

Erion

Circular Economy and Critical Minerals

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About Erion

The largest nonprofit Producer Responsibility Organization in Italy

- Owned by **2.400 Producers** of electrical and electronic equipment and batteries
- **250.000 tons of secondary raw materials** recovered in 2019
- **1,8 million tons of GHG** avoided emission in 2019

Mining? Urban mining!

We look at products placed on the market, in-stock (in use and hibernated) and generated as waste

Productivity:

- 1 ton of gold ore: 3 g of gold
- 1 ton of mobile phones: 300 g of gold



The WEEE case

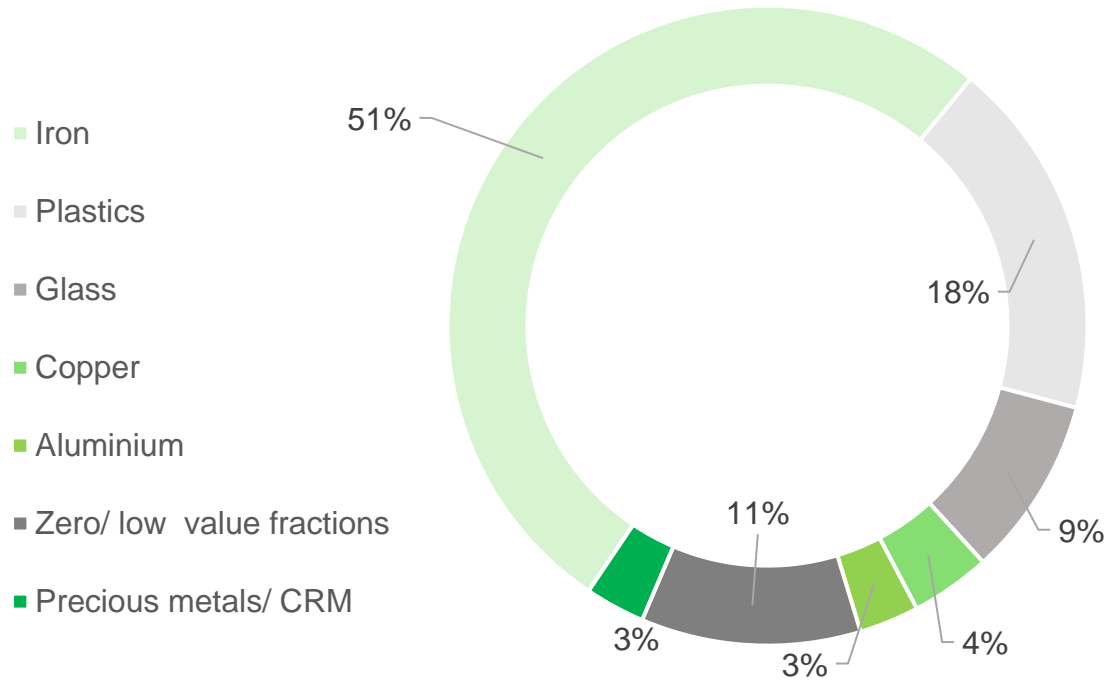
- 54 million tons per year generated worldwide (7,3 kg per capita)
- **44 million tons “lost” or not properly recycled**

Efficiency

- EU: 42,5%
- Asia: 11,7%
- Americas: 9,4%
- Africa: < 5%



WEEE: what have we got here?



Source: Erion Recycling Report

Inside your smartphone

Plentiful Supply



Aluminum Bromine Carbon Europium Gadolinium Hydrogen
Lanthanum Oxygen Potassium Praseodymium Silicon Terbium

Limited Availability

Antimony Copper **Gold** Lead Lithium Magnesium
Neodymium Nickel Phosphorus **Tin** **Tungsten**

Threat from Increased use

Cobalt Dysprosium

Gone in 100 years

Arsenic Gallium
Indium Silver
Tantalum Yttrium

> 30 natural elements

In bold: from conflict minerals

Source: European Chemical Society

The EU leads the way

- 12 million tons of e-waste generated per year
- 5 million tons properly collected and recycled



Knowledge is key (PROSUM)

- EU-wide and open-access Urban Mine Platform
- Web portal populated by a centralized database containing all readily available data on market inputs, stocks in use and hibernated, compositions and waste flows
- electrical and electronic equipment (EEE), vehicles and batteries for all EU 28 Member States plus Switzerland and Norway

A circular approach



**RECYCLING
INFRASTRUCTURE**



**EXTENDED PRODUCER
RESPONSIBILITY**



**LEGISLATIVE
FRAMEWORK**



ECODESIGN



**CULTURAL SHIFT –
CONSUMER
AWARENESS**