ReCatalyst

Project Idea	**Nanotech catalyst platform for critical raw materials sovereignty**
Organization name, town and country	ReCatalyst, Ljubljana, Slovenia
Addressed topic(s)	HORIZON-CL4-2027-01-MAT-PROD-22: Innovative advanced materials and new production processes – reducing dependencies on Critical and Strategic Raw Materials (IA) (Innovative Advanced Materials for the EU and Processes4Planet partnerships) HORIZON-CL4-2027-01-MAT-PROD-06: Circular innovative advanced materials: facilitating the transition from design to markets (RIA) (Innovative Advanced Materials for the EU and Made in Europe partnerships) HORIZON-CL4-2027-01-MAT-PROD-02: Advanced manufacturing for key products (IA) (Made in Europe partnership) HORIZON-CL4-2027-01-MAT-PROD-16: Technologies for innovative processing of raw materials (IA)

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- Information on your organization:
  1. Slovenian deep-tech SME developing advanced, high-performance catalysts for hydrogen technologies.
  2. Specialised in low-platinum-group-metal (PGM) catalysts for PEM fuel cells and electrolysers.
  3. Innovative catalyst materials designed to reduce critical raw material consumption while maintaining high performance and durability.
  4. Expertise in advanced material development, catalyst synthesis, characterisation, and validation.
  5. Supporting Europe's transition towards resource-efficient, sustainable and scalable clean-energy and chemical technologies.
- Past experience in EU-funded projects: EIC Transition ENABLER, EIC Pre-Accelerator ReCatalyse, Horizon Europe Alchemhy, EIC Booster MarketHy, EIT Raw Materials Accelerator







[The project idea]

- MAT-PROD-22 - Reducing dependence on critical raw materials:
  - Development of next-gen PGM-low catalysts to reduce dependence on critical raw materials, particularly platinum.
  - Optimisation of catalyst composition and material utilisation while maintaining high electrochemical performance and durability.
  - Expertise in catalyst synthesis, material characterisation and electrochemical validation.
  - Development and optimisation of resource-efficient catalyst production processes.
  - Validation of innovative catalyst materials in hydrogen technologies, P2X and/or green chemicals.

- MAT-PROD-06 - Circular innovative advanced materials: from design to markets
  - Development of next-gen PGM-low catalysts with reduced platinum consumption.
  - Integration of recycled platinum into catalysts.
  - Design, synthesis and optimisation of catalysts using recovered platinum.
  - Electrochemical testing and benchmarking of recycled-Pt catalysts against conventional catalysts.
  - Supporting resource-efficient catalyst manufacturing, scale-up and integration into hydrogen technologies, P2X and/or green chemicals.

Competences / type of partners sought

Type of partners sought:

- **Advanced materials producers and research institutions** – collaborating on catalyst design, synthesis and characterisation.
- **Decarbonisation technologies manufacturers/end users** – integrating and validating catalysts in real applications.
- **LCA and circular economy experts** – assessing environmental impacts, resource efficiency and circularity.
- **Experienced Horizon Europe coordinators** – developing and leading proposals under relevant MAT-PROD calls.
- **Platinum recycling and recovery companies** – providing recycled Pt for catalyst development (for MAT-PROD-06).

Contact details

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