

CRMsDataSpace: Building a European Data Space for Critical Raw Materials

Hernan Flores¹, Tansel Dogan¹, Alicja Krzemień², Antonio Marquez³, and Pedro Riesgo³

¹Research Center of Post-Mining, TH Georg Agricola University of Applied Sciences, Land Use and Transition, Bochum, Germany (hernan.flores@thga.de)

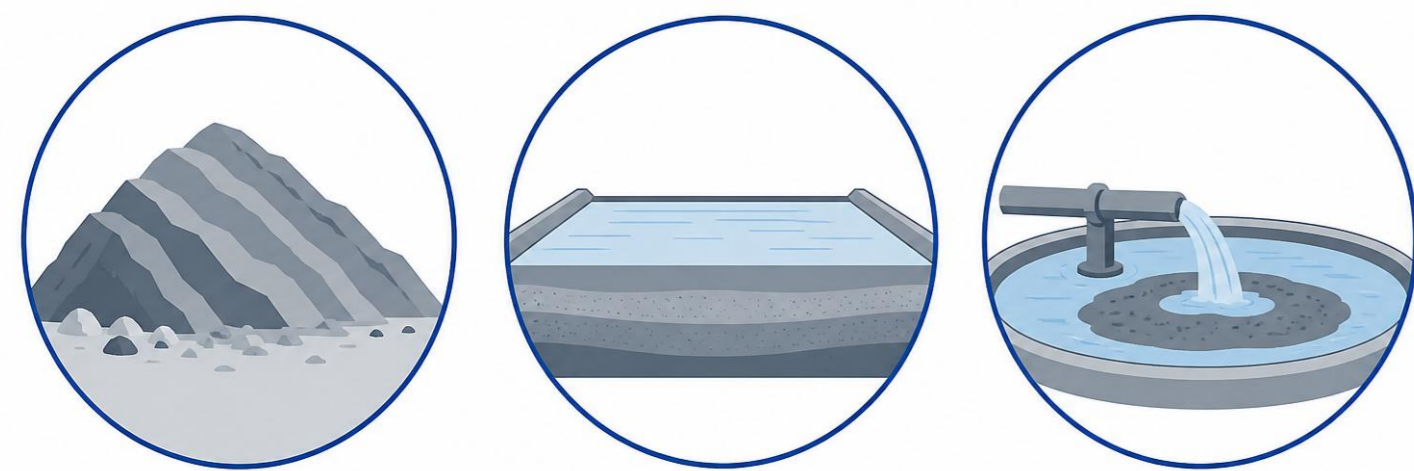
²Central Mining Institute - National Research Institute, Poland

³University of Oviedo, Spain

THE CHALLENGE

Coal waste as risk, legacy, and resource

Coal and lignite waste facilities store large volumes of tailings, waste rock, and mine-water treatment residues



MINE DUMPS TAILINGS MINE WATER

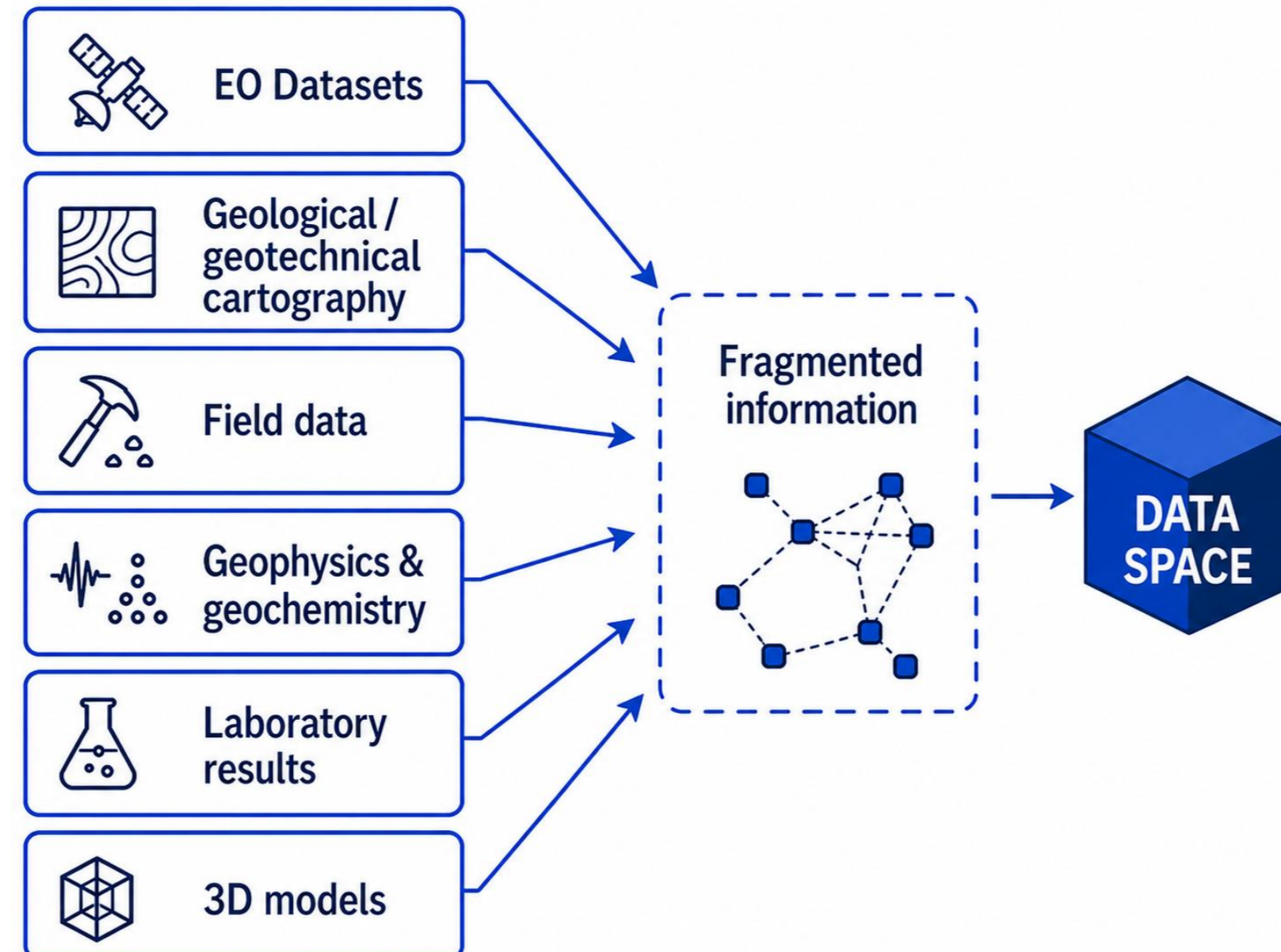
These facilities are both long-term environmental liabilities and underexplored secondary sources of critical raw materials (CRMs).

SELECTED CRM EXAMPLES



CRMs are economically important raw materials with high supply risk. In 2023, the EU identified 34 CRMs, including 17 strategic raw materials essential for industry, technology, and the green transition.

WHY A DATA SPACE?



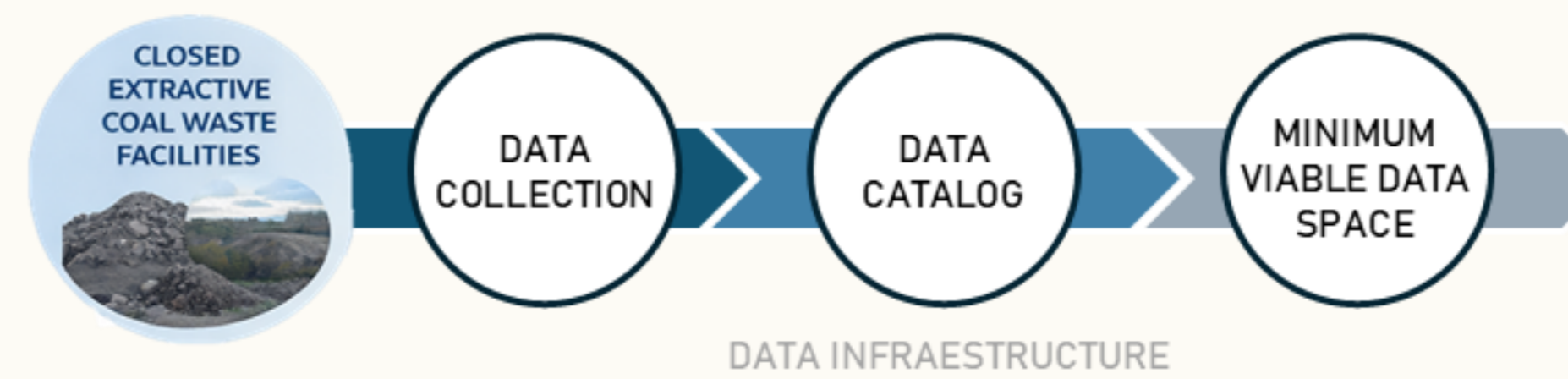
Fragmented information limits the ability to:

- Site comparison**
Compare sites across different formats, scales, and terminology
- Evidence integration**
Combine EO, field data, laboratory analyses, and legacy records.
- Decision support**
Translate observations into CRM assessment indicators.

A Data Space is needed to turn scattered datasets into comparable, decision-ready information.

CONCEPT

CRMsDataSpace integrates heterogeneous datasets from coal waste facilities into a shared digital framework for harmonisation, analysis, and decision support.



	PILOT SITE	WASTE TYPE
DE	Ibbenbüren, NRW	Mine-water sludge ponds
ES	San Nicolás, Asturias	Coal waste dump
PL	Libiąż, Lesser Poland	Coal waste dump
RO	Petrita, Jiu Valley	Coal waste dump

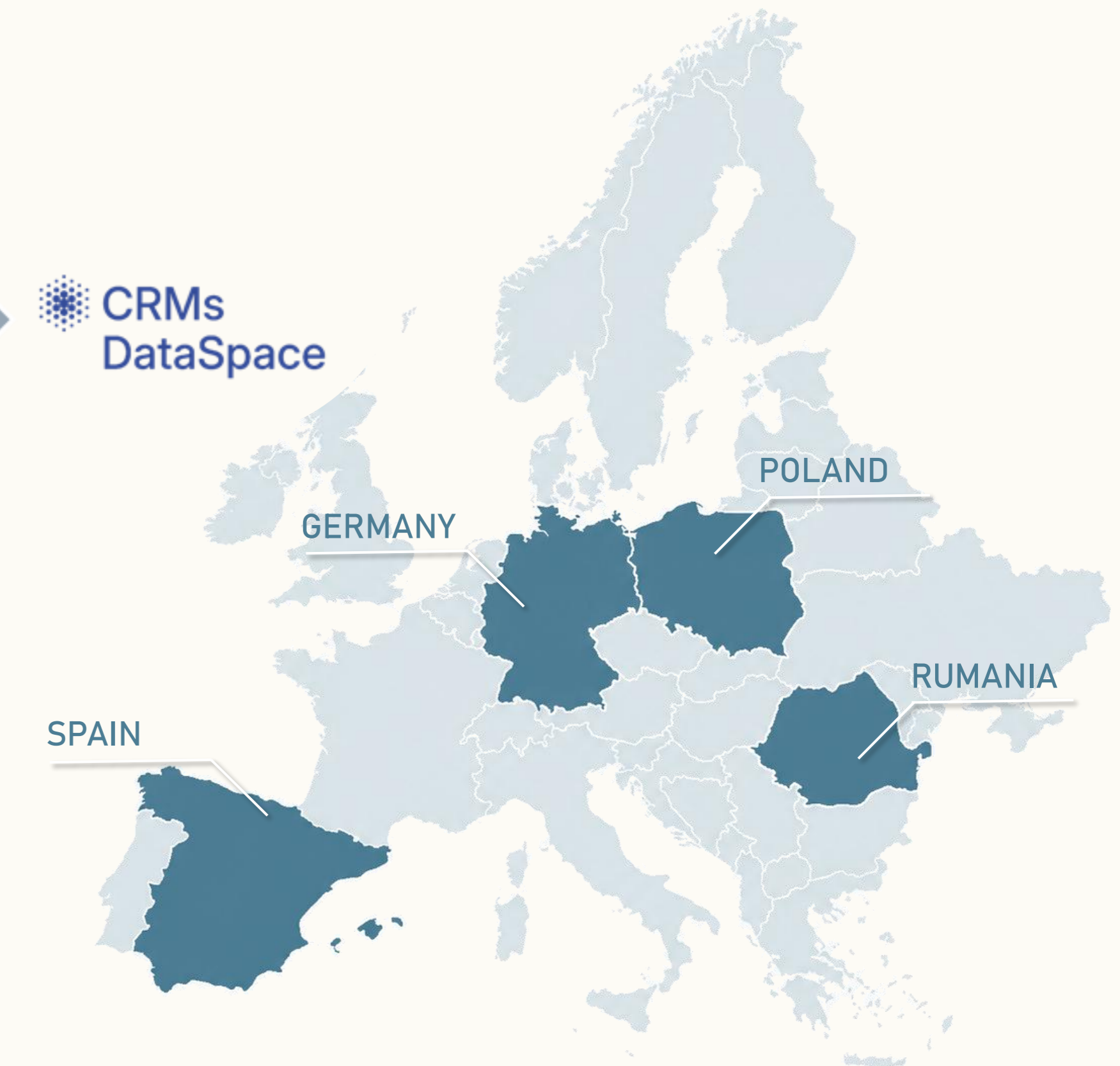
From coal waste pilots to a transferable European framework for all mine-waste origins, including metal mines.

ASSESSMENT ACTIVITIES

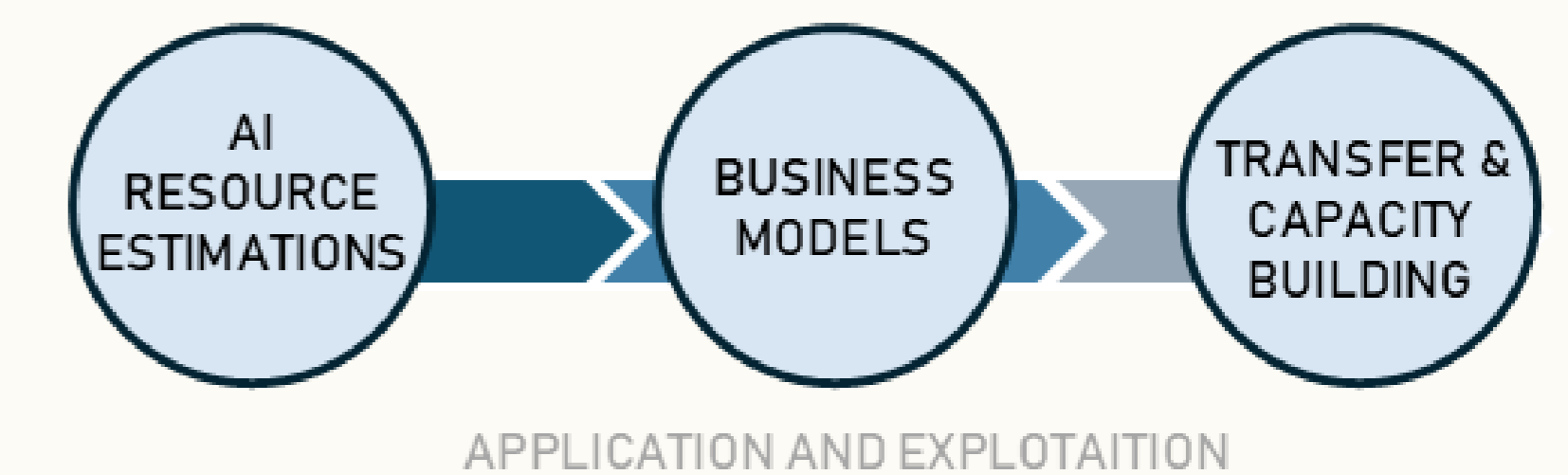
- Field sampling** — representative material collection
- Chemical & mineralogical analyses** — CRM screening
- Recovery tests** — hydrometallurgical evaluation
- Drilling & resource estimation** — where applicable

Outputs feed the CRMsDataSpace as harmonised datasets and indicators.

DEMONSTRATION SITES



Pilot cases in Germany, Spain, Poland, and Romania support concept validation and transferability



MORE AT:



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