



EU ICE SRM Organisational Scheme, Business Plan, Working Plan and Partner & Expert Register – v1

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Executive Summary

To support the European Green Deal and the implementation of the forthcoming Critical Raw Materials Act (CRMA), a common understanding and knowledge on EU resources, as well as their sustainable management, is necessary. In addition, the United Nations Economic Commission for Europe (UNECE) foresees the implementation of a collaborative network of organisations – International Centres of Excellence on Sustainable Resource Management, focused on supporting sustainable management of the resources needed for development, in line with the 2030 Agenda for Sustainable Development and the Paris Climate Agreement.

The establishment of an EU International Centre of Excellence on Sustainable Resource Management (EU ICE SRM) within the Geological Service for Europe (GSE) is a direct response to the EC Horizon Europe project call “Support to the activities of the European Geological Services” (HORIZON-CL5-2021-D3-02-14) and has strong potential to support the implementation of the CRMA by establishing, maintaining, and upgrading a network of EU Member States experts trained through the EU ICE SRM.

This document presents the objective, mission and vision of the EU ICE SRM, and proposes several options for its organisational structure and long-term financing. It outlines a working plan of promotion and capacity building on UNFC and UNRMS, short, medium and long-term EU ICE SRM business plan and its networks of experts, partners, and stakeholders. The first activities of the EU ICE SRM will be implemented within the GSEU project, along with the final decision on an organisational structure and a sustainable management plan, including business planning for the sustainability of the EU ICE SRM after the end of the project.

The deliverable D2.3 – V1 is the initial version to outline the approach towards further work on the establishment of the EU ICE SRM, which will be presented in the final deliverable (due M30).

Abbreviations	
CEO	Chief Executive Officer
CRIRSCO	Committee for Mineral Reserves International Reporting Standards
CRM	Critical Raw Materials
CRMA	Critical Raw Material Act
EC	European Commission
EGDI	European Geological Data Infrastructure
EGRM	Expert Group on Resource Management
EGS	EuroGeoSurveys
EU	European Union
EU ICE SRM	European Union's International Centre of Excellence on Sustainable Resource Management
GDPR	General Data Protection Regulation
GSE	Geological Service for Europe
GSEU	The Geological Service for Europe project
GSO	Geological Survey Organisation
H2020	Horizon 2020
ICE	International Centre of Excellence
IT	Information technology
JORC	Joint Ore Reserves Committee
MoU	Memorandum of Understanding
MREG	Mineral Resources Expert Group
MS	Member states
PERC	Pan European Reserves and Resources Reporting Committee
Q&A	Question and Answer
SDGs	Sustainable Development Goals
SRM	Sustainable Resource Management
UNECE	United Nations Economic Commission for Europe



UNFC	United Nations Framework Classification for Resources
UNRMS	United Nations Resource Management System
WP	Work Package

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1. Introduction

The information on quantities and grades of mineral resources and reserves is continuously evolving based on improvements in the field of resources management, increased exploration, stage in the mining lifecycle, data availability and sharing, innovation in exploration and strategic interest in commodities. Reporting mineral resources and reserves held by companies to the stock exchange must adhere to stringent international codes (JORC (Australasia), PERC (EU), NI43-101 (Canada), SAMREC (south Africa), etc.). These only include estimates at the highest levels of confidence and are based on high quality and detailed physical evidence obtained by drilling, rock analysis, and 3D-statistical assessments. This requires substantial financial investment (often in tens of millions of EUR per deposit) which is associated with high risk.

There are different levels of confidence that are needed for different stakeholders. Investors and financial institutes need the highest level of confidence in the data whereas the data on resources for longer term planning and policy decisions as required by national governments for example, can be, and are reported with lower confidence levels.

The data on mineral resources available to geological surveys is generally of much lower confidence when compared to the industry data used to prepare code compliant resources estimation and comprises historic estimates, geological information, and indirect evidence, such as geophysical data. Hence, providing reliable, harmonised, fact-based answers to questions by stakeholders and decision makers such as: “how much is there?”, “where is it?” and “what are the likely chances of actually extracting it?” is a challenging task. In addition to, and as a result of, the different stakeholder needs for the data discussed above, a variety of different, incomparable standards and definitions are used by national bodies and the industry across the EU. Efforts to compile resource information on an international level have encountered various difficulties and struggle with multiple sources of potential errors or ambiguities. Foremost, the lack of a common standard to communicate resource information of variable uncertainties has been identified as the main area that needs improvement. In this regard, the United Nations Framework Classification for Resources (UNFC) code (UNECE, 2019) is the way forward, because it allows for an international standard, suitable for a range of stakeholders for clear communication of geological uncertainty levels. In addition, it includes two more dimensions: project feasibility and environmental-socio-economic viability. These issues are paramount to the potential of eventually making a resource available to industry and society. The richest mineral deposit has little practical significance if it is located within a protected area, or the access to a mineral deposit is partially or fully limited due to other factors (e.g., groundwater protection, Natura2000, cultural heritage, infrastructure). Adding these information to the databases will allow to draw a more comprehensive picture.

In applying the UNFC to national mineral resources and occurrences, both deposit- and commodity-specific information needs to be considered and interpreted. Importantly, there must be a common agreed understanding among the practitioners on the best practice to be followed. The timing is right: Some EU27 geological surveys have already gained experience in certain fields of UNFC application and can provide guidance in this endeavour.

In this context, it must be stressed that exploration is continuously improving the geological knowledge regarding raw material occurrences in Europe, in particular when deposits cannot be seen at the surface. Scientific research aimed at defining areas of elevated potential of endowment for certain commodities



is the focus of many National Geological Survey Organisations (GSOs). Hence, there is a constant stream of information that needs to be translated into harmonised UNFC-based resource information.

A common understanding and knowledge on EU resources, as well as their sustainable management, is required to support the European Green Deal (COM (2019) 640) (EC, 2019) **and the implementation of the forthcoming Critical Raw Materials Act (CRMA)** (EC, 2023). The European Commission's ambitious vision for a healthy planet and a climate-neutral economy, as well as actions needed for the achievement of the Sustainable Development Goals (SDGs) (UN, 2015a) rely on raw materials knowledge more than ever before.

The United Nations Economic Commission for Europe (UNECE) has responded to the requirement for sustainable resources within the 2030 Agenda for Sustainable Development (UN, 2015a) and the Paris Climate Agreement (UN, 2015b) via the implementation of International Centres of Excellence on Sustainable Resource Management (ICE-SRM), a collaborative network of organisations focused on supporting sustainable resources management.

The establishment of an EU International Centre of Excellence on Sustainable Resource Management (EU ICE SRM) within the Geological Service for Europe (GSE) is therefore a direct response to the EC call, a tile in the mosaic of the UNECE ICE-SRM network, and **a direct support for efficient implementation of the forthcoming CRMA.**

The forthcoming CRMA mandates the reporting of strategic projects and information on national critical resources and reserves in EU Member States in UNFC format. To provide accurate and high-quality reports, comparable throughout the EU and globally, each EU Member State needs appropriately trained experts. **This presents an opportunity for EU ICE SRM** to support the implementation of the CRMA by establishing, maintaining, and upgrading a network of EU Member State experts trained through the aligned courses organised by EU ICE SRM.

The schematic presentation of EU ICE SRM is shown in *Figure 1*.

EU International Centre of Excellence on Sustainable Resource Management

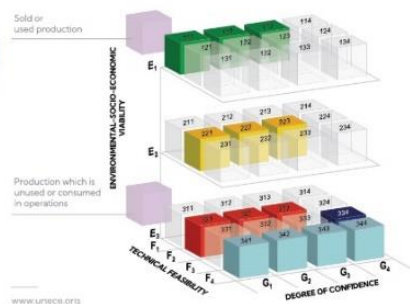


Capacity Building and Knowledge Centre in support of UNFC and UNRMS



UNECE ICE-SRM

Promotion, Capacity Building on UNFC



Support UNRMS, in line with the UN 2030 Agenda for Sustainable Development



UNRMS Fundamental Principles



Figure 1. Schematic presentation of EU ICE SRM

1.1. Objectives

EU ICE SRM will operate as a network of partners and experts to promote and build capacity on UNFC and support the United Nations Resource Management System (UNRMS) aligned with the United Nations Agenda 2030 SDGs. The EU ICE SRM will support stakeholders (EU, national and regional governments, and decision makers, GSOs, industry, etc.) in their development in line with the 2030 Agenda for Sustainable Development and the Paris Climate Agreement. **EU ICE SRM will also give support in the requirements for reporting data, as required by the forthcoming CRMA.**

- **Capacity building**
 - Educate and train practitioners and stakeholders in the collection, usage, and visualisation of data using UNFC.
 - Establish a common understanding of practical UNFC reporting of national resource inventories, existing information, and a system of continuous updating when new information becomes available.
 - Expand and maintain a European network for UNFC experts on mineral resources covering all commodities (e.g., metals, industrial minerals, construction raw materials) in terrestrial and marine environments from primary and secondary sources.
 - Identify and manage a network of experts for capacity building and expertise and support the expertise in the EC in the field of resource management and UNRMS.
 - Identify and manage a network of partners to supply relevant data.

- **Promotion**
 - Identification of data gaps within Europe in UNFC-classified critical raw materials resource data and overcome those which sit under the responsibility of network partners.
 - Support to UNFC and UNRMS related data and information on technical (information technology) and expert level.
 - Expand the usage of UNFC concepts from mineral raw materials to other domains such as energy (geothermal), groundwater, anthropogenic waste, and e-waste.
 - Identification and inclusion of key actors to build a strong reliable network.
 - Promotion of UNFC at relevant events on an EU, regional and national level.
 - Translation of UNFC-2019 to EU's official and partner's national languages.
 - Extension of activities to EU neighbouring countries (Western Balkan, Norway, UK, Greenland, Switzerland, Moldova, Ukraine), raw materials EU partnership countries, (e.g. Australia, Canada, Chile, Namibia, etc.)
 - Networking with other ICE-SRM.

- **IT Platform**
 - Creation and maintenance of a knowledge-based platform to support the EU ICE SRM activities.

1.2. Mission and Vision

The mission of an ICE-SRM, as designated by the UNECE, is to promote, within its activity footprint, the global deployment of the UNFC and the UNRMS to describe the resources needed for attainment of the



2030 Agenda for Sustainable Development and support their management (<https://unece.org/ice-srm-0>).

A more integrated, efficient, and sustainable use of mineral resources, particularly those needed in energy storage and power generation applications are essential to meet decarbonation targets and the goals of the Paris Climate Agreement. This may only be achieved by orchestrated activities to harmonise data at the EU level on mineral reserves and resources. Establishing an EU ICE SRM within the future GSE as a capacity building and knowledge centre in support of the UNRMS is a unique opportunity to build on EU-level mineral intelligence. An EU ICE SRM will support the implementation of UNFC for harmonised reporting according to the proposed CRMA. Data will be integrated into a common European database to support sustainable resource management of critical raw materials (CRMs) at an EU, regional and national level. It is vital to combine academic, scientific, and technological potentials in the EU, and give geoscientists, engineers, economists, and social scientists the opportunity to engage in data-driven research on mineral resources.

1.2.1. Mission

The EU ICE SRM mission is to build capacity and promote the UNFC and UNRMS in Europe and neighbouring countries as well as globally. To support stakeholders, policy and decision making in UNFC implementation and sustainable resource management at an EU, regional and national level, in the field of critical raw materials, and other resources.

1.2.2. Vision

The EU ICE SRM vision is to become the heart of EU sustainable resource management, the EU UNFC and UNRMS knowledge hub to support decisions on EU, regional or national resources and resource management with accurate and timely data and expertise.

2. EU ICE SRM Organisational Structure and Financing

As the EU ICE SRM aims to be an integrated part of the GSE, its final organisational structure will be highly dependent on the final organisational structure of the GSE. This deliverable presents the first version of this structure, where possible options to be developed are presented and elaborated upon. The final decision on the organisational structure will be determined together with the GSE structure during the GSEU project. Considering these constraints, the first activities of EU ICE SRM will be performed within the GSEU project and a sustainable management plan, including a business plan for the continuation of the EU ICE SRM after the end of the project, will be developed together with accepted organisational structure.

2.1. Introduction

The main aim of the EU ICE SRM is the capacity building and promotion of UNFC and UNRMS to support the achievement of United Nations Agenda 2030 SDG's. The EU ICE SRM will be an integrated part of the GSE, and it will also be a part of the network of all UNECE ICE SRM within Europe. The organisational structure though must be suitable to serve the aims and fit into the broader framework. To secure sustainable and long-term focused work of the EU ICE SRM, the leadership and decision-making hierarchy needs to be set accordingly.

To become a part of the collaborative network of ICE-SRM, in compliance with UNECE standards and guidelines, the UNECE criteria for ICE-SRM designation (approved by the UNECE Expert Group on Resource Management at its Eleventh Session, 22-25th September 2020) and Terms of Reference for ICE-SRM need to be considered as well (UNECE, 2020).

UNECE Criteria for ICE-SRM Designation are:

1. Committed to attaining the objectives of the UN to deploy UNFC and UNRMS, including research, technical advice, consultation, and training thereon, education, advocacy, testing, dissemination, and definition of competence and certification.
2. Committed to active engagement across the network of International Centres of Excellence, ensuring consistency in application, by sharing of experience, and reporting on progress made.
3. Established as a going concern and a legal entity with strong relationships in the regional, national and local resource development community.
4. Must have regional, national, and local political support and visibility.
5. Committed to the objectives of UNFC and UNRMS, as well as to the overall objectives of the implementation of the 2030 Agenda and the Paris Agreement. In this respect, committed to an agenda relevant to regional, national, and local needs based on an agreed menu of activities and projects.
6. Committed to innovation, continuous development, and excellence in all areas of resource management, including social, environmental, economic and technological aspects, and to overall integrated efficiency in providing resource-based services to populations, fully in line with UNFC and UNRMS policies and objectives.
7. Full transparency and full compliance with norms and requirements regarding potential conflicts of interest.
8. Demonstrated competence and capacity in the area of sustainable resource management in accordance with the 2030 Agenda and the Paris Agreement.
9. Responsible for own resourcing (financial, human, and physical) and able to support a central UNECE resource management hub both in-kind and financially.
10. Must have physical infrastructure (or access to it), including organisational infrastructure and a regional ecosystem that primes the Centre for success, and a demonstrated delivery mechanism.

Terms of Reference for ICE-SRM

The mission of an ICE-SRM as designated by the United Nations Economic Commission for Europe (UNECE) is to support global dissemination of UNFC and UNRMS (and their locally adapted applications) through research, testing, consultation, education, advocacy and where appropriate, certification. The ICE-SRM (within its activity footprint) identifies opportunities, navigates barriers to adoption of UNFC and UNRMS and efficient resource management, brokers relationships, and showcases best practices and shares results with the ICE-SRM network. The ICE-SRMs directly support stakeholders within their activity footprint in achieving the objectives of the 2030 Agenda for Sustainable Development. The activities and projects of an ICE-SRM will include:

Capacity-building

In full compliance with the adopted UNECE standards and guidelines and within its respective activity footprint:

1. Conduct training, including where appropriate procedures for recognition of competent persons and certification. (The term “Competent Person” is widely used in association with regulations addressing public corporate resource reporting in the extractive industries. These regulations are established or adopted by individual stock exchanges. Consequently, the requirement for, and definition of, a Competent Person varies between industries and jurisdictions. Equivalent comparable terms include Qualified Person, Qualified Reserve Estimator and Qualified Reserve Auditor).
2. Conduct research on efficient, integrated and sustainable resource management.
3. Conduct testing, case studies and demonstration of UNFC and UNRMS.
4. Conduct consultations in specific areas of sustainable resource management at the levels of policy formulation, government resource management, industry business process management and capital allocation.
5. Prepare training materials for universities and organisations and conduct educational courses, workshops and conferences.

Contribution to further development and maintenance of UNFC and UNRMS

In full compliance with the adopted UNECE standards and guidelines and within its respective activity footprint and as appropriate:

1. Engage in regular interactions with the network of centres of excellence and the Expert Group on Resource Management (and its Bureau) to ensure consistent development and application of UNFC and UNRMS, including at least annual reporting to the Expert Group of activities conducted in the previous period, plans for the coming period, and source and uses of funds contributed to the UNECE resource management hub.
2. Develop application of UNFC and UNRMS in line with the three axes of (a) social-environmental-economic viability, (b) technical feasibility and (c) degree of confidence.
3. Develop principles for public private partnerships emphasising the importance of government-set framework conditions, industry adaption of capabilities and the capital market’s ability to finance valid business models that the two generate.
4. Develop a technology innovation platform to address region- and nation-specific challenges in sustainable resource management.
5. Develop and implement financial reporting guidelines in collaboration with financial institutions.
6. Develop and implement quality assurance procedures including, as appropriate, a “competent person” mechanism, qualification guidelines and procedures.

Advocacy

1. Gather and disseminate knowledge directly and through partner organisations, including education and training, exhibits, case studies, research, demonstrations, and the production of industry focused print and on-line resources, including in languages other than English.
2. Catalyse industry tools and training development.
3. Identify and address potential barriers, in particular region- and nation-specific, to adoption and implementation.
4. Foster public demand and support for best practices through recognition and awards, public events, and demonstrations.
5. Support resource management improvements, including through uptake in the use and/or legislation of UNFC and UNRMS by countries, companies, regulators, financial reporting sector and other organisations.

Outreach

In full compliance with the adopted UNECE standards and guidelines and within its respective activity footprint:

1. Conduct outreach workshops.
2. Institute a dedicated website that is linked to the UNECE website.
3. Prepare and disseminate publications and documentation.
4. Present at key venues.
5. Promote and disseminate with respect to transparency and corporate reporting practices.
6. Support dialogue among international practitioners to identify challenges, share best practices and build a growing and diverse community of practice.
7. Promote global recognition of UNFC and UNRMS as brands in resource classification and management. Work with countries, companies, and other organisations to advocate their uptake.
8. Provide strategic consultancy services to governments, industry, and the financial sector.

Reporting

1. An ICE-SRM reports to the Expert Group Resource Management.
2. An annual report on activities and achievements conducted in the previous period to be submitted to the Expert Group.
3. A work plan for the coming period, and source and uses of funds contributed to the UNECE resource management hub, to be submitted annually to the Expert Group.

2.2. EU ICE SRM Organisational Structure – Options

The establishment of the EU ICE SRM will be within the framework of the GSEU project. To be able to focus on the implementation of the work plan and activities also beyond the GSEU project, and to respond to the UNECE designated criteria, operational organisational structure whilst ensuring financial sustainability of the EU ICE SRM are of utmost importance.

An independent organisational structure of a not-for-profit organisation with stable and solid source of financing from interested stakeholders (e.g. EC, Member states, etc.) seems the optimal solution at this time.

Several open constraints remain before setting the organisational structure of the EU ICE SRM. As it aims to become an integral part of the GSE, its organisational structure would need to fit into the organisational structure of the GSE, that is being developed within the GSEU WP9. Therefore, in this V1 Deliverable 2.3 we elaborate possible options. The optimal one will be developed within the GSEU project.

The options are condensed and presented in Table 1.

Considering the functional management of the EU ICE SRM, the organisational structure would need to have at least the following bodies:

- The body to take final decisions on EU ICE SRM actions and legally representing EU ICE SRM (the lead).
 - CEO/Director and/or

- Board
 - The body to bring information on necessities for action and promotion, preferably representing stakeholder input.
 - Advisory Board/Committee
 - The body for scientific compliance of the capacity building and quality assurance, representing expert input.
 - Scientific Board/Committee
 - The body to support day to day business and administration of the EU ICE SRM.
 - Secretariat
 - The body and infrastructure for IT support to the EU ICE SRM work.
 - IT platform and
 - Communication and dissemination support

A schematic EU ICE SRM organisational structure is presented in Figure 2.

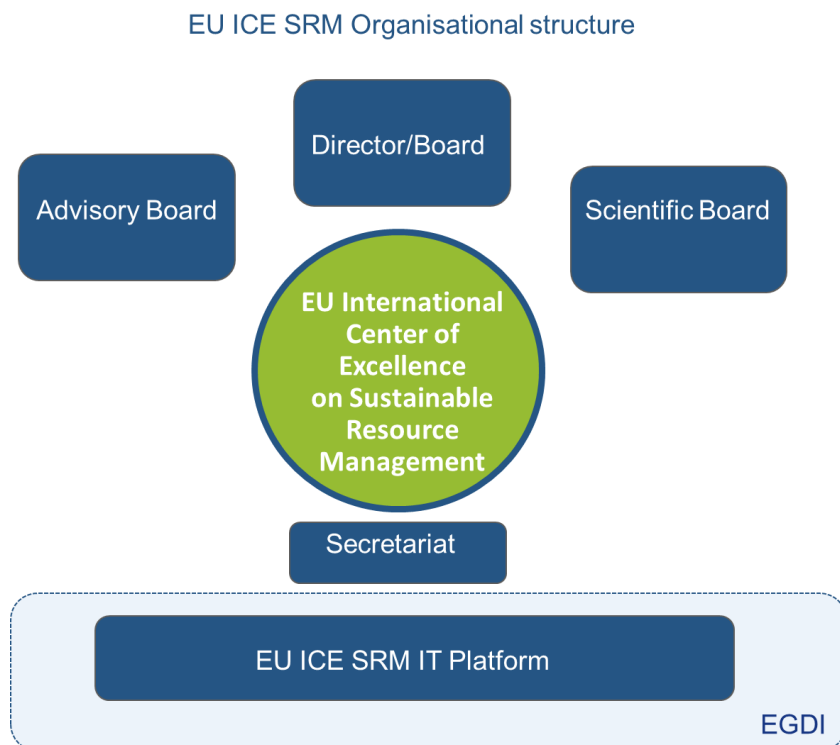


Figure 2. Schematic EU ICE SRM organisational structure



Further to consider is also the legal status of the EU ICE SRM. It would need to be compliant with the GSE organisational scheme, as well as with UNECE constraints, and needs to follow the EU and national legislation of the country where seated.

Considering the current situation, three possible organisational schemes seem most relevant, and they are summarised in Table 1.

Table 1. Overview of the EU ICE SRM organisational structure options

	Option 1	Option 2	Option 3
General description	The organisational structure of the EU ICE SRM is the same as organisational structure of the GSE. This option highly depends on the future organisation of the GSE, but in general all the decisions would be made at the GSE level.	The organisational structure of the EU ICE SRM considers the expertise of EGS.	The organisational structure of the EU ICE SRM is mostly independent of GSE or EGS, considering the proper involvement of relevant stakeholders and global experts, but still embedded into the GSE structure and decision system.
Body			
To take final decisions on EU ICE SRM actions and legally representing EU ICE SRM (the lead)	GSE CEO/Director	EGS directors/General Assembly (GA)	CEO/Director
To bring information/decision on necessities for action and promotion, preferably representing stakeholders' input	Advisory Board/Committee – representatives of stakeholders selected at GSE level.	Advisory Board/Committee – representatives of stakeholders selected at EGS/MREG level.	Advisory Board/Committee – representatives of EU ICE SRM main stakeholders.
For scientific compliance of the capacity building and quality assurance, representing experts' input	Scientific Board/Committee – Experts selected at GSE level.	Scientific Board/Committee – Experts selected at EGS/MREG level.	Scientific Board/Committee – UNFC qualified experts.
To support day to day business and administration of the EU ICE SRM	GSE Secretariat	EGS Secretariat	EU ICE SRM Secretariat selected on an open call.
IT support to the EU ICE SRM work	IT platform - part of GSE IT structure (EGDI), and GSE Communication and dissemination support.	IT platform - part of EGS IT structure (EGDI), and EGS Communication and dissemination support.	IT platform – included in the EGDI, and EU ICE SRM Communication and dissemination support.
Strengths	One line of decision-making bodies in GSE and EU ICE SRM, no double management, no need for separate alignment of the GSE and EU ICE SRM.	One line of decision-making bodies in EGS and EU ICE SRM, no double management.	Decision-making bodies selected with focus on EU ICE SRM activities, their focused work with flexibility needed to support the stakeholders, expertise needed in place, optimal mode of operation.
Weaknesses	Different scopes of GSE and EU ICE SRM, identical mode of operation with GSE that is not optimal for EU ICE SRM.	Different scopes of EGS and EU ICE SRM, similar mode of operation with EGS that is not optimal for EU ICE SRM.	Budget for management structure needed.
Opportunities	Reducing management costs.	Reducing management costs.	Flexibility in management and action planning to assure needed support for interested decision-makers and other stakeholders.
Threats	Overloading of management structure and secretariat, long decision time, not enough expertise needed for EU ICE SRM functioning.	Overloading of management and administrative structure, long decision time.	Sustainability of the EU ICE SRM.

2.3. EU ICE SRM Financing – Options

The first EU ICE SRM activities are financed through the GSEU project. For the sustainable functioning of the EU ICE SRM beyond this, potential financing options need to be considered. The final financing model will be strongly dependent on the organisational scheme and the position of the EU ICE SRM as well as on future organisation of the GSE. The most appropriate four possible options for financing the EU ICE SRM beyond the GSEU project are elaborated here for further consideration. The most appropriate option will have to be defined in close collaboration to GSE, the main decision-making stakeholders (EC, MS) and the UNECE. The four proposed financing options are presented in the following sections and summarized in Table 2.

Table 2. Overview of the EU ICE SRM financing options

	Option 1	Option 2	Option 3	Option 4
General description	Membership fees from partners and participation in relevant competitive projects	Project or programme financing from relevant EU, regional and/or national authorities and participation in relevant competitive projects	A non-profit organisation that charges for its products and services to cover the operational costs, and participation in relevant competitive projects.	A mixed model of financing, considering all previous options
Strengths	Partners commitment through membership fees	Very strong connection and co-operation to policy stakeholders and decision-makers underpinned with financial support; solid part of stable financing needed for sustainable work	EU ICE SRM financial independency regarding stakeholders and partners	Diversification of sources; financially supported commitment/interest of partners and stakeholders
Weaknesses	Unstable financing resource, depending on project participation and partner's interest	Work and focus of the EU ICE SRM depends on the frames of project/ programme and their goals that may lead to the inconsistency of the work	Dependency on market interest	Possibility of partial instability of financing
Opportunities	Strong pan-European partnership of GSOs on UNFC and resource management to support decision-makers at different levels	Strong cooperation to support sustainable resource management in Europe with expertise and relevant data	Develop market needed products and services	Strong involvement with stakeholders, partners and recognition of market needs
Threats	Loss of firm cooperation with stakeholders, primarily decision-makers	Dependence on actual policy decisions	Loss of market interest; loss of experts and partners due to financial instability; scope of market interest; loss of policy support	Loss of focus of the EU ICE SRM mission

2.4. EU ICE SRM IT Platform

An IT Platform will be developed to support the work of EU ICE SRM as an interactive knowledge hub. It will present a one-stop shop for stakeholders with all available information including links to people/institutions to provide further, more detailed information if necessary. It will include an archive of material from past activities and a calendar of upcoming events. The EU ICE SRM IT platform will be developed as a part of the EGDI.

The platform will:

- Be the link to UNFC inventory of mineral resources (CRM and others) at EU level
- Give access to
 - Certified trainers at EU level
 - Certified national trainers
 - Training materials and case studies
 - UNECE updates on UNFC and UNRMS
 - UNFC and UNRMS latest research outcomes
- Be a communication platform to serve interested stakeholders
 - Online questions and answers sessions
 - Tailormade training opportunities
 - Best practice exchange
 - Capacity building and promotion events
 - Plans
 - Reports
 - Calendar of activities
 - announcing upcoming events
 - advertising past and future trainings.

3. EU ICE SRM Working Plan

3.1. Introduction

To date, the use and implementation of the UNFC is fully voluntary. Based on results of questionnaires completed by the European GSOs and within the framework of GSEU, only a few GSOs use the UNFC on a regular basis, some not at all. European mining sector industry, academia, service providers and non-governmental organisations are also hardly aware of the UNFC. This fact leads to a shortage in skilled experts and competent trainers with first-hand experience.

The proposed CRMA (stipulates that the UNFC should be used to provide an overview of European CRMs along the value chain and to classify strategic commodity projects. For this planned application, a significant increase in appropriately trained UNFC experts is needed. The known number of existing qualified trainers even in the leading field of commodities is limited and capacity needs to be increased effectively and efficiently to support the CRMA implementation.

The EU ICE SRM follows a stepwise approach to increase the necessary capacity in all related areas of geology (from minerals to geo energy and ground water resources). This will start with building capacity in the application of the UNFC in the context of critical raw materials-bearing primary deposits and by increasing the number of UNFC experts within GSO's. It includes continuous monitoring by the UNECE Expert Group on Resource Management (EGRM) on UNFC and UNRMS and the further development of the co-operation between the UNECE and EGS via a Memorandum of Understanding (UNECE EGS MoU last update in 2018, further updates foreseen). Many experts are involved in the activity of the UNECE EGRM, including representatives from national GSOs and EGS Expert Groups, such as the Mineral Resources Expert Group (MREG). This allows clear and structured communication between UNECE EGRM Bureau and the various EGS Expert Groups.

The EGS MREG started to work with UNFC in the frame of UNFC subgroup in 2015. In the last 8 years many national and European level programs and project activities have been undertaken (see: D2.1, chapter on previous UNFC-related EGS projects). These include many case studies, training and training materials allowing the community of experts to continue the effective work in deploying UNFC in data provider GSOs and in other stakeholder organisations under the GSEU project. GSEU will utilise the existing training material and experience gained through previous projects, workshops, through exchange with other ICE-SRM's worldwide, and will establish a network expanded towards the related fields of expertise required to assess aspects of the E-, F-, and G-axes as defined in the UNFC Guidance update 2019 (UNECE, 2019).

The concept provided is a first approach and could be readjusted according to the responses and experiences gained during its implementation, in exchange with other regional ICE-SRMs and in relation to future developments.

3.2. Capacity Building

To support critical raw material initiatives (European Commission, 2022) to classify projects using UNFC and establish project inventories across Europe, the number of experts on the UNFC ("Qualified

Experts”, UNECE, 2022) within European GSOs and other related governmental organisations needs to be increased. The Qualified Experts comprise technical specialists from EU Member States responsible for classifying and mapping of CRM Projects under UNFC as part of the national mineral inventories. These UNFC Qualified Experts still rely on information such as public reports. Writing such public reports for the industry is the responsibility of suitably qualified and experienced persons who are subject to an enforceable professional code of ethics and rules of conduct within a recognised professional association or professional registration system. The requirements for such qualified persons are defined by mineral reporting codes used by the industry (e.g. PERC, JORC, NI43-101). Officially designated staff of national and regional GSO are Qualified Experts to evaluate reported industry data and to transform them into the UNFC where required.

A program of systematic capacity building ensures that synergies are retained between the EU Member States and data on raw materials are collected consistently, and are of the required quality, across Europe. The development of UNFC capacity within the EU ICE SRM serves to facilitate and improve the handling and understanding in particular to:

- the further development of UNFC classified inventories across Europe that are consistent with the Infrastructure for Spatial Information in Europe (INSPIRE) for mineral resources
- the comparability in national resource reporting, in particular the way resource quantities are classified according to UNFC and linked to different EU instruments, such as INSPIRE.

The EU ICE SRM is taking a step-by-step approach to increase the necessary capacity in all related areas, starting with CRM. This will draw on existing training material and experience from previous projects, workshops and exchanges with other ICE-SRM experiences around the world and build a network to be extended to the related areas of expertise needed to assess aspects of the E-, F- and G-axes of the UNFC (UNECE, 2019).

The concept for the capacity building outlined in this section is planned in three steps:

1. *short-term* for actions within one year
2. *medium-term* for actions until the end of the GSEU project, and
3. *long-term* for long-lasting actions and those activities that may be needed after the GSEU has come to its end.

Further review and amendment based on responses and lessons learned during its implementation and in relation to future developments (e.g., CRMA, UNFC updates, experiences within the network of regional ICE-SRMs) will need to be undertaken in the medium- and long-term.

3.2.1. Capacity Building – Short-term Plan

While the total number of UNFC experts is small, European GSOs possess the most knowledge, especially on issues related to the G-Axes (degree of confidence). Moreover, the number of lecturing tutors providing suitable training courses is currently even more limited. The short-term plan tackles this issue and tries to overcome this bottleneck as quickly as possible, by end of 2024 at the latest. Initially, the focus will be on applying the UNFC G-Axes on critical and strategic raw materials as defined in the EU CRM Act proposal (e.g. EC 2023 and follow up) using suitable training material. At a later stage the trainees may tackle other resource types in subsequent courses.

The UNFC training focuses on providing the expert-level training (by the EU ICE SRM Expert Group) for key experts in respect to UNFC classification and the coherent implementation of UNFC Templates. The national-level experts (key experts/national contact points) oversee the implementation of UNFC at the national level. Structured feedback questionnaires on the training material and the performance and structure of the modular program shall be designed to improve the program further with time.

To ensure high quality and consistent training (fit for purpose) across the EU Member States in a short timeline, the training is divided into two programs designed modular (*Figure 1*Figure 3):

1. the EU-level expert training program
2. the national expert-level training program.

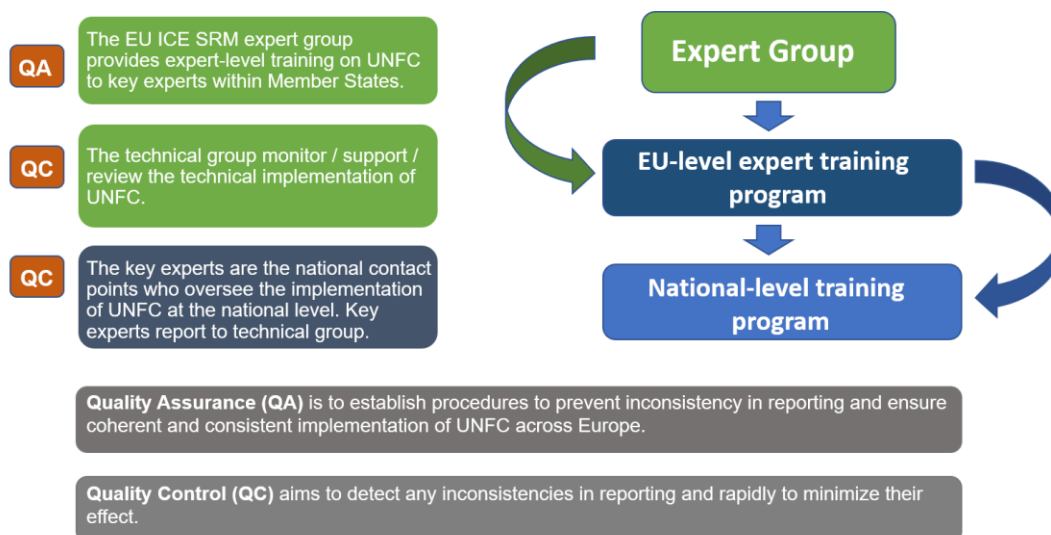


Figure 3. Training structure and Quality Assurance and Quality Control

Identifying the members of the Expert Group who will be responsible for planning and preparing the workshops and training material as well as executing the EU-level Expert Training Program on UNFC is the most urgent task. Although UNFC allows raw material projects to be viewed and classified in national level in respect to changing social, environmental, economic, technological, and geological factors and conditions these controlling factors may vary between the EU Member States. Therefore, identification of country-specific requirements is essential. Hence, the target number of experts within the GSEU should become at least one expert per collaborating organisation acting as national *principal or associated trainer* in the medium- to long-term to support the group of EGS trainers as well as their own organisations and countries (see section “trainings”). Training is not limited to GSOs but is initially aimed at public service institutions and organisations before expanding to other stakeholders of the public and industry (Table 3).

Table 3. Short-term plan described by list of issues, target groups, objectives, timeline, and responsibilities

ID no	Issue	Objective	Target Group	Timeline	Responsibilities
1	Collection of existing training material	Basis for common ground	GSEU community; Network of regional ICEs; UNECE	Summer of 2023	Selected expert(s) from T2.3. and T2.4.
2	Identifying first set of trainer/lecturer	Group of experts that have provided lectures on UNFC (various levels)		Completed	
3	Identifying second set of trainer/lecturer	Group of experts that are willing to be trained and willing to act as trainer themselves.		Summer of 2023	Selected expert(s) from T2.3. and T2.4.
4	First set of common training material			Early Autumn of 2023	Selected expert(s) from T2.3. and T2.4.
5	Train the trainer workshop (level 1)	To get started – ensuring common understanding and common ground	Beginners	Autumn of 2023	Selected expert(s) from T2.3. and T2.4.
6	Train the trainer workshop (level 2)	Establishing solid knowledge and training skills	For experienced members	Winter of 2023	Selected expert(s) from T2.3. and T2.4.
7	Train the trainer workshop (level 3)	Updates and amplified detailed knowledge	For experienced trainer	1 st Q of 2024	Selected expert(s) from T2.3. and T2.4.

3.2.2. Capacity Building – Medium-term Plan

The medium-term plan needs to meet the requirements of the CRMA prior to the beginning of its implementation. Hence, putting in place the necessary UNFC expertise needs to be ensured. By concentrating on the core competencies of experts at GSOs in evaluating the geological aspects of CRM projects (G-axis), competence and trust can be built up in the short term. For the complete, professional, and appropriate implementation of all three axes of the UNFC and when applying to resources other than raw materials, it is necessary to build up additional expertise, for which other specialist knowledge must be included. This capacity will be gained by expanding to other groups outside the GSEU consortium (e.g., financial experts and economists, environmental agencies, municipalities) and will liaise closely with other regional ICE-SRMs. Their interest and engagement need to be addressed early within the promotion program and through the UNECE EGRM.

The setting up of additional principal and associated trainers with expertise on E- and/or F-axes and/or other resources than raw materials, e.g. geothermal and groundwater will follow the same principles as described in the short-term plan.

By the end of the GSEU project the principal trainers shall be equally competent and experienced in the application and implementation of the entire UNFC.

3.2.3. Capacity Building – Long-term Plan

The EU ICE SRM will establish an educational centre (“training house”) securing the long-term (“Qualified Expert”) capacity on UNFC. This allows for a long-term planning and execution of structured training modules with different resources. The training house promotes UNFC and publishes training material using different platforms (online videos, animations, virtual events, etc.) and provides support to EU Member States through maintaining the training materials and organises and promotes refresher training. All training materials should be coordinated within the training house to assure quality control and consistent training material.

After the initial Expert-level Training has been held both at the EU and national level (Figure 3), further EU-level refresher training workshops (2-3 days) must be held at a fixed interval (e.g., once every three years) to ensure that each EU Member State has an expert capable of training additional national experts. Participation in these refresher trainings is voluntary where the EU Member State in question has an expert that has participated the initial ‘train the trainers’ workshops, and still works with UNFC in their organisation. If an EU Member State does not have such an expert, e.g., due to retirement, change of responsibilities within the organisation, or change of employer, a new expert from that EU Member State must participate in the refresher training. The content of these refresher trainings is an abbreviated version of all three levels of the initial ‘train the trainers’ workshops, with the expectation that the new EU-level expert to be trained already has knowledge of UNFC at the national level.

3.2.4. Training

Several modular structured trainings will be set up. The training program, targeting different groups and levels of expertise, will be designed for various resource applications. Periodic internal evaluation of the modules, based on attendee feedback, will be used to improve the training material and to integrate further development of the UNFC. The training program and material will be decided and prepared within the GSEU Project and shared with UNECE for comment and suggestions. These comments and suggestions will be considered during the periodic adaptation.

(1) Target Groups

1. Experts who are trained to become trainers
2. resource evaluators
3. decision makers (e.g., on project, societal and policy level)
4. public authorities and regulators.

(2) Modules

The training modules will be designed specifically by resource type where appropriate. A general module will explain the general principles of the UNFC/UNRMS ensuring a common understanding and introduction to the UNFC template. It is recommended for anyone.



Various modules will be generated to reflect resource specific features. A first set will be designed for raw material specifications (CRM, industrial minerals, etc.). Modules for groundwater, injection and geothermal projects will follow.

(3) Trainers

The *principal trainers* and *associate trainers* within the UNFC Training Program shall be appointed through the GSEU Project and presented to the UNECE and the European Commission. The first set of training (EU-level Expert Training Program) will be run by the principal trainers, accompanied by associated trainers.

The *principal trainers* (2 - 4 lead experts) should have the following experience, background, and skills:

- Experience or relative background on mining and mineral exploration
- Strong experience in UNFC and other reporting standards (e.g., CRIRSCO-family reporting standards and national reporting standards where appropriate)
- Experience in national resource management and understanding of governmental framework conditions related to legal and other regulatory requirements to collect detailed national-scale data and information on resources quantities, non-viable quantities, production and sales, concentrates, and mine wastes, which are constantly updated and maintained
- Good communication, presentation, and training skills.

The *associate trainers* (3 - 5) should have the following experience, background, and skills:

- Some experience or relative background on mining and mineral exploration
- Good experience in UNFC and other reporting standards (e.g., CRIRSCO-family reporting standards or national reporting standards)
- Experience in national resource management and understanding of governmental framework conditions related to permits and other conditions
- Experience in national resource management and understanding of governmental framework conditions related to legal and other regulatory requirements to collect detailed national-scale data and information on resources quantities, non-viable quantities, production and sales, concentrates, and mine wastes, which are constantly updated and maintained
- Good communication, presentation, and training skills.

3.2.5. Program

Several modular training courses are set up to accommodate the different specialist knowledge and application requirements.

(1) EU-level Expert Training Program

The EU-level Expert Training Program is structured as three workshops (level 1 to 3) which provide a comprehensive knowledge on the UNFC and how it can be applied from project inventories to a harmonising tool for national reporting (Table 4).

The participants to the EU-level Expert Training Program will be selected by the EU Member States and relevant national expert organisations (e.g., GSOs and Mining Authorities). Each EU Member State should designate one key expert and one substitute person for the training program.

The workshops will include pre-workshop handouts and practical assignments (exercises and case studies). The workshop is designed for a professional learning platform which allows for an interactive learning experience (e.g., course materials, pre-course exercises, case studies, polls, and Q&A). The training language is English. In addition, country specific modules using the national language may be useful and can be set-up on a medium-term when appropriate (i.e., national-level expert training program). The workshops are run by principal trainers and associated trainers. Each workshop needs one person responsible for facilitating the communication (assisting with the Q&A and polls etc.).

The objectives and outcomes of the EU-level Expert Training Programs on UNFC are presented in Table 4.

Table 4. Train-the-trainers-workshop raw materials example. The objectives and outcomes of the EU-level Expert Training Programs on UNFC

Level	Objective	Outcomes
1	<ul style="list-style-type: none"> An introduction to UNFC and common understanding and common ground on how to classify projects in accordance with UNFC in Europe. The training includes case-study examples and practical exercises (homework, group assignments) from different European countries and UNFC-related projects (e.g., Mintell4EU). The course is tailored based on the training region (fit for purpose). Case-studies showing different problematic cases and challenges. Guest lecturers (2 x 1.5h) if applicable on topics e.g., Resource management, EGS, etc. 	<ul style="list-style-type: none"> Theoretical background on mineral resource estimates and related uncertainties. How mining projects are developed and what aspects need to be considered when dealing with commercial use of raw materials. UNFC for mineral resources basics and related documents and specifications and guidelines. UNFC for national mineral inventories: How to classify and map national projects under UNFC. What specific information is needed from a governmental expert when considering E, F, and G aspects of a particular project.
2	<ul style="list-style-type: none"> Recap lectures of UNFC essentials (Q&A). The UNFC Template. Pre-course assignments and country-specific case studies (group assignments) from different European countries. Country-specific requirements and training program outline. 	<ul style="list-style-type: none"> Establishing solid knowledge and trainings skills. Trainees will plan and present a country-level training plan.
3	<ul style="list-style-type: none"> Recap lectures of UNFC essentials (Q&A). Pre-course assignments and country-specific trainings materials are discussed and presented. 	<ul style="list-style-type: none"> Updates and amplified detailed knowledge. To ensure consistency in national level trainings within EU Member States.

(a) Train the trainers' workshop (level 1, 2 - 3 days)

The workshop consists of four thematic modules which are designed to cover the basics on UNFC classification and how it can be applied to project inventories, and as a harmonising tool for national reporting. Modules 1 to 3 are recommended for anyone interested in UNFC.

- Module 1: Mineral resource estimation, estimation uncertainties, and classification systems
- Module 2: UNFC-2019 and UNFC Guidance for Europe
- Module 3: Project types and classifying projects in accordance with the category definitions
- Module 4: National resource aggregation under the UNFC

The workshop will be held in three training locations or regions. EU Member States are divided into three groups:

1. EU Member States with a central collation of information based on international reporting systems,
2. EU Member States with a central collation of information based on a national reporting system (Soviet-based or UNFC-based), and
3. EU Member States with incoherent data collection based on a national system or without system specification.

The workshop is held as a two-day face-to-face workshop for a maximum of 16 national trainees (key experts). A total of 48 experts will be trained (medium-term) and half of them will become a lecturing tutor to support the group of EGS trainers as well as support for their own organisation and countries (long-term).

(b) Train the trainers' workshop (level 2, 2 - 3 days)

The workshop consists of different thematic modules which are designed to deepen the trainer's knowledge related to UNFC and country-specific requirements and contingences. The workshop also provides the trainers with possibilities to find synergies between similar EU Member States and accelerate implementation. Pre-course assignments include identification of country-specific case studies and major data gaps related to E-, F- and G-axes. Each trainer will plan and present a country-level training plan. The course will provide a solid knowledge and training skills for national experts to start preparing the national-level training courses.

The workshop will be held as a two-day face-to-face workshop in three training locations or regions.

(c) Train the trainers' workshop (level 3, 2 - 3 days)

The workshop consists of different thematic modules which are designed to deepen the trainer's knowledge related to UNFC and country-specific requirements and contingences. The aim of the workshop is to prepare the trainers for the first national training. The pre-course assignments include preparation of course material in according to the country-level training plan (e.g., a national guideline). This workshop will amplify the detailed UNFC knowledge ensure consistency in next level training at a national level.

The workshop will be held online as a three-day workshop.

(2) National level Expert Trainings Program

Upon successful completion of the EU-level Expert Training Program (principal trainer), those key experts will carry out the national-level expert training program within their respective EU Member State. The timeframe is such that within 1 - 2 years all EU Member State strategic raw materials projects (active or inactive) have been classified according to the UNFC.

The workshop will be tailored according to the specific circumstances of the EU Member State, and each country-level training plan will be reviewed during the train the trainers workshops. Additionally, sufficient second level national experts should be trained to ensure that the temporary or permanent loss of UNFC experts to, for example, retirement, change of employer, or another reason do not lead to an EU Member State being unable to implement UNFC at the national level (short to long-term permanent challenge).

The objectives and outcomes of the national level Expert Training Programs on UNFC are presented in Table 5.

Table 5. National level-workshop raw materials example. The objectives and outcomes of the national level Expert Training Programs on UNFC

Level	Objective	Outcomes
National-level training	<ul style="list-style-type: none"> • An introduction to UNFC and how to classify projects in accordance with UNFC in Europe. • The training includes case-study examples and practical examples (homework and group assignments) that are specific for the EU Member State in question (fit for purpose). • The UNFC Template. • Practical training on bridging documents or relevant guidance document from national reporting system to UNFC. • National guidelines that have been approved during the level 3 train the trainer's workshop are taught to national experts. 	<ul style="list-style-type: none"> • Theoretical background on mineral resource estimates and related uncertainties. • How mining projects are developed and what aspects need to be considered when dealing with commercial utilisation of raw materials. • UNFC basics and related documents and specifications and guidelines. • UNFC for the national mineral inventory: How to classify and map national projects under UNFC according to the national guideline. • What specific information is needed from a governmental expert when considering E, F-, and G aspects for a particular project.



(3) IT Training Workshop (1 day)

The aim of the workshop is to train IT experts on UNFC. The training can be facilitated through online training or in a face-to-face setting with an emphasis on data types and linkage to database structures. The workshop is recommended for all data providers.

(4) Certificates

As mandated by the UNECE, successfully completed EU ICE SRM workshop participants will receive a UNECE certificate.

3.3. Promotion Building

Promotion of the UNFC will be done through awareness raising and fostering acceptance for its application. Currently, the UNFC is hardly implemented in Europe. GSEU will build on identified bottlenecks and use the recommendations provided by the recently established UNFC Adoption Group for the promotion. Like the capacity building plan, the promotion plan is divided in three timelines (short, medium- and long-term plans).

3.3.1. Promotion Building – Short-term Plan

Key for further awareness and acceptance are the knowledge and understanding. Providing the most relevant information in line with the FAIR (Findability, Accessibility, Interoperability, and Reuse) principles is crucial. Immediate actions are the translation of key documents (e.g. UNFC 2019, Guidance document for Europe, promotion material) into the official EU working languages (e.g. DE; FR). National and pan-national scientific meetings will be used wherever appropriate to address UNFC. Intensified communication and share of experiences with other ICE-SRM will be established under the short-term plan.

A one-page summary on GSEU EU ICE SRM activity that is translated by all partners to their national languages will significantly contribute to the information available to national stakeholders who might be interested in sustainable resource management. Most GSEU partners are open to translating the *UNFC template for raw materials* and to develop National Guidance Documents. However proper professional and technical support is needed to implement the deployment of the UNFC application in Europe (see capacity building).

Short-term key activities are:

- Translation of key documents into official EU working languages at a minimum
- Presentations at national events and scientific meetings
- Communication with other ICE SRM

3.3.2. Promotion building – Medium-term Plan

Currently, the UNECE, in agreement with DG GROW of the European Commission, is consulting with stakeholders to draft a *UNFC template for raw materials* (primary and secondary). Both GSEU WP2 and the Future Availability of Secondary Raw Materials (FutuRaM) project (WP3) are providing significant



input to this work. The final version will be a milestone for further coherent implementation of UNFC. The translation of the *UNFC template for raw materials* into selected European official languages is an effective measure by GSEU partners to facilitate CRM data provision to the EC DG Grow and to the EGDI under the GSEU project.

The *UNFC template for raw materials* will also support the development of National Guidance Documents that contains information on the most important data types and elements of UNFC data provision and data management on national/regional levels.

Communication and dissemination activities will include webinars, conferences, newsletters, and social media, like LinkedIn, to promote them. Promotion material to be developed, such as handouts (several languages) will underpin the actions.

Internet presence is crucial, therefore an EU ICE SRM IT Platform will be developed within the EGDI. The IT Platform should, among other things, contain general information on the mission, structure, members, program, documents, publication, trainings and contact information to the EU ICE SRM management, and be updated on a regular basis.

3.3.3. Promotion Building – Medium to Long-term Plan

The IT Platform needs to be kept operational and up to date with all relevant information such as, the active team of trainers, workshops, relevant programs and events, related scientific papers of relevance. It should also contain an exchange platform on UNFC training with a Q&A section and proper helpdesk for fast-track support.

When the EU ICE SRM will be in operation based on a proper business plan, memberships and programs the IT Platform should be managed in the frame of GSE with an operating team.

It is important to emphasize that all EU ICE SRM long-term plans strongly depend on the final organisational structure.

4. EU ICE SRM Business Plan

The EU ICE SRM business plan needs to be developed together with the working plan, that is elaborated on in detail in Chapter 3, with consideration of the operational constraints of the EU ICE SRM regarding the capacity and resources available. The business plan is divided into three steps according to the working plan:

- Short-term - within one year
- Medium-term - until the end of the GSEU project
- Long-term for long-lasting activities beyond the GSEU project

The short- and medium-term activities and financing of the EU ICE SRM, as elaborated in detail in the work plan are a part of the GSEU project need to be aligned with the GSEU project conceptual and financial constraints.

The long-term EU ICE SRM business plan, beyond the GSEU project, is strongly dependent on the organisational and funding model of the EU ICE SRM and will be elaborated upon when these constraints are set.

5. EU ICE SRM Registers

5.1. Introduction

The EU ICE SRM aims to become a knowledge hub for reporting on resources in a UNFC format and according to UNRMS methods. To effectively fulfil this role, it is necessary to establish robust networks of experts, partners, and stakeholders (Figure 4). Relevant information pertaining to expert institutions and individuals will need to be readily available in a centralised single register integrated into the EU ICE SRM IT Platform. To ensure data privacy and protection at all times and comply with General Data Protection Regulation (GDPR), only the register of GSEU partner organisations and ‘non-individual’ stakeholders will be included in the final report, due M30.

The extent of engagement with experts will vary based on the type of stakeholder involved. Collaborative efforts will be required with institutional stakeholders, such as national governments or EU Commission Services, as their decision-making authority is crucial for effective implementation of the UNFC. In the case of research and industrial stakeholders, their involvement and consultation are essential to translate scientific solutions into practical benefits for the society. Raising awareness and consulting community stakeholders will be vital to ensure citizens understanding and acceptance of concepts related to UNFC and sustainable resource management.

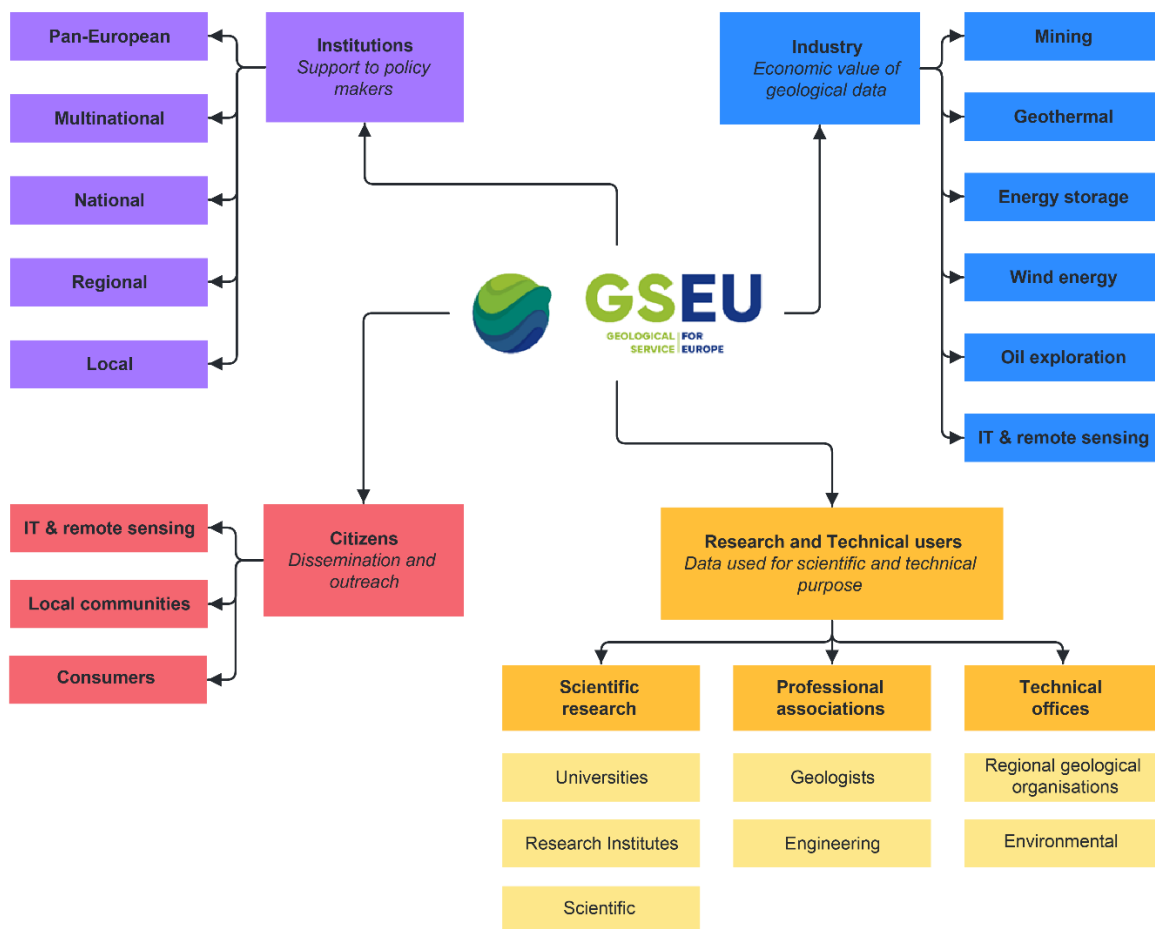


Figure 4. Chart of relevant experts, partners, and stakeholders that may engage with the EU ICE SRM

5.2. Partner Register

The EU ICE SRM primary stakeholders are GSO partners implementing the GSEU project. However, given the extensive scope of the project, it is imperative to involve other relevant stakeholders, including independent researchers, research institutions, industry, and community stakeholders, at various levels. GSOs have a crucial role in supporting policy makers by providing their expertise based on the latest and most accurate information, enabling the appropriate implementation of the UNFC, and promoting sustainable resource management.

5.3. Stakeholder Register

The stakeholder register consists of other relevant stakeholders (that are not GSO partners implementing GSEU). It includes relevant institutional, research, industry, and community stakeholders (Figure 4). A wide mapping of stakeholders, relevant for GSEU was performed within the WP8 of the GSEU project.

Institutional stakeholders encompass a diverse range of organisations that play a role in resource policymaking. These stakeholders can span various levels, from pan-European institutions to multinational bodies, national agencies, regional entities, and even local authorities. Pan-European institutions may include various bodies within the EU (e.g., DG GROW, DG MARE, DG MOVE, DG ENV, DG ENER) that may be involved in formulating policies that impact multiple countries within the European region. Multinational organisations, on the other hand, refer to international bodies that involve multiple countries and work towards resource management and policymaking on a global scale (e.g., UNECE). National institutions represent the governmental organisations within individual countries that are responsible for formulating and implementing resource policies at the national level. Regional entities, such as regional development agencies or intergovernmental organisations, may have jurisdiction over specific geographic areas and play a role in regional resource policymaking. Lastly, local authorities refer to organisations at the local or municipal level that are involved in resource management and decision-making within their specific communities. The collaboration of these institutional stakeholders ensures a comprehensive and multi-level approach to resource policymaking, and implementation of UNFC and sustainable resource management.

Research stakeholders can be broadly categorised into two groups. The first category is curiosity-driven research, which primarily includes universities conducting fundamental research, exploring new methodologies, and generating new knowledge in resources management. The second category of research stakeholders comprises service-driven research, often represented by national research institutes or similar organisations. These entities focus on research that serves specific purposes or provides practical solutions related to resources. Research stakeholders may possibly deliver research outcomes that directly impact policy decisions, resource management, or sustainable practices.

Industry stakeholders include a wide range of resources companies, such as those involved in exploration, mining, energy production, and technology development. Industry stakeholders may contribute to the work of EU ICE SRM by sharing their industry-specific knowledge, data, and best practices. Furthermore, industry stakeholders provide crucial feedback on how the implementation of UNFC, and sustainable resource management practices, impact their businesses. Their insights may provide more information on the practical implications, economic considerations, and potential opportunities arising from UNFC implementation. By engaging industrial stakeholders, EU ICE SRM will



aim to foster a collaborative approach that integrates industry perspectives, scientific expertise, and policy objectives.

Community stakeholders consist of a diverse range of actors, including local communities, consumers associations, activists, and interested citizens. Local communities have a direct connection to resource management decisions, as their well-being and livelihoods are often closely tied to the availability and sustainable use of resources. Consumer associations represent the collective interests of consumers, advocating for sustainable and responsible practices. Activists play a crucial role in raising awareness about environmental and social issues, pushing for change, and holding stakeholders accountable. Other interested citizens who are not affiliated with specific organisations also contribute their perspectives, expertise, and concerns, representing the broader public interest. Involving community stakeholders ensures that resource management decisions are inclusive, responsive, and consider the social, economic, and environmental implications for the communities affected.

6. Conclusion

The present deliverable, D2.3 – V1 is the initial version to outline the approach towards further work on the establishment of the EU International Centre of Excellence on Sustainable Resource Management, its organisational scheme, business plan, working plan and partner and expert register, which will be further elaborated and presented in the final deliverable (due M30).

Through questionnaire survey it was established that the implementation of the UNFC within EU and neighbouring countries is relatively low. On the other hand, a Critical Raw Materials Act is in preparation, that mandates the reporting of strategic projects and information on national critical resources and reserves in EU Member States in UNFC format.

The EU ICE SRM will, as a part of the Geological Service for Europe, support EU, MS and various stakeholders in capacity building on UNFC and UNRMS. First planned activities of the EU ICE SRM include preparation of the proper training materials, building on the trainings that were already performed in the past in previous projects and perform first train-the-trainers workshops. Furthermore, the first data for establishing the registers of partners, experts and stakeholders are being collected and the concept of the EU ICE SRM IT Platform is in development.

The organisational structure and future (after the GSEU project) financing of the EU ICE SRM will depend on the GSE organisational structure, and the most suitable model for the institutional development and implementation of the activities of the EU ICE SRM will be developed together with the GSE operational model.

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8. Appendix I – Consortium Partners

Consortium partners			
	Partner Name	Acronym	Country
1	EuroGeoSurveys	EGS	Belgium
2	Nederlandse Organisatie voor Toegepast Natuurwetenschappelijk Onderzoek	TNO	Netherlands
3	Sherbimi Gjeologjik Shqiptar	AGS	Albania
4	Vlaamse Gewest	VLO	Belgium
5	Bureau de Recherches Géologiques et Minières	BRGM	France
6	Ministry for Finance and Employment	MFE	Malta
7	Hrvatski Geološki Institut	HGI-CGS	Croatia
8	Institut Royal des Sciences Naturelles de Belgique	RBINS-GSB	Belgium
9	Państwowy Instytut Geologiczny – Państwowy Instytut Badawczy	PGI-NRI	Poland
10	Institut Cartogràfic i Geològic de Catalunya	ICGC	Spain
11	Česká Geologická Služba	CGS	Czechia
12	Department of Environment, Climate and Communications - Geological Survey Ireland	GSI	Ireland
13	Agencia Estatal Consejo Superior de Investigaciones Científicas	CSIC-IGME	Spain
14	Bundesanstalt für Geowissenschaften und Rohstoffe	BGR	Germany
15	Geološki zavod Slovenije	GeoZS	Slovenia
16	Federalni Zavod za Geologiju Sarajevo	FZZG	Bosnia and Herzegovina
17	Istituto Superiore per la Protezione e la Ricerca Ambientale	ISPRA	Italy
18	Regione Umbria	-	Italy
19	State Research and Development Enterprise State Information Geological Fund of Ukraine	GIU	Ukraine
20	Institute of Geological Sciences National Academy of Sciences of Ukraine	IGS	Ukraine
21	M.P. Semenenko Institute of Geochemistry, Mineralogy and Ore Formation of NAS of Ukraine	IGMOF	Ukraine
22	Ukrainian Association of Geologists	UAG	Ukraine
23	Geologian Tutkimuskeskus	GTK	Finland
24	Geological Survey of Serbia	GZS	Serbia
25	Ministry of Agriculture, Rural Development and Environment of Cyprus	GSD	Cyprus
26	Norges Geologiske Undersøkelse	NGU	Norway

27	Latvijas Vides, ģeoloģijas un meteoroloģijas centrs SIA	LVGMC	Latvia
28	Sveriges Geologiska Undersökning	SGU	Sweden
29	Geological Survey of Denmark and Greenland	GEUS	Denmark
30	Institutul Geologic al României	IGR	Romania
31	Szabályozott Tevékenységek Felügyeleti Hatósága	SZTFH	Hungary
32	Eidgenössisches Departement für Verteidigung, Bevölkerungsschutz und Sport	VBS (DDPS)	Switzerland
33	Elliniki Archi Geologikon kai Metalleftikon Erevnon	HSGME	Greece
34	Laboratório Nacional de Energia e Geologia I.P.	LNEG	Portugal
35	Lietuvos Geologijos Tarnyba prie Aplinkos Ministerijos	LGT	Lithuania
36	Geologische Bundesanstalt	GeoSphere	Austria
37	Service Géologique de Luxembourg	SGL	Luxembourg
38	Eesti Geoloogiateenistus	EGT	Estonia
39	Štátny Geologický ústav Dionýza Štúra	SGUDS	Slovakia
40	Íslenskar Orkurannsóknir	ISOR	Iceland
41	Instituto Português do Mar e da Atmosfera	IPMA	Portugal
42	Jarðfeingi	Jarðfeingi	Faroe Islands
43	Regierungspräsidium Freiburg	LGRB	Germany
44	Geologischer Dienst Nordrhein-Westfalen	GD NRW	Germany
45	Landesamt für Geologie und Bergwesen Sachsen-Anhalt	LfU	Germany
46	Vlaamse Milieumaatschappij	VMM	Belgium
47	Norwegian Petroleum Directorate	NPD	Norway
48	United Kingdom Research and Innovation - British Geological Survey	UKRI-BGS	United Kingdom