



## Technical validation

The consortium proposes the execution of two different **pilots test campaign** to simulate the process for the **separation of plastic** from the **metal** contained in the PCBs: the one run by **Atlantic Copper** and the one of **Tallin University, Fraunhofer**, instead, will evaluate the **epoxy chemical recycling** in an **improved pilot plant**.

## WEEE collection pilot

**ERION** will develop and set up **innovative eco-points** to test their effectiveness in enhancing the collection rate of WEEE.

## Location

### Technical Pilot:

- Seville (Spain) - AC
- Tallin (Estonia) - TalTech
- Pfinztal (Germany) - Fraunhofer

### Pilot for the WEEE collection:

- Italy - ERION



Re-cycling of Epoxys from Nonferrous E-Waste

## Partners



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Re-cycling of Epoxys from Nonferrous E-Waste

2022-2024

## Background

**Printed Circuit Boards (PCBs)** contain significant amounts of recoverable **secondary raw materials** such as copper, gold, silver, palladium and platinum. Their **recycling** is nowadays strategic for their scarcity or inhomogeneous distribution on Earth, and the economic roles they play for countries.

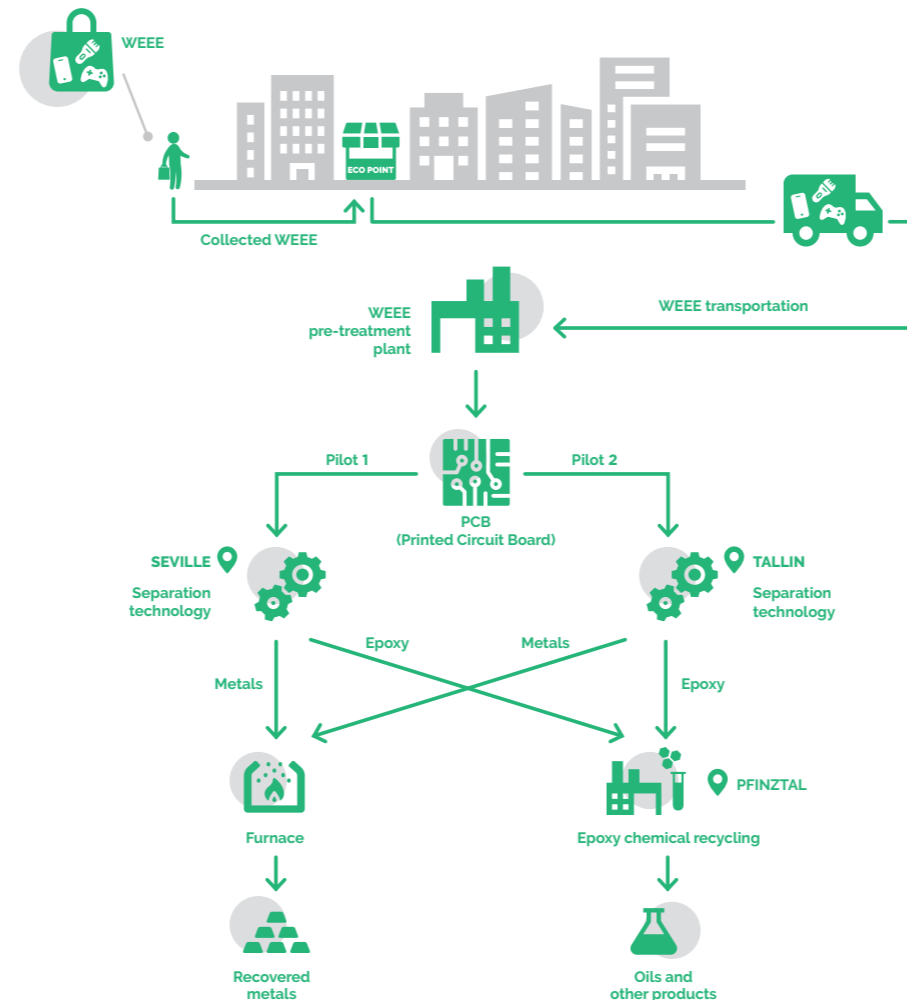
The production of **plastic** accounts for 3.8% of global CO<sub>2</sub> **emissions** and it is estimated that in 2050 it will be responsible for 13% of them. Plastic is one of the most difficult wastes to recycle. Moreover, to manufacture a kilogram of plastic, about 3.5 kg of CO<sub>2</sub> are generated, but to manufacture a kilogram of recycled plastic, 1.7 kg of CO<sub>2</sub> are generated. Therefore, recycling is the best option to give waste a **second life**.

In addition, in 2019, in Europe, as average, **only 48%** of Waste from Electric and Electrical Equipment (**WEEE**) has been **collected**. This small and inconstant volume hinders the possibility to create a strong WEEE recycling chain that instead could bring economic and environmental benefits to the society as closed loop in the circular economy framework.

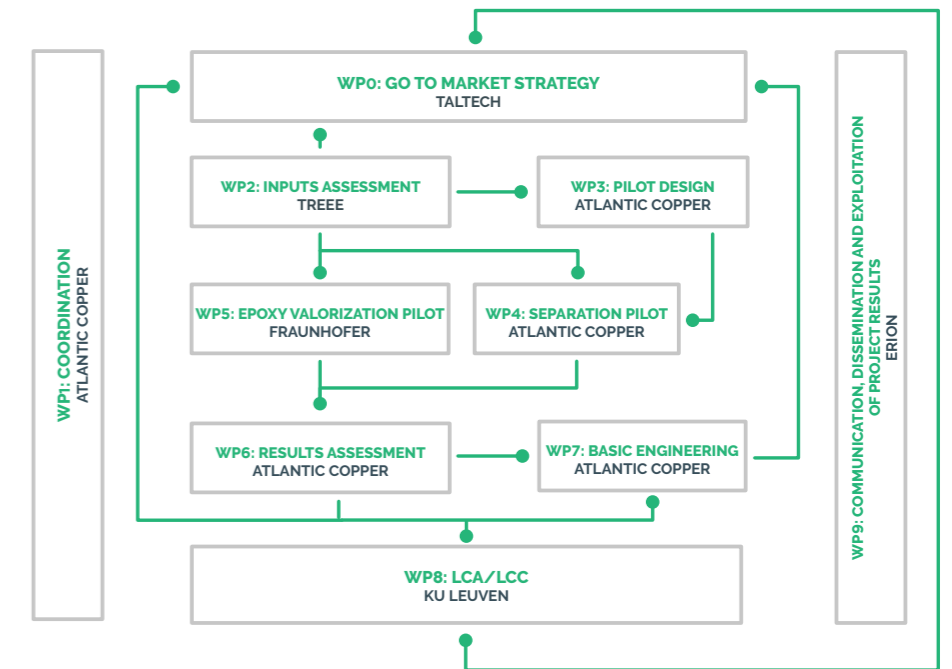
## The RENEW Project

RENEW project is a three-year project funded by the EIT RawMaterials. The project aims at validating **technologies** that allow the **separation** of plastic from **metals** contained in the **PCBs** that are found in WEEE, as well as the study and validation of a technology for the **recovery** of the **separated plastic**.

Purpose of RENEW project is to reduce the carbon footprint of WEEE recycling process in the **copper sector**, minimizing the presence of plastics and studying their recovery. Acting at the beginning of the chain, a part of the project will be dedicated to the test of an **innovative eco-point** to increase the amount of collected WEEE.



## Project Implementation



## Project objectives

- Increase the **metal treatment capacity** of smelting furnaces
- Study ways to **recover and valorise** the epoxy
- **Improve the recycling** of PCBs
- **Reduce** the PCBs recycling process CO<sub>2</sub> **footprint**
- **Test innovative** collection eco-point

