LOESS

LITERACY BOOST THROUGH AN OPERATIONAL EDUCATIONAL ECOSYSTEM OF SOCIETAL ACTORS ON SOIL HEALTH

PROJECT COORDINATION AND MANAGEMENT (WP1)

D1.2 Data Management Plan (DMP)

PROJECT DETAILS	**Project acronym** LOESS	**Project title** Literacy Boost through an Operational Educational Ecosystem of Societal actors on Soil health
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Deliverable 1.2

Data Management Plan (DMP)

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List of abbreviations

CC	Creative Commons
CoP	Community of Practice
D	Deliverable
DMP	Data management plan
DoA	Description of the Action
DOI	Digital Object Identifier
EIG	Education Innovation Group
EU	European Union
FAIR	Findable, accessible, interoperable, and re-usable (when applied to data sets)
GB	Gigabyte
GDPR	General Data Protection Regulation
IPR	Intellectual property rights
JSON	JavaScript Object Notation
KO	Key Output
MB	Megabyte
R&I	Research and innovation
RIA	Research and Innovation Action
WP	Work package

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1 Introduction and background

1.1 LOESS project introduction

The LOESS project will focus on increasing soil literacy, via developing educational offers and continuous training programmes as well as skills development activities addressing multiple actors, stakeholders and target groups connected to soil education, such as school pupils and university students, teachers, professors, or trainers.

A sustainable improvement of soil health can only be achieved by increasing soil literacy and raising people's awareness of the vital importance of soil. This needs to be done by engaging all relevant actors and by demonstrating the value of improved methodologies for increasing soil literacy in real-life conditions.

1.2 Introduction to Data Management in LOESS

The current Data Management[1] document will cover all 3 phases of the project, where data collection, processing and distribution will occur:

- **Phase 1: The Knowledge Base** will be designed to provide information in an attractive way, using existing resources such as projects, training material or visualised soil data, so that the participants are encouraged to learn and participate. At the same time, stakeholders will be invited to participate and share their knowledge and express their requests and needs.
- **Phase 2: Engagement, Content Definitions and Capacity Building** will use Parties' and actors' own knowledge to integrate soil health topics that are impact oriented into education. This will be possible through the exchange of knowledge between different actors. These will be assembled in 15 pilot regions in a community of practice (CoP). Communities of practice (CoP) are relevant actors like soil experts, behavioural scientists, specialists in pedagogy, education, and communication, policymakers as well as soil-dependent business representatives, interested communities and citizen's organizations. Each national CoP is consisting of different actors from civil society, scientists, practitioners, and members of local, regional or national governments.
- **Phase 3: Campaigning (Action)** will create future visions for a healthy soil landscape in 2030 (and after). Developed modules will be piloted in synergy with actions associated with the Living Labs and Lighthouses established through the European Mission 'A Soil Deal for Europe'. Modules will support a broader and wider engagement for soil health by lowering barriers to engagement and action for a large number of actors and raising awareness for soil ecosystem services among civil society, practitioners and the next generation of stakeholders.

[1] https://ec.europa.eu/research/participants/data/ref/h2020/gm/reporting/h2020-tpl-oa-data-mgt-plan_en.docx is a template for DMPs provided by the EC.

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To consider the degree to which partners' in-house data management and protection regulations vary and to ensure standardization across the project, we define in the current DMP the procedures and responsibilities, to be implemented by the project management (WP1) and the rest of partners.

Special mention to the processing of personal data to make sure that the plan complies with ethical and privacy principles. It will contain specific guidelines for all partners to adhere to regarding data collection, storage, and long-term protection. These will meet the standards expected by the EU as well as partners with the most rigorous in-house and national expectations. In addition, the consortium just appointed an independent Ethics Advisor (Deliverable D7.1. requirement).

1.3 Data Management Objectives

This document is the first version of the data management plan (DMP) for the LOESS project. The DMP provides descriptions of the data and documentation used in LOESS and provides an outline of how the data is managed, shared, and preserved. Data management is an important part of the project, which harmonizes, manipulates, and displays a wide array of data sources, with all the documentation (mostly training materials) made publicly available.

This DMP describes the steps undertaken by the Consortium to make the data catalogued and **generated** by LOESS to be findable, accessible, interoperable, and re-usable (FAIR). FAIR approach is explained in more detail in page 20. It's important to mention that the project will generate new data as far it is needed in WP3 but also an important work of cataloguing and compilation of existing data will be done in WP2. In other words, in WP2 we will do the work of **identification** and **mapping** of training resources and needs related to soil literacy. The DMP is framed in accordance with the "Guidelines on FAIR Data Management in Horizon 2020" [2], which lists the following points that have to be addressed by a DMP that promotes FAIR data (see also Figure 1):

- the handling of data (soil learning materials and identification data from participants) during and after the end of the project,
- what data will be collected, processed and/or generated,
- which methodology and standards will be applied,
- whether data will be shared/made open access, and
- how data will be curated and preserved (including after the end of the project).

[2] European Commission. Guidelines on FAIR Data Management in Horizon 2020. [Online] 2016. https://ec.europa.eu/research/participants/data/ref/h2020/grants_manual/hi/oa_pilot/h2020-hi-oa-data-mgt_en.pdf

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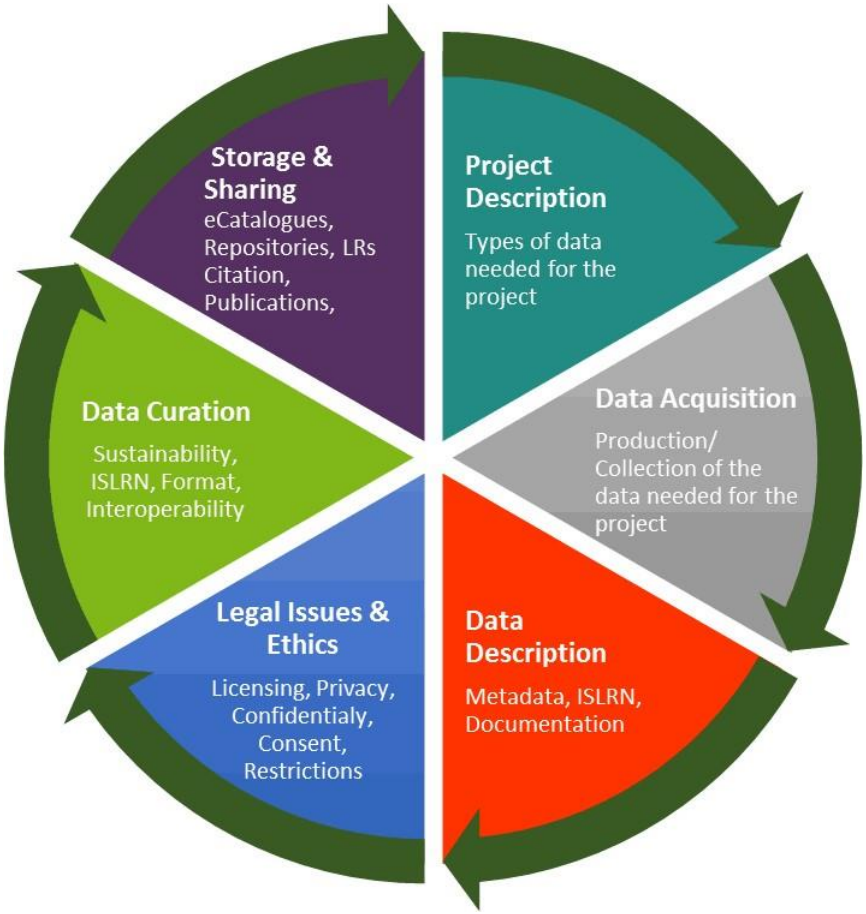

Figure 1 Documented phases of a Data Management Plan[3]

1.4 Data Topics overview

To cover exhaustively all subjects related to Data Management in the project, the topics to have into account into the DMP were obtained using the *DPM online tool* provided by DCC[4]. The summary of the generated document with this tool has been added as an annex at the end of the of the document in page 40.

1.5 Data Guidelines summary table

The European Commission's "Guidelines on FAIR Data Management in Horizon 2020" provide a summary table with a detailed list of the specific issues that should be addressed in the Data Management Plan. This table has been reproduced below and includes the location of where each issue is addressed within this document.

[3] 3. ELRA. Data Management Plan. [Online] 2020. http://www.elra.info/en/services-around-lrs/dmp/ Also adapted from www.data-archive.ac.uk/create-manage/life-cycle

[4] Digital Curation Center. DMPonline. [Online] 2020. https://dmponline.dcc.ac.uk/

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Figure 2 Guidelines summary table. The page to find the answer in the right column.

DATA SUMMARY	
State the purpose of the data collection/generation.	Page 8
Explain the relation to the objectives of the project.	Page 9
Specify the types and formats of data generated/collected.	Page 13
Specify if existing data is being re-used (if any).	Pages 8, 23
Specify the origin of the data.	Pages 13, 17
State the expected size of the data (if known).	Page 22
Outline the data utility: to whom will it be useful.	Page 19
FAIR DATA: MAKING DATA FINDABLE, INCLUDING PROVISIONS FOR METADATA	
Outline the discoverability of data (metadata provision).	Page 21
Outline the identifiability of data and refer to standard identification mechanisms. Do you make use of persistent and unique identifiers such as Digital Object Identifiers?	Page 22
Outline naming conventions used.	Page 22
Outline the approach towards search keyword.	Page 22
Outline the approach for clear versioning.	Page 23
Specify standards for metadata creation (if any). If there are no standards in your discipline describe what metadata will be created and how.	Page 23
FAIR DATA: MAKING DATA OPENLY ACCESSIBLE	
Specify which data will be made openly available? If some data is kept closed provide rationale for doing so.	Pages 21, 23
Specify how the data will be made available.	Pages 21, 25
Specify what methods or software tools are needed to access the data? Is documentation about the software needed to access the data included? Is it possible to include the relevant software (e.g., in open-source code)?	Pages 21, 23, 25
Specify where the data and associated metadata, documentation and code are deposited.	Page 25
Specify how access will be provided in case there are any restrictions.	Page 21
FAIR DATA: MAKING DATA INTEROPERABLE	
Assess the interoperability of your data. Specify what data and metadata vocabularies, standards or methodologies you will follow to facilitate interoperability.	Pages 21, 21

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Specify whether you will be using standard vocabulary for all data types present in your data set, to allow inter-disciplinary interoperability? If not, will you provide mapping to more commonly used ontologies?	Page 22
FAIR DATA: INCREASE DATA RE-USE (THROUGH CLARIFYING LICENSES)	
Specify how the data will be licenced to permit the widest reuse possible.	Page 23
Specify when the data will be made available for re-use. If applicable, specify why and for what period a data embargo is needed.	Pages 21, 23
Specify whether the data produced and/or used in the project is useable by third parties, in particular after the end of the project? If the re-use of some data is restricted, explain why.	Pages 21, 23, 25
Describe data quality assurance processes.	Page 21
Specify the length of time for which the data will remain re-usable.	Pages 25, 25
ALLOCATION OF RESOURCES	
Estimate the costs for making your data FAIR. Describe how you intend to cover these costs.	Page 26
Clearly identify responsibilities for data management in your project.	Page 26
Describe costs and potential value of long-term preservation.	Pages 25, 26
DATA SECURITY	
Address data recovery as well as secure storage and transfer of sensitive data.	Page 25
ETHICAL ASPECTS	
To be covered in the context of the ethics review, ethics section of the Description of the Action (DoA) and ethics deliverables. Include references and related technical aspects if not covered by the former.	Pages 27, 34

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2 Data definition and classification (types and formats)

This section describes the types of data that will be generated or collected during the research, including raw data, processed data, and any associated documentation, like the identification of existent training materials related to soil. This section will also specify the file formats, data standards expected and formats for training modules considered.

2.1 Definition of Data in LOESS

The data in LOESS can be organized in these groups:

1. **Training materials and documentation**. Collected of pre-existing training materials and creation of new materials about soil. We will catalogue existent training materials about soil, and we will create new training materials to fill content gaps in soil literacy.
2. **Datasets** as part of the above training materials.
3. **Internal project documentation**. Project Deliverables and related project information. For example: (1) any memos, abstracts/articles published along the project as a result of workshops in the CoP or EIG. (2) Data from paper-based/online questionnaires.
4. **Personal Data**. Contact information (i.e., names, phone, e-mail addresses) of project partner representatives and Project external individuals and stakeholders (i.e., names, phone, e-mail addresses, affiliation). Personal data section can be found in page 27.

2.2 Basic file data formats

Different formats of documentation are collected and generated within the LOESS project. The main data formats could include:

- Audio files: .mp3, .wav, .wma, .ra
- Databases: .csv, various .sql like databases, hdf5 databases
- Documents/Reports/Publications: ASCII, .PDF/A, txt, doc/docx. Microsoft Office for text-based documents (or any other compatible version) .doc, .docx, .xls, .xlsx, .ppt, .pptx. Also, especially where larger datasets need to be dealt with, .csv and .txt file formats will be used. All finished and approved documents will also be made available as .pdf documents.
- Pictures: .jpg, .png, .tif, .svg. Illustrations and graphic design will make use of Microsoft Visio (Format: .vsd), Photoshop (Format: different types possible, mostly .png), and will be made available as .jpg, .psd, .tiff and .ai files.
- Spreadsheets: .xls/.xslx
- Video: .avi, mov, mp4, wmv. Quicktime Movie or Windows Media Video for video files.
- Software. Python other programming languages could be used as a part of a learning experience.

These file formats have been chosen because they are accepted standards and in widespread use. Files will be converted to open file formats where possible for long-term storage.

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2.3 Training material formats

Training materials can be presented in various formats depending on the context, content, audience, and objectives of the training. Here's a list of popular formats and brief descriptions:

Printed Materials

- Manuals and Handbooks: Comprehensive materials that provide in-depth information on soil health topics. They're often used for reference.
- Worksheets: Printable sheets that can be filled out during training to apply what's learned.
- Brochures: Condensed material often used for quick reference.

E-Learning & Digital Content

- Webinars: Live online presentations, workshops, or seminars.
- Interactive Modules: Online courses where learners interact with the content, often used for e-learning training. Have a look to next sections about online training platforms (page 15) and formats for digital courses (page 16).
- Video Tutorials: Pre-recorded videos explaining a topic or demonstrating a process.
- Podcasts: Audio recordings on specific subjects that can be listened to on-demand.
- E-books and PDFs: Digital books or documents that can be read on devices.
- Simulations: Virtual environments where learners can practice skills.

Slides and Presentations

- Flowcharts: Diagrams showing processes.
- PowerPoint Presentations: Commonly used for lectures and meetings.
- Flipcharts: Used in face-to-face settings for brainstorming and presentations.
- Whiteboards and Digital Boards: Used to illustrate concepts during live trainings.
- Cheat Sheets: Quick reference guides.
- Flowcharts: Diagrams showing processes.
- Case Studies: Real or fictional scenarios used to analyse situations and make decisions.

Multimedia and Interactive Media

- Animations: Moving graphics used to explain complex concepts.
- Interactive Games: Engaging activities that help in knowledge retention.
- Virtual Reality (VR) and Augmented Reality (AR): Immersive technologies for experiential learning.

Mobile Learning

- Apps: Dedicated mobile applications for training.
- Flashcards: Digital cards for quick recall and revision.
- Mobile-Compatible Courses: E-learning courses optimized for smartphones and tablets.

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Assessments and Exams

- Quizzes: Short assessments to gauge understanding.
- Tests: More extensive evaluations of knowledge.
- Simulated Assessments: Real-world tasks performed in a controlled environment.
- Checklists: Lists to ensure all steps or considerations are covered.

When designing or choosing training materials, it's essential to consider the objectives, the audience's needs and preferences, and the training environment. Different formats can also be combined for a more comprehensive learning experience on soil health literacy.

2.4 Online training platforms (LMS)

We are considering several training platforms, learning management systems (LMS) like Moodle. We will prioritize open-source solutions. While SCORM itself isn't open-source, there are open-source tools available for creating SCORM-compliant courses, like eXeLearning and Reload Editor. SCORM packages can be imported into most LMS platforms, including open-source options like Moodle. Below is a list of some popular open-source solutions:

- **Moodle**: An open-source LMS that allows users to build and customize their own private websites filled with dynamic courses for education and training.
- **Open edX**: An open-source platform originally developed by Harvard and MIT. It's used by many educational institutions around the world to host Massive Open Online Courses (MOOCs) and other digital learning experiences.
- H5P: This is an open-source content collaboration framework that allows users to create, share, and reuse rich, interactive HTML5-based content. It can be integrated with platforms like Moodle, WordPress, and Drupal.
- Chamilo: An open-source LMS that supports SCORM and offers tools for creating online courses, assessments, and more.
- Adapt: An open-source eLearning authoring tool that produces responsive, HTML5-based content. It has a community that contributes plugins, making it adaptable and extensible.
- Canvas (Community Version): While Canvas offers a paid version, they also provide an open-source version of their LMS for those who want to host and manage it themselves.
- ILIAS: Another open-source LMS that supports SCORM and offers a variety of tools for creating and managing online courses.

The **MOOC** that **EUN** will carry out will use **Open edX**.

Other commercial solutions:

- Blackboard Learn: Widely used by educational institutions, it offers various tools for course management and student engagement.
- Canvas: A modern, adaptable LMS popular in many educational institutions.
- Schoology: Offers course management, mobile learning, and a communication platform.

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- Edmodo: A social learning platform that allows teachers and students to collaborate.
- TalentLMS: A highly versatile cloud LMS that streamlines the process of compliance and corporate training for a variety of businesses.
- LearnDash: A WordPress LMS plugin, it enables users to create and sell courses, deliver quizzes, award certificates, and more.
- Totara Learn: Built on Moodle, it's tailored for corporate, government, healthcare, and other sectors.
- Docebo: Known for its intuitive interface and robust set of features that are specially designed for businesses.
- Litmos by SAP: A cloud-based continuous learning suite that's suitable for global organizations.
- Brightspace by D2L: Offers a personalized learning experience for learners in a variety of academic and corporate settings.
- Thinkific: Helps users create, market, and sell their own online courses.
- Teachable: Another platform for creating and selling courses online.
- Google Classroom: While not a full LMS, it is a free tool by Google for teachers and students to manage assignments, communicate, and collaborate. There's also a paid version. Both versions are not open source.
- Coursera for Business: For organizations looking to train their teams with courses created by top universities and institutions.
- Udemy for Business: Offers a collection of courses tailored for business needs.
- Kajabi: An all-in-one platform for creating, marketing, and selling courses and memberships.

2.5 eLearning content formats

SCORM (Sharable Content Object Reference Model) is one of the most widely recognized specifications for eLearning content. However, there are several other standards and course formats in the eLearning space. Here's a list of some of the most notable ones:

- SCORM 1.2: An earlier version of SCORM, still widely used.
- SCORM 2004 (3rd & 4th Edition): An enhanced version that provides better sequencing capabilities among other features and navigation controls.
- xAPI (Tin Can API): Also known as the Experience API, xAPI allows for deeper tracking of learning experiences, both online and offline. It records, tracks, and stores individual learning experiences, which can be drawn from a variety of sources.
- CMI5: Builds upon xAPI and is seen by some as a successor to both SCORM and AICC. It provides rules and restrictions that guide the use of xAPI in the context of courseware.
- LTI (Learning Tools Interoperability): A standard developed by IMS Global Learning Consortium, LTI allows different learning applications to connect with each other. It's more about integration between systems than content packaging.

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- IMS Common Cartridge: Also developed by IMS Global Learning Consortium, it defines a structure for content, assessments, and metadata to be packaged within a ZIP file.
- IMS Content Packaging: Another standard from the IMS Global Learning Consortium, this specification defines how to package and structure content so it can be imported/exported across systems.
- IMS Learning Tools Interoperability (LTI): While LTI primarily deals with system integrations, it does have specifications regarding how content/tools are packaged and launched.
- EPUB3: While not strictly an eLearning standard, EPUB3 can be used for educational content and supports interactivity, multimedia, and global language support.
- HTML5: While HTML5 itself isn't a learning standard, it's the foundation for much of today's web-based eLearning content. With the decline of Flash, many eLearning course developers have transitioned to HTML5 for interactive and multimedia content delivery.
- PKZIP: While not a standard developed for eLearning, ZIP is often used as a format to package and deliver eLearning modules, especially when a specific standard is not required.

3 Data origin (actors and procedures)

The data sources used in LOESS come in the form of structured and unstructured data and documentation collected (referenced) and generated by the project.

3.1 Creation of new content and pre-existing documentation

The creation of new content will be carried out by all partners in collaboration with the members of the EIGs and CoPs.

Existent documentation about soil literacy will be identified and reused. This will consist of publicly available courses, training materials and datasets aligned with the major topics identified in the CoPs. This data will be manually collected (Desk Research). The identification of existent learning materials about soil (e.g., resources such as projects, training material or visualised soil data) will be developed by all partners with the help of the CoPs. These materials will be catalogued and referenced throughout the Workshops and Discussion groups inside the CoP. Also, LOESS will participate in project-2-project workshops organized between other initiatives related to soil under the umbrella of EU Mission Soil.

Most of the data will come from the former research methods such as **Archival Research**[5] where researchers will access and analyse existing records, documents, or historical data from archives, libraries, or repositories. Data will also be created through surveys, focus groups, interviews, etc. in the context of CoPs and EIG.

[5] Secondary Research, https://en.wikipedia.org/wiki/Secondary_research

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3.2 Stakeholders' involvement, CoP, and EIG

Stakeholders will mostly be involved trough the CoPs and directly targeted by the campaigning activities. See D2.1 Stakeholder mapping report for more details on Stakeholder Mapping, CoP invitations/founding of CoPs, EIG, and long-term engagement.

Key stakeholder groups in the LOESS project are representatives from civil society groups, researchers, teachers, students, pupils, public administration, practitioners of various sectors and professions whose existing activities can be extended to include action on soils (e.g., environmental conservation groups, urban food initiatives associations, city greening initiatives, school gardens), and members of local, regional or national governments.

3.3 Communities of Practice (CoP)

Contributions and participation will happen in 15 pilot regions in a community of practice (CoP). Each national CoP is consisting of different actors from civil society, scientists, practitioners, teachers, and members of local, regional or national governments.

A community of practice is a group of people who share a common concern, a set of problems, or an interest in a topic and who come together to fulfil both individual and group goals. Communities of practice focus on sharing best practices and creating new knowledge to advance a domain of professional practice. In our case is how to teach soil topics and extend the understanding of soil issues. Interaction on an ongoing basis is an important part of this. CoPs can include:

- Researchers at universities, research institutes (biology, geography, chemistry, physics, environmental studies, water engineering, climate change, biodiversity, sustainable development, agriculture, land management, forestry, social scientists, pedagogy….)
- Lecturers and students at universities / HEIs / vocational colleges (environmental studies, agriculture, land management, forestry, ….)
- Teachers at high schools / upper secondary schools (science subjects, geography, agriculture) and teacher trainers
- Primary school teachers, outdoor education, forest schools, nature initiatives
- Non-formal educators, school garden projects, agricultural museums, organizations/centers/networks/farms that offer on site visits, courses on sustainable development.
- Civil society organizations and citizen groups (environmental issues, community groups)
- Public administration representatives (Ministries of Education / Agriculture / Environment, City planners, local authorities and regional authorities concerned with sustainability, communal green space management

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- Practitioners of various sectors and professions whose existing activities might be extended to include actions on soil literacy and soil health improvement (e.g., environmental conservation groups, urban food initiatives associations, city greening initiatives, school gardens, farming, food production)
- Members of other EU-projects or national/regional projects addressing soil health/education
- Members of relevant umbrella pan European organizations, networks, and associations.

3.4 Education Innovation Groups (EIG)

To ensure the project's overall and WP-specific objectives related to teaching modules development and campaigning support, each CoP will set up an Education and Innovation Group, the EIG. The EIG includes CoP leader and 3-5 selected experts from their respective country.

Cross-national EIG alignment meetings among all EIGs, with 1-2 representatives of each national EIG, will be organised online at least twice a year by the task leader Wageningen University (WU), prior to each General Assembly. Additional virtual meetings will be organised when needed or requested. The task leader will present the discussion points of the cross-national EIG exchanges during the General Assemblies and inform the Consortium about the EIGs' recommendations for activities to be taken related to module development, piloting, and campaigning.

3.5 Data origin summary

The identification of training materials and courses to improve soil literacy will be originated in the following activities that will happen in the research practice in the project and also in the umbrella of CoPs or EIG and also through:

- Archival Research
- Interviews
- CoP/EIG meetings
- Website
- Local actors
- Co-creation teams
- Local audiences
- Community members
- Advisory individuals
- Focus groups

4 Data destination (data consumers)

We have identified the following target groups and end-users as sources and consumers of the data compiled and generated by LOESS:

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- **Soil researchers and education professionals** in universities and research centers invited to participate in the CoP, as well as educational institutions.
- **Industry** Private companies involved in soil management and exploitation.
- **Public administration**. Officers of public administrations operating within the soil area. require reliable health soil data as it is central to the development of coherent soil health policy. Public authorities have a strong need for soil understanding to develop and implement efficient policies and instruments which support their sustainability goals.
- **Policy makers** will profit from the LOESS project indirectly. Officers of public administration working in the soil health field will support policy makers in gaining a better understanding of the soil, which can provide valuable insights and facilitate the development of related policies.
- **Civil society at large** can take advantage of the valuable insights provided by the LOESS project on soil.

For a more detailed compilation of target users of the soil learning materials take a look to D2.1 Stakeholder mapping report.

5 Making data findable, accessible, interoperable, and re-usable (FAIR)

The concept of making data "findable, accessible, interoperable, and re-usable," commonly abbreviated as FAIR, also applies in LOESS project and emphasizes the importance of ensuring that digital data sets and documentation are easily available and usable. "Findable" means that data can be easily located, usually with the aid of unique identifiers. "Accessible" means that once data is found, it can be retrieved and viewed, given the appropriate permissions (free access to the soil training materials in our case). "Interoperable" refers to the ability to work seamlessly with other information, often due to the use of standard formats or vocabularies. This ensures that data from different sources can be integrated and used together. Lastly, "re-usable" means that the data is described and documented in such a way that future users can understand and utilize it in their own research or applications.

Overall, the FAIR principles aim to optimize the utility of digital data assets by ensuring that they can be easily discovered, accessed, integrated, and repurposed by a wide range of users.

In LOESS most of the data catalogued and generated (new training materials in soil literacy) will be digital, free, and open.

6 Data Management in LOESS project and Methodology

There's a specific section dedicated to Personal Data Management in page 27. In this section we will focus on the FAIR approach applied to the documentation about soil created and compilated by the project.

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6.1 Data Quality and Attribution (provenance)

A data quality process is established to ensure the integrity of the data included in the learning materials. The data quality process considers the following areas: i. Data inventory, ii. Data processing, iii. Data definition and comparability. Data provenance refers to the historical record of data and allows data consumers to trace a data record to its source of origin. LOESS will include the data author's and origin identification. Metadata will also provide detailed information on the origin of any catalogued training materials or new educational offers created on soil. We will also consider the metadata on extension based on previous materials.

To ensure an adequate Data Quality Monitoring: we will continuously monitor data quality and set up alerts for anomalies or issues.

All partners involved in the creation/cataloguing will be involve in the **Data Documentation**: documenting all data-related processes, from collection to analysis, to enhance transparency and reproducibility.

6.2 Open Data approach

All the data and training materials created in LOESS will be accessible through the project website https://loess-project.eu/ and will be free and open[6].

To maximise the effectiveness and reproducibility of the data/research outputs, the principle 'as open as possible' will be followed and trusted repositories will be used to provide open access. In page 25 we elaborate how the documentation and output of the project will be preserved after the end of the project.

6.3 Making data interoperable

We will ensure that any dataset contained in the training materials is interoperable. This will be achieved keeping the datasets in open standard formats like CSV or JSON[7].

Nevertheless, most of the data will be publicly available and put in open access repositories like Zenodo to make the interoperability easy as JSON (JavaScript Object Notation) scheme is used by Zenodo for metadata. It is possible to export research data into other formats such as: BibTex1, CSL2, DataCite, Dublin Core, DCAT, JSON3, JSON-LD, GeoJASON, MARCXML4, and export to Mendeley, Citavi.

[6] Open as explained in https://opendefinition.org/

[7] These guidelines can be found at: https://guidelines.openaire.eu/en/latest/ Partners will also ensure that LOESS data observes FAIR data principles under H2020 open-access policy: http://ec.europa.eu/research/participants/data/ref/h2020/grants_manual/hi/oa_pilot/h2020-hi-oadatamgt_en.pdf

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6.4 Data vocabulary definition

A key component of data interoperability is that the data use vocabularies that follow FAIR principles so that the documentation can be understood and used correctly. Clear categories and titles will be used to identify the catalogued and new soil training materials.

6.5 Identification, Naming Conventions, Metadata and Keywords

Data identification is an important aspect of creating FAIR documentation, as it allows data to be found and re-used easily. So, we will use unique identifiers (unique DOI classifier) to make all documentation easily discoverable and citable. This is a very early-stage identification and metadata proposal for the training materials that can evolve along the project:

- Documentation (name)
- Abstract/description
- Detailed description
- collected or generated?
- New materials, previous catalogued or extended
- Purpose related to objectives
- types and formats. The data formats will be described as multiple data formats can be found in the different learning materials.
- expected data size
- naming convections (including versioning)
- origin of data. creators. The creators/authors
- location of data (can be multiple origins)
- how can the data be accessed?
- (additional) notes
- Keywords[8]. Project documentation will principally be named using keywords that describe the training material accurately.
- Internal structure. For example, some insights about the number of chapters if the asset is an eLearning course.
- Language(s)
- Access and licensing information. More detail on that is provided in next section about licensing in page 23
- Associated project and community (if any)
- Associated publications and reports (if any)
- Bibliographic information
- Digital Object Identifiers
- publication_date. Date of publication in ISO8601 format (YYYY-MM-DD).
- Conversions applied. If any modification to original materials has been carried out.

Metadata could be provided on two formats: (1) text-based document and (2) ISO 19115 standard metadata in an xml file. These two formats for metadata can provide a full explanation of the learning material (text format) and ensure compatibility with international standards (json or xml format).

[8] An Ontology of soil literacy could be reused or adapted as a superset of all keywords.

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Having into account the above (all the available identification fields) we have introduced an initial **Data Summary Template proposal** as an annex in page 39, that can be used to identify all training materials.

6.6 Accessibility (User Experience in the training materials)

Educational courses and training materials should prioritize inclusivity and accessibility for all learners. To achieve this, it's crucial to adhere to the Web Content Accessibility Guidelines (WCAG) for digital content, ensuring materials are perceivable, operable, understandable, and robust. Courses should provide alternative text for images, captions or transcripts for videos, and be navigable via keyboard for those with motor disabilities. Moreover, content should be presented in a clear, concise manner, accommodating diverse reading levels, and offering options for font sizes and contrasts. Including multiple learning modalities, such as visual, auditory, and tactile methods, further ensures that all students, including those with disabilities, can engage effectively. For this reason, we will try to prioritize courses and training materials following Accessibility conformance with WCAG (EU) and Section 508 (US) compliance.

6.7 Data Organization, Versioning and Structure

Data Organization and Structure: It outlines how the documentation will be organized and structured to ensure efficient storage, retrieval, and use. This may involve creating data dictionaries, naming conventions, and folder structures.

In the case of the new materials created by the project we will implement a clear versioning process to easily identify the different releases (clear version numbers that identify the iteration of the training materials).

6.8 Data re-use, licensing, and wide dissemination

We want to Increase the training materials re-use through clarifying licenses. By default, all documentation referenced in LOESS (references to already existent training materials) will keep the initial license and sharing restrictions according to the general IP Rights[9].

All the new content generated (new training materials) in LOESS will be provided by an open license that only demands the following criteria:

Decided:

- **Attribution**: requires users of the learning material to give appropriate credit, provide a link to the license, and indicate if changes were made.

[9] 1. European Union Intellectual property rights. [Online] 2020. https://europa.eu/youreurope/business/running-business/intellectual-property/rights/index_en.htm

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Still to be decided based on the type of the learning materials[10]:

- **NonCommercial**: prohibits the use of the dataset for commercial purposes by others.
- **ShareAlike**: requires the others to use the same license as the original on all derivative works based on the original data.

These are the licensing options we are currently considering that supports the above criteria:

- **Creative Commons Attribution-ShareAlike (CC BY-SA)** license, which is often used for educational resources. However, while the CC BY-SA license isn't exclusive to training materials, its terms make it particularly suited for this purpose. If you remix, transform, or build upon the material, you must distribute your contributions under the same license as the original. The ShareAlike provision can be especially useful for training materials because it ensures that derivative works (like translations, adaptations, or updates) remain freely available under the same open terms. The **MOOC** developed by **EUN** will use this license.
- **CC BY (Creative Commons Attribution)**: This license allows others to distribute, remix, adapt, and build upon your work, even commercially, as long as they credit you for the original creation. It's the most accommodating of the Creative Commons licenses in terms of what others can do with your work. The training material developed by **EUN** will use this Creative Common license.
- **Open Data Commons Attribution License (ODC-BY):** This license allows others to share, create, and adapt the data as long as they provide attribution.
- **OpenCourseWare initiative** by the Massachusetts Institute of Technology (MIT) led to the adoption of a Creative Commons license for their course materials, facilitating the free sharing and use of educational resources. You must provide appropriate attribution.
- **GNU Free Documentation License (GFDL).** It was originally created by the Free Software Foundation for the GNU project's manuals. The GFDL is designed for manuals, textbooks, and other reference and instructional materials. Like CC BY-SA, it requires derivatives to be released under the same license, ensuring the "free" status of derived works.

No definite period or time limit is planned for access or re-use of the data. However, the original works will be deposited in a repository that guarantees data integrity on the bit level. When the materials will be available, we may use this License selector tool[11] to ease the selection of the correct license to attach to LOESS training materials or software package without requiring expert knowledge of every available license.

[10] Still discussing if we will introduce these restrictions. Because can limit the use of the materials. This could also apply only to some learning materials.

[11] https://eudat.eu/services/userdoc/license-selector#UserDocumentation-LicenseSelector-Locatingthetool Another License selector: https://choosealicense.com/

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6.9 Security and Data Access

No security mechanisms to access the data are provided as the data will be publicly available, so no specific authentication/authorization procedures are planned for access or re-use of the documentation. Security mechanisms will only apply to keep the integrity of the data in the storage repositories.

6.1 Data Storage and Backup

This section covers the strategies for data storage during the research and after the project's completion. It addresses data security, data retention policies, and backup procedures to prevent data loss. We can keep the data in multiple repositories (mirror repositories) like GitLab[12], because the output of the project is free and open accessible, so there is a huge offer of repositories where keep multiple copies of the documentation for free, to ensure replication, integrity and long-term preservation[13].

6.2 Archiving and long-term Preservation

These are End of project procedures related to Data Archiving and Preservation. This part details how data will be preserved and archived in the long term, ensuring its accessibility and usability beyond the project's lifespan. It may specify data repositories or data centers used for archiving. The LOESS project is designed to operate beyond the lifecycle of the project, so that LOESS learning materials can be used as a long-term solution for soil literacy. All LOESS documentation and crafted materials will remain open beyond the end of the project and no change will need to be made.

- Website (including publications) – e.g., publications, media kits, training materials and public deliverables, … Website will be indexed by Google and findable.
- Public Repositories for learning materials – e.g., partners' data, partner specific training materials will be stored in multiple repositories that allow to store data for free if this data is open and publicly available, as it's the case of LOESS generated learning materials.

More details on the precise data that is being kept at each location will be provided along the project.

[12] GitLab. https://about.gitlab.com/ The free use of GitLab has limits on the size of data (100 MB per file, 10 GB per repository).
[13] OpenAIRE https://www.openaire.eu/ , ZENODO (https://zenodo.org) for ORDP data and datasets. ZENODO offers free of charge, long-term (for the next 20 years, at least) open storage for research data.

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6.3 Ethical aspects

The aspects for data protection and privacy Rights can be found in the in page 27. The Ethical Guidelines for Focus Groups, Interviews, and EIGs are also commented under that section in page 32.

6.4 Responsibilities, costs and allocation of resources

Tasks involving data management are present in all stages of the project, identifying:

- Roles and Responsibilities: It defines the roles and responsibilities of team members involved in data management, ensuring everyone understands their tasks and obligations.
- Data Management Resources: This section identifies the resources necessary to implement the data management plan successfully.

No additional allocation of resources, beyond the ones already participating in the project, is expected as all LOESS materials are provided for free and stored in multiple repositories.

During the project consortium partners will be responsible for managing and curating the documentation at their possession. Free of charge research data repository tools will be used for long term preservation. The costs of data management are allocated in the project budget, as most partners have foreseen a budget for Open Access fees, so no further costs are envisaged for such activity. Regarding the allocation of resources for the creation, storage and preservation of the training materials will be a collaborative effort of all partners in LOESS. The materials will be stored in several public repositories to make them accessible after the project. Finally, data will be preserved at least 5 years after the end of the project and according to the requirements of the Grant Agreement.

6.5 Best practices in the Data Management process

The recommendations for best practices and guidelines from the European Commission and W3C[14] provided the basis for the measures that the LOESS Consortium will implement to adhere to FAIR guidelines and ensure proper data licensing and documentation for the referenced and new created training materials in the project.

[14] 1.W3C. W3C Data on the Web Best Practices. [Online] 2017. https://www.w3.org/TR/dwbp/

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7 Personal Data Protection and Privacy Rights

This section defines the procedures and responsibilities for the processing of personal data and ensure that the plan complies with European ethical principles. When the activity of the project involves sensitive or personally identifiable information, the DMP must address data privacy and protection measures. This may involve anonymization or de-identification techniques.

7.1 General Protection of the privacy rights of participants

Although LOESS does not introduce any critical ethical issues or problems, several considerations shall be taken into account. The consortium is fully aware of these and has the necessary experience to address them seamlessly. LOESS's suggested activities, CoP/EIG workshops and meetings don't expose, use or analyse personal sensitive data for any purpose. In this respect, no ethical issues related to personal sensitive data are raised by the project.

However, LOESS's consortium is fully aware of the privacy and safety related implications which might be addressed during the proposed activities and thus respects the ethical rules and standards of Horizon Europe, and those reflected in the Charter of Fundamental Rights of the European Union. Generally speaking, ethical, social and data protection considerations are crucial and will be given all due attention. Human participants will be involved in certain aspects of the project (WP 2 – WP 6) as data related to soil literacy will be collected. This will be done in full compliance with any European and national legislation and directives relevant to the country where the data collections are taking place:

- The Universal Declaration of Human Rights and the Convention 108 for the Protection of Individuals with Regard to Automatic Processing of Personal Data and
- General Data Protection Regulation – GDPR, Regulation (EU) 2016/679 on the protection of natural persons with regard to the processing of personal data and on the free movement of such data. The beneficiaries are aware that under the General Data Protection Regulation 2016/679, the data controllers and processors are fully accountable for the data processing operations. Any violation of the data subject rights may lead to sanctions as described in Chapter VIII, art.77-84.
- Core ethical issues and with the European Charter of Fundamental Human Rights and as well as with any relevant EU standard in the fields of privacy and data protection.

In order to protect the privacy rights of participants, a number of best practice principles will be followed. These include:

- No personal data (if any) will be collected without the explicit informed consent of the individuals under observation. This involves being open with participants about what they are involving themselves in and ensuring that they have agreed fully to the procedures/research being undertaken by giving their explicit consent.
- No data collected will be sold or used for any purposes other than the current project.

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- Any shadow (ancillary) personal data obtained during the course of the research will be immediately cancelled. However, the plan is to minimize this kind of ancillary data as much as possible. Special attention will also be paid to complying with the Council of Europe's Recommendation R(87)15 on the processing of personal data for police purposes, Art.2.4: "The collection of data on individuals solely on the basis that they have a particular racial origin, particular religious convictions, sexual behaviour or political opinions or belong to particular movements or organizations which are not proscribed by law should be prohibited. The collection of data concerning these factors may only be carried out if absolutely necessary for the purposes of a particular inquiry."

7.2 General Data Protection Regulation (GDPR) compliance

The LOESS project is fully compliant with the General Data Protection Regulation (GDPR) regulations laid out in Regulation (EU) 2016/679 of the European Parliament and of the Council of 27 April 2016 on the protection of natural persons with regard to the processing of personal data and on the free movement of such data, and repealing Directive 95/46/EC[15]

As such the consortium is well aware of the responsibilities in proceeding personal data and all partners have worked with personal data before. This is important because the data processing will also occur in the level of each CoP/EIG that will be in charge of each country partner.

In LOESS free data collections, official data sets as well as data obtained by crowd-mapping within the project will be combined and valued to create and assemble the body of knowledge and training materials related to soil, and in this process will occur data collection procedures for the participation of different kind of professionals as part of the CoPs and EIGs. In other words, In LOESS public engagement and evaluation activities will be organised and run as part of the project will involve the collection of personal data and opinions related to the project participants.

LOESS Partners – including associated and third countries - will comply with data protection principles in compliance with national and EU regulations, such as:

- Processing of personal data properly, lawfully and transparently, on the basis of a legal basis for processing personal data,

[15] 1. European Parliament. Regulation (EU) 2016/679 of the European Parliament and of the Council of 27 April 2016 on the protection of natural persons with regard to the processing of personal data and on the free movement of such data, and repealing Directive 95/46/EC. [Online] 2016. https://eur-lex.europa.eu/legalcontent/EN/TXT/PDF/?uri=CELEX:32016R0679

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- Collection and usage of personal data only for a specific and clearly defined purpose and only uses the personal data for the purposes for which they were collected or for the (compatible) purposes for which they are further processed, including scientific and historical research, archiving in the public interest and statistical purposes,
- Only to process the personal data necessary for the purpose,
- The personal data is correct and updated, if necessary,
- Not to store personal data longer than necessary. The necessity is related to the purposes to which the relevant personal data refer to or as long as this is necessary for compliance with legal obligations, for example for archiving or statistics,
- To take appropriate organizational and technical measures for the protection of personal data
- Each partner in the Consortium has a Data Protection Officer (DPO).

Partners' individual context will dictate how they store, collect and protect data in a way that ensures:

- It is stored securely – e.g., encoded, protected by a firewall, stored on an external hard-drive, on a password protected server
- Data is anonymised – collection of personal data related to gender, ethic, social, cultural, educational background is not foreseen, but will be enciphered with a code if applied. Personal data is not collected through surveys.
- Data is only shared when anonymised.
- Systems are in place to ensure data relating to an individual can be deleted from all locations on that individual's request
- Consent is obtained also for collecting data online

7.3 Sensitive Data (Personal Data details)

Sensitive data is data that is either private or confidential and includes personal user data. The proper management of sensitive data is imperative to maintain the individual privacy and remain in compliance with both EU and international regulations.

We will keep the minimum information to allow correct operation in the CoP and EIG groups, which are the following Data description Fields for each participant:

- Surname
- Given Name
- Title
- Organization/company
- Department
- Responsibility
- Email address

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Sensitive data will be stored in a private repository. Measures to protect the privacy of individuals providing sensitive data will be taken in any instance where sensitive data will be collected.

If needed, response data will be anonymized so that it cannot be directly attributed to the responder (for example, by delineating a numeric code to an individual). In addition, data will be reported in aggregated forms to further prevent any firm or individual from being identified through their response. If anonymization is not possible, then the explicit permission will be received prior to the publication of sensitive data. In any case, sensitive data will always remain confidential. Participation in interviews and surveys is completely optional, and individuals have the right to revoke the use of their responses at any time if they choose. The data collected from these interviews will only be used for the reasons specified during the interview process and will not be used for any other purpose.

Further insights will be provided in update of the DMP and upcoming deliverables that will provide details of the initial data collection as well as of the informed consent procedure.

7.4 Data Anonymisation for data coming from non-EU countries

To anonymize data containing personal information from countries outside of the EU (European Union), we will begin by identifying and segregating the personal data elements. We will apply techniques such as pseudonymization and data masking to de-identify the sensitive information, ensuring it cannot be linked back to specific individuals. Aggregation and validation processes will further reduce re-identification risks. We will maintain thorough documentation, implement access controls, and establish data retention policies to safeguard the anonymized dataset. It's important to note that while GDPR doesn't directly govern data from outside the EU, we must also consider any applicable local data protection laws or regulations to ensure compliance, depending on the nature of the data and its use. Transparency with data subjects will guide our ethical and privacy-conscious data handling practices, demonstrating our commitment to protecting privacy even in regions not covered by GDPR. The project will safeguard the data collected within the EU.

In case data is transferred from the EU to a non-EU country or international organisation, we will confirm that such transfers are in accordance with Chapter V of the General Data Protection Regulation 2016/679, through a submission of a dedicated deliverable. The same mechanism for the anonymization of data will be applied in this case as it is intended for the opposite direction of the data transfer. In addition, a special safeguard approach will be established and a copy of data will be obtained and preserved by the coordinating organisation.

7.5 Detailed Procedures for Data Protection

The detailed procedures to specially addressing personal data are the following:

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- Each party will confirm that it has appointed a Data Protection Officer (DPO) and the contact details of the DPO are made available to all data subjects involved in the research. For host institutions not required to appoint a DPO under the GDPR a detailed data protection policy for the project will be kept on file.
- A description of the technical and organisational measures that will be implemented to safeguard the rights and freedoms of the data subjects/research participants will be kept on file.
- In case personal data are transferred from the EU to a non-EU country or international organisation, confirmation that such transfers are in accordance with Chapter V of the General Data Protection Regulation 2016/679, will be provided. - In case personal data are transferred from a non-EU country to the EU (or another third state), confirmation that such transfers comply with the laws of the country in which the data was collected will be provided and kept on file.
- Detailed information on the informed consent procedures in regard to data processing will be kept on file.
- In case of further processing of previously collected personal data, an explicit confirmation that the beneficiary has lawful basis for the data processing and that the appropriate technical and organizational measures are in place to safeguard the rights of the data subjects will be provided and kept on file
- Description of the anonymisation/pseudonymisation techniques that will be implemented will be provided and kept on file.
- Each party will explain how all of the data they intend to process is relevant and limited to the purposes of the research project (in accordance with the 'data minimisation 'principle)
- Copies of opinions/approvals by ethics committees and/or competent authorities for the research with humans must be kept on file.
- The informed consent procedures that will be implemented for the participation of humans will be provided and kept on file.
- Templates of the informed consent/assent forms and information sheets (in language and terms intelligible to the participants) must be kept on file.

7.6 Recruitment in the CoP and Data Protection

The participants in the CoP will be recruited by various procedures and means. This could include public advertisement via Web pages, Facebook, Twitter, Word of mouth, Information tables at community events, Flyers, posters and brochures, articles or press releases in local and community newspapers, other organizations' newsletters, etc. For direct approaches of specific audiences and participants tools and methods to be chosen will be: E-mail, telephone,

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presentations to community groups or face to face meetings. Focusing on participants that will help to reach even more audience will be a priority in dissemination, to obtain a multiplier effect. The LOESS project communication structure allows to share recruitment paths learn from partners' experiences.

7.7 Focus groups & interviews and Data Protection

Focus Groups and Interviews: Focus group discussions and interviews will be recorded and may also involve photography. We will provide to participants:

- An informative document that effectively communicates the terms of participation, outlines the usage of collected data, and clarifies participants' rights in alignment with ethical standards.
- A sample consent form designed for participants to grant their consent for participation.
- We will include how the data will be protected when shared in the consortium, basically through the email groups, in the main EIG and CoP meetings and in other separate meetings between partners and participants. The website will be also a place where the data can be shared, when permission is provided.

Regarding EIGs, we will obtain a 'Letter of Commitment' from the EIG members. In the letter we will kindly request the participation of each member in the EIG.

7.8 Inclusion procedures for vulnerable individuals

LOESS doesn't explicitly include vulnerable individuals and groups unable to give informed consent, but as LOESS partners are organising public activities and events an appearance of respective individuals can't be excluded. If they do participate, the beneficiaries will follow best practise as outlined by industry standard social research organizations, such as the British Sociological Association[16]. All necessary care will be taken to protect them keep away any risk of stigmatisation from them.

7.9 Informed consent procedures

Partners will fully inform participants in CoPs about the study and what is being asked of them, including the potential risks/benefits, in order to make a fully informed decision about whether or not to participate in the research. This will be an active step on behalf of the participant and not due to any inducement, coercion or perceived pressure to participate.

[16] https://www.britsoc.co.uk/media/24310/bsa_statement_of_ethical_practice.pdf

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All LOESS partners are experienced in activities that request declared consent from participants and have developed well established procedures adapted to local conditions. For using photos written permissions is asked for from activities' members.

To ensure that informed consent / assent procedures are followed– and in cases that no individual participant informed consent declaration is delivered - the LOESS partner will give a declaration of honour that the following topics were explained orally to and fully understood by the participants. This declaration will also be signed by a representative of the participants in the event and will include approval for recording and observation.

These topics are:

- Aim of the participation
- Data to be collected
- Data storage, evaluation, and elimination of data
- The right to have one's data deleted
- Possible risks to project partners, participants in engagement activities or any third parties
- Right to step back from participation without any consequences at any time of the study
- Access to the findings and resulting recommendations

Visibility flag to provide picture, name, email for the website

On the website only name, position, contact details will be added if participants provide consent. We will add a visibility flag to the consent request form or knowledge letters to let CoP participants to appear in the LOESS website.

Email groups in the CoP Knowledge

Some CoP can have one or more email groups. Knowledge letter that all contacts will be added to the email group by default. Any participant can ask to be excluded to the mailing list.

Consent/Knowledge check procedure

The following checks will ensure that all participants are aware of all privacy and data management considerations.

- Understanding of the information about the project
- Providing the opportunity to ask questions about the project and participation.
- Explanation of the free participation in the project and withdraw at any time without giving reasons.
- Confidentiality procedures have been clearly explained (anonymisation of data, and not use of personal data).
- If applicable, separate terms of consent for interviews, audio, video or other forms of data collection have been explained and provided

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- The use of the data in research, publications, sharing and archiving has been explained
- Explain that other researchers and end-users will have access to this data only if they agree to preserve the confidentiality of the personal data and if they agree to the terms specified in this form.
- Participants can choose or not to appear in LOESS website providing consent to publish picture, name, and email address in the project website.
- To participate in CoP, participants need to know that meetings will be recorded (including audio and video) and transcript.

8 Ethics Advisor contribution to the Data Management Plan

The consortium has furthermore appointed an independent Ethics Advisor (Javier Valls Prieto, University of Granada) who will report regularly to the European Commission. Special attention will be given to the involvement of stakeholders and the information collected from vulnerable participants as well as data exchange with non-EU countries. The public participation and evaluation activities organised and implemented under the project include the collection of personal data and opinions of project participants. Therefore, LOESS Parties adhere to data protection principles in accordance with national and EU legislation, as detailed in previous sections.

The tasks of the ethics advisor Javier Valls Prieto in this project are limited to communicating the principles of privacy regulation in the field of data protection, to substantiate and to review their compliance in plans, research protocols and reports from the project Parties. The audit consists of a commentary regarding plausibility or remaining risks. If a formal legal assessment of any facts is necessary, this will be done by a separate commission of lawyers.

9 Updating the DMP based on LOESS activity

The DMP may outline periodic reviews to assess the effectiveness of the data management plan and allow for updates or modifications as needed. The timeline includes a final version of the DMP to be delivered at the end of the project. The plan will be updated throughout the project to reflect improved clarity on the following issues:

- Data and documentation types that the LOES project will identify, collect and create.
- The vocabulary and metadata used to identify and organize the learning materials.
- New data sources and specific learning materials that will be added to the repositories.
- The specific repositories used for each partner to store and share the documentation.

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10 Conclusion

This is the most recent version of the LOESS Data Management Plan and has been released as a public report. The LOESS DMP is intended to be a "living document," meaning it will be revisited and revised as necessary throughout the project lifespan to reflect changes in project progression. For example, new data sources about soil literacy (WP2) will be catalogued and added along the project. The DMP will be reviewed internally every six months allowing for all major updates to be quickly captured, and for an up-to-date timetable for future updates. Final deliverable *D1.3 Update of Data Management* Plan will be released publicly at the end of the project M36, May 2026.

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11 Annex A: Consent & Knowledge Templates

An Informed Consent Form will be handed out to any individual participating in LOESS interviews, workshops or other activities which may lead to the collection of data and meeting recordings which will subsequently be used in the project. Some examples of the Informed Consent Form are added as follows and the final ones can be modified based on each CoP and EIG for each country.

11.1 Information consent form for Personal Data Processing

Information Consent Form

According to Article 13 of the Regulation (EU) 2016/679 of the European Parliament and of the Council of 27 April 2016 on the protection of natural persons with regard to the processing of personal data and on the free movement of such data, and repealing Directive 95/46/EC (hereinafter "General Data Protection Regulation"), inform you that the personal data that you provide us with, will be proceed and will be used with the exclusive aim of contacting you, in order to your participation.

Your personal data will be kept until the end of the relationship with LOESS and for the limitation periods of the responsibilities that may result enforceable.

Additionally, if you expressly authorise it, by clicking on the box below, your data may be used under your consent, with the aim of sending you bulletins and informative news, and other dissemination communications, in order to keep you informed about events, workshops, activities and services run by LOESS.

☐ I wish to receive from LOESS dissemination communications.

We inform you about your right to revoke said consent in any time, through the link that will be included in each communication sent or through the following e-mail address: [ADD_HERE_NEWSLETTER_EMAIL_ADDRESS]

Given the monitoring and control obligations to which LOESS and its composing Partners are subject to, in the frame of the project, LOESS will be obliged to graphically document the works carried out and the meetings held on the CoP and EIG groups, with the aim of implement promotion and dissemination actions required by the entities and control bodies. To that effect, we hereby inform you that the work meetings, formative and/or dissemination of Project activities in which your workers and collaborators may participate, may be filmed and photographed. LOESS may be entitled to publish these videos and images in its Web Site and social networks, as well as to send them to the Media. We shall use the personal image of the attendees, only if they provide us with their express permission for such purpose.

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□ I hereby authorize the use of my personal image in order to contribute the promotion and dissemination of the undertaken projects.

You have the right to exercise your rights of access, rectification, erasure, limitation, portability and not to be object of automated decisions before the Data Protection Officer, through the following e-mail address: [ADD_HERE_PROJECT_EMAIL_ADDRESS_FOR_GDPR].

Finally, we remind you that any person that, on the occasion with his/her relationship with LOESS has access to personal data, will become obliged to professional secrecy and confidentiality obligation, and shall undertake not to communicate, disseminate, publish nor disclose them. This secrecy and confidentially obligation shall subsist even after the termination of your relationship with the project.

Date

Signature

[Name and Surname]

The purpose of the research is related to the objectives of the project LOESS.

11.2 Disclaimer for meetings inside the CoPs

You have been invited to participate in the LOESS Community of Practice to exchange on soil health awareness and education issues.

We appreciate your interest in participating in this LOESS online meeting. Your participation is voluntary. If you decide to participate, you may withdraw at any point for any reason by leaving the virtual meeting room.

Please note that this meeting might be recorded. The sole purpose of the recording will be to get the transcriptions and to be able to revisit the conversations for clarification. Any data we will collect (contact details, audio/ video recording) that could identify you will be stored in a password-protected electronic file on a secured server of the organisation that hosts the meeting. We will take all reasonable measures to ensure that data remains confidential. If you have any questions, don't hesitate to get in touch with us at loess@wilabonn.de By entering the virtual meeting room, you provide your consent.

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11.3 Consent to Photographic/Audio/Video recording

CONSENT TO USE PHOTOGRAPHIC, AUDIO OR VIDEO RECORDING & TRANSCRIPTION

Research for LOESS project - Literacy boost through an Operational Educational Ecosystem of Societal actors on Soil health

This study can involve pictures and the audio or video recording of your interview with the researcher. Neither your name nor any other identifying information will be associated with the audio or video recording or the transcript. Only the research team @ LOESS will be able to listen (view) to the recordings.

The tapes or digital files will be transcribed by the researcher and erased once the transcriptions are checked for accuracy. Transcripts of your interview may be reproduced in whole or in part for use in presentations or written outcomes that result from this study. Neither your name nor any other identifying information (such as your voice or picture) will be used in presentations or in written outcomes resulting from the study.

By signing this form, I am allowing the researcher to audio or video tape me as part of this research. I also understand that this consent for recording is effective until the following date: _____. On or before that date, the tapes or digital files will be destroyed.

Participant's Signature: _____Date:_____

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12 Annex B. Data Summary Template proposal

Proposal to identify the datasets and training materials along the project. This can be modified and enhanced when the cataloguing process will advance in the project.

Data set no. [x]	**Name of the data set (Fill out a separate table for each data set)**
Data set type	*What type of data is included – e.g., communications data, personal data, metadata, raw measurement data, performance data...*
Data set description	*Describe in your own words what the data set contains.*
Data set source	*Describe in your own words where the data set came from (including whether it was newly generated or obtained from an external source).*
Dataset identifier	*Assign an identification number.*
Associated software	*What software is used to collect / generate / manage / maintain / edit the data.*
Anticipated volume	*How big is the data set expected to be, either in kB – MB – GB; or in number of files or records, or in any other volume expression that seems viable and usable.*
Publicity / repository	*Will it be published anywhere (including in research repositories)? Identify the platform/channel.*
Reason not to publish	*If it will not be published, then why not? Reasons may include data protection, privacy protection, intellectual property rights, or trade secrets.*
Standards and metadata	*Describe data formats used, and any relevant metadata.*
Data utility	*What is the intended use of the data?*
Data processing pipeline	*How can the data be made available? E.g., static download, API, request form…*
Internal and external data sharing	*With whom will the data set be shared, inside and outside of the project? Consider data sharing, re-use, distribution, publication...* *Use the following dissemination and classification levels:* ***Consortium partners:*** *all or selected consortium partners* ***Selected third parties:*** *i.e., research institutions* ***Public***
Archiving and preservation	*How long will the data set be kept, where, and by whom?* *(Answer the question both for the data storage and data storage backup)*

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13 Annex C. DPM topic overview using DMPonline

DATA DESCRIPTION

- Will you generate/collect new data and/or make use of existing data?
- Describe the origin, type and format of the data (per dataset) and its (estimated) volume.

ETHICAL AND LEGAL ISSUES

- Will you use personal data? If so, shortly describe the kind of personal data you will use AND add the reference to your file in your host institution's privacy register.
- Are there any ethical issues concerning the creation and/or use of the data (e.g., experiments on humans or animals, dual use)? If so, add the reference to the formal approval by the relevant ethical review committee(s).
- Does your work possibly result in research data with potential for tech transfer and valorisation? Will IP restrictions be claimed for the data you created? If so, for what data, and which restrictions will be asserted?
- Do existing 3rd party agreements restrict dissemination or exploitation of the data you (re)use? If so, to what data do they relate and what restrictions are in place?

DOCUMENTATION AND METADATA

- What documentation will be provided to enable understanding and reuse of the data collected/generated in this project?
- Will a metadata standard be used? If so, describe in detail which standard will be used. If not, state in detail which metadata will be created to make the data easy/easier to find and reuse.

DATA STORAGE & BACKUP DURING THE RESEARCH PROJECT

- Where will the data be stored?
- How will the data be backed up?
- Is there currently sufficient storage & backup capacity during the project? If yes, specify concisely. If no or insufficient storage or backup capacities are available, then explain how this will be taken care of.
- What are the expected costs for data storage and backup during the project? How will these costs be covered?
- Data security: how will you ensure that the data are securely stored and not accessed or modified by unauthorized persons?

DATA PRESERVATION AFTER THE END OF THE RESEARCH PROJECT

- Which data will be retained for the expected 5-year period after the end of the project? In case only a selection of the data can/will be preserved, clearly state the reasons for this (legal or contractual restrictions, physical preservation issues…)
- Where will these data be archived (= stored for the long term)?
- What are the expected costs for data preservation during these 5 years? How will the costs be covered?

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DATA SHARING AND REUSE

- Are there any factors restricting or preventing the sharing of (some of) the data (e.g., as defined in an agreement with a 3rd party, legal restrictions)? If no, please specify
- Which data will be made available after the end of the project?
- Where/how will the data be made available for reuse?
- Will a DOI be registered for each of the datasets that are appropriate for public disclosure?
- When will the data be made available?
- Who will be able to access the data and under what conditions?
- What are the expected costs for data sharing? How will these costs be covered?

RESPONSIBILITIES

- Who will be responsible for the data documentation & metadata?
- Who will be responsible for data storage & backup during the project?

* * *

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