

HORIZON EUROPE BROKERAGE 2026

CLUSTER 5 CLIMATE, ENERGY & MOBILITY

14 January 2026

online



Greenet



The network of Horizon Europe
Cluster 5 National Contact Point.



TECHNOLOGICAL CENTRE LUREDERRA

GREENET Brokerage Event

14th January 2026



The GREENET project has received funding from the EU Horizon Europe programme under Grant Agreement No 101069604

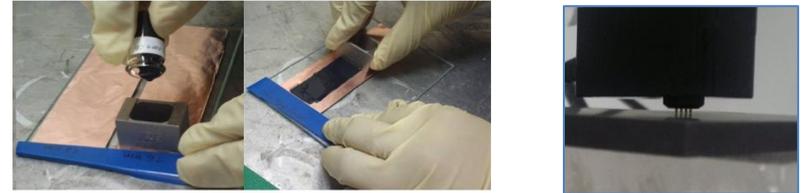
Topic to be addressed:



- ✓ HORIZON-CL5-2026-03-D2-02: Development of direct recycling processes (BAT4EUPartnership) (RIA)
- ✓ HORIZON-CL5-2026-09-D2-01: Producing battery-grade materials or electrodes through processing and refining of raw materials or developing bio-based materials (BATT4EU Partnership) (RIA)



- Lurederra's environmentally friendly metallurgical extraction techniques can be used for the extraction of raw materials destined for the production of active materials in batteries such as **(Li, Co, Ni, Mn, P)**. We can then produce precursor salts for **validate in battery grade materials such as** NMC and/or LFMP.
- **Physico-chemical technologies** (solvent extraction, froth flotation) for removal of binder and hydrophobic components and **direct recycling of cathode active materials**.
- **Cross-cutting activities**
 - **Inks development & coatings**
 - **Protective anticorrosion coatings** and wettability modification
 - **Leaching, solvent extraction and precipitation technologies** for recovery of precious metals and CRMs



FREE4LiB

HORIZON-CL5-2021-D2-01-06: HE [FREE4LiB](#) project with the role of manufacturing battery active materials from recycled streams.

- **Active materials for solid state and liquid electrolyte Li-ion and Na-ion batteries**

- **Nanomaterials for Li-Ion cathodes:** LFP, LFMP ($\text{LiMn}_x\text{Fe}_{1-x}\text{PO}_4$), NMC and HVS (High-Voltage Spinel) $\text{LiMn}_{2-x}\text{M}_x\text{O}_4$. Core-shell structures for high-capacity inner core and structural stable outer shell materials.
- **Nanomaterials for Li-Ion anodes:** Titanium-based spinel $\text{Li}_4\text{Ti}_5\text{O}_{12}$ LTO, titanium suboxide based materials TiO_{2-x} .
- **Nanomaterials for Na-Ion cathodes:** Layered Oxides, both O3 (NaNiO_2 , NaFeO_2 , and $\text{NaNi}_{1/2}\text{Mn}_{1/2}\text{O}_2$) and P2 ($\text{Na}_{2/3}\text{MnO}_2$, $\text{Na}_{0.7}\text{CoO}_2$, and $\text{Na}_{2/3}\text{Ni}_{1/3}\text{Mn}_{2/3}\text{O}_2$) structures and NASICON type structures.
- **Nanomaterials for Na-Ion anodes:** NaTiO_2 , and $\text{Na}_{0.44}\text{MnO}_2$

- **Nano electrolytes for the ASSB Li-ion batteries**

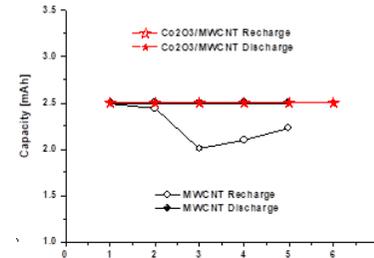
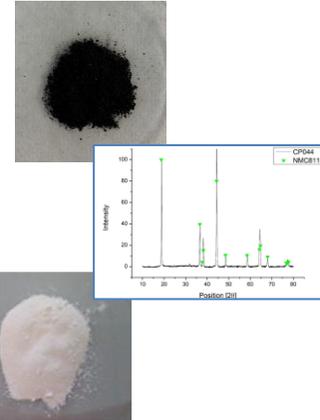
- Perovskites like LLTOs even doped such as $\text{Li}_{0.33+2x}\text{La}_{0.56}\text{Ti}_{1-x}\text{Ge}_x\text{O}_3$,
- Garnets such as $\text{Li}_7\text{La}_3\text{Zr}_2\text{O}_{12}$ (LLZO)
- LISICON type such as Lithium metal phosphates

- **Sulfide-oxide nanoparticles and metal-sulfides** that can promote polysulfide conversion in Metal-S batteries

- **Bifunctional catalyst for ORR/OER for metal-air batteries**

- Spinel structure metal oxides: Co_3O_4 , MnCo_2O_4 , MnFe_2O_4 , CoFe_2O_4 , NiFe_2O_4 , $(\text{FeCrCoMnZn})_3\text{O}_4\text{-}\delta$
- Perovskite structure metal oxides such as LaMnO_3 , LaNiO_3 , LaCoO_3
- Pt supported on C with reduced Pt loadings $< 0.1 \text{ mg}_{\text{Pt}}\text{cm}^{-2}$

- **Open to work in other requested compositions on demand for other battery chemistries**



TAILORED SYNTHESIS OF NANOPARTICLES AND NANODISPERSIONS:

- **Flame Spray Pyrolysis production technology:**
 - Wide range of nanomaterials: single, doped, multi-component
 - Control of particle properties: Small sizes (7-25 nm)
 - Short process chain and automation
 - High thermal stability and purity
 - Scalability up to kilograms/hour
- **Dispersion technology / chemical functionalisation:** (ultrasonic forces, milling deagglomeration techniques)
 - Laboratory scale reactors (1-20 litres)
 - Pilot scale reactors (50-1000 litres)
 - Dispersion lines at lab scale (30L/h) and pilot scale (100L/h)
 - Wet milling lines
- **Thermal treatments**
 - Inert and Reduction ovens: H₂ (0-100%) (up to 2.000 °C)
 - Continuous thermal oven (up to 1.000 °C)



FSP Configurations	Advanced nanomaterials
Standard	Simple and mixed oxides, phosphates HEOs, noble metals
Ring deposition	Core-shells
Double-Nozzle & Sequential deposition	Well distributed supported materials
O ₂ lean/Reductant atmosphere	Oxygen vacancies in oxides Non-oxides: metals, carbon doping, metal-sulphides and oxynitrides
Thin-film deposition	Nanoporous thin films for electrodes



Different FSP configurations enable the tailoring of the materials



Marta Mateo

marta.mateo@lurederra.es

Angélica Pérez

angelica.perez@lurederra.es

www.lurederra.es



www.lurederra.es

Tfno.: +34 948 64 03 18

Fax: +34 948 64 03 19

Área Industrial "Perguita", Calle A, nº 1

31210 - Los Arcos (Navarra-España)