

FIREFLY



# Flexible, predictive and Renewable Electricity-powered electrochemical toolbox For a sustainable transition of the catalyst-based European chemical industry.



€ 11,078,742.50



48 MONTHS



16 PARTNERS

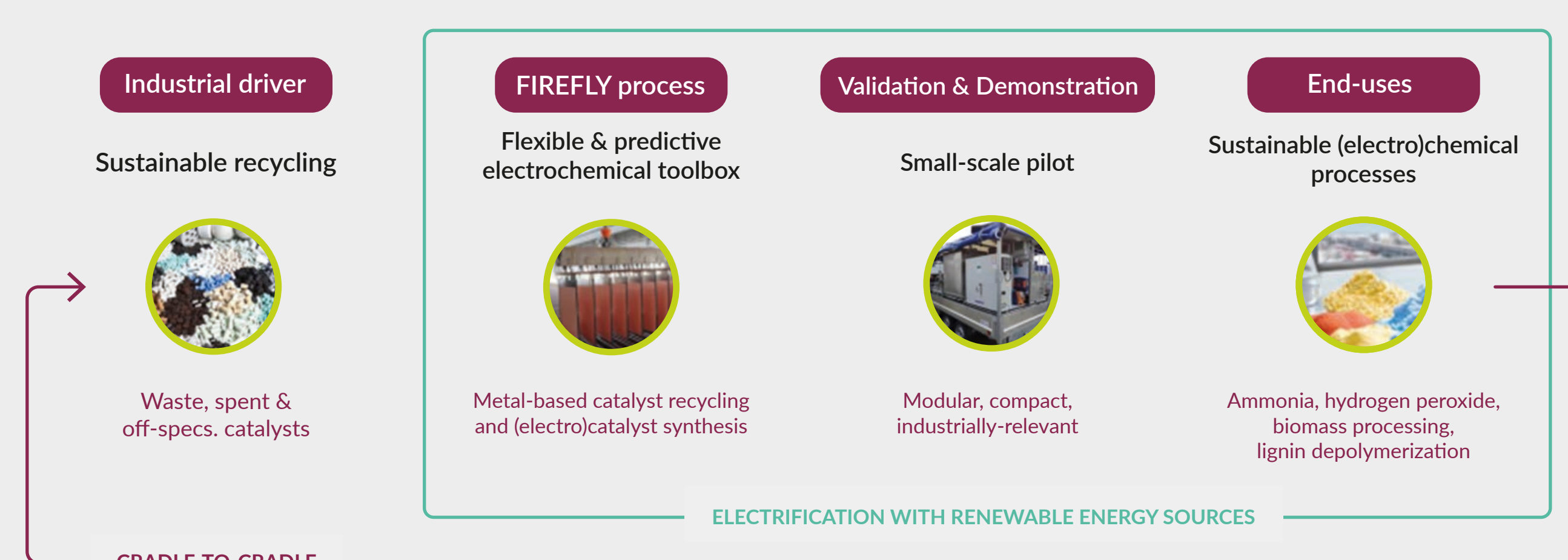


6 COUNTRIES

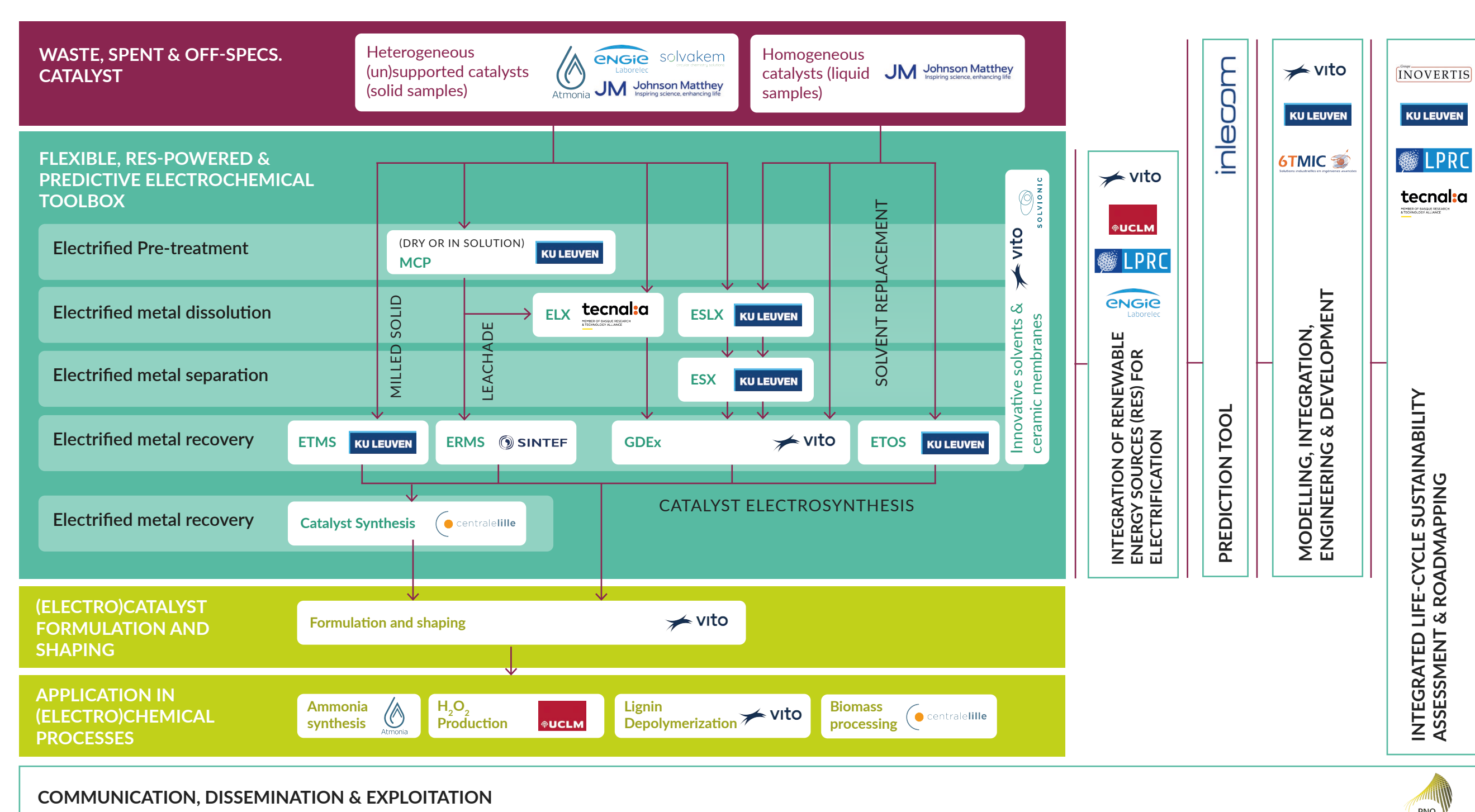
## OBJECTIVE

### Power-to-catalyst and chemicals fostered via electrochemical recycling

The FIREFLY project aims to electrify a large part of the chemicals value chain in a sustainable way (environmental, economic and social): **power-to-catalyst and chemicals fostered via electrochemical catalyst recycling.**



## CONCEPT



MCP: Mechanochemical processing  
 ELX: Electroleaching  
 ESLX: Electro-driven solvleaching  
 ESX: Electro-driven solvent extraction  
 ERMS: Electrochemical recovery from molten salts  
 ETMS: Electrochemical transformation in molten salts  
 ETOS: Electrochemical transformation in organic solvents  
 GDEx: Gas-diffusion electro-crystallisation

The FIREFLY concept proposes a revolutionary approach to (electro)catalyst manufacturing by introducing RES and utilising secondary resources such as waste and off-specification catalysts. This will simultaneously reduce the production costs and improve the sustainability of the chemical industry.

## IMPACT

### New electrochemical conversion routes for the chemical industry

By leveraging downstream synthesis of strategic metal-based (electro)catalysts, the FIREFLY project is expected to develop at TRL6 a sustainable process for the flexible, RES-powered electro-driven recycling of metals.

## COORDINATION TEAM

VLAAMSE INSTELLING VOOR TECHNOLOGISCH ONDERZOEK N.V. (VITO)

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## STAY IN TOUCH

FIREFLY Horizon Europe  
 @FIREFLY\_HEU | #FireflyHorizonEurope

**WEBSITE**  
<https://www.firefly-project.eu/>



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