



## INNOCAT InNOvative CRM substitution technology for public authorities' vehicle CATalysts

**INNOCAT** is a project co-funded by the European Institute of Innovation and Technology (EIT), as part of the activities of its knowledge and innovation community EIT Raw Materials.

The project started in January 2019 with the participation of 12 partners from 8 European countries with the aspiration to build up innovation communities in eligible countries of the EIT Regional Innovation Scheme.

### Objective

The objective of INNOCAT is to establish territorial circular economy ecosystems, the core activity of which will be the retrieval and recycling of Platinum Group Metals (PGMs) from spent vehicle catalysts, turning these into secondary sources of critical raw materials.



### Technological Background

The benefits of the INNOCAT technology will be demonstrated by retrofitting aged heavy-duty vehicles owned and operated by territorial public authorities in 7 countries of the partnership.

These vehicles have been manufactured before the introduction of the Euro V and VI standards and account for a significant part of air pollution in EU cities.

A cost-effective solution to the problem is to retrofit these aged HDVs using a new catalytic converter technology that substitutes 60% of PGMs with copper nanoparticles. Therefore, the project aims to demonstrate both economic and environmental gains.



**Mapping of business actors, stakeholders and enablers**



**Innovative Low PGM Catalyst to be retrofitted to selected vehicles and RIS territories**



**Spent Heavy Duty Catalysts for recycling**



**Retrieval of PGMs and assessment of savings**

### Expected Results

- 1. Feasibility study** that will analyse the requirements for the emergence of territorial ecosystems for the substitution of PGMs in vehicle catalysts, as well as the associated regulatory framework in each participating country.
- 2. Pilot application** of the INNOCAT technology that will evidence the amount of PGMs recovered from the catalysts of heavy-duty vehicles and forecast the potential gains for territorial value chains through the INNOCAT approach.
- 3. Thematic workshops** on PGMs substitution in vehicle catalysts and matchmaking events to share experience and form clusters in participating Regional Innovation Scheme countries.
- 4. Policy and smart specialization recommendations** for territorial authorities, to better address the importance of PGMs for the economy.
- 5. Educational** resources on PGM substitution in vehicle catalysts.
- 6. Design** of a funding scheme to stimulate the emergence of start-ups and support the proliferation of business activities in the field of PGMs recycling and substitution.

### The Partnership



**RawMaterials**  
Connecting matters



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