

ULiège announces participation to EIT RawMaterials CEBRA project for the development of an Integrated Circular Economy Business in Platinum Group Metals

Liège, Belgium, May 27, 2020 – The University of Liège is pleased to announce its participation in the EIT RawMaterials Upscaling project CEBRA “*Integrated Circular Economy Business model for decoupling Europe from PGM supply*”, involving a consortium of five leading European partners in the Platinum Group Metals (“PGM”) value chain. The total budget for CEBRA is 2M€, the EITRawMaterials providing funding for 1.57M€. The project will be developed under the coordination of MONOLITHOS Catalysts & Recycling Ltd., a Greek innovative small-medium enterprise with a well-established leadership in the chemistry of PGM and its associated value chain, notably in the manufacturing, regenerating, and recycling of catalytic converters.

Platinum Group Metals are classified as Critical Raw Materials (“CRM”) by the European Union (“EU”) and, production being virtually non-existent in Europe, the EU is critically dependent on export from South Africa and Russia, the main producing countries which are responsible for 75 to 80% of the PGM world mine primary supply. On the demand side the main applications are Automotive Catalytic Converters (“ACC”) which represent by far the largest consumer with a 52.5% market share in Europe. The CEBRA project focuses on the dual objective to manufacture ACC integrating 100% recycled PGM, while simultaneously decreasing the PGM quantity via partial substitution by a low-cost and politically less sensitive transition metal such as copper.

ULiège will lead the work package on the pre-treatment of End-of-Life ACC as well as participate to activities for the extractive metallurgy and to the piloting for the production of nano-catalytic powders. ULiège will also lead the work package on dissemination and communication that will notably provide specific focus on education activities.

ULiège will participate to CEBRA through its GeMMe Research Unit specialized in georesources, mineral engineering and extractive metallurgy. The GeMMe contributes to the development of innovative processes for the efficient management of mineral and metallic resources while providing unparalleled upscaling experience in urban ore characterization and processing (with a focus on innovative sorting techniques and hydrometallurgy) derived from a long research tradition in primary ores mining and processing.

The original idea for CEBRA was initiated through the PROMETHEUS H2020 project aimed at developing a disruptive innovation, enabling the first ever substitution by copper of up to 60% PGM used in ACC. PGM criticality is the subject of further research through the PLATIRUS H2020 project aimed at reducing EU dependence on PGM by upscaling a novel cost- and energy-efficient, miniaturized PGM recovery and raw material production process. In CEBRA, ULiège will participate, at the EU level, to the upscaling at TRL 7 of two innovative technologies currently at TRL 5 with the intended delivery of a circular economy model based on a disruptive value chain for PGM.

Through CEBRA, ULiège will also leverage its central role in a unique EU ecosystem at the frontier of raw materials, recycling and sustainability in three out of the six European EIT-Labelled Master Programs :

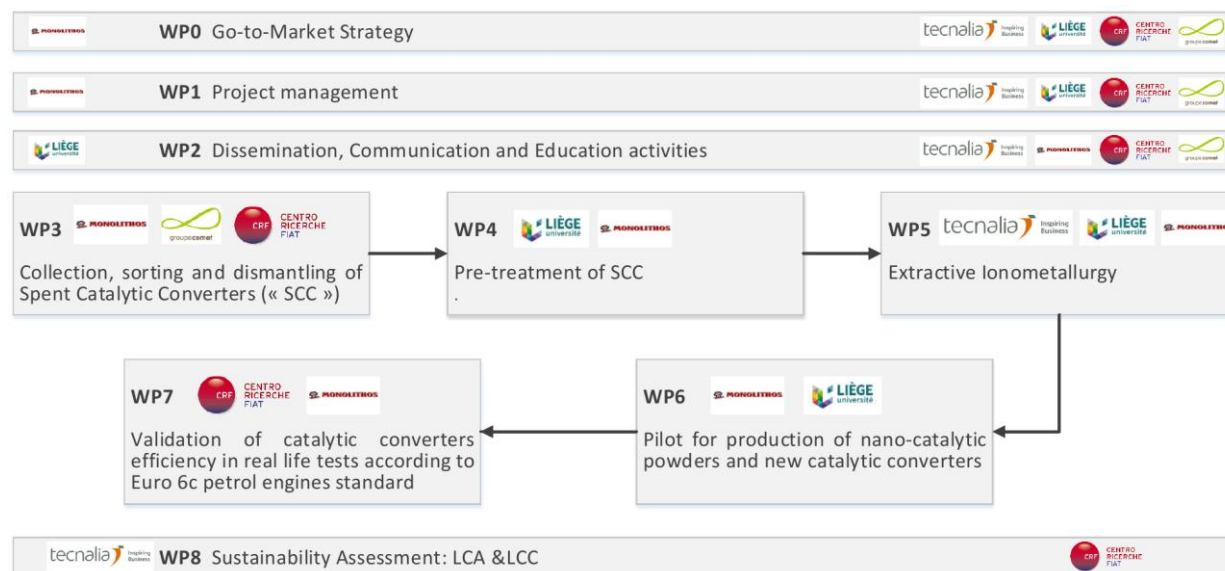
- EMerald Resources Engineering (<http://www.emerald.ulg.ac.be/>).
- AMIR Advanced Materials for Innovative Recycling (<https://www.amir-master.com/>).
- AMIS Advanced Materials for Innovation and Sustainability (<https://amis-master.eitrawmaterials.eu/>).

CEBRA project activities will be carried out over 3-year time frame. Following systematic research and innovation activities at lab scale, the technologies will be brought to TRL7 and validated at system prototype demonstration level in operational environment level by experienced industrial partners.

CEBRA Project Partners

	MONOLITHOS CATALYSTS - GREECE	
	COMET TRAITEMENTS - BELGIUM	
	CENTRO RICERCA FIAT - ITALY	
	TECNALIA RESEARCH & INNOVATION - SPAIN	
	UNIVERSITE DE LIEGE - BELGIUM	

CEBRA Project Work Flow



The participation to the CEBRA project marks a further significant milestone in the long term development plan of the GeMMe and ULiège in the field of recycling and CRM. Back in 2013, ULiège and the GeMMe were first instrumental in developing “Reverse Metallurgy”, a EUR 60 million major Belgian circular economy project focused on metals linking industrial, academic and research partners within a Regional Technological Innovation Partnership to improve the recovery of metals from end-of-life products and complex raw materials. At the European level, ULiège has been a Core Partner of the EITRawMaterials and actively involved in several education and upscaling projects since 2015. In 2018, ULiège joined the EU H2020 TARANTULA project consortium for the recovery of Tungsten, Niobium and Tantalum as by-products in mining and processing waste streams. Then in 2019, ULiège received confirmation of its participation to the LIFE PlasPLUS project for the recycling of high-quality secondary thermoplastics and Antimony from mixed WEEE and EoL vehicles, two materials in high demand, notably for the emerging electric mobility.

Please visit our web site at <https://www.cebra-eitproject.eu/> for more information.

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