



CROCODILE

EU – H2020

Recovering cobalt

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27
Co
Cobalt
58.933

The Project

First of a kind commercial **C**ompact system for the efficient **R**ecovery of **CO**balt **D**esigned with novel **I**ntegrated **L**eading technologies. The project is designed to tackle the limitations in current cobalt production.

Limitations in current cobalt production :

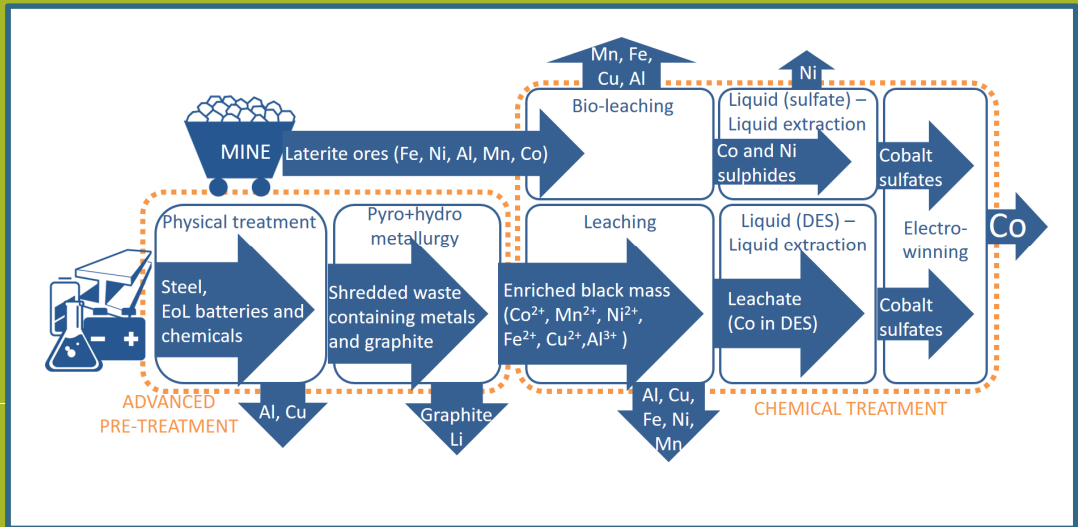
- ➔ Rely on the use of acids, which generate other wastes.
- ➔ A diversity of feed sources with different impurity levels.
- ➔ The current concept requires the transport of 10,000 tons of black mass to centralised places in Europe (expensive and contributes to CO₂ emissions).
- ➔ The predominant feedstock used for the cobalt production in Europe is based on cobalt hydroxide intermediate from copper mines in geopolitically instable countries.

Challenge

The goal of the project is to provide a **zero-waste strategy** for important waste streams rich in cobalt. We aim to improve the economic and environmental values of recovery processes of cobalt in Europe.

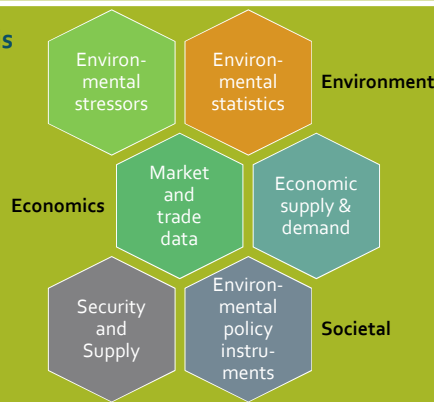
Targeted feedstocks

The targeted primary and secondary raw materials are **laterite mines, autocatalysts and batteries.**



Material flow analysis

The material flow analysis will look at the economic supply and demand issues, and can be used to identify inefficient use of resources, energy or materials.



► Material flow analysis.

▲ The high-level concept of the CROCODILE project showing it is integrated in the current economic model of metals recovery.

Solution

The **technical concept** is based on integrating several cutting edge chemical engineering solutions, in combination with advanced physical treatment solutions (mechanical, wet mechanical, and pyro metallurgical solutions for the production of high quality black mass rich in cobalt with low difficult metals to treat chemically). The integrated process will be suitable to treat large variety of feedstocks: primary resources rich in cobalt from nickel and copper mining and secondary resources from a wide range of waste streams, like batteries, steel, chemicals, and WEEE.

Members of the Consortium



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