




## **CRUSADE Project Newsletter #1**

### ***Revolutionizing Recycling in Automotive Industry within the EU***


#### **WELCOME TO OUR FIRST EDITION**

**Dear Innovation Community,**


Welcome to the inaugural newsletter of the **CRUSADE Project** (*Critical Raw Materials Sustainable Recovery*)! We're thrilled to share our journey toward establishing Europe's sovereign, sustainable, and smart circular economy for critical raw materials.


 **Our Mission:** Accelerating Europe's transition to a circular economy by developing an integrated, AI-powered, and digitally traceable recycling value chain for high-value materials from End-of-Life Vehicle Components.

#### **PROJECT AT A GLANCE**

 **Duration:** 2024-2027 (4 years)

**Consortium:** 19 partners across 10 European countries

 **Target:** Recover ~40 tonnes/year of high-purity CRMs from 500 tonnes of EoL streams, TRL 7 demonstration by 2026

 **Ambition:** >95% CRM recovery efficiency | 15-80% CO<sub>2</sub> reduction

Target Materials: Pt, Pd, Rh, Li, Co, Ni, Cu, Fe, P, and Au

Source Components: Lithium-ion batteries, PCBs, fuel cell MEAs, autocatalysts

## **PROJECT EVENTS & OUTREACH**

### **First Project Plenary Meeting**

 **January 17-18, 2024 | Athens, Greece**

The CRUSADE consortium kicked off with a dynamic 2-day session bringing together all partners to:




- Define core use cases and technical objectives
- Review work packages and partner responsibilities
- Establish collaborative frameworks for project execution



## PDAC 2025 Convention

 March 2-5, 2025 | Toronto, Canada


CRUSADE made its mark at the **World's Premier Mineral Exploration & Mining Convention**, engaging with:

-  30,000+ attendees from 135+ countries
-  Global industry leaders and mining professionals
-  Strategic partnership opportunities in sustainable recycling






*This exposure bolstered our visibility and opened doors for collaborative opportunities across the mining and raw materials value chain.*

## First Project Review Meeting

 October 2-3, 2025 | Athens, Greece

Hosted by coordinator **Monolithos Catalysts & Recycling Ltd.**, this milestone event featured:

-  Dynamic General Assembly for progress sharing
-  Strategic planning session before EC periodic review
-  Constructive feedback from EU Project Officer and external reviewers

👍 Strong EU support for project trajectory and achievements



## 🔗 Clustering & Collaboration

📅 Raw Materials Week 2025 | Brussels, Belgium

Our partner **AIMEN Centro Tecnológico** showcased CRUSADE's innovations:

🔍 Presentation: "Laser-Based Spectroscopy for rapid identification of PGMs in End-of-Life MEAs"

👏 Clustering Event organized by **LYDIA Project**

🌐 Strengthening ties with EU-funded projects in the fuel cell hydrogen technology value chain



## KEY ACHIEVEMENTS

### Robust Collection Network Established

Our partners have successfully supplied critical materials for research, such as Automotive Catalytic Converters, Li-ion Batteries (LFP & NMC), Fuel Cell MEAs (Nafion & PBI), Automotive PCBs (various grades)

### AI-Driven Automated Sorting Breakthrough

Led by AIMEN & ENTELOS , we're achieving remarkable progress:

 Vision System Integration


 LIBS Protocols

 MetaXtract Web App v2.0

 Blockchain Traceability Platform

 PUBLICATION ALERT

**CRUSADE Project** published in **Computational and Structural Biotechnology Journal**:

 **Innovation Report:** "CRUSADE project: Recycling technologies for ELV components to create a sustainable source of market grade materials for EU applications"

 STAY CONNECTED

 [The CRUSADE Project Website](#)

 [The CRUSADE Project LinkedIn](#)

 Contact: [info@monolithos-catalysts.gr](mailto:info@monolithos-catalysts.gr)



 WHY IT MATTERS

"Efficient, intelligent sorting is the critical first step to enable >95% CRM recovery via microwave-hydrometallurgy—helping Europe reduce import dependency and move toward a truly circular economy."

 OUR CONSORTIUM



GA No. 101138642

 **COMING NEXT**

Stay tuned for more CRUSADE updates as we continue our journey **Together Toward Circularity**. We prove that waste is not the end—it's the beginning of a smarter, greener, and more resilient European supply chain.