Introduction of an EIT Raw Materials upscaling project proposal: AREAS

Advanced Resource Exploration & Assessment Solutions

Carlo Cormio

RESOURCE MANAGEMENT WEEK 2021

ENABLING SUSTAINABILITY PRINCIPLES IN RESOURCE MANAGEMENT

UNECE

AREAS

Advanced Resource Exploration & Assessment Solutions

UNECE

- **EIT Raw Materials**

  Innovation Community developing raw materials into a major strength for Europe. Minerals, metals and advanced materials are key enablers to achieve the objectives of the European Green Deal.

- **KAVA 8. Call for projects 2022**

  Funding project proposals that will generate a significant impact on European industrial competitiveness, innovation capacity and human capital, as well as empower students and entrepreneurs.

  - Education projects
  - Regional Innovation Scheme projects
  - **Upscaling projects**

  https://eitrawmaterials.eu/

AREAS

Advanced Resource Exploration & Assessment Solutions

UNECE

- ### Market need addressed

  Lack of a service / tool for assessing and communicating the viability of material recovery from mining and metallurgical residues

- ### Project aim

  Create integrated resource exploration and assessment solutions (SW, technological products and services), turning stored residues into "measured resources"

  Introduce a standardised (UNFC-based) approach and decision support tool to allow for a seamless and integrated analysis of multidisciplinary datasets and assessment methods
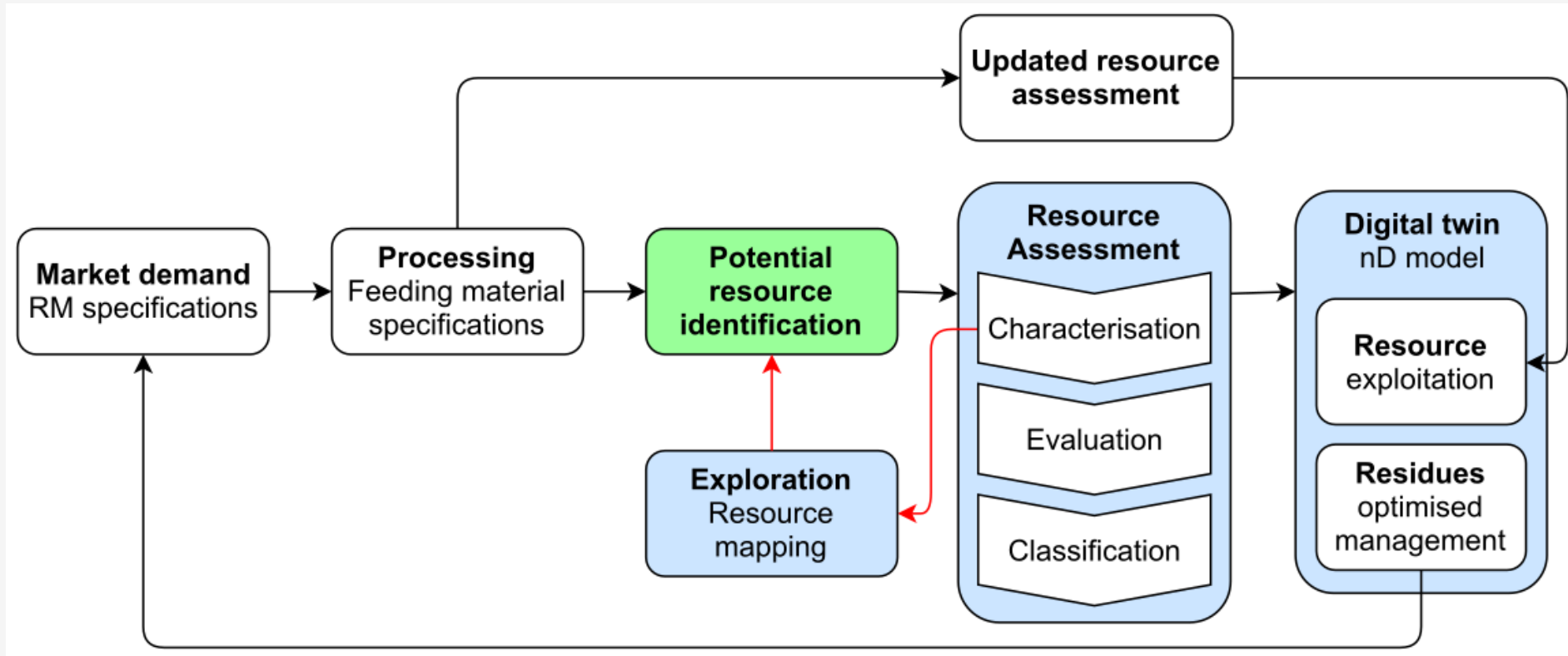
AREAS

Advanced Resource Exploration & Assessment Solutions

UNECE

- ## **Objectives**

Provide **innovative solutions** to:

- **map the potential supply of secondary RMs** from EU stocks and wastes;

- **exploit EU Earth Observation data** for exploration and identification of residues;

- **provide a comprehensive yet easy to use decision support and control tool** for mining/metallurgical operations;

- **unlock the RMs recovery potential of mining/metallurgical residues**;

- **reduce the environmental impact** of waste originating and accumulating at mining sites.

Advanced Resource Exploration & Assessment Solutions

UNECE

AREAS approach

Advanced Resource Exploration & Assessment Solutions

UNECE

▪ Outputs

1. **An innovative and highly specialised resource exploration & assessment service**, addressing all the steps of resource assessment (<u>characterization</u>, <u>evaluation</u>, <u>classification)</u>

2. **A resource assessment and asset management software** providing decision support features;

3. **Innovative technological solutions** for spectral imaging-based materials composition mapping;

4. **Training programs** for MC students, PhD, Professionals

Advanced Resource Exploration & Assessment Solutions

UNECE

- **Impacts**
  - **Improve**:
    - **knowledge on availability of RMs** in EU countries;
    - **industrial symbiosis** in disadvantaged areas;
  - **Reduce:**
    - **import of RMs** from non-EU countries through residues / waste valorisation;
    - **consumption of land and soil**;
    - greenhouse gases **emission**;
    - **environmental impact** of mining / extractive operations;
    - **storage facilities management costs**;
    - environmental compensation fees;
    - **investment risk**

Advanced Resource Exploration & Assessment Solutions

UNECE

- ## Partners

CNR (IGAG & ISTEC dept.)

SERENGEO

Fondazione Bruno Kessler (FBK)

Ferrara University

Worldsensing

Leiden University (CML)

SGA Graniti

VITO

Thank you!

Ph.D. Eng. Carlo Cormio
SERENGEO Srl – c.cormio@serengeo.com

UNECE
Date 28 I 04 I 2021, Geneva

RESOURCE MANAGEMENT WEEK 2021

ENABLING SUSTAINABILITY PRINCIPLES IN RESOURCE MANAGEMENT

UNECE