

## Life LiBat Project

LIFE16 ENV/IT/000389 co-financed by EU LIFE programme

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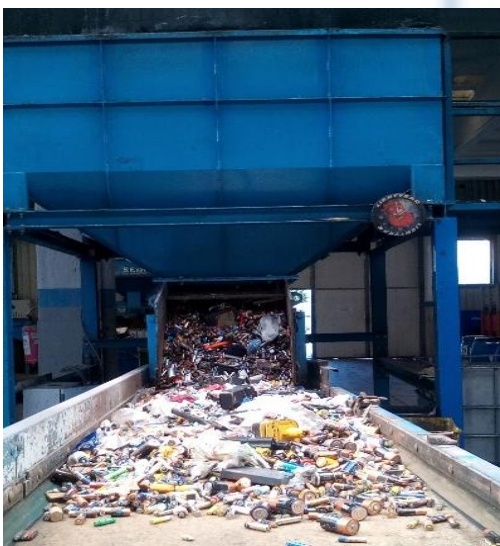
### 1. Demonstration activity on pilot plant at SEVal

The demonstration activity started at the SEVal site (Colico) where the pilot plant for the treatment of primary lithium batteries is installed. The activity mainly concerned the cryomechanical pre-treatment and fraction separation process.



### Sorting of the batteries

The end-of-life batteries collected at SEVal require the initial manual sorting for their separation into different types.



The primary Li batteries have been further divided into cylindrical type and coin type.





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### Cryomechanical treatment and separation of the different fractions



Cryomechanical treatment includes thermal stabilization with liquid nitrogen, crushing and subsequent separation of ferrous fractions, plastic residues and electrodic powder.

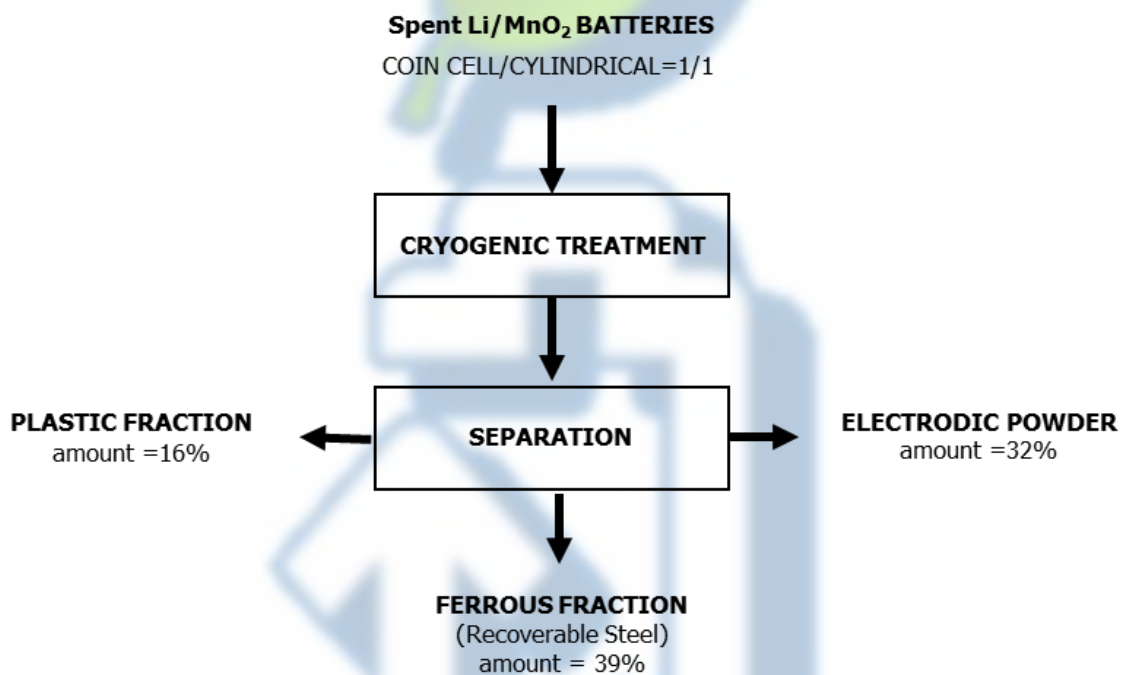


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### 2. Material balance and chemical characterization

The material balance obtained in optimized conditions with cylindrical and button ratio of 1:1 by weight, shows a recovery of electrodic powder equal to 32% by weight of the treated batteries, the ferrous fraction equal to 39% and plastic fraction equal to 16% .



The chemical characterization of the electrodic powder shows a manganese content of 21% by weight and a lithium content of 5%.

Electrodic powder composition	
Mn [mg/g]	Li [mg/g]
210 ± 20	50 ± 10