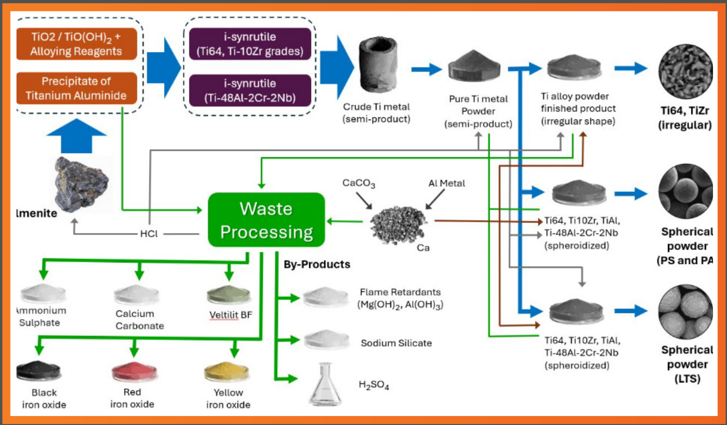
REPTiS

Responsible Extraction and Processing of Titanium and other Primary Raw Materials for Sourcing EU Industrial Value Chains and Strategic Sectors

REPTiS is a Horizon Europe project that will improve over the patented Velta Ti Process (see its flowchart in the figure below) to supply sustainable titanium alloy powders to the EU from Ukrainian ilmenite ore, shortening the usual process for Ti alloy powders, and reducing EU's dependence for this Critical Raw Material.



REPTIS EXPECTED RESULTS AND IMPACTS:

- **Improvement of the already available and environmentally friendly Velta Ti Process through advances in ilmenite mining, extraction and processing, with a zero-waste approach, aiming at replacing the energy dense and highly carbonized Kroll+EIGA process.**
  - **Avoidance of solid and liquid waste generation**
  - **Significant reduction of carbon footprint**
  - **Improved particle size control of finished powders**
  - **Improved homogeneity of alloying additives distribution in alloys**
  - **Significant reduction in the cost of finished products**
- **Demonstration of the project results through versatile real life use cases, real parts produced with various powder metallurgical routes (Metal Injection Moulding, Metal Additive Manufacturing, etc) to raise awareness for market acceptance of the new powders**
- **LCA data sets on Titanium, especially in powder form, and Product Environmental Footprint (PEF) study to evaluate the environmental performance of the implemented technologies**

Project: 101177704
HORIZON-CL4-2024-RESILIENCE-01-11

Start date: 1st September 2024. Duration: 48 months. Total grant: 7.3 M€. Coordinator: European Powder Metallurgy Association

EPMA european powder metallurgy association

A Horizon Europe project

Co-funded by the European Union

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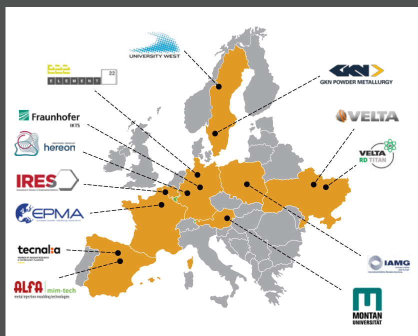
Demonstration powder metallurgical parts for Medical, Aerospace and Consumer goods will be produced.

REPTIS CONTRIBUTES TO SECURING THE EU SUPPLY CHAIN FOR TI ALLOY POWDERS

Titanium, together with other Primary Raw Materials, will be extracted in Ukraine, a strategic partner country for EU, with sustainable processes, and transformed into metal powders, and other useful by-products, to supply the EU industrial value chains and strategic sectors with titanium alloy powders with a net zero-waste approach

Mining of Minerals for CRM	Titanium & By-products Processing Technologies Developpement	Characterization & Validation
VELTA	VELTA RD TITAN MONTAN UNIVERSITÄT	Fraunhofer IKTS tecnalia hereon
Re-Use & Functionality Assessment	**Sustainable Product Evaluation**	**Dissemination, Communication & Project Management**
ALFA mim-tech UNIVERSITY WEST 22 ELEMENT IAMG	IRES GKN POWDER METALLURGY	EPMA



The REPTiS consortium comprises 11 partners from 7 EU/EEA countries (Belgium, France, Germany, Poland, Spain, Sweden and Austria) and 2 partners from strategic partner country Ukraine, covering the entire value chain of Titanium.

REPTiS Website: www.REPTiS.eu
Follow us on LinkedIn and X!

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