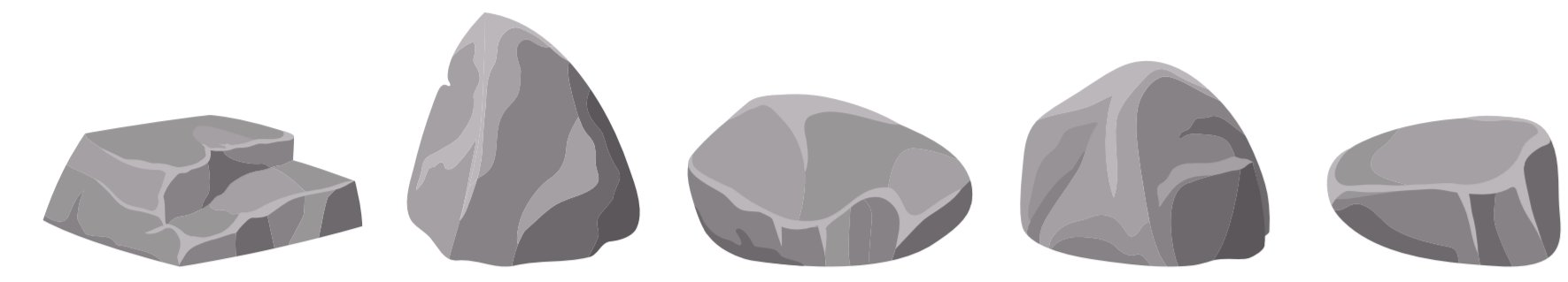


Mined ores recovery journey through the ION4RAW process



Ag-Au Au Au-Ag Pb-Zn Cu

ION4RAW ores primary sources

First mineral treatment preparation stage

HOW? **Comminution & beneficiation*** methods are applied to prepare the minerals for **Deep Eutectic Solvents* (DES)** processing.

01

1st recovery journey

02

First metal recovery stage

HOW? The ore minerals are first dissolved into Deep Eutectic Solvents (**DES leaching***) before being recovered using an **electrochemical method***.

2nd recovery journey

WHY? The metal-pregnant liquid DES from the first recovery journey still contains metals not recovered.

Second mineral treatment preparation stage

HOW? A physical **filtration method** is used to isolate the metal-pregnant liquid DES from the insoluble metals. Insoluble metals are set aside.

03

Second metal recovery stage

HOW? Different approaches aiming at concentrating the metal, namely **cementation***, **precipitation*** and **solvent extraction*** are applied to recover the metal present in the liquid DES solution.

04

DES recovery & cleaning

WHY? For a more sustainable process, the exhausted DES is recovered and cleaned to be reused within the process.

05

First stream of recovered by-products.

Second stream of recovered by-products

Recovered by-products targeted in ION4RAW

