



Pôle de compétitivité des industries du sous-sol
The French cluster for subsurface industries

aLiNA _ 17 Sept 2024 _ Brussels



RÉGION
**Nouvelle-
Aquitaine**



AGENDA – 17 Sept 2024 – Brussels

- **9.00-9.30:** welcome coffee
- 9.30-11.00: aLiNA update and Regional projects
(Strategic raw materials for energy transition industry in Nouvelle-Aquitaine)
AVENIA and Nouvelle-Aquitaine region
- **11.00-11.30:** networking coffee break
- 11.30-12.00: CRM act - European Commission views
Gerardo Herrera, DG GROW
- 12.00-12.30: Reconciling the conflicting societal interests of nature protection and mineral raw materials needs, the CIRAN project
Eberhard Falck, INTRAW
- **12.30-14.00:** networking lunch

AGENDA – 17 Sept 2024 – Brussels

- 14.00-14.30: CRM act - Industry views
Rolf Kuby, Euromines
- 14.30-15.00: new European Geological Data Infrastructure presentation
Francesco Pizzocolo, EuroGeoSurveys
- 15.00-15.30: Québec's Global Diplomacy in Critical and Strategic Minerals ?
André Patrocinio, Délégation Générale du Québec à Bruxelles
- 15.30-16.00: Role and actions of associated EU regions
Luis Martins, Cluster Portugal Mineral Resources
- **16.00-16.30: Q&A session**

Emmanuelle ROBINS & Jérôme GOUIN AVENIA

- aLiNA programme - update



<https://www.pole-avenia.com/en/>



Who is AVENIA ?

- AVENIA is a French « **pôle de compétitivité** », gathering **more than 260 members** (SMEs, large industrial groups, R&D labs, local authorities,...), boosting **innovation** through **collaborative projects**, dedicated to **subsurface** sectors, contributing to ecological and energy transition.
- Geological storage
 - Geotechnics
 - Geothermal energy
 - Hydrogeology
 - Mining & Carrying
 - Oil & Gas
- Organisation of thematic technical workshops
- Organisation of networking events
- Involvement in collaborative projects to boost territorial innovation
- Structuring and promoting the industrial sectors within territories, at the national, European and international levels within Programmes (see next slide)

Our Programmes...

To boost the local ecosystem through innovation within collaborative projects



Programme for Industrial CO2
Transport Utilisation or Storage



Natural hydrogen and Geological
storage of hydrogen



Securing critical raw materials
supply chain for the industry

Geothermies

Programme promoting the use
of geothermal energy

Rules to join the programmes:

- *to be a AVENIA member
- *to sign a simple Confidentiality Agreement
- *to agree that this is a collaborative programme
- *to agree to focus on innovation

For more information, please contact us



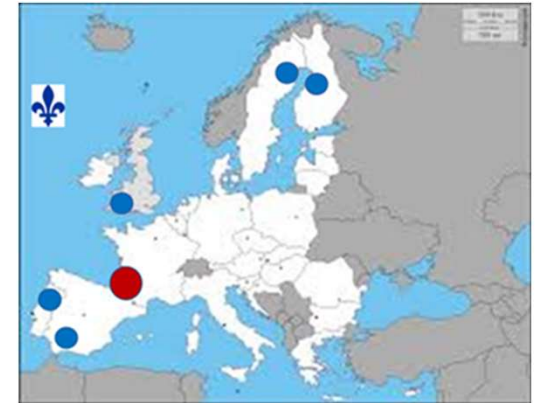


aLiNA
By AVENIA

Securing supply of metals and minerals for industries in Europe through responsible mining of mineral resources

First example: Lithium for batteries in Nouvelle-Aquitaine

- Inclusion of the **whole territorial value chain**
 - **From** exploration & responsible production (mines, quarries, geothermal fluids...)
Including valorization of mining waters, tailings and recycling
 - **To** end users
- Addressing **social acceptance, environmental impact, skills & training**

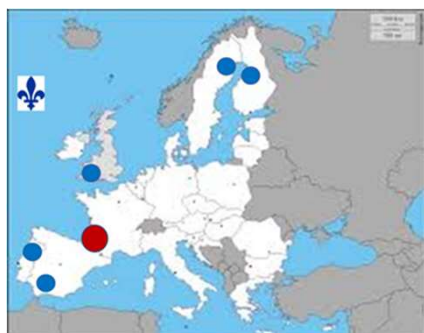


Who?

Regional & national network

- Gathering of regional and national actors sharing a global vision, to ensure synergy between projects, towards same objectives

- **AVENIA**
- **Nouvelle-Aquitaine Region**
- **Professional Associations (A3M, MIF, SIM,...)**
- **OFREMI**
- ...



EU & Intl network

- To promote interregional connexions and share experience

European Regions

Andalucia (ES), Cornwall (UK), Galicia (ES), Lapland (FI), North Portugal (PT), North Sweden (SE),...

European Commission, Alliances, Partnerships and Associations

DG RTD, DG GROW, DG REGIO,..., ERMA, EBA,..., EIT RM, EuroClusters, EFG, EGS, Euromines, Eurometals,...

Quebec

MERNEF, MEIE, town of Thetford-Mines,...

OECD (Organisation for Economic Cooperation and Development)

• ...

Supported by



- Collaborative projects
- Innovation
- Skills
- Environment
- Social acceptance
- Communication

End-Users

- Industry using metals & minerals
- Driving future needs

Aviation & spatial

- Automotive
- Batteries
- Defence
- Electronics
- Solar & Wind energy
- Green Hydrogen
- ...



What's happening at regional and national levels?

- New and on-going **Exploration Licenses**
- **EMILI project**
- **Battery Innovation Days**, 14-15 Nov 2023, Bordeaux
- **Business France team training**, 22 Apr 2024, Paris
- **GEODAYS**, 25-26 Jun 2024, Pau
- **Webinar NextMove**, 5 Jul 2024, “Les matériaux critiques dans la mobilité décarbonée »
- **SIM Convention**, 2-4 Oct 2024, Dijon
- **OECD meeting**, 26-27 nov 2024, Bordeaux
- **BATTENA**
- “Communication Club”
- “Fresque du sous-sol”



What's happening at European and international levels?



Funded by
the European Union

- WIDEX – Participant

Knowledge Transfer for Widened EU Excellence in Advanced Green Technologies, Sustainability and Research Management



- CIRAN – Experts Group

A plan for sustainable resource extraction : Towards the responsible sourcing of critical raw materials in protected zones



- MaDiTraCe – Advisory Board

Material & Digital Traceability for CRM Certification



- CRM-geothermal – Stakeholders Board

Raw materials from geothermal fluids



- Québec

- Signature of a MoU (MCS network & AVENIA)
- AVENIA attending QME 2022, 2023, 2024
- Participation to GEODAYS 2021, 2023, 2024

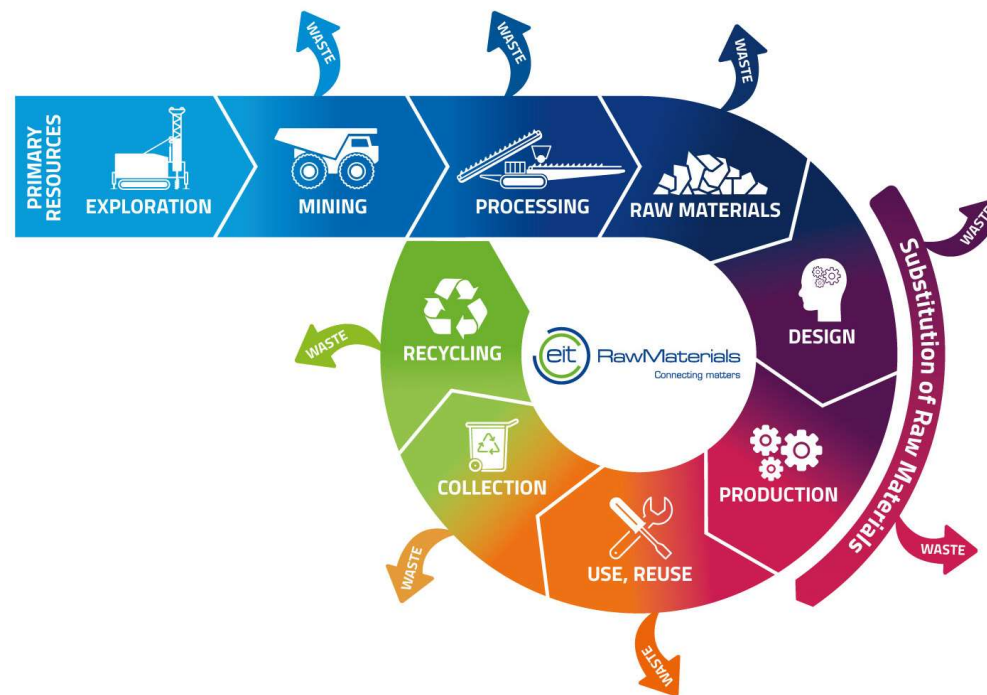


- IMARC 24, Sydney, Australia



What mining perspectives to develop low carbon value chain in Nouvelle-Aquitaine?

Circular Economy → from local mining → to high-tech industries → to recycling



Nouvelle-Aquitaine Battery industry in 2022



Regional ambition

BOOST VALUE CHAIN, INNOVATE AND COLLABORATE

- IPCEIs (production of cells, active materials for Lithium-ion cells)
- New sources of raw material resources in our territory (extraction, refining, etc.)

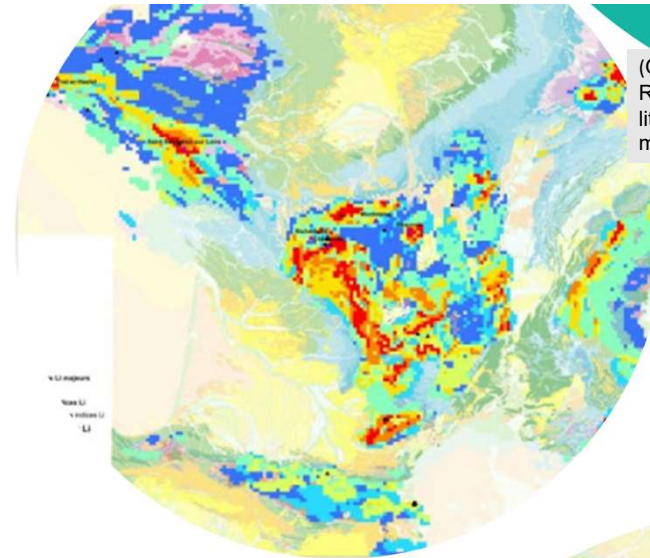
SPRING 2022 : an event will take place in Region Nouvelle-Aquitaine on this theme

Lithium potential in Nouvelle-Aquitaine

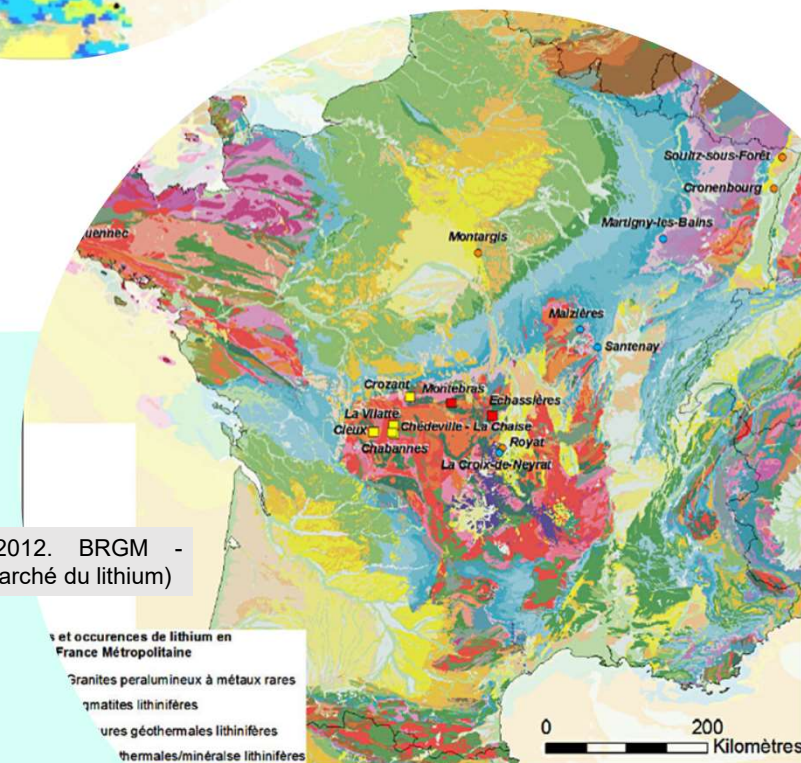
Keep in mind!

- There are not only geothermal Li & recycling
- There is also lithium in rocks in NW Massif Central
Montebras, an active quarry operated by Imerys for feldspar

And lots of rare metals granites & pegmatites
Containing Li & other CRM = Sn, Nb-Ta, W, Be...



(Gloaguen et al., 2018. BRGM - Ressources métropolitaines en lithium et analyse du potentiel par méthodes de prédictivité)



(Labbé & Daw, 2012. BRGM - Panorama 2011 du marché du lithium)

Occurrences de lithium en France Métropolitaine
Granites peralumineux à métaux rares
Pegmatites lithinifères
Gisements géothermiques lithinifères
Thermes/minérales lithinifères

Global mining potential in Nouvelle-Aquitaine

Old mines

Gold/Silver

Uranium

Copper

Tin

Tungsten

Lead

Fluorite

Barite

Active mines

Ultra pure quartz

Salt

Feldspar

Exploration projects

Douillac (gold, silver, antimony, base metals, etc...)

Fayat (gold, silver, antimony, base metals, etc...)

Pierrepinet (gold, silver, antimony, base metals, etc...)

Nouveau Bourneix (gold, silver, antimony, base metals, etc...)

Potential

Lithium

Nobium/Tantalum

Beryllium

Antimony

Tin

Tungsten

Lead/Zinc

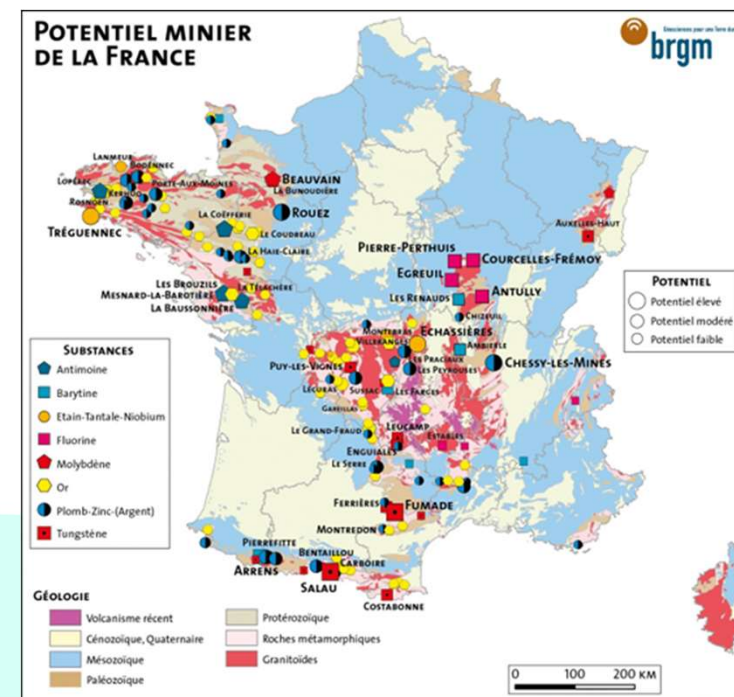
Gold/Silver

Arsenic

Barite

Fluorite

Uranium



<http://www.mineralinfo.fr/page/potentiel-minier-francais>

Nouvelle-Aquitaine CRM for high-tech industries



Région
Nouvelle-
Aquitaine



Some examples of CRM in primary ores

Electronics	Batteries	Defence	Semi-conductor
Si	Li	W	Si
Ag	Zn	Ta	Ag
Sn	Cu	Nb	Sn
Au	Na	Cu	As
Ta	Sb	Sn	Sb

CRM mining potential to secure supply chain is real...

Without forgetting potential in mining and water wastes!

aLiNA ambition

BOOST SUSTAINABLE CRM EXTRACTION, INNOVATE AND COLLABORATE

- Contribute to increase geological knowledge
- Disseminate modern mine good practices
- Develop new tools to help sustainable mining in our territory (exploration, extraction, refining, etc.)

NEXT STEP: Launch transatlantic project on mining wastes evaluation/valorisation/remediation

Thank you for your attention



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