CERA – A Raw Material Certification Scheme

October 2020

Market Overview

High number of existing specific standards for one or a consumption of raw material(s) (fragmentation)

Some standards are not very trustworthy

The actors within a supply chain follow different standards

There is still a lack of harmonization and cross recognition between existing standards during the certification process

Companies are confronted with a confusing overall situation (more than one standard necessary)
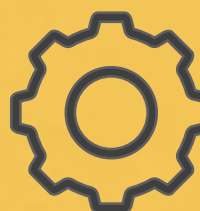
CERA Overview

The CERA project is supported by EIT RawMaterials and started in April 2017.

Within the project a standardised certification scheme for raw materials will be developed.

The CERA Standard will ensure environmental, social and economic sustainability of all raw materials through the value chain.

It guarantees traceability of certified materials by using a combination of traceability methods.

CERA Uniqueness

CERA closes this gap by being a holistic certification scheme that is

- ❖ applicable to the entire value chain from greenfield to consumer

- ❖ applicable on a global scale, all mining-related operations, all sizes of operation and for all raw materials

- ❖ harmonizing the standard market

- ❖ introducing mechanisms to ensure reliability in the Chain of Custody

- ❖ applicable to organizations' internal processes and therefore reducing the efforts for certification

CERA Partners & Advisory Board
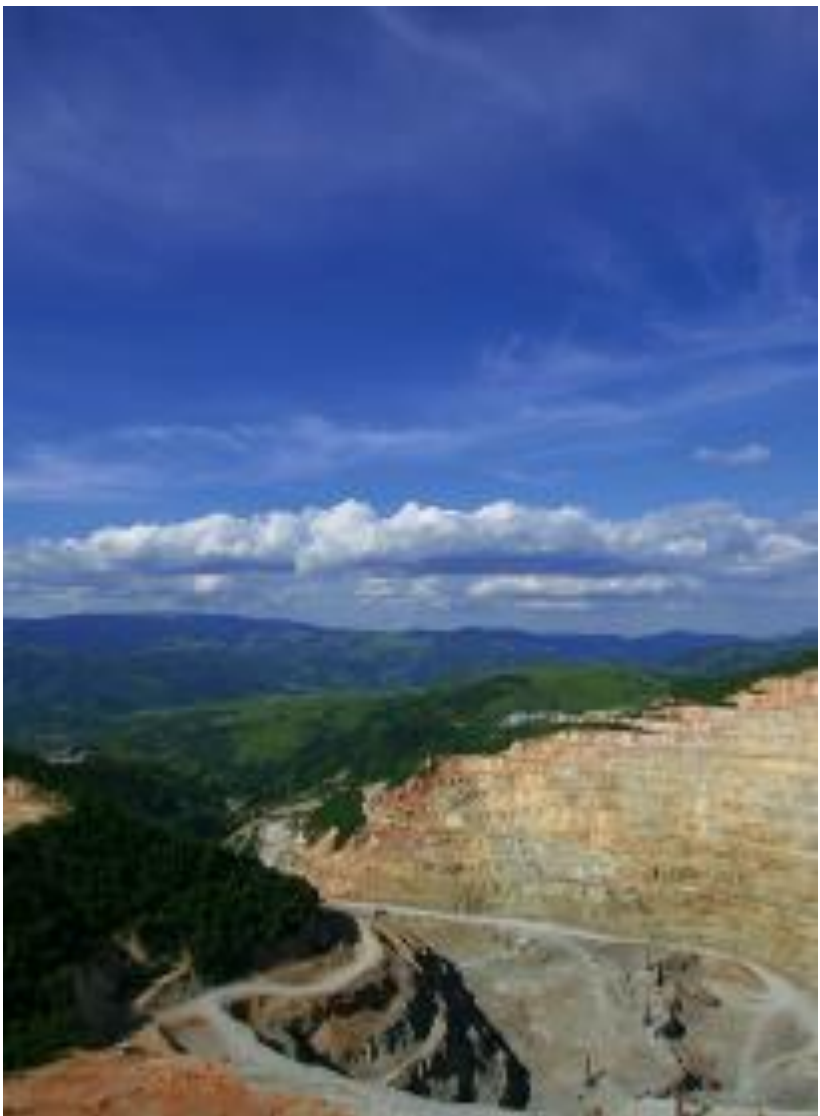
Our Project Team consists of universities, institutes and independent audit and consulting companies.

DMT   TÜV NORD Zertifizierung   MONTAN UNIVERSITÄT   CONFEDEM

Universiteit Leiden   LTU | BUSINESS AB   RISE   SAVANNAH

An international Advisory Board supports the project team and brings different aspects into the discussion.

euromines   European Bank for Reconstruction and Development   SDU   INFINITY LITHIUM CORPORATION

VOLKSWAGEN AKTIENGESELLSCHAFT   SIEMENS AG   70 UNECE   JRC EUROPEAN COMMISSION

eit RawMaterials Connecting matters   This activity has received funding from the European Institute of Innovation and Technology (EIT), a body of the European Union, under the Horizon 2020, the EU Framework Programme for Research and Innovation

CERA – 4 Standards in 1 System

The CERA system consists of four consecutive standards, each of which focuses on different areas of the value chain and is thus optimised for each value chain actor.

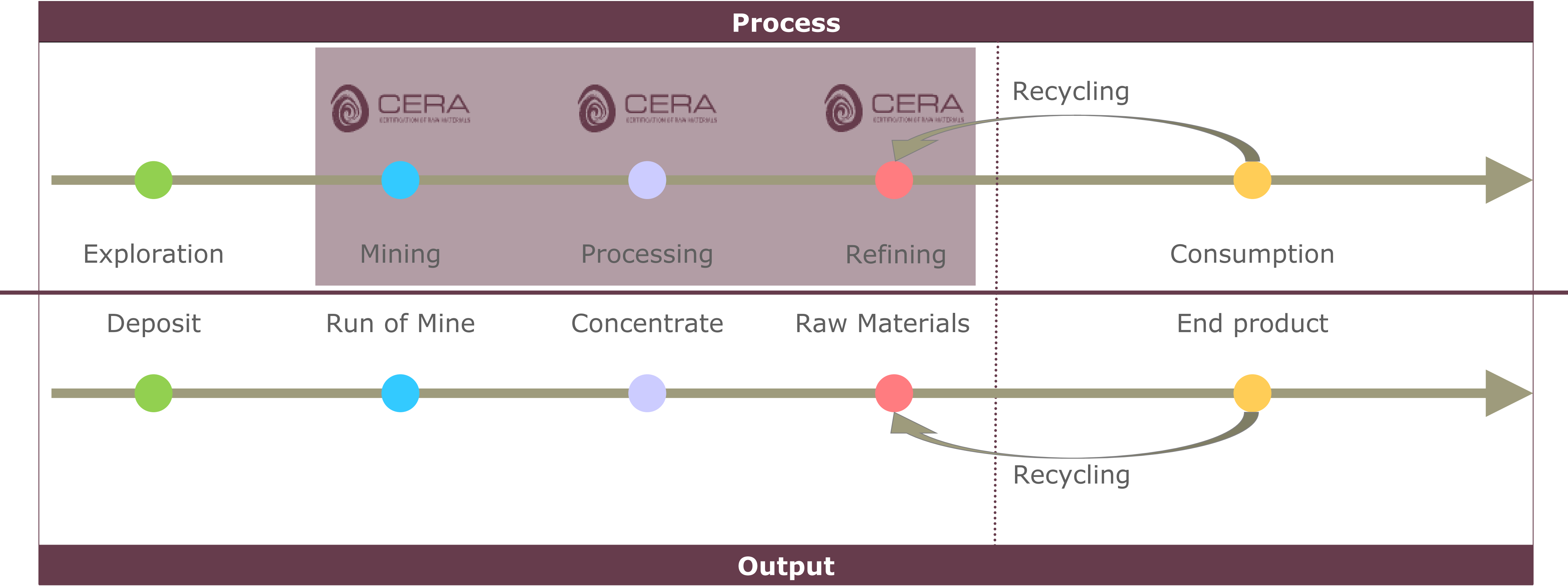|			
Readiness Standard **CRS**	Performance Standard **CPS**	Chain of Custody Standard **CCS**	Final Product Standard **CFS**

The overall system leads to certification of the entire raw material & process chain.
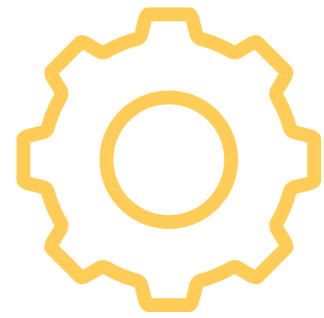
CERA – 4 Standards in 1 System

CERA Performance Standard (CPS) (Operators)

Process

| Exploration | Mining | Processing | Refining | Consumption |
| Deposit | Run of Mine | Concentrate | Raw Materials | End product |

Recycling

Recycling

Output

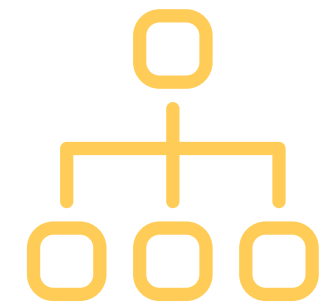# CERA Performance Standard

1. CERA Performance Standard (CPS)

The Performance Standard certifies a facility or sequence of operations.
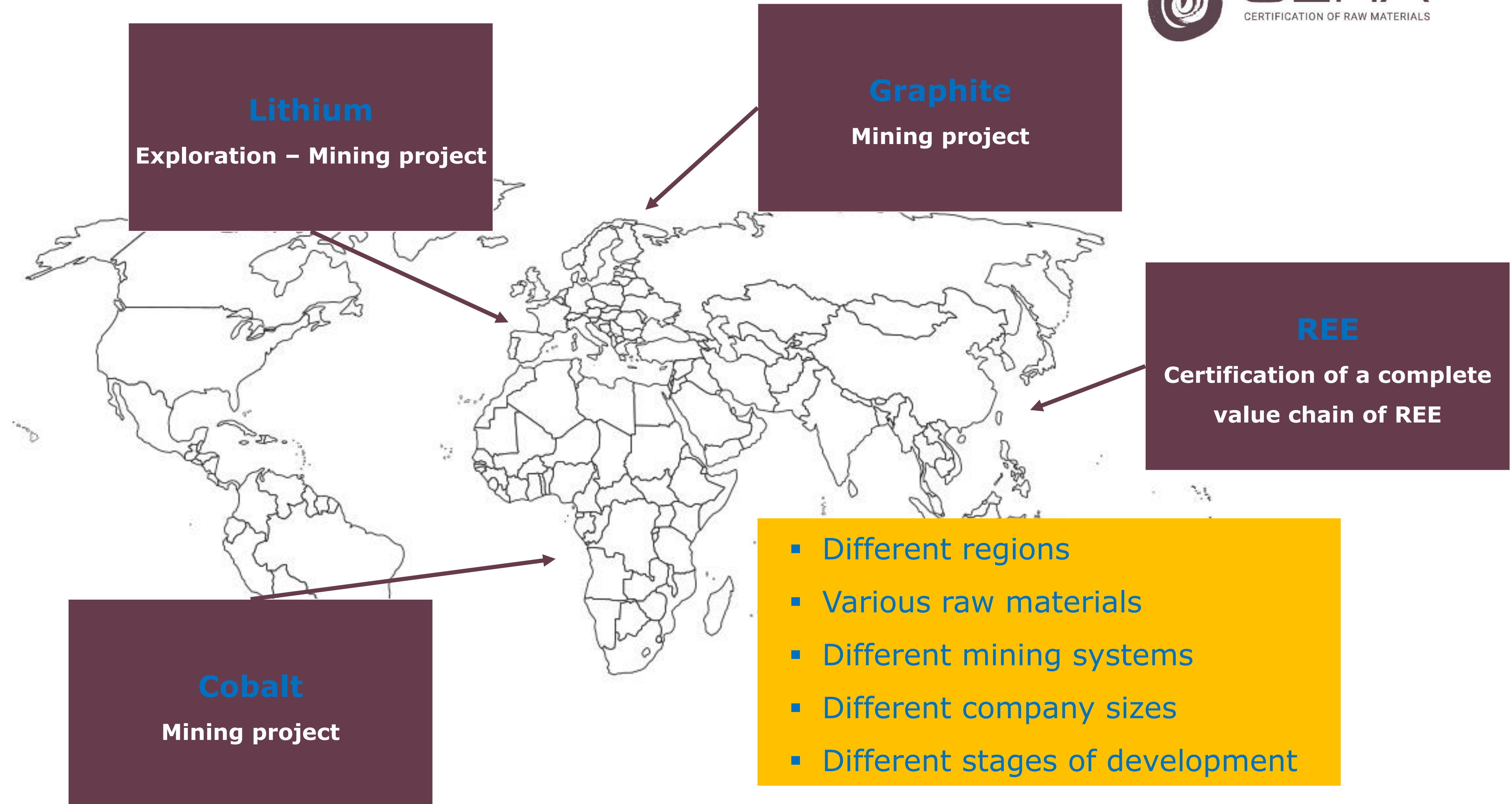
The standard defines a set of sustainability criteria, which every operation in the upstream supply chain have to fulfil.

The individual aspects of the respective minerals or processes are taken into account.
(→ **Implementation Details**)

CPS – Pilot Certification Sites - CPS

CERA
CERTIFICATION OF RAW MATERIALS

Lithium

Exploration – Mining project

Graphite

Mining project

REE

Certification of a complete value chain of REE

Cobalt

Mining project

- Different regions
- Various raw materials
- Different mining systems
- Different company sizes
- Different stages of development

eit RawMaterials
Connecting matters

This activity has received funding from the European Institute of Innovation and Technology (EIT), a body of the European Union, under the Horizon 2020, the EIT Framework Programme for Research and Innovation
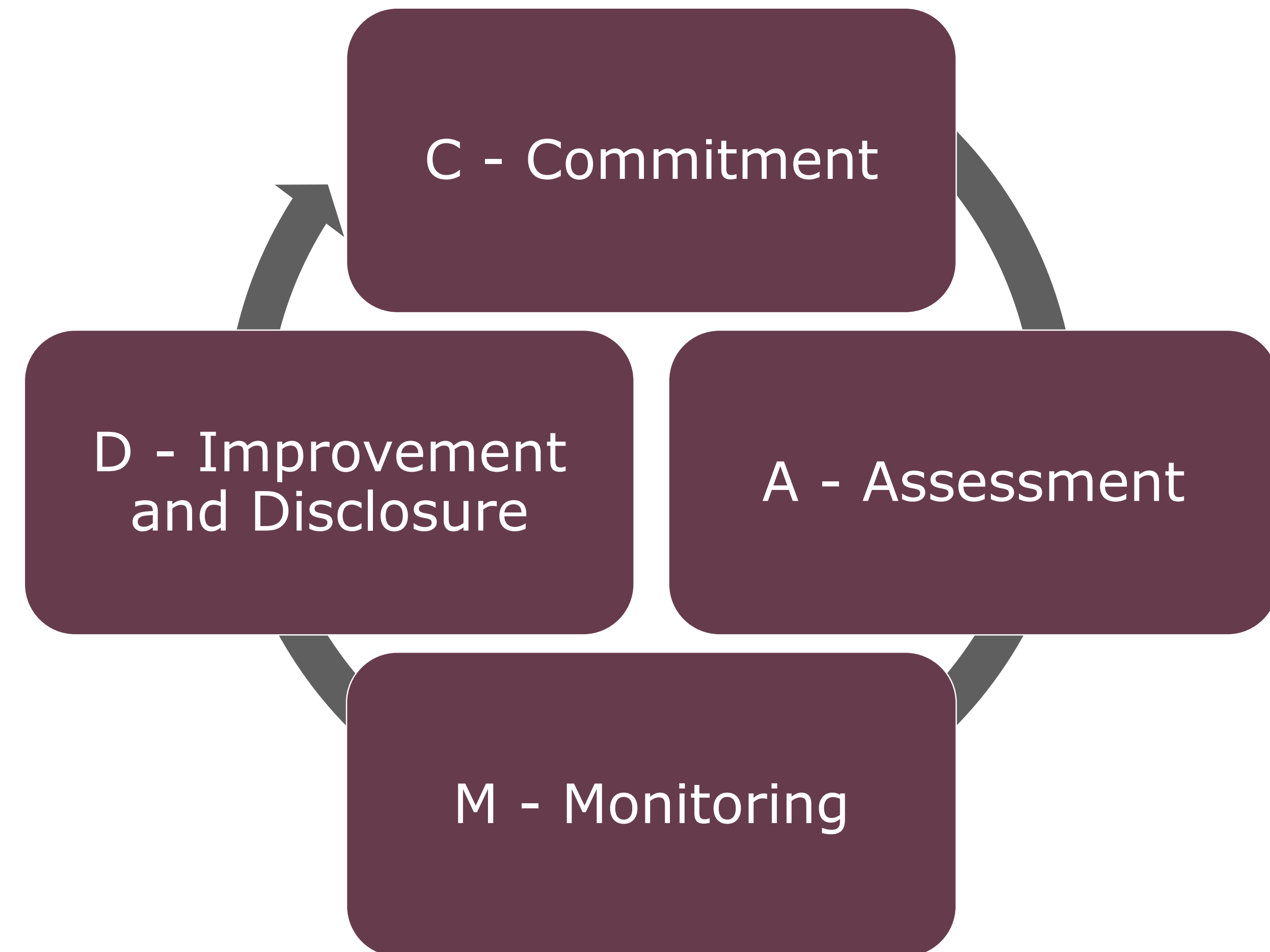
CERA – Harmonization Process (CHP)

CHP Process – Starting with CPS
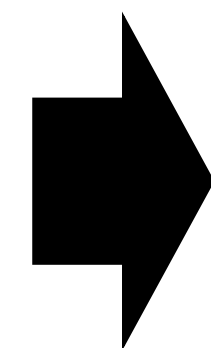
One objective of CERA is to contribute to

harmonization and mutual recognition within

the certification landscape. This will be done by

three step approach (CHP):

- To facilitate this, the CAMD structure in CERA

adopt the 5-step management approach of the

OECD guideline and the PDCA approach as

used in **ISO management standards**.

C - Commitment

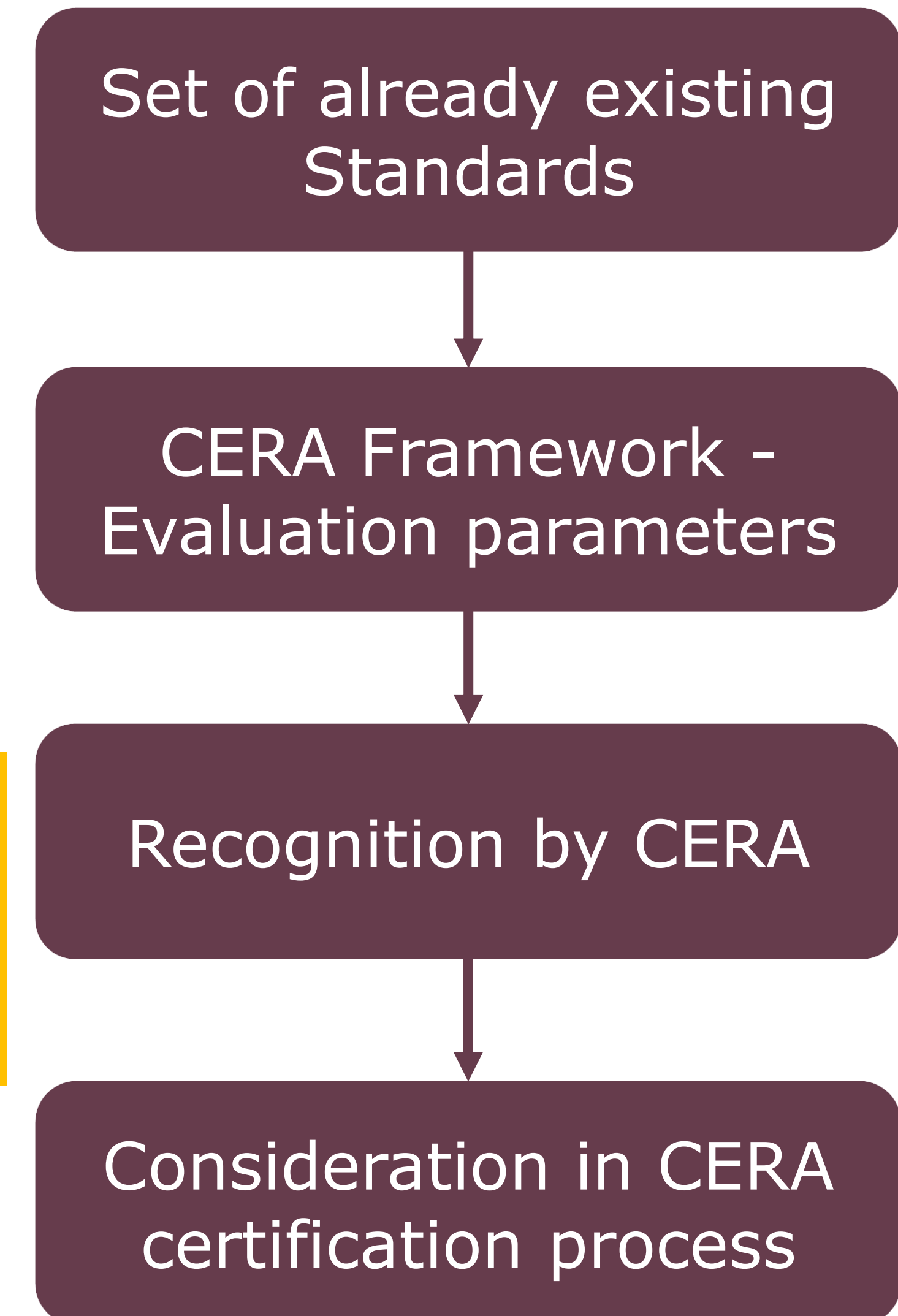A - Assessment

M - Monitoring

D - Improvement and Disclosure

CERA – Harmonization Process (CHP)

- CERA certification system is recognizing already **existing internal processes** and set ups during the audit process to reduce the effort for organizations.

- CERA has developed an objective, standardized framework to harmonize with and recognize already **existing certification standards** to support organizations in the fragmented certification landscape.

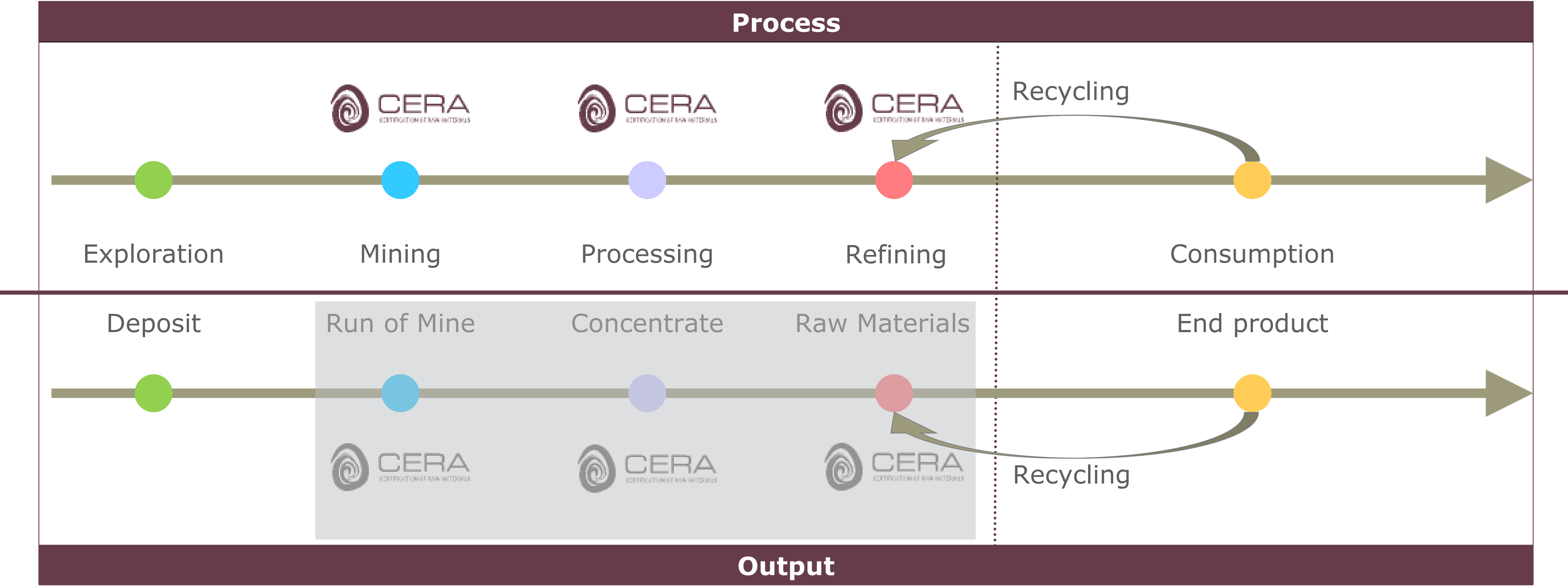Currently in practical Pilot Test at a European Mine with a different Standard

Set of already existing Standards

↓

CERA Framework - Evaluation parameters

↓

Recognition by CERA

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Consideration in CERA certification process

CERA – 4 Standards in 1 System

CERA Performance Standard (CPS) (Operators)

CERA Chain of Custody Standard (CCS) (OEM)

Process

Recycling

Exploration	Mining	Processing	Refining	Consumption
Deposit	Run of Mine	Concentrate	Raw Materials	End product

Recycling

Output

CERA Chain of Custody Standard

2. CERA Chain of Custody Standard (CCS)
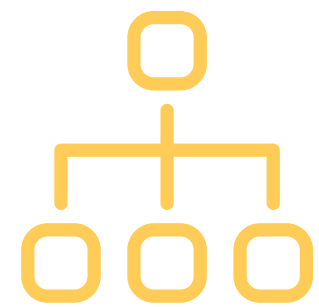
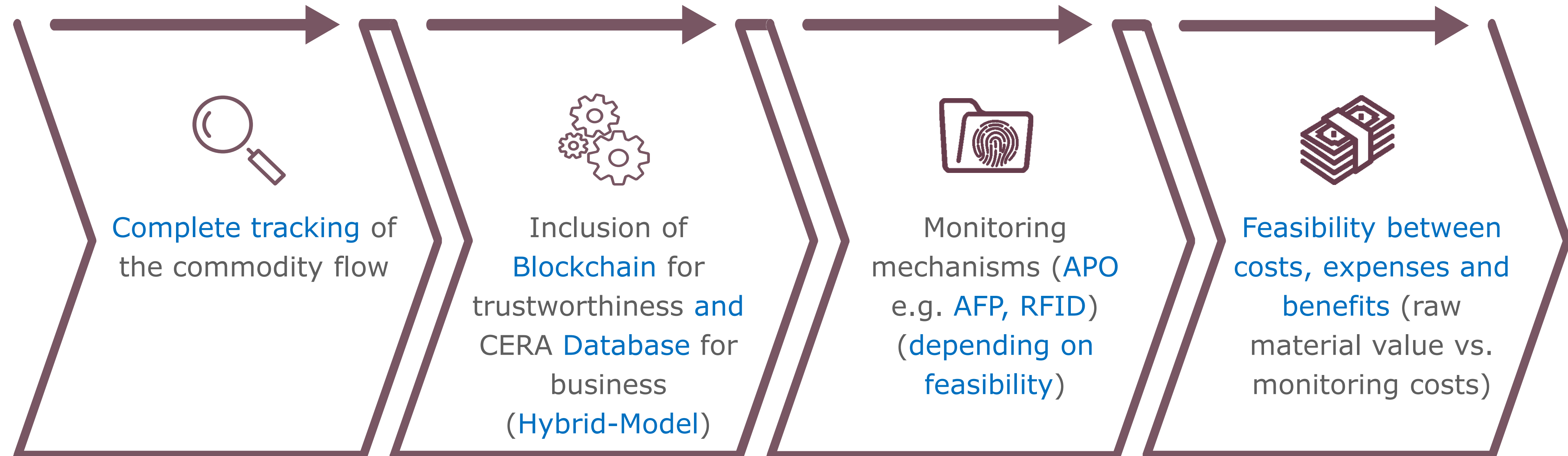The Chain of Custody Standard refers to the mining product respectively commodity.

The standard aims to provide criteria for appropriate management systems for a complete traceability that guarantee a chain of custody of sustainable sourced raw materials.

The standard will also include ASM and recycling through specific approaches.

CERA Chain of Custody Standard

| Complete tracking of the commodity flow | Inclusion of Blockchain for trustworthiness and CERA Database for business (Hybrid-Model) | Monitoring mechanisms (APO e.g. AFP, RFID) (depending on feasibility) | Feasibility between costs, expenses and benefits (raw material value vs. monitoring costs) |

Hybrid-Model

-> decentralized chain of custody application for the CERA standard.

-> no single entity has full control of the chain of custody data on its own, which makes the system more trustworthy.

-> A degree of business confidentiality is essential, so that all data cannot be put on the blockchain. There is a need for traditional databases, where such information can be held and shared by parties with a trusted relationship with the information owner.
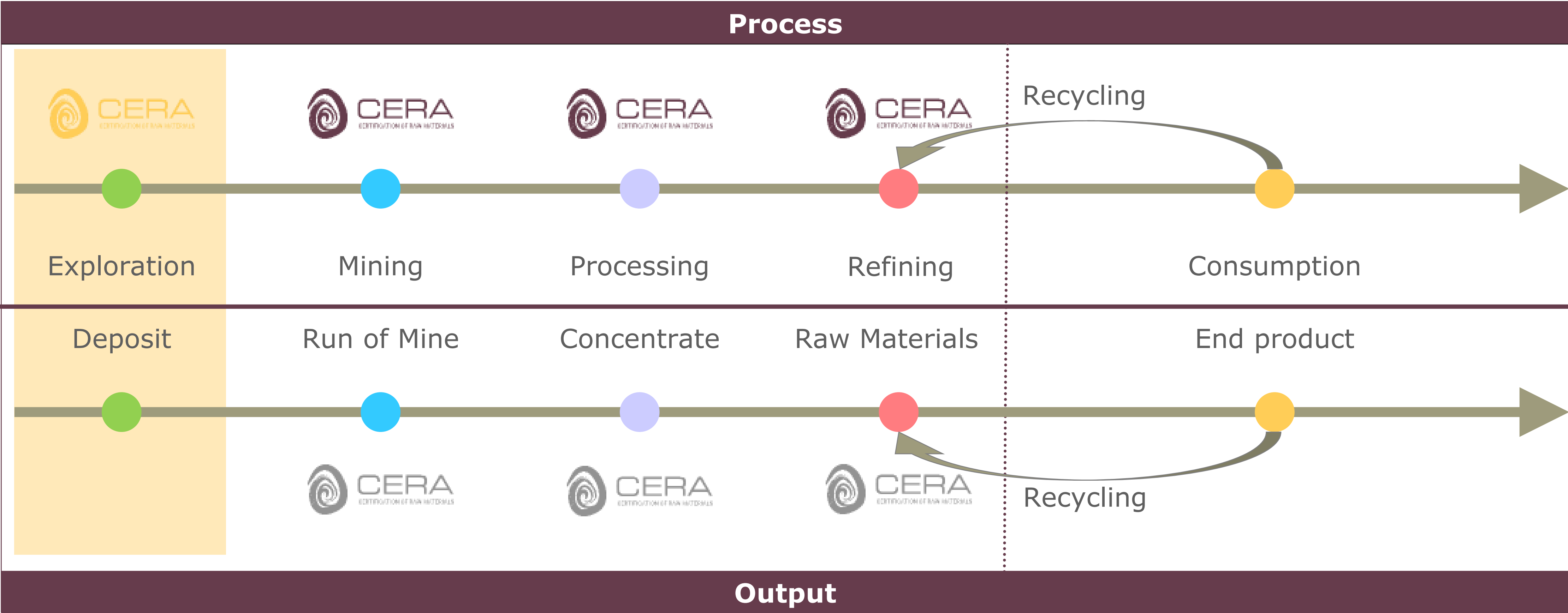
CERA – 4 Standards in 1 System

CERA Readiness Standard (CRS) (Investors)

CERA Performance Standard (CPS) (Operators)

CERA Chain of Custody Standard (CCS) (OEM)

Process

Exploration	Mining	Processing	Refining	Consumption

Recycling

Deposit	Run of Mine	Concentrate	Raw Materials	End product

Recycling

Output

CERA Readiness Standard

4. CERA Readiness Standard (CRS)

The CERA Readiness standard certifies the reports about the (pre-)investment phase.

The Readiness Standard defines binding sustainability minimum criteria to be considered before the operating phase.

Standardized evaluation of resources to reserves with regard to sustainability and consideration in the preparation of e.g. feasibility studies.

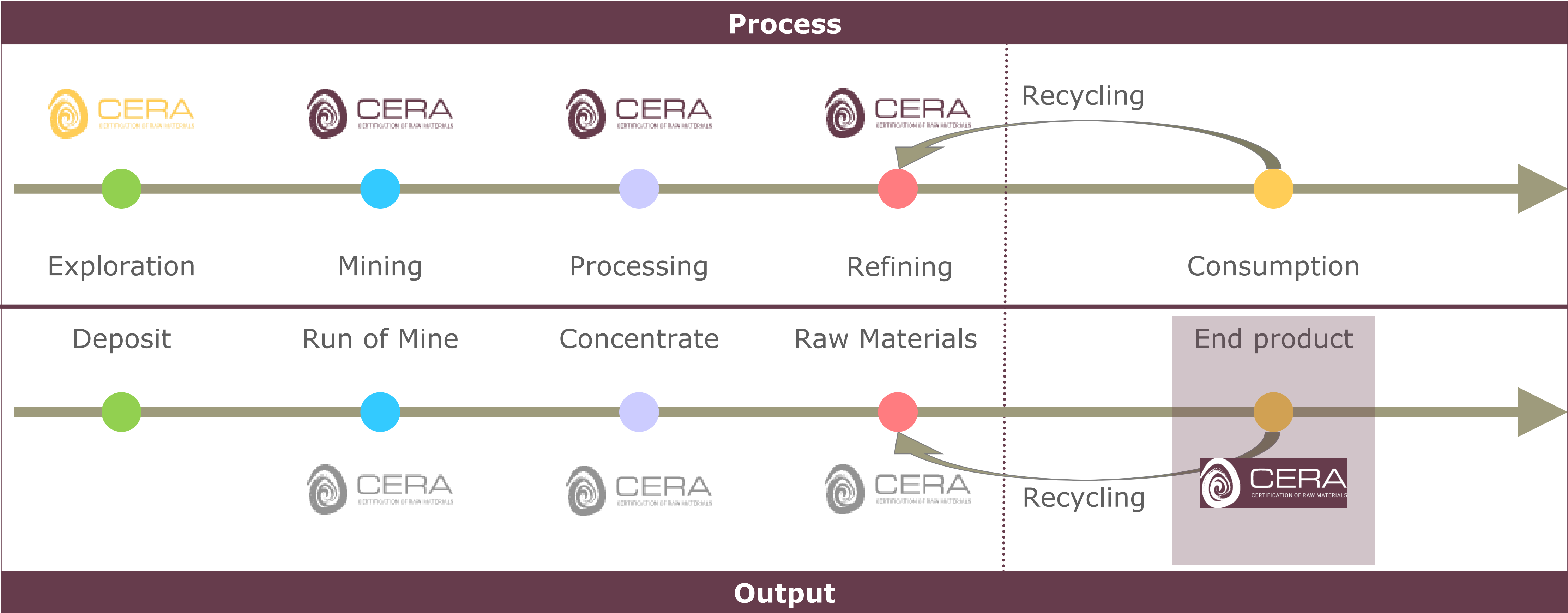# CERA – 4 Standards in 1 System

CERA Readiness Standard (CRS) (Investors)

CERA Performance Standard (CPS) (Operators)

CERA Chain of Custody Standard (CCS) (OEM)

CERA Final Product Standard (CFS) (Consumer)

Process

Recycling

Exploration | Mining | Processing | Refining | Consumption

Deposit | Run of Mine | Concentrate | Raw Materials | End product

Recycling

Output

CERA Final Product Standard

3. CERA Final Product Standard (CFS)

The CFS sets out criteria for certification of consumer goods. It enables informed decision-making by consumers.
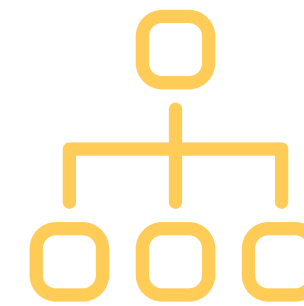
For the CFS the former standards CPS and CCS are required.

The assignment of the standard is indicated by a product label. (→ Label on Final Product)

CERA – Organizational structure

Roles

CERA Contact

You are welcome to become part of CERA! Join us as

- Member of the Advisory Board (society, politic and industry)

- Partner for pilot phase

WEBSITE
cera-standard.org

Please join our next webinar -> CPS

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