



RawMaterials

Connecting matters

Pitch template for KAVA Call 9

Brokerage Event & Expert Forum³ | 13-14 October 2021



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European Union



ICAMCYL

Centro internacional de materiales avanzados y materias primas
International center for advanced materials and raw materials



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*FUNDACION ICAMCYL: Centro internacional en materiales
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**BUILDING THE FUTURE OF THE MINING TERRITORIES
AND ASSEMBLING THE SPANISH MINING INDUSTRY**

IBERIAN SUSTAINABLE MINING CLUSTER

HEADQUARTERS

Polígono Industrial El Bayo, 19
24412 Cubillos del Sil (León), SPAIN

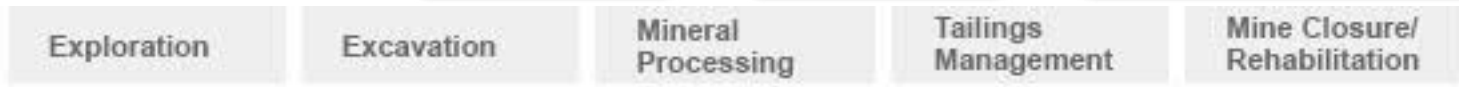
LEON OFFICE

Parque Tecnológico de León, Edificio
de Usos Múltiples
C/ Julia Morros S/N Primera Planta,
Oficinas 106-108
24009 Armunia (León), SPAIN

85% SMEs
> 85
partners

> 1300 jobs

Turn over
≈ 480 M euros
That will double in
2020 to 1.000M



Creation and Integration of novel industrial value chains for SMEs in the raw materials & mining sectors through ICT, Circular Economy, Resource Efficiency & Advanced Manufacturing innovation support



Social Responsibility



Working & housing conditions



Community development



Post-closure programs



Dust



Environment



Land use & biodiversity



Biodegradability



Water & air emissions



Acid rock drainage



Waste volume



Water depletion



Energy consumption



Rehabilitation



Economy



Permissions



Depleting high quality ores

ISMC – ICAMCYL OFFER REFERENCE MINING SITES IN KEY CRITICAL RAW MATERIALS FOR THE SUSTAINABLE TRANSITION

- 3 Li projects. One in preference for SLO / Fully sustainable / Potential for being the biggest reserve in South of EU
- A site for W, As, Sb between France and Catalonia with clean potential/low waste and size for covering all EU Sb supply
- A fully sustainable case, non-radioactive, coming from old mining waste targeting 1/3 of LREE EU supply
 - 2 Co pilots in Andalusia – Spain – One site similar as “Katanga” (Congo)
- A circular economy mining pilot capable of supplying the need of EU Nd for ensuring PM industry
 - SITES OPERATING UNDER S3P MINING REGIONS AND ADVANCED MATERIALS FOR BATTERIES PARTNERSHIPS – AWARDED WITH TAF – DG REGIO

THEMATIC SCOPE OF THE PROJECT PROPOSAL

Category of activity:

- Education/Upscaling/RIS

Link with the topics addressed in KAVA Call 9:

• Raw Materials and Circular Societies Lighthouse:

- Recycling of end-of-life products containing Strategic Materials and/or CRMs
- Supply of Strategic Materials and/or CRMs
- Resource and Energy efficient in metallurgical and Mineralogical processing

• Sustainable Materials Future Mobility Lighthouse:

- Resource efficient design
- Innovative technical and business solutions in process design, plant engineering and construction
- Development of an improved Life Cycle Inventory database

• Sustainable Discovery and Supply Lighthouse:

- Targeted exploration of Strategic Materials and/or CRMs
- Supply of Strategic Materials and/or CRMs
- Environmental-Social-Governance (ESG)

Pilot sites for recovery of REE, PGMs, W, Ti, Li, Co – Tailings + Scraps + waste

Operating mines of 17 CRMs, offer as pilot sites for sustainable processing and recovering technologies

Developing a Database of resources in the Iberian Peninsula – fully digital, including waste/tailing sites

Experts in 5 H2020 in RMIS communication and data/info structuring

Coordinating the sustainable supply of RM for batteries value chain under S3P
Operative pilots awarded by DG Regio in Co, Li, REE (Ce, La, Nd) – Permanent Magnets

OUR LIGHTHOUSE PROJECT IS POSITIONED IN A KEY EUROPEAN CONTEXT:

- GENERATION OF EU RESILIENCE ON THE SUSTAINABLE SUPPLY OF RAW MATERIALS FROM A CIRCULAR POINT OF VIEW
- IT ARISES AS A RESULT OF A LONG LASTING COOPERATION IN RAW MATERIALS AMONG KEY EU REGIONS
- IT WILL GENERATE THE FIRST INTERREGIONAL INNOVATIVE PILOT FOR THE SUSTAINABLE SUPPLY OF RAW MATERIALS, PROVIDING A CLEAR, CIRCULAR AND NON-RADIOACTIVE SUPPLY OF RARE EARTH MINERALS TO EUROPE

MINING PROJECTS ARE INVESTMENT IDEAS ARE ALWAYS RELAYING ON “ENDOGENOUS RESOURCES”, WHAT MEANS THAT THEY WILL BE ALWAYS LOCATED IN A PARTICULAR REGION, OR SURROUNDING REGIONS



ESTIMATED RESOURCES		
Deposits	Tonnage (Mt)	Fe (%)
Colmenar	15.95	35.67
Santa Bárbara	20	37.50
Colmenar-Santa Justa	3.71	35.44
Santa Justa	32.38	33.90
TOTAL	72.04	35.62



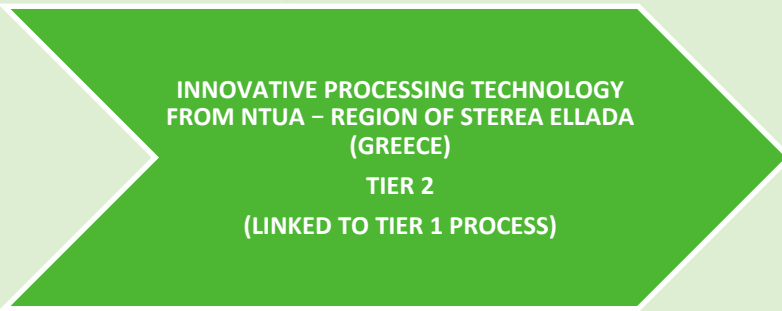
IT WILL SEPARATE, CONCENTRATE AND RAISE QUALITY OF THE PRODUCT FROM ABOUT 35% TO PREMIUM QUALITY OF 67% (S&P specifications) – while other Iron ore trade only 62% -

**72 Millions of Mt are estimated in total
600.000 Mt of production/year
Average price 100 eur per Mt CFR**

Initial analysis and studies show that TIER 1 concentration process will be able to yield a 0,3% of concentrated monazite (main ore of the REE)



TOTAL RESOURCES ARE UNDER ESTIMATION



Initial estimations consider the possibility of recovering up to 300 Mt of REE. As an indicative figures: A wind turbine requires about 120Kg of Neodymium, thus our deposit will supply the needed Nd for manufacturing > 1.000 units

The TIER 2 technology can be upgraded to process WEE and generate a pilot for urban mining recovery of REE and CRMs

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