



AfricaMaVal

Coordination and Support Action (CSA)

Funded by the European Union. Views and opinions expressed are however those of the author(s) only and do not necessarily reflect those of the European Union or the European Health and Digital Executive Agency (HADEA). Neither the European Union nor the granting authority can be held responsible for them.

Start date : 2022-06-01 Duration : 42 Months



Data Management Plan

Authors : Mrs. Carol ZAMMIT (BRGM), Romain COCHERY (BRGM)

AfricaMaVal - Contract Number: 101057832

Project officer: Victoria Leroy

Document title	Data Management Plan
Author(s)	Mrs. Carol ZAMMIT, Romain COCHERY (BRGM)
Number of pages	51
Document type	Deliverable
Work Package	WP9
Document number	D9.2
Issued by	BRGM
Date of completion	2022-11-30 15:08:40
Dissemination level	Public

Summary

The Data Management Plan will follow the requirements of the Horizon Europe DMP template. Guidelines regarding the type and format of the data to be generated and re-used will be written. The metadata will grant the traceability of each data input and will provide the proper information to meet the principles of findability, accessibility, interoperability, and reusability. The DMP will explain which kind of repository will be generated, how the data will be shared, and who will be the beneficiaries according to a specific access protocol. The DMP will focus on data security guidelines, including data recovery, secure storage/archiving and transfer of sensitive data.

Approval

Date	By
2022-11-30 15:15:02	Mr. Jean-Claude GUILLANEAU (BRGM)
2022-11-30 15:15:15	Mr. Jean-Claude GUILLANEAU (BRGM)



Horizon Europe Framework Programme (HORIZON)

D9.2 - Data Management Plan

WP9 - Task 9.2

30/11/2022 [M6]

R. Cochery¹, C. Zammit¹

¹BRGM



Funded by
the European Union

Disclaimer

The content of this deliverable reflects only the author's view. The European Commission is not responsible for any use that may be made of the information it contains.

Document information

Grant Agreement / Proposal ID	101057832
Project Title	EU- Africa Partnership on Raw Material Value chains
Project Acronym	AfricaMaVal
Project Coordinator	Guillaneau Jean-Claude (jc.guillaneau@brgm.fr) - BRGM
Project starting date (duration)	01 June 2022 (42 months)
Related Work Package	WP9 – Coordination & Case study Management
Related Task(s)	Task 9.2 Ethics, Gender, Data management plan
Lead Organisation	BRGM
Contributing Partner(s)	
Due Date	30/11/2022 (M6)
Submission Date	30/11/2022 (M6)
Dissemination level	PUBLIC – License Creative Commons Zero v1.0 Universal Except confidential annexes



History

Date	Version	Submitted by	Reviewed by	Comments
30/11/2022	1.0	R. Cochery	C. Zammit	

Table of Contents

1. Project overview	8
1.1. Project abstract	8
1.2. Fields of science and technology	8
1.3. Project outputs	9
2. Dataset Summary	10
3. FAIR Data Management	16
3.1. Making data findable	16
3.1.1 Making data accessible: Repository	17
3.1.2 Making data accessible: Data	17
3.1.3 Making data accessible: Metadata	18
3.2. Making data interoperable	18
3.3. Increase data re-use	19
4. Other research outputs	20
5. Allocation of resources	20
6. Data security and dedicated platforms	21
6.1. TEAMS	21
6.2. FLEXX	22

6.3. ZENODO.....	22
6.4. EU-Africa Raw Materials Networking Platform.....	22
6.5. AfricaMaVal Website.....	22
7. Ethics	24
8. Other issues	25
Conclusion	25
Bibliography	26

List of Figures

Figure 1. Metadata spreadsheet template	17
---	----

List of Annexes

- Annex A: AfricaMaVal Ethical Framework (confidential)
- Annex B: WP2 project information
- Annex C: WP4 Draft Guidance for ESG Assessment
- Annex D: WP5 Methodology for data collection
- Annex E: WP5 Data collection
- Annex F: Draft version of a Metadata Sheet



Abbreviations and Acronyms

Acronym	Description
CRM	Critical Raw Materials
DMP	Data Management Plan
DOI	Digital Object Identifier
DPO	Data protection officer
ECRM	Extended Critical Raw Materials
GDPR	General Data Protection Regulation
OECD	Organisation for Economic Co-operation and Development
WP	Work Package

Executive Summary

This Data Management Plan follows the requirements of the Horizon Europe DMP template.

Guidelines regarding the type and format of the data to be generated and re-used are detailed. The metadata will grant the traceability of each data input and will provide the proper information to meet the principles of findability, accessibility, interoperability, and reusability. The DMP explains which kind of repository will be generated, how the data will be shared, and who will be the beneficiaries according to a specific access protocol. The DMP focus on data security guidelines, including data recovery, secure storage/archiving and transfer of sensitive data.

Keywords

Data Management Plan, Metadata, Licence, critical raw material, European union, African union, GDPR, Green deal, Twin transition, energy and digital transition, business networking, value chain, geological maps, predictivity maps, ore processing, mining, refining, recycling



1. Project overview

1.1. Project abstract

Access to mineral resources represents a crucial strategic question for Europe's ambition to deliver the Green Deal and perform the twin transition (EC, 2020). As future demand of primary critical raw materials will continue to be largely met by imports, the EU needs to engage in strategic partnerships with resources-rich third countries covering extraction, processing and refining such as with African countries, where the EU can help to develop sustainable mineral resource value-chains in a co-development perspective. In this framework, AfricaMaVal aims to develop EU-Africa partnership ensuring a responsible sourcing of mineral for the European industry while providing for a sustainable local co-development in the best Environmental, Social and Governance (ESG) conditions and creating a long-terms business environment for European and African companies. AfricaMaVal will focus on the minerals and metals presented in the Fourth list of Critical Raw Materials for the EU as well as on Copper (Cu), Nickel (Ni), Tin (Sn) and Manganese (Mn) that are particularly pertinent considering Africa's geological potential and their critical status in the digital and energy twin transitions. **In this project, an "Extended CRM" list (ECRM) will be used.**

The mineral, financial, environmental, social, institutional and economical aspects will be studied along all the value chains to achieve the project completion to reach these operational targets:

- **Building an EU and Africa business networking on the whole ECRM value chains.**
- **Developing a strategy on the integration of identified and emerging EU and African raw materials value chains for the energy and digital transition.**
- **Assessing responsible investment opportunities.**

1.2. Fields of science and technology

This project belongs to the following thematic field, according to OECD classification:

- **Earth and related environmental sciences**



1.3. Project outputs

Data management, from description to treatments, confidentiality etc., can vary for different outputs. Each data set listed below is generated within a work package (WP). The data set is due at the deliverable date¹ as a version 0 and can be updated later through the project. Only the final version of the data set will be shared on the public platform, at the end of the process.

In each section of this document, when data heterogeneity leads to different management behaviours, we will explicit these for the main project outputs listed hereafter:

1. “Sig Afrique” geological maps (Dataset) – WP1
2. Inventory of the extended critical raw materials - ECRM (Dataset) – WP1
3. Predictivity maps for some of the ECRM (Dataset) – WP1
4. Area with high potential for some of the ECRM (Dataset) – WP1
5. List of Mining, ore processing, refining and recycling capacities projects (Collection) – WP1
6. List of the main bottlenecks/linkages (Collection) – WP2
7. Mining policies and regulations (Text) - WP4
8. Business contact list (Collection) – WP5
9. Past and ongoing EU-funded and EU-Africa Partnership (Collection) –WP6
10. On-line accessible directory and networking platform (Service) –WP5
11. Project website: www.africamaval.eu (Service) –WP8

¹ For more information about all the work packages, their schedule, planned activities and deliverables please refer to the AfricaMaVal deliverable D9.1 – Inception Report (submitted on 03/11/2022).

2. Dataset Summary

In this section, we will describe the data used and produced for each main output as listed in section 1.3. The context will also be described (aim, treatment, origin of data, etc.). The data set or data collections will be released as a version 0 according to the milestone defined in the Grant Agreement. Nevertheless, the data set or data collection might be updated through the lifetime of the project to get, as much as possible, a complete set of information.

- **“SIG Afrique” Geological Map – WP1**

The BRGM will re-use existing confidential geological maps from a former panafrikan project named “Sig Afrique” and stored by the BRGM in a private database. The panafrikan geological map at 10M scale will be used for predictivity mapping, to create a map of ECRM favorability / high potential. Geological maps from the same project at 2M scale will be used as well for the case studies reports. Other geological maps at various scales might be collected from geological survey organisations within the framework of the case studies.

The raw data (confidential geological maps) cannot be shared but the final generalized map will be spread to the partners to carry out their activities.

The format of the simplified geological maps generated for the project will be a .JPG or .PNG. We can expect to generate up to 10 Gb of data, including intermediate files.

The results (open source) will be spread through a sustainable platform to be used by a large audience (public development agencies; EU and African public / private investors, partners, universities).

- **Inventory of the “extended critical raw materials” – WP1**

For the ECRM inventory, the BRGM will re-use data stored in confidential and private databases. We will update informations to create a dedicated set of data stored in an Inspire-compliant database. The raw data are coming from a confidential database (Sig Afrique) and private database (SnP).

A new dataset will be generated, using the former project Minerals4EU template (which is inspire compliant). This set of data will be spread to the partners to carry out their activities.

This dataset will be stored in an Excel spreadsheet and a GIS database, for an estimated amount of maximum 5 Gb, including all data in last version. This limit could be exceeded for a limited time due to temporary files (backups of intermediate versions).

The results will be simplified before shared with an open access through a sustainable platform to be used by a large audience (public development agencies; EU and African public / private investors, partners, universities).

These data will be used for predictivity mapping alongside with the geological maps.

- **Predictivity maps for some of the ECRM – WP1**

Both raw data of geological maps and ECRM inventory will be used for the predictivity mapping task. These raw data are confidential. Predictivity maps will be generated by the BRGM for selected ECRM only, according to the potential of each country.

The newly generated dataset will be a GIS database and files. They are estimated to represent less than 15 Gb, but this amount needs to be reassessed later. This set of data will be spread to the partners to carry out their activities.

The predictivity maps will be spread with an open access through a sustainable platform to be used by a large audience (public development agencies; EU and African public / private investors, partners, universities).

- **Area with high potential for some of the ECRM – WP1**

At the end of the ECRM predictivity mapping task, the BRGM will generate a layer enhancing the main high potential areas for ECRM. Both data set (predictivity maps and high potential area) will rely on geological maps and ECRM inventory which are the 1st steps of the WP1.

The data will be in GIS database and files. They are estimated to represent less than 5 Gb, but this amount needs to be reassessed later. This set of data will be spread to the partners to carry out their activities.

The results will be spread with an open access through a sustainable platform to be used by a large audience (public development agencies; EU and African public / private investors, partners, universities).

- **List of Mining, Ore Processing, refining and recycling capacities projects – WP1**

The aim is to cover the compilation of reliable data on primary and secondary ECRM value chains for the subsequent identification of related opportunities. This will be achieved by screening existing databases as well as the acquisition of additional information where necessary.

The team from DMT and the BRGM will utilize data from public domain sources, internal project databases, information generated by the partners in the other work packages and survey data acquired directly from the ECRM stakeholders. Concerning the latter, the project will employ only anonymized information, which is voluntarily disclosed from the stakeholders to the public.

Quantitative criteria will include facts like the project name, locations, main commodity, byproducts, capacities, perspectives, infrastructure, ownership, financial factors, etc. Qualitative criteria will comprise the maturity level of each examined ECRM value chain project, the expected growth potential, compliance issues etc.

We will generate a list. These data will be formatted in Excel spreadsheets. They are estimated to represent less than 10 Mb. This set of data will be spread to the partners to carry out their activities.

The results will be spread with an open access through a sustainable platform to be used by a large audience (public development agencies; EU and African public / private investors, partners, universities).

For more detail dedicated to information collection sheet design for data collection, please refer to the [Annex B](#).

- **List of the main bottlenecks/linkages – WP2**

This task will identify bottlenecks along specific ECRM value chains, in knowledge, infrastructure and backward and downstream linkages.

Gaps in knowledge are defined as lack of information on material technical, infrastructure, economic, marketing, legal, environment, social and government factors impairing an objective assessment of particular ECRM value chain projects.

A wide range of infrastructure problems often renders ECRM value chain projects as unfeasible in Africa. Some typical examples expected to be encountered comprise the lack of transportation capacities (road, rail, sea), lack of energy networks, lack of communications, lack of specialized laboratories, and even lack of educational institutions capable of providing specialized personnel. However, sometimes the feasibility problems concentrate around deficits in the backward and downstream linkages between authorities, producers, investors, and the markets to be indicated in the current investigation.

Data will be generated from DMT databases and expertise + data gathered in surveys and literature analysis will also be used.

DMT will generate a list of the main bottlenecks and their causes, in Africa. These data will be formatted in Excel spreadsheets. They are estimated to represent less than 5 Mb. This set of data will be spread to the partners to carry out their activities.

The results will be spread with an open access through a sustainable platform to be used by a large audience (public development agencies; EU and African public / private investors, partners, universities).

- **Mining policies and regulations – WP4**

The aim of this task is to conduct a high and in-depth level review of the pertinent minerals policies, regulations, agreements, community engagement and consultation, land ownership and mineral rights, land-use and tenure, health and safety of workforces and communities, environmental management and regulation across the continent, distribution/attribution of royalties.

For more detail dedicated to information collection sheet design for data collection, please refer to the [Annex C](#).

AWIMA, alongside with INTRAW and SSSA, will generate a list of the main policies and regulation in Africa. These data will be formatted in Excel spreadsheets. They are estimated to represent less than 5 Mb. This set of data will be spread to the partners to carry out their activities.

The results will be spread with an open access through a sustainable platform to be used by a large audience (public development agencies; EU and African public / private investors, partners, universities).

- **Business contact list – WP5**

The aim of this task is to map formal and informal players (large, small-scale, and artisanal) along the critical minerals value chains, as well as networks and clusters – downstream value addition and upstream value addition.

Methodology and approach to be applied will include primary and secondary data collection and analysis using the following methods: Online surveys, personal interviews during field events, questionnaires to be filled in both physical and online among others ([Annex D](#)). Also attached is the list of the “High Level Overview of Data to be Collected” ([Annex E](#)).

MADI will generate a business list in Africa. This list will contain personal data but data collection, data management and data dissemination will be GDPR compliant. These data will be formatted

in Excel spreadsheets. They are estimated to represent less than 10 Mb. This set of data will be spread to the partners to carry out their activities.

The results will be spread with an open access through a sustainable platform to be used by a large audience (public development agencies; EU and African public / private investors, partners, universities).

- **Past and ongoing EU-funded and EU-Africa Partnership – WP6**

The aim of this task is to map the relevant EU-funded activities and projects with potential synergies for AfricaMaVal as well as African projects.

EIT Raw Materials will create a template for the collection of the information, define priority criteria and key information categories for mapping relevant projects (EU-funded, national funded, African funded). Then, we will contact all the partners involved in the task and distribute research focus.

At the end, after data collection, we will consolidate the database and write a report with prioritized projects (State of Play).

We will generate a list of EU funded activities in Africa. These data will be formatted in Excel spreadsheets. They are estimated to represent less than 10 Mb. This set of data will be spread to the partners to carry out their activities.

The results will be spread with an open access through a sustainable platform to be used by a large audience (public development agencies; EU and African public / private investors, partners, universities).

- **On-line accessible directory and networking platform – WP5**

Create an on-line accessible directory and networking platform (EU-Africa RM Networking Platform) is one of the main goal of the project for building the EU and Africa business network.

In the course of the first months, MADI will explore suitable host for the Platform either in Africa or in EU. Favourable will be Cloud Hosting. We will consider the fact that the data to be collected and stored on the platform is both Business and Personal nature that needs to be accessible at least for the duration of the Project for purposes of Networking and B2B and as such the Platform has to be accessible and interactive but regulated under the General Data Protection Regulations (GDPR).

During this task, we will capture local/regional clusters of providers of equipment, support services, transport, education, etc. (intra- and inter-cluster network relationships, and the interdependences of industrial and ASSM clusters).

The platform is not yet design and the total amount of data will be estimated later.

- **Website (www.africamaval.eu) – WP8**

A project website will serve as the main digital tool for promoting the project, providing key information, as well as news, events, and the project's public deliverables. An editorial team (LGI, EIT RM, WRFA, and BRGM) will coordinate projects dissemination. The Website is under the "Develop Communication & Dissemination Plan" (D8.1) lead by LGI.

<https://africamaval.eu/>

The website is online since end of August 2022, and will be closed at the end of the project, end of November 2025.

3. FAIR Data Management

3.1. Making data findable

All the datasets will be identified by a DOI, given by each partner to each dataset they produce.

The project leader will provide a template of Metadata sheet to all the partners. The format will be close to the Inspire-compliant template for harvest purposes. Lexicons of keywords will be linked to the metadata Excel spreadsheet for homogeneous data entry and easy re-use. The metadata will include:

- Name, description and related keywords,
- Producer and provider,
- Persistent identifier or link to the original data used to generate the dataset (or original dataset name and contact information if no link is available, e.g. for old or unpublished original data),
- Associated AfricaMaVal WP(s) and task(s),
- Related publication (article, report etc.),
- Thematic(s) and related type(s) of content,
- Media type and format (e.g. database, GIS file, spreadsheet .xlsx/.ods, etc.),
- Confidentiality and reasons for potential access restriction
- Presence of personal data.

An example of a draft version of a metadata sheet is given in [Annex F](#).

A metadata sheet will be attached to every dataset. For files, the associated metadata sheet would be preferentially included directly in the directory or the parent directory (in case of a dataset divided in multiple similar directories). In all cases (files or databases), the associated metadata sheet must be easily found by anyone who can access the data.

In order to easily identify the metadata sheets and to allow automatic treatments, the metadata sheet files must be named as "metadata_DatasetShortName.xlsx" (where DatasetShortName should be replaced by a short identifier of the dataset, preferentially human-readable). The automatic treatments would consist in identifying the different datasets by their associated metadata sheets to ensure a correct data monitoring; this would be done by generating a single table of all metadata of all datasets as described in the metadata sheets. This would only be

performed on shared files at the project level (e.g. on the files hosted on the shared Team platform).

AfricaM4Val Metadata sheet

Please separate multiple values with semicolons
* Required fields are indicated by red asterisk

General information about the data

AfricaM4Val data id: []
 Partner-specific data id: []
 DOI (if assigned): []
 Title*: [Data title]
 Description: [Data description]
 Keywords*: [keyword 1; keyword 2]
 Data creator(s)*: [Firstname1 SURNAME1 (Entity1); Firstname2 SURNAME2 (Entity2)]
 Data creator e-mail*: [f.surname1@entity1.com]
 Data supplier*: [BRGM]
 Data supplier e-mail*: [contact-brgm@brgm.fr]
 Creation date*: [27/10/2022] (jj/mm/yyyy format)
 Comments: [About the general information: more detail about the items, alternative title, other involved project, if the data is part of a larger dataset, etc.]

Data confidentiality (reasons must be given for all non-public data)

Category of access restrictions*: [Green (with DOI - open access - public data)]
 Reasons for access restrictions*: []
 Personal data*: [Only non-personal data]

Information about the metadata sheet

Sheet creator*: [Firstname1 SURNAME1 (Entity1); Firstname2 SURNAME2 (Entity2)]
 Sheet contact e-mail*: [f.surname1@entity1.com]
 Sheet first creation date*: [27/11/2022] (jj/mm/yyyy format)
 Sheet last update*: [27/11/2022] (jj/mm/yyyy format)

Related work package(s) and task(s)

Associated WP/task*: [WP1 - Supply potential]
 Optional second related WP/task: [b-Task 1.1]
 Optional third related WP/task: []
 Optional WP/task for intended re-use: []

Related publication (if any)

Id / DOI: []
 Author(s): []
 Title: []
 Year: []
 Editor: []

Spatial coverage

Country/Region/Locality*: [Africa]
 Coordinate system: [WGS84 latitudes-longitudes (EPSG 4326 or 4979)]
 Longitude min (dd) / x min (m): []
 Longitude max (dd) / x max (m): []
 Latitude min (dd) / y min (m): []
 Latitude max (dd) / y max (m): []

Data characterisation (at least 1 thematic, type and format)

- Thematic 1***
 Type*: [Projects Value Chain]
 Format*: [Geological map]
 Additional information (acquisition method, uncertainties...): [GIS files]
- Thematic 2***
 Type*: []
 Format*: []
 Additional information (acquisition method, uncertainties...): []
- Thematic 3***
 Type*: []
 Format*: []
 Additional information (acquisition method, uncertainties...): []

Figure 1. Metadata spreadsheet template

3.1.1 Making data accessible: Repository

The data will be stored on Teams (for working storage), Flexx (for final versions) and Zenodo (for publication and dissemination). Those platforms will be operated respectively by BRGM, LGI and EU. Each platform does have a specific role and comply with our needs. Their default configurations are suitable for our goals and no specific arrangement with the repository is needed. The design of each platform is under the responsibility of the owner of the platform.

The work package leader assisted by the project leader will be in charge of the verification of the DOI for each dataset, independently of the used platform.

3.1.2 Making data accessible: Data

The data will be made openly available as much as possible, but some data can be confidential or critical and cannot be shared with external parties. For instance, the initial geological maps are confidential and do not belong to any partner.

The Zenodo platform will allow a free access to all the published data.

There is no specific restriction for internal data access shared on the platforms. Personal data will not be stored and shared on the platforms, except on private sections with access only granted to teams involved in the respective work packages. Those personal data will only be accessed by the concerned teams for the purpose they have been collected to. No project data access committee will be set: each partner DPO (Data Protection Officer) will be in charge of establishing the specific access rules to the data owned or hosted by its organization.

As there is no restriction on use for the documents shared within this project and disseminated through Flexx and Zenodo, everyone will be able to access the data, both during and after the end of the project.

For confidential or critical documents / data, the access will be only granted to members of the consortiums involved in the technical work package through teams.

3.1.3 Making data accessible: Metadata

Metadata will be published under a CC0 license (or local nearest equivalent). It will include information about the data license and confidentiality, and with permanent link if published on Zenodo, and contact information to obtain it (if possible) in other cases. Only common data types and formats (Excel spreadsheets, Word and PDF documents, GIS widespread formats) should be used, but metadata will also contain information about data format and preferred software for visualization, so that in case uncommon data types are used, the data can still be read.

The data and metadata stored on the Zenodo platform will remain available at the end of the project (no expiry date of the platform).

3.2. Making data interoperable

We will use, as much as possible, the inspire-compliant standards and ISO codification. In case some datasets include specific data which are more detailed than ISO and Inspire lexicons, we will provide, with those datasets, the mappings linking the project-specific vocabulary to the items from the ISO or Inspire lexicons, so that anyone can reuse, refine or extend our published datasets.

Our data include qualified references to other data, as much as possible, if we do have the proper information. This information will be included in the metadata.

3.3. Increase data re-use

A metadata Excel file will be filled for each and every data set. This metadata file will be, as much as possible, Inspire compliant. About the databases, a report with dedicated information regarding the dataset will be written and spread.

According to the Grant Agreement., we will define the license for each dataset as hereafter:

1. Open data (CC0) for all WPs except raw data from WP1
2. Restricted access to the partners for raw data from WP1 (sig Afrique, S&P, GIS files of geological maps)
3. Prohibited access for raw data from WP1 (sig Afrique, S&P, GIS files of geological maps)

All the deliverables produced by the project are open data and will thereby be usable by third parties.



4. Other research outputs

For predictivity maps, the methodology and specific tools had been developed in the framework of other projects (Tourlière *et al.*, 2015).

5. Allocation of resources

As the Zenodo platform is free of charge and has no expiry date, there will be no cost for a long-term storage. Inspire compliancy is time consuming and so costly, but part of the data processing.

The project leader is responsible of the data management thorough the life span of the project.



6. Data security and dedicated platforms

Due to the nature of the project and the intercontinental data transfers needed for some tasks, between countries with various data protection laws, data protection is considered as a major concern by the AfricaMaVal consortium. Each partner has a Data Protection Officer (DPO) whose role, regarding data protection at the organization level, is to identify the applying laws, to define managing rules and to follow up their application. A DPO network animator is in charge of the diffusion of information about data protection within the network and to monitor the activity of the DPOs.

All the data gathering, storage and treatments will be compliant with the GDPR rules and relevant national or local laws.

We will use four platforms and a website within the framework of this project. Consortium internal platforms as Teams and Flexx, the EU Zenodo platform for dissemination of the publication and results and the EU-Africa Raw Materials Networking Platform (WP5). For each platform, we will define the security and storage of the data hereafter.

6.1. TEAMS

Data Protection / Backup: Teams BRGM data is located in a Microsoft datacentre in the European Union (Ireland). Backup is scheduled every day in the BRGM datacentre. Data stored on the BRGM's computers are automatically synchronized and saved on Onedrive.

Microsoft Teams SLA is 99.9% uptime.

Access security: Access to Teams data requires multi-factor authentication (name + code via cell number).

Confidentiality of sensitive data: Teams data transfers are encrypted to ensure privacy of data in transit.

The computers of BRGM agents are encrypted in order to guarantee the confidentiality of data in the event of theft of equipment.

Exchanges of confidential data by email are encrypted using qualified ANSSI software (Prim'X ZEDMAIL).

Sensitive data located on Teams is also encrypted using ANSSI-qualified software (Prim'X ZED).



6.2. 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.

6.3. 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.

6.4. EU-Africa Raw Materials Networking Platform

To be defined later as the platform is one of the deliverable due on month 18.

6.5. AfricaMaVal 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.



7. Ethics

The Ethics Framework ([Annex A](#)), written by the Ethics and Data Protection Advisory Board (EAB), describes the personal data protection rules in detail. It includes sections about data sharing, regarding both ethics and legal issues, informed consent forms for questionnaires and other ethical concerns about personal data protection.

According to the Ethics Framework, each partner has a Data protection officer (DPO) whose role, regarding data protection at the organization level, is to identify the applying laws, to define managing rules and to follow up their application. A DPO network animator is in charge of the diffusion of information about data protection within the network and to monitor the activity of the DPOs.

For more information regarding ethics requirements, please refer to [Annex A](#).

The EAB is meeting on a monthly base and is available for any further question from the partners.

Please take note that the Ethics framework is the reference document for personal data collection and processing and transfer of personal data between EU and non-EU countries.



8. Other issues

We have not identified any other issues at this point.

Conclusion

This document is the first version of AfricaMaVal Data Management Plan. It gives an idea of the main data collections and data input / output generated during the project. This list is not yet complete and the content might change within the next months. That is the reason the DMP will be updated twice a year.



Bibliography

Tourlière, B., Pakyuz-Charrier, E., Cassard, D., Barbanson, L., Gumiaux, C. (2015), Cell Based Associations: A procedure for considering scarce and mixed mineral occurrences in predictive mapping, *Computers & Geosciences*, Volume 78, pp. 53-62, <https://doi.org/10.1016/j.cageo.2015.01.012>



Annex A: AfricaMaVal Ethical Framework (confidential)

This annex is confidential and can only be included in a confidential version of the DMP.



Annex B: WP2 project information



AfricaMaVal Research Programme

Project information collection template (Basic)

0. SUBJECT (numbered) <i>Guiding notes to each question are provided in italics</i> a. Numbered sub-items to be completed as part of the full info sheet	Response/ content and notes <i>Expand each section as needed to insert tables/ graphs, images, maps, etc</i>
1. Project Title/ Name	
2. Main Commodity and by-products	
3. Locality a. Country, City/Town, Village b. Describe access route to the site in words c. Coordinates d. Include locality map (+ access route and state of transport infrastructure)	
4. Ownership a. Company name b. Partnerships, JV, investors, etc. c. Contact details (include web page, if available) d. Contact details e. Web page	
5. Stage of development <i>(exploration, development, extraction, processing, recycling, abandoned, PFS, FS, etc),</i> a. Status (Operational, non-operation, Care and maintenance, on hold – state reasons if non-operational), b. Development Plans c. Licensing (e.g. legal compliance, EIA, ISO certification, ESG certification, export permits, emissions permits, etc)	
6. Geology and mineralisation potential (local) <i>(support with maps or other data as available)</i>	
7. Mineral Resources and Reserves <i>How are mineral reserves and resources stated, e.g.: NI43-101, JORC?</i> a. Production b. LoM	
8. Value chain a. Insert a value chain map/ graph / drawing of this mineral in its current use and market b. Taken from exploration to finished product, where does this project sit? (Refer to the Value Chain diagram above)	



AfricaMaVal Research Programme

0. SUBJECT (numbered) <i>Guiding notes to each question are provided in italics</i> a. Numbered sub-items to be completed as part of the full info sheet	Response/ content and notes <i>Expand each section as needed to insert tables/ graphs, images, maps, etc</i>
c. Describe any cross-border interactions (<i>e.g. mineral imported from elsewhere and only processed here, or exported as raw mineral from here to a processing plant elsewhere</i>) d. Who are the current target markets?	
9. Capacity/ Access and Infrastructure: a. Economic b. Policy c. Infrastructure (water, electricity, transport, etc.) d. Technology e. Skills f. Environment g. Social h. ESG components (Complete list under ESG Indicators)	
10. Opportunities for growth/development and support required <i>(Financial, technical, skills, etc.) This is the project owner's own statement of how they see them selves participating in the market – what do they see as constraints, how do they want to grow market share, etc?</i>	
11. References <i>(all sources used in compiling this data – include web links and proper references to print media or other materials)</i>	



AfricaMaVal Research Programme

ESG indicators (From question 9 h) <i>For each item, indicate if the operation has this or not, and record details as appropriate</i>	Response <i>Y/N response only</i>	Details <i>(If Yes, record the details, reference, source doc or other notes)</i>
Air quality management plan (<i>Dust, GHG</i>)		
Waste management plan (<i>slurries, dump sites</i>)		
Surface water / groundwater management plan (<i>contamination, treatment, reuse</i>)		
Mine water / sump management plan (<i>contamination, treatment, reuse</i>)		
Noise & vibration management plan		
Non-destructive exploitation plan		
Management plan for energy and material consumption		
Biodiversity management plan (<i>ecosystem, protected areas, species, vegetation clearance</i>)		
Mine closure plan (<i>land reclamation, decommissioning, remediation</i>)		
Workplace management plan (<i>imbalance, discrimination, inequalities</i>)		
Social management plan (<i>inclusion of vulnerable groups, indigenous people, human right / land defenders, social-cultural understanding / heritages; community development projects (water, infrastructure, hygiene, medical care, emergency, education), community involvement; poverty, hunger, thirst, housing</i>)		
Land use management plan (<i>acquisition, forced relocation</i>)		
Management plan for high-risk areas (<i>child labour, education, forced labour</i>)		
Human & Resource management plan (<i>bargaining, unions, grievance, remuneration, contracts, benefits, training, working hours and conditions</i>)		
OHS management plan (<i>risk and safety management plan, PPE, hazardous work, training, rehabilitation facilities, hazardous substances / work / conditions</i>)		
Emergency response plan (<i>medical preparedness and care, infrastructure plan (lightning, communication)</i>)		
Construction and Maintenance management plan (<i>tailing dams, equipment, geological / (rock) mechanical failures</i>)		
Safety and Security management plan (<i>infrastructure plan (traffic), e.g. security plan, training for security personnel</i>)		



AfricaMaVal Research Programme

ESG indicators (From question 9 h) <i>For each item, indicate if the operation has this or not, and record details as appropriate</i>	Response <i>Y/N response only</i>	Details <i>(If Yes, record the details, reference, source doc or other notes)</i>
Business Integrity Plan <i>(anti-corruption and bribery, criminal machination (revenues & payments), ownership and management structures), illegal mining activities</i>		
Stakeholder management plan <i>(consultation, engagement, grievance mechanism, disclosure)</i>		
Supplier management plan <i>(social impact (abusive practices, financial flows, site security, poverty, health problems, forced relocation, working contracts & conditions, accommodation, environmental impact (biodiversity), high risk areas (financial flows, violent conditions, child labour, forced labour)</i>		

Information disclosure declaration

I,(full name), the registered owner/ director/ manager of
(name of business) hereby declare as follows:

- I am offering the information recorded in the Project Information Collection Sheet voluntarily.
- The information provided by me in the Project Information Sheet in support of the AfricaMaVal project is not protected in any way and does not jeopardize company intellectual property or competitive advantage.
- I fully understand the project information sheet that I have completed and I was given an opportunity to ask questions for clarity.
- The aims, methods and implications of the project activity, the nature of the participation and any benefits, risks or discomfort that might ensue have been explained to me.
- I understand that participation is voluntary and I have the right to refuse to participate and to withdraw my/our information, participation, samples or data at any time and without any consequences
- If the further work of the AfricaMaVal programme discovers unexpected or incidental findings, I choose to not be informed about these findings, unless they relate to my operation in particular.
- I am over 18 years of age
- I have not been coerced or pressured into providing any information.

Respondent: _____

Interviewer: _____

Date: _____ Place: _____



Funded by
the European Union

Annex C: WP4 Draft Guidance for ESG Assessment





Task 4.1 - Assessment of social, environmental, and governance (ESG) challenges in mining across Africa

Guidance for Collecting Information

Introduction

This task of AfricaMaVal aims to undertake a meta-level review of the pertinent minerals policies, regulations, agreements on community engagement and consultation, land ownership and mineral rights, land-use and tenure, health and safety of workforces and communities, environmental management, and regulation across the continent, as well as the distribution/attribution and use of royalties.

This guidance document describes what data and for what purpose are to be collected. It will aid local contacts in the participating countries in this task. This task will complement country-level assessments on investment climates by other organizations and other WPs.

The below categories are indicative, as the structure of the country-specific rules and regulations may vary and may be covered by different sets of laws in each country. There may be also not so clear delimitation between different laws and policy documents.

There are also a number of questions that specifically concern Artisanal and Small-scale Mining (ASM)

It is not expected that all questions are being addressed, however, the relatively detailed questions below intend to indicate what kind of information is thought. Respondents can ignore questions for which they are not competent or to which they have no answer.

Mineral and mining policies

The overarching policy document is the African Mining Vision (African Union, 2009) and different countries will have developed their own strategic policy documents. These should be listed and summarised. Please provide information on the responsible bodies (e.g. the competent ministry) with contact information. Policy questions to address also include:

- Which laws regulate ownership and group structures?
- Are there any requirements in relation to the holding of equity in exploration and mining projects by local people e.g., is an investor required to allocate or cede shares to local owners?
- Are there any special rules or restrictions applicable to foreign investors?
- Identify any rights that the State may have e.g., does the State have any rights to equity in mining projects?
- Are there any requirements for listing on the local stock exchange?
- Are there any requirements to beneficiate/process minerals mined within the country?
- Are there any restrictions on the export of minerals?
- Are there any statutory consents required to dispose of rights to explore and mine?
- Are there any restrictions on disposals of controlling interests in entities holding exploration or mining rights?



- Are there any requirements to periodically renew mining or exploration licenses?
- Are there any special laws and policies applicable to specific commodities (e.g., diamonds, precious metals, nuclear fuel cycle elements)?
- Are there any special laws and policies applicable to artisanal and small-scale (ASM) mining?
- Are there any policy provisions aiming at licensing and formalisation of ASM stakeholders?
- How often the policies are reviewed and updated? *WEF: not sure this is a good question, as it usually happens, when a perceived need arises, not on a regular basis*
- Is the country signatory to any international conventions relevant to mineral extraction (e.g., Aarhus-, Basel-, London-, MARPOL-, Minamata-, UNECE Water-, or the UN Conventions on Combatting Desertification and on Biodiversity)?

Governance

Governance within the mining industry itself and that pertaining to the government-industry relationship is a key factor to ensure corporate sustainability and responsible operations. Therefore, it is of high the assessment of the legislative requirements on corporate structure, and mandatory disclosures.

- Are there any laws and measures against bribery and corruption?
- Are there any specific regulatory provisions for transparency in the mining industry?
- Has the country joined EITI, and if not, what are the reasons for not joining?
- Which types of disclosures are mandatory?
- How are the transparency and comprehensiveness of disclosures assessed?
- Are there regulations or requirements on the type of ESG performance reporting and assessment practices (self-reported performance or third party rating)?
- Are there any regulatory provisions for board independence?
- Are there any regulatory provisions aimed at considering and balancing interests of stakeholders (different from shareholders)?
- Are there regulations that reserve the Government participation into governance bodies (ie. Golden share)?
- Are there regulations that favour the participation of local communities in governance bodies?

Mining regulations

Please describe the pertinent laws on exploitation of mineral raw materials re. minerals rights, code of mining etc.

- How are exploration licenses granted, what mechanisms are applied?
- How are mining licenses granted, what mechanisms are applied?
- Are there administrative appeals in the mining law?



- What requirements exist for community and stakeholder consultation during the permitting processes?
- Are the mining codes and standards comparable to those in the EU?
- Are there assurance and verification systems in place to ensure implementation of the mining standards?
- What are the laws, policies, requirements for provisions pertaining to mine closure and remediation, including the provisions of bonds?
- What are the law and policies pertaining to mine care and maintenance? *WEF: I am not sure that I understand this question, does it pertain to mines in a so-called 'care and maintenance' state, i.e. inactive mines?*
- What are the instruments and means for monitoring regulatory compliance of mining and exploration operations?
- Are there laws, regulations, or rules in place the type of tailings storage or disposal (e.g., dewatered tailings piles, construction of tailings dams)?
- Are there any regulations on the use of mercury (Hg), specifically in ASM? What are the means of enforcement? *WEF: note that gold mining is not within the remit of AfricaMaVal!*
- Are there any regulations on wastes and residues containing Naturally Occurring Radioactive Materials (NORM), e.g. Tantalum waste, Tin slags?
- Is the regulator for NORM different from the mining or environmental regulator?
- What are the means to sanction non-compliance?
- Which organisation is responsible for monitoring regulatory compliance?
- Are there any legal requirements for the procurement of local goods and services by mining operations?

Taxation and Royalties

Policies on taxation and royalties can be decisive elements to attract or deter foreign investment, but are also important instruments to ensure that a fair share of the wealth generated by extraction remains in the source country. An important governance aspect is also, whether the respective policies and regulations are stable and predictable and are implemented in a transparent way.

- Are there special rules applicable to the taxation of exploration and mining companies?
- Is the transfer of mining rights subject to the payment of taxes?
- Are there any royalties payable to the State over and above any taxes?
- Are there restrictions on repatriating profits for foreign investors?
- What systems are in place to administrate and and manage the collection of the taxes?
- Is there a set percentage of profits that the mining sector is mandated to reinvest into the sector?



- Are there any provisions for (foreign) investors, such as tax exemptions, tax holidays, tax reductions?
- What are the regulations or systems in place for the reinvestment of taxes and mining royalties into the local mining communities, for example, reinvestment into local infrastructure enhancements (utilities, roads)?
- What are the systems in place for reinvestment of tax revenue into education of local ASM communities and promotion of better and safer mining practices?
- What are the tax/royalty rules pertaining to mines under care and maintenance?

Land-use and mineral rights

Please describe the rules and regulations with respect to land ownership and mineral rights, land-use and tenure

- Which are the relevant land-use planning and zoning regulations?
- Are maps available that clearly indicate the zoning and protected areas (see below)?
- What are the rights of the holder of an exploration right or mining right to use the surface necessary or incidental to an exploration or mining operation?
- Are there any native land titles or regulations that have implications for exploration and the mining industry?
- Are there provisions for Free Prior and Informed Consent (FPIC) when acquiring land for mining from the people.
- Is there a constitution that has an impact upon rights to prospect and mine?
- Are there restrictions in place on the use of specific equipment or heavy machinery for ecological or habitat protection reasons?
- Are there any land-use restrictions with respect to the type of mining method (e.g., open-pit vs. underground mining)?
- Are there any specific regulations that prevent or limit exploration or mining near to or in protected areas (ecological sensitive areas, nature reserves, Natura 2000 sites, cultural heritage sites, etc.)?
- Are any sites in the country inscribed on UN World Natural Heritage List?
- Are there any regulations which prevent or limit mining rights near to areas of conflict?
WEF: I am not sure what conflicts this refers to, war-zones, conflicting land-uses?

Environment

Please describe the pertinent environmental legislation, including how this legislation is applied and by which responsible body.

- Which are the relevant laws on the protection of biodiversity including forest protection?
- Which are the laws on wetland protection?

- If the country is a signatory to certain UN conventions pertaining to the environment (see above), how is compliance monitored and non-compliance sanctioned?
- Are there regulatory requirements to have emergency preparedness plans and response programmes in place and are these revised regularly?
- Which are the laws on air emissions to the environment (GHGs, particulates, cyanide, Hg, vapour, VOCs, dioxins, PCBs, including emerging substances such as PFAS, etc.) for operations and extractive waste management sites including tailings dams?
- Which are the laws on soil protection?
- What are the regulations for soil monitoring down stream from mining activities or around extractive waste management sites, including tailings dams re. contamination by eroded material or dust?
- Are there any policies in place on climate change resilience of operational or closed/ remediated sites?
- What are the laws and regulations for (hazardous, non-hazardous) extractive waste management (disposal, re-use)?
- Are mining operations required to periodically review their environmental and extractive waste management plans?
- Which are the policies and regulations on mine-closure and environmental remediation of closed or abandoned mines (mining legacies)?
- Are there regulatory provisions for the life-cycle management of extractive operations that cover the long-term management of extractive waste (stewardship) and community sustainability after the end of mining?
- Are there regulatory provisions the reprocessing of legacy tailings stored/disposed on site re., for instance, the creation of potentially contaminated dust or releases of contaminated effluents)?
- Are there any laws or regulations on energy consumption in mining operations?
- Are there any specific regulations related to the use of renewable energy in mining operations?

Water

Water resources management is an overarching task and relevant from both, the aspect of protection and the availability for the mining operation. In many African countries surface and groundwater resources are limited due to climatological limitation and competition between mining and drinking or irrigation water can be a limiting factor.

- What are the water resources policies of the country?
- How is competition between (prospective) users of groundwater and surface waters resolved to ensure fair use (wetland protection, irrigation rights, clean drinking water for humans and animals, processing waters, etc.)?
- What are the laws and regulations on the protection of groundwater and surface water resources?

- Are water resources included in the environmental legislation or separate?
- Which are the regulations on water emissions (acid rock drainage, heavy metals, arsenic, cyanide, radionuclides, etc.) to the environment from mine operations?
- Are there regulations or standards of practice for the environmental monitoring of aqueous emissions (e.g. dissolved constituents such as heavy metals, radionuclides, arsenic, cyanide, and pH) from extractive waste disposal sites, including tailings dams?
- Are there any regulations related to the recycling of water in mining sites?
- Are there any regulations related to wastewater disposal?

Tangible and Intangible Cultural Heritage

Extraction projects may affect sites of tangible or intangible cultural heritage, such as archaeological sites or sites of spiritual value.

- Which are the laws and policies on the protection of such cultural heritage?
- Are any sites in the country inscribed on UN World Cultural Heritage List?
- Are there laws, regulations or standards of practice for what to do should any archaeological or fossil remains be encountered during mining activities?

Societal and Community Aspects

Communities are affected by extractive operations in a wide variety of ways. There can be both, positive and negative impacts.

- Is there any legislation on the protection of information (like the EU GDPR)?
- What are the regulatory provisions, if any, for public participation in decision-making processes, e.g. permitting, on extractive operations?
- Are there any specific regulations related to involvement of local communities in order to perceive economic benefits or incentives to mining activities?
- Are there any regulatory provisions for complaints and arbitration?
- Is there any artisanal mining and what is the percentage contribution to GDP?
- Is artisanal mining integrated into the regular economy or untaxed and unregulated?
- Are there data/statistics on jobs (primary/secondary) in the mining sector?
- Is there information on social conflicts in the mining areas?
- Are there any regulatory provisions for fostering actions that enhance social inclusion, protect the members of community involved in the artisanal mining?
- Are there any requirements or programmes to ensure awareness raising and access to information for the local community?
- Are there any regulatory provisions for indigenous workforce participation?

- Are there any regulatory or policy provisions to encourage mining companies to provide for training in local communities and to encourage their participation in related economic activities?
- Are there any regulatory provisions for the protection of the workforce's human rights?
- Are there any specific regulations related to female workforce participation (gender mainstreaming)?
- Are there any specific regulations related to the prevention of child labour?

Operational Health and Safety (OHS) and labour regulations

Protection of the health and safety of workers in the extractive industries is a continuing challenge world-wide.

- Which are the relevant OHS laws and regulations?
- Is there mining-specific OHS legislation?
- How is the OHS legislation enforced?
- What policies to foster compliance are in place?
- Which body is responsible for the implementation and supervision of this legislation?
- What is the role of trade unions in the mining industry?
- Which are the laws and regulations on the resolutions of labour conflicts, including strikes and walk-outs?
- What are the regulations and/or standards of practice or provisions to ensure in particular ASM workers' safety?
- Are there requirements and mechanisms for the education of ASM workers on better mining and processing practices, in particular also for gold mining without the use of Hg? **WEF: note that gold mining is not within the remit of AfricaMaVal!**

Public Health and Safety

Extractive operations can have significant off-site effects and impacts. To a great extent these are covered by the relevant environmental legislation, but certain aspect may be covered by other bodies of legislation.

- Which is the legislation that covers the protection of the public from emission (e.g. dust)?
- Is the mining-related traffic on public roads regulated in any specific way (e.g. road safety codes)?
- Are potentially affected stakeholders consulted and involved in the development and maintenance of emergency preparedness planning?
- Are there any requirements for public disclosure and access to information, at least for the immediate communities of the possible dangers or health impact in place (should there be e.g. dam failure or a release of contaminated dust or water into the environment, etc)?
- Are local community members monitored for potential long-term health impacts and are any specific compensation schemes in place?



References

- African Union (2009): African Mining Vision.- 47 p.,
https://au.int/sites/default/files/documents/30995-doc-africa_mining_vision_english_1.pdf.
- CIA (ny): The World Fact Book.- <https://www.cia.gov/the-world-factbook/>.-
- LEXAfrica (2019): Guide to Mining Regimes in Africa.- 86 p., <https://www.lexafrica.com/wp-content/uploads/2019/02/LEX-Africa-MINING-GUIDE-DIGITAL.pdf> (accessed 02.06.22).
- African Economic Outlook 2022, Supporting Climate Resilience and a Just Energy Transition in Africa, <https://www.afdb.org/en/knowledge/publications/african-economic-outlook>

Annex D: WP5 Methodology for data collection





Methodologies to collect, process, store and share Data

The procedure for subscribing and associated quality management and GDPR compliance will be done with the support of WP9 and the external ethics advisor.

- A. Information being gathered is 3 parts i.e.
 - a. Information about the businesses offering products and services and those in need of products and services
 - b. Information about the business's products or services
 - c. Information about a person that can be contacted at the business
- B. Desktop Research: Refer to [GDPR](#) below
 - a. Web Scraping Publically, Open and Free Data about businesses, and relevant stakeholders (only collecting and storing information that is required for this project, informing individuals where personal data is collected at a minimum to consent for us to utilize their information, or request it to be updated, or purged)
 - b. Aggregating information that is gazetted in official publications
- C. Using tools like
 - a. Google Forms,
 - b. Survey Monkey,
 - c. Open Data Kit and
 - d. Microsoft Forms to collect data while abiding to GDPR in how we structure our questionnaires depending on the audience or segment or medium we are using to reach the intended audience.
- D. Data Processing, Data Storage, Data Sharing, Data Extraction, Transform and Loading will be carried out on Cloud Service Providers such as Azure, AWS, GCP, and many others by so doing inheriting the Data policies and security that come in built with these providers, selecting zones and regions to which will comply with any sensitive data we may collect or share. Access Management to information will be easier to implement, Data availability will be improved, and above all, Data audits will be easier to handle.
- E. Data Access
 - a. The data subject will only access raw data should they want to have a copy or purge their data.
 - b. Data will be abstracted depending on need, i.e. visualized where possible or through reports or information analysis.



General Data Protection Regulations we Shall follow:-

The GDPR defines an array of legal terms at length. Below are some of the most important ones

1. Personal data — Personal data is any information related to an individual who can be directly or indirectly identified. Names and email addresses are personal data. Location information, ethnicity, gender, biometric data, religious beliefs, web cookies, and political opinions can also be personal data. [Pseudonymous](#) data can also fall under the definition if it's relatively easy to ID someone from it.
2. Data processing — Any action performed on data, whether automated or manual. The examples cited in the text include collecting, recording, organizing, structuring, storing, using, erasing... and anything.
3. Data subject — The person whose data is processed. These are your customers or site visitors.
4. Data controller — The person who decides why and how personal data will be processed. If you're an owner or employee in your organization who handles data, this is you.
5. Data processor — A third party that processes personal data on behalf of a data controller. The GDPR has special rules for these individuals and organizations.

If you process data, you have to do so according to seven protection and accountability principles outlined in [Article 5.1-2](#):

1. Lawfulness, fairness, and transparency — Processing must be lawful, fair, and transparent to the data subject.
2. Purpose limitation — You must process data for the legitimate purposes specified explicitly to the data subject when you collected it.
3. Data minimization — You should collect and process only as much data as necessary for specified purposes.
4. Accuracy — You must keep personal data accurate and up to date.
5. Storage limitation — You may only store personally identifying data for as long as necessary for the specified purpose.
6. Integrity and confidentiality — Processing must be done in such a way as to ensure appropriate security, integrity, and privacy (e.g., by using encryption).
7. Accountability — The data controller is responsible for demonstrating GDPR compliance with these principles.



Accountability

The GDPR says data controllers have to be able to demonstrate they are GDPR compliant. And this isn't something you can do after the fact: If you think you are compliant with the GDPR but can't show how then you're not GDPR compliant. Among the ways you can do this:

- Designate data protection responsibilities for your team.
- Maintain detailed documentation of the data you're collecting, how it's used, where it's stored, which employee is responsible for it, etc.
- Train your staff and implement technical and organizational security measures.
- Have Data Processing Agreement contracts with third parties you contract to process data for you.
- Appoint a Data Protection Officer (though not all organizations need one — more on that in [this article](#)).

Data security

You must handle data securely by implementing “[appropriate technical and organizational measures](#).”

Technical measures require employees to use two-factor authentication on accounts where personal data are stored to contract with cloud providers that use end-to-end encryption.

Organizational measures include staff training, adding a data privacy policy to your employee handbook, or limiting access to personal data only to employees in your organization who need it.

If you have a data breach, you have 72 hours to tell the data subjects or face penalties. (This notification requirement may be waived if you use technological safeguards, such as encryption, to render data useless to an attacker.)

1. The data subject gave you specific, unambiguous consent to process the data. (e.g., They've opted into your marketing email list.)
2. Processing is necessary to execute or to prepare to enter into a contract to which the data subject is a party. (e.g., You need to do a background check before leasing property to a prospective tenant.)

There are strict new rules about to process their information.

- Consent must be “freely given, specific, informed, and unambiguous.”
- Requests for consent must be “clearly distinguishable from the other matters” and presented in “clear and plain language.”
- Data subjects can withdraw previously given consent whenever they want, and you must honor their decision. You can't change the legal basis of the processing to one of the other justifications.



- Children can only give consent with permission from their parents and according to the law governing data collection in that country.
- You need to keep documentary evidence of consent.

Annex E: WP5 Data collection





High-Level Overview of Data to be Collected

1. **Africa & EU Data**
 - 1.1. **Country Name**
 - 1.2. **Country Location (southern Africa, western Africa, southern Europe...)**
 - 1.3. **Main CRM Value Chain (including using results from WP1)**

2. **Business Data**
 - 2.1. **Business Name**
 - 2.2. **Business Contact Details**
 - 2.2.1. Business Email
 - 2.2.2. Business Telephone
 - 2.2.3. Business Address
 - 2.2.4. Business Website
 - 2.3. **Business Contact Person**
 - 2.3.1. Business Contact Person's Name
 - 2.3.2. Business Contact Person's Email
 - 2.3.3. Business Contact Person's Telephone
 - 2.3.4. Business Contact Person's Designation
 - 2.4. **Business category** - products and services (mineral producer, mineral processor, service provider, equipment provider, educational provider, research organization)
 - 2.4.1. List of products and services
 - 2.4.2. State of Products: processed, semi-processed, raw
 - 2.4.3. Type mineral(s)
 - 2.4.4. Capacity: please be precise for what?
 - 2.5. **Business Size**
 - 2.5.1. Business Size (staff): 0-10, 11-20, Above 100
 - 2.5.1.1. No of Female.....No of Male.....
 - 2.5.2. Business Capacity:
 - 2.5.3. Business Age: 0-2 years, 2-5 years, 5-10 years, 10+ years
 - 2.5.4. Business Registration: informal, formal, community
 - 2.6. **Business Target Market**
 - 2.6.1. Market localization: local, regional, or international?
 - 2.6.2. Market status: have a contract agreement, MoU, or sell to anyone available?
 - 2.6.3. Market negotiation: are brokers interfering between buyer and seller?

Annex F: Draft version of a Metadata Sheet





Metadata sheet

Please separate multiple values with semicolons

* Required fields are indicated by red asterisk

General information about the data

AfricaMaVal data id	<input type="text"/>
Partner-specific data id	<input type="text"/>
DOI (if assigned)	<input type="text"/>
Title*	<input type="text" value="Data title"/>
Description	<input type="text" value="Data description"/>
Keywords*	<input type="text" value="keyword 1; keyword 2"/>
Data creator(s)*	<input type="text" value="Firstname1 SURNAME1 (Entity1); Firstname2 SURNAME2 (Entity2)"/>
Data creator e-mail*	<input type="text" value="f1.surname1@entity1.com"/>
Data supplier*	<input type="text" value="BRGM"/>
Data supplier e-mail*	<input type="text" value="contact-brgm@brgm.fr"/>
Creation date*	<input type="text" value="27/10/2022"/> (jj/mm/yyyy format)
Comments	<input type="text" value="About the general information: more detail about the items, alternative title, other involved project, if the data is part of a larger dataset, etc."/>

Data confidentiality (reasons must be given for all non-public data)

Category of access restrictions*	<input type="text" value="Green [with DOI - open access - public data]"/>
Reasons for access restrictions*	<input type="text"/>
Personal data*	<input type="text" value="Only non-personal data"/>

Information about the metadata sheet

Sheet creator*	<input type="text" value="Firstname1 SURNAME1 (Entity1); Firstname2 SURNAME2 (Entity2)"/>
Sheet contact e-mail*	<input type="text" value="f1.surname1@entity1.com"/>
Sheet first creation date*	<input type="text" value="17/11/2022"/> (jj/mm/yyyy format)
Sheet last update*	<input type="text" value="17/11/2022"/> (jj/mm/yyyy format)

Related work package(s) and task(s)

Associated WP/task*	<input type="text" value="WP1 - Supply potential"/>
Optional second related WP/task	<input type="text" value=" > Task 1.1"/>
Optional third related WP/task	<input type="text"/>
Optional WP/task for intended re-use	<input type="text"/>

Related publication (if any)

Id / DOI	<input type="text"/>
Author(s)	<input type="text"/>
Title	<input type="text"/>
Year	<input type="text"/>
Editor	<input type="text"/>

Spatial coverage

Country/Region/Locality*	<input type="text" value="Africa"/>
Coordinate system	<input type="text" value="WGS84 latitudes-longitudes (EPSG 4326 or 4979)"/>
Longitude min (dd) / x min (m)	<input type="text"/>
Longitude max (dd) / x max (m)	<input type="text"/>
Latitude min (dd) / y min (m)	<input type="text"/>
Latitude max (dd) / y max (m)	<input type="text"/>

Data characterisation (at least 1 thematic, type and format)

● Thematic 1*	<input type="text" value="Projects Value Chain"/>
Type*	<input type="text" value="Geological map"/>
Format*	<input type="text" value="GIS files"/>
Additional information (acquisition method, uncertainties...)	<input type="text"/>
● Thematic 2*	<input type="text"/>
Type*	<input type="text"/>
Format*	<input type="text"/>
Additional information (acquisition method, uncertainties...)	<input type="text"/>
● Thematic 3*	<input type="text"/>
Type*	<input type="text"/>
Format*	<input type="text"/>
Additional information (acquisition method, uncertainties...)	<input type="text"/>