SCRREEN3

Coordination and Support Action (CSA)

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Data Management Plan

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DATA MANAGEMENT PLAN

DELIVERABLE 18.2 (V1)

WP18 Project Management

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EXECUTIVE SUMMARY

The present document is the first version of the Data Management Plan (DMP) for the project SCRREEN3 of the Horizon Europe Programme. It describes how data is collected, generated and processed throughout the life of the project but also the measures that will be taken to maximise access to data and its re-use to address the European Commission's objective of advancing Open Science policy and practices.

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LIST OF ABBREVIATIONS AND ACRONYMS

CA – Consortium Agreement

D – Deliverable

DMP – Data Management Plan

EC – European Commission

EU – European Union

GA – General Assembly

GDPR – General Data Protection Regulation

HEU – Horizon Europe – the 9th framework Programme of the EC for research, technological development and innovation activities.

IPR – Intellectual Property Right

OA – Open Access

RMDB – Raw Materials Database

WP – Work package

WPL – Work package leader

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INTRODUCTION

<u>The SCRREEN3 project</u>
The project 'SCRREEN3 - Solutions for CRitical Raw materials - a European Expert Network 3' is funded for three years (2024-2026) as part of the European Union's Horizon Europe Research and Innovation Programme. The project brings together 14 partners, 8 affiliated entities and one associate partner, coordinated by BRGM. SCRREEN3 is a continuation of the SCRREEN (2016-2019) and SCRREEN2 (2020-2023) projects.

Based on the experience and background of SCRREEN1 and SCRREEN2, the prolongation of the project SCRREEN3 will continue to develop and animate the Expert Network on Critical Raw Materials which will contribute to expert advice in support of decision-making at the EU level covering all the raw materials and their value chains screened in the CRMs assessment.

<u>Background of the data management plan in horizon europe</u>
The SCRREEN3 DMP addresses the European Commission's objective of advancing Open Science policy and practices. According to the EC, Open Access (OA) refers to the practice of providing online access to scientific information that is free of charge to the end-user and reusable. 'Scientific' refers to all academic disciplines. In the context of research and innovation, 'scientific information' can mean:
- Peer-reviewed scientific research articles (published in scholarly journals)
- Research data (data underlying publications, curated data and/or raw data)

The aim of this DMP is to contribute to good data management in accordance with the EC's FAIR data management principle making data findable, accessible, interoperable and reusable. It should include:
- The type of data & research outputs
- The measures to ensure the FAIR data management principle
- The way the data will be stored and preserved

The SCREEEN3 DMP was written in reference to WP18 on Project Management.

<u>Versions</u>
The present document is the first version of the Data Management Plan (DMP) for the SCRREEN3 project. It may be updated - if appropriate - during the project lifetime (in the form of deliverables). The minimum requirement is that the DMP be updated for each periodic evaluation of the project. If there are none, such an update must be made in time for the final review at the latest. The DMP is intended to be a living document in which information can be made available on a finer level of granularity through updates as the implementation of the project progresses. DMPs should, therefore, have a clear version number and include a timetable for updates.

1 SCOPE AND LIFECYCLE OF THE SCRREEN3 DATA

Three kind of data will be managed in SCRREEN3: data on production, market, trade and price, documents (pdf, references, links), expert personal information. SCRREEN3 will produce factsheets, outlook reports, policy briefs and communication materials, using digital tools and databases. All the data produced by SCRREEN3 will be made available to DG GROW and its experts for the criticality assessment.

In this section, the data to be collected, processed and produced by the SCRREEN3 project are presented below.

WP1-2 – Network
In the continuation of SCRREEN1 & 2, SCRREEN3 develops and strengthens the SCRREEN expert network in order to cover all raw materials screened in the CRM assessment. The objective of these two WPs is to manage the network and its strategy. WP1 will be responsible for data related to experts exchanges and expert personal information. By personal information, it only means professional contact and field of expertise. Workshops will be organised with the selected experts to consolidate the data already collected. To ensure the quality of data exchanged during the workshops, the experts will have to provide a technical report ahead of the workshop and a contract will be signed with them.

WP3 – Data handling
The objective of this WP is to deliver a data handling solution consisting of a central database and decentralised data collection Excel templates Link central database to trusted data sources (centralised). Provide data outputs for criticality calculations and preparation of the factsheets.
It is important to clearly identified the required data, identify the different data sources, and in particular for the trade data, agree on the trade CN codes to consider and on the metal content to be associated with. All this preparation work is carried out be a dedicated data management group of experts within the consortium.

WP4-5 – Factsheet digitalisation tool / Maintenance of digital tool and data monitoring
The aim of these WPs is to develop a factsheet digitalisation tool resulting in a web application allowing experts to manage factsheets directly from the interface. Lifetime maintenance of the tool and the data management are key. These WPs also handle dataset extractions required to populate the new factsheet digitalization tool, as well as continued support for the Access Database and Excel sheets from WP3.
Data from the Microsoft Access database will be re-used for building the factsheet digitalization tool. This re-use is crucial to ensure continuity of information and to optimize existing resources.
Data from the Access database will be transferred to SQL tables. This format allows for more efficient management and seamless integration with the factsheet digitalization tool. SQL database will be regularly updated by reuploading new version of the access database. It will update instantly all raw material factsheets.

The purpose of data generation and re-use is to centralize and digitize factsheets, thereby facilitating their management and updates by experts. This aligns with the project's objectives to enhance accessibility and efficiency in managing factsheets.

The exact size of the data to be transferred and generated will be determined during the extraction of the Access data, but it is estimated to be several gigabytes, considering the existing factsheets and new ones to be added.

The re-used data primarily originates from the Access database used in WP3. New data will be generated by experts using the factsheet digitalization tool.

The data managed and generated in this project will be useful to researchers, data analysts, and decision-makers in the field of critical materials. It will provide a centralized and easily accessible database, enhancing analysis and decision-making capabilities beyond the SCRREEN3 project.

WP6-WP12 – Work packages dedicated to factsheets

The raw materials to be screened are split into 7 work packages (WP6 to WP12), based on their categories as defined at the EU level. The partners involved in these WPs will consolidate the datasets to be used in the factsheet based on the data available in the RMDB and potential additional investigation. The update of the factsheets based on the latest available version will then be implemented. Data which will be re-used may be the one from previous factsheets and more generally previous SCRREEN projects when historical data is useful and long-time series are available and necessaries. Most of the time, they already rely on publicly available data compiled for the objective of the project.

The data management is centralised to ensure the quality of collected data to ease factsheets update and criticality assessment. The project members only work with public data from official open access databases and DG GROW 2023 Excel files.

The organisation of the factsheets update work has been reorganised compared with previous projects (SCRREEN2). The data management process is shown below.
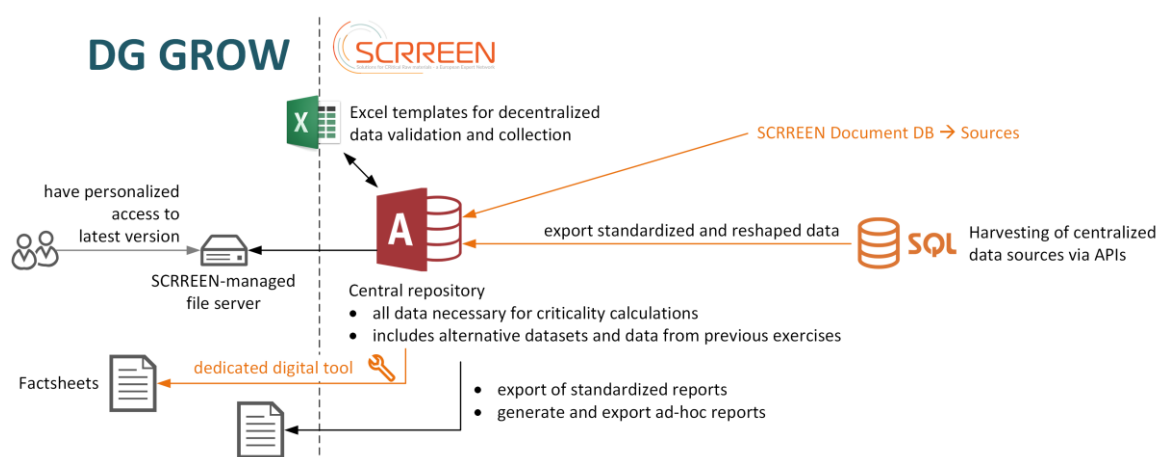

Figure 1: Data Management process in SCRREEN3

WP13 – Factsheet polishing
This WP ensures the quality of the factsheets during a polishing phase, by taking into account new information, data or advice collected during workshops and exchanges with the experts. Among all information shared during the workshops, only a portion can be published and made available to the public. The status of information which has to be specified by the experts or providers sharing it during the workshop. All participants to the workshops have to comply to confidentiality compliance measures, stated from the beginning in a non-disclosure agreement.

WP14-15 Foresights 1 & 2
These two WPs will consist of three main tasks: collecting & prioritising topics, producing working papers and providing ad-hoc support to the EC. Some information and publication produced during these WPs may have a particular status and be shared only with the EC. Discussions with the EC will allow to establish the status of the deliverables. Most of the deliverables will be made public and will contribute to Open Science.

WP16-17 Communication, Dissemination, Awareness and Clustering
The objective of this WP is to communicate about the project achievements, make them visible and contribute to the development of the Expert Network. The SCRREEN3 website includes a factsheet section which includes up-to-date data and interactive graphics developed in WP3/4/5.

WP18-19 Project Management
This WP ensures the achievement of the project's objectives and guarantees a sound management of the project. Communication with consortium members will be managed mainly via the only platform (FLEXX) which is GDPR compliant. Only partners are invited to join this platform and they must activate their account via a secured link received personally.

2 FAIR DATA MANAGEMENT IN SCRREEN3

In compliance with applicable rules, every Horizon Europe project is required to draw up a DMP in order to make data Findable (1), Accessible (2), Interoperable (3) and available for Re-use (4) (FAIR principles).

2.1 MAKING DATA FINDABLE

This section will provide insight into how SCRREEN3 intends to make it easier to find data collected or produced by the consortium. The way to proceed in order to achieve this goal is to describe properly the content of the data sets.

2.1.1 Storing the data with datasets

- **Name and Reference code of datasets**

In order to imbue the names of datasets with easily identifiable meaning that conveys important information, the following naming convention shall apply:

CountryCode.DataOwner.Openness.Title

* CountryCode: this string identifies the country to which the data pertains/where the data was collected using the ISO 3166 Alpha-2 coding system.

* DataOwner: this string identifies the project partner in SCRREEN3 that is associated with the dataset (data collector/custodian) using the official abbreviated partner names.

* Openness: this string determines whether a given dataset is intended to be shared with the public as Open Data. It may take the following values:

1. Open: can be accessed, used and shared by anyone without limitations, accessible on the internet in a machine-readable format, free of restrictions on use in its licensing)

2. Shared: available to use, but not under an open data license. Restrictions on its use or reproduction may apply (limited to a given group of people or organisations, may not be reproduced without authorisation, etc.)

3. Closed: can only be accessed by its subject, owner or holder

* Title: a short and descriptive string to identify the contents of the data

Using these strings, the name of a dataset would look like this:

FR.LGI.Open.CommuteHouseholdSurvey

A dataset with this name would describe a household survey on commuting preferences conducted in France and curated by LGI.

- **Data description**

Each data set that will be collected, processed or generated within the project will be accompanied by a brief table description. The following detailed information sheet will be produced for every dataset to be produced/collected/curated in the project.

Data set name	Complete title of the data set
Description	A brief, easy to understand description of what the dataset contains and what it will be used for in the project • A list of institutions to whom the data set could be useful outside the project • Whether the dataset has been/will be used for a scientific publication (if yes, brief details about the content and journal) If the dataset is collected, a brief description of its origin and how it was collected will be provided
Type/Format	The physical medium of the content representation, e.g., video, image, text, numerical data, n-grams, etc.
Language(s)	The language(s) of the resource content
Use & re-use	Foreseen use of the resource for which it has been produced
Size	Size of the resource with regard to a specific size unit measurement in the form of a number
Format/license	The format in which the data will be available (e.g. .xls, .csv, .txt) will be provided. The license to be used will also be provided.
Version number	Specify the version number of the document

Table 1: Table specifying the content of a dataset

If a dataset is directly collected, the origin of the data set will also be provided. The SCRREEN3 project only works with public data from open access databases.

2.2 MAKING DATA OPENLY ACCESSIBLE

Open accessibility of the data is the second key aspect for making data FAIR. This section will describe the type of data to be made available, its location and the procedure to obtain it. Several degrees of accessibility are identified below, including both open access and restricted access.

2.2.1 Data licensing

Data licensing standards are used to layout the openness of data sets in concrete terms. There are many types of licenses to choose from, and this document will not cover them in depth. The table below provides a summary of common data licenses that will be considered for use in the project (based on definitions from opendefinition.org):

Name	Domain	Attribution	Share-alike*	Notes
Creative Commons CCZero (CC0)	Content, data	N	N	All rights (including those of attribution) waived
Open Data Commons Public Domain Dedication and Licence (PDDL)	Data	N	N	All rights (including those of attribution) waived
Creative Commons Attribution 4.0 (CC-BY-4.0)	Content, data	Y	N	Credit must be given, a link to the license must be provided, changes made must be indicated. If these terms are not followed, license may be revoked
Open Data Commons Open Database License (ODbL)	Data	Y	Y	Credit must be given, share-alike must be assured, data may be redistributed using DRM as long as a DRM-free version is also released

Table 2: Example of licenses

*Share-alike is the requirement that any materials created using the given dataset must be redistributed under the same license

SCRREEN3 as a CSA supporting EC strategy, in particular CRM assessment, does not aim at publishing scientific publications however, beneficiaries (or authors) shall retain sufficient intellectual property rights to comply with the open access requirements. Metadata of deposited publications shall be open under a Creative Common Public Domain Dedication (CC 0) or equivalent, in line with the FAIR principles (in particular machine actionable). Where applicable, the metadata shall include persistent identifiers for any research output or any other tools and instruments needed to validate the conclusions of the publication.

2.2.2 Datasets to remain confidential

Most of the data and document produced by SCRREEN3 are deemed to be public. However, it could happen that in some cases, external contributor (association, industry, independent expert…) would like to share confidential information with SCRREEN3 and the EC. Consortium members as well as external experts will sign a nondisclosure agreement in order to manage and work with such confidential data they would need to use for achieving their tasks.

2.2.3 Data storage in SCRREEN3

All the data sets, regardless of their categorization, will be stored in each of the participant entities databases and in the FLEXX folder created as internal database of the partners. In addition, those

categorized as open or embargo will be publicly shared (in the case of embargo, after the embargo period is over) through the public section of the project website and Zenodo (https://zenodo.org/).

SCRREEN3 will use Zenodo to systematically publish open data, open access presentations and public deliverables in order to maximise re-use and promote the project results. Open access will also be granted to the metadata that identify the deposited publication. Prior to any upload, open publications on Zenodo will have to be approved by the Executive Committee of SCRREEN3. If requested, LGI may provide its support and advice to the partners prior to the publication on Zenodo. Storing data on Zenodo is free of charge and has no expiry date.

2.3   MAKING DATA INTEROPERABLE & REUSABLE

2.3.1   Making data interoperable

Standard vocabulary may be used on a case-by-case basis to make the data interoperable between researchers, institutions, organisations, countries, etc.
  – A list of acronyms and/or abbreviations will be provided at the beginning of every report
  – Data will be stored using file formats in widespread use to maximise interoperability between software solutions, operating systems, etc.
  – For surveys, standard definitions for entities such as trips, trip chains etc. will be adopted.

2.3.2   Restrictions for re-use

SCRREEN3 will be compliant with the General Data Protection Regulation (GDPR). To allow re-use, respect privacy and avoid loss of research data, two different techniques could be used to disseminate its data while abiding by regulations on privacy:
  1. Anonymisation of data: means processing it with the aim of irreversibly preventing the identification of the individual to whom it relates. Data can be considered anonymised when it does not allow identification of the individuals it is related to, and no individuals can be identified from the data by any further processing of that data or by processing it together with other information which is available or likely to be available.
  2. Pseudonymisation of data: means replacing any identifying characteristics of data with a pseudonym, or, in other words, a value which does not allow the data subject to be directly identified.

2.3.3   Archiving and preservation

Public data will be stored on Zenodo and can be available on the project website.
Project data will be stored on the SCRREEN3 collaborative platform hosted by FLEXX.
Both SCRREEN3 website and FLEXX will be accessible at least 5 years after the end of the project.

3 ALLOCATION OF RESOURCES

3.1 Costs

Costs related to open-access to research data in HE are eligible for reimbursement under the conditions defined in the GA, but also other articles relevant for the cost category chosen. Project beneficiaries will be responsible for applying for reimbursement for costs related to making data accessible to others beyond the consortium. No immediate costs are foreseen for open data in the Zenodo repository. Additional details will be updated if necessary in future versions of the DMP.

3.2 Responsibility

Each WP leader in SCRREEN3 is responsible for the data management within its own WP. The project coordinator, assisted by the project management office (PMO), is responsible for drafting this Data Management Plan in collaboration with the project partners, and for updating it during the course of the project if necessary.

4 DATA SECURITY AND DEDICATED PLATFORMS

Three platforms and a website are used within the framework of this project. Consortium internal platforms as FLEXX and Teams and the EU Zenodo platform for dissemination of the publication. For each platform, we will define the security and storage of the data hereafter:

FLEXX
Frequency of backups: daily backup, replicated over 7 days The location of your storage centre: the storage centre is in Germany at IONOS in an ISO certified European datacentre.
The security standards you meet or apply: Security Information and Event Management (SIEM), as well as IDS and IPS systems and complies with GDPR rules for personal data management.
What happens to the data once the project is finished? The content of the Flexx application remains available 1 year after the end of the project, then it is archived on our local server in Paris (except personal data which are destroyed).
Data archiving: the data is stored on a local server in Paris, replicated on another site geographically, without time limit.

ZENODO
Data Protection / Backup: Zenodo data is located in a CERN datacentre (European Union). They are looking for a backup plan.
Zenodo does not have an SLA guarantee.
Access security: Access to ZENODO requires password authentication.
Confidentiality of sensitive data: By its nature and design, ZENODO does not allow the storage of confidential data, the data is public and freely accessible.

SCRREEN3 WEBSITE
Frequency of backups: daily backup, replicated over 7 days
The location of your storage centre: the storage centre is in Germany at IONOS in an ISO certified European datacentre.
The security standards you meet or apply: the website and applications do not use cookies. The access to the website and application is via an SSL certificate (https).
What happens to the data once the project is finished? The website remains active for 3 years after the end of the project without content updates but with continued maintenance in operational condition. Then it is destroyed and the domain name terminated.
Data archiving time: The data is stored on a local server in Paris, replicated on another site geographically, without time limit.

5 ETHICAL ASPECTS

All personal data (e.g. expert personal information) will be collected, processed and stored in line with the requirements of the General Data Protection Regulation (GDPR). Access to the expert database is limited to consortium members and the EC.

All project activities will be carried out with regards to ethical implications and abiding by the regulations expressed in international texts and codes of practices, in particular the General Data Protection Regulation (GDPR).