPIRE)</th>
<th>Lat. WGS 84 (INSPIRE)</th>
<th>Lon. WGS 84 (INSPIRE)</th>
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Mineral Register - PRM data

473 deposits (abandoned, active, historical) described by 24 attributes

Data types:
- Basic data
- Technical data
- Geological data
- Other

Mineral deposits:
- 241 metal,
- 314 industrial minerals, construction materials

- Location (Mineral Deposit Name, Municipality, Latitude & Longitude (WGS84), Country) – INSPIRE
- Current Status (operating, feasibility, closed etc) - INSPIRE
- Mining Method (open pit, underground, quarrying etc) - INSPIRE
- Concessionaire - INSPIRE
- Reserves (ore reserves in tonnes, m3) - INSPIRE
- Reserves Type (proved, probable etc.) - INSPIRE
- Concentration of Useful Component in Ore
- Basic geological map
- Type of Deposit - INSPIRE
- Size of Deposit - INSPIRE
- Age of Deposit (geological age of deposit) - INSPIRE
- Rock Type (hosting rock type)
- Major Minerals - INSPIRE
- Major Metals (symbol) – INSPIRE
- Minor Minerals
- Minor Metals (symbol)
- Trace Minerals
- Trace Metals (symbol)
- Final Product (concentrate, dimension stone etc.) - INSPIRE
- Comment (additional comment)
Mineral Register - SRM data

Data types:
- Basic data
- Origin of waste, technical data
- Geological data
- Environmental information

Sites by origin (1461 locations/cca 7000 ha):

✓ Mining waste
  - Al, Cu, Pb-Zn
  - Cr-Ni, Fe-Mn, Sb

✓ Processing Waste
  - Flotation tailings, Red mud

✓ Metallurgic waste
  - Smelters, Ironworks

• Location (Municipality, Latitude & Longitude (WGS84), Country
• Last manager
• Depositing period
• Current deposit state
• Mine (Name, Location) / Processing facility (Name, location)
• Mine status/Processing facility status
• Mining/Processing activity description
• Deposit status (active/closed/abandoned)
• Surface storage (Yes/No)
• Surface (m²) & Volume (m³) & Amount/Weight (t)
• Geological composition (lithology)
• Deposit type
• Type of raw material (mineral/metal etc)
• Main mineral/element
• Chemical composition (%, mg/kg) of individual elements
• Restoration (Yes/No)
• Environmental impact (stability, erosion, element emission)
INSPIRE aligned data on EGDI portal
The RESEERVE register will ensure a sufficient flow of mineral information for the European industry to expand its business and investment in the West Balkan region.
Thank you!

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