



**OPEN
SCIENCE
HUB**

**EMPOWERING CITIZENS
THROUGH STEAM
EDUCATION WITH
OPEN SCHOOLING**

DELIVERABLE 1.1

Data Management Plan



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REVISION HISTORY

REVISION	DATE	AUTHOR	ORGANISATION	DESCRIPTION
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0.2	23 March 2020	Rosario Sapienza	IH	Contributions
0.3	30 March 2020	Brendan Owens and Shaun USher	ULEI	Contributions and Review
0.4	31 March 2020	Maria Vicente and Pedro Russo	ULEI	Final version

LIST OF ACRONYMS

ACRONYM	DEFINITION
CC	Creative Commons
DMP	Data Management Plan
EC	European Commission
EU	European Union
FAIR	Findable, Accessible, Interoperable and Reusable
GDPR	General Data Protection Regulation
H2020	Horizon 2020
IH	Impact Hub
OSHub	Open Science Hub
ORD	Open Research Data
TCD	Trinity College Dublin
ULEI	University of Leiden
WP	Work Package

GLOSSARY OF TERMS¹

In 2016, the 'FAIR Guiding Principles for scientific data management and stewardship' were published in *Scientific Data*. The authors intended to provide guidelines to improve the findability, accessibility, interoperability, and reuse of digital assets. The principles emphasise machine-actionability (i.e., the capacity of computational systems to find, access, interoperate, and reuse data with none or minimal human intervention) because humans increasingly rely on computational support to deal with data as a result of the increase in volume, complexity, and creation speed of data.

Findable

The first step in (re)using data is to find them. Metadata and data should be easy to find for both humans and computers. Machine-readable metadata are essential for automatic discovery of datasets and services, so this is an essential component of the FAIRification process.

¹ From Fair Principles: <https://www.go-fair.org/fair-principles/>

- F1. (Meta)data are assigned a globally unique and persistent identifier
- F2. Data are described with rich metadata (defined by R1 below)
- F3. Metadata clearly and explicitly include the identifier of the data they describe
- F4. (Meta)data are registered or indexed in a searchable resource

Accessible

Once the user finds the required data, she/he needs to know how can they be accessed, possibly including authentication and authorisation.

- A1. (Meta)data are retrievable by their identifier using a standardised communications protocol
 - A1.1 The protocol is open, free, and universally implementable
 - A1.2 The protocol allows for an authentication and authorisation procedure, where necessary
- A2. Metadata are accessible, even when the data are no longer available

Interoperable

The data usually need to be integrated with other data. In addition, the data need to interoperate with applications or workflows for analysis, storage, and processing.

- I1. (Meta)data use a formal, accessible, shared, and broadly applicable language for knowledge representation.
- I2. (Meta)data use vocabularies that follow FAIR principles
- I3. (Meta)data include qualified references to other (meta)data

Reusable

The ultimate goal of FAIR is to optimise the reuse of data. To achieve this, metadata and data should be well-described so that they can be replicated and/or combined in different settings.

- R1. Meta(data) are richly described with a plurality of accurate and relevant attributes
 - R1.1. (Meta)data are released with a clear and accessible data usage license
 - R1.2. (Meta)data are associated with detailed provenance
 - R1.3. (Meta)data meet domain-relevant community standards

The principles refer to three types of entities: data (or any digital object), metadata (information about that digital object), and infrastructure. For instance, principle F4 defines that both metadata and data are registered or indexed in a searchable resource (the infrastructure component).

EXECUTIVE SUMMARY

This deliverable corresponds to D1.1: Data Management Plan.

It is the first version of the OSHub.Network Data Management Plan (DMP) and it has been written in detail so as to be a useful support tool for the project consortium in how to manage data collected during the duration of the project.

The DMP presents a data summary, describes the provisions for sharing FAIR (Findable, Accessible, Interoperable and Reusable) data, and addresses data security. It also addresses the allocation of resources and data management roles and responsibilities.

The DMP will be updated throughout the life of the project, including before the first assessment (tentatively, M18, March 2021) and at the end of the project before the final review (M36, September 2022). It will also be reviewed if there are any significant changes that affect the project, such as changes in relevant policies, necessary adaptations to research methodologies, or any other developments that occur that affect data management.

This deliverable includes a guide for the data collection, storage and the ongoing and future activities of handling data, during and even after the project is completed. Detailed information included in the DMP are: data management lifecycle for all datasets that will be collected, processed or generated by the research project. Further, the methodology and standards are outlined and it is explained whether and how this data will be shared and/or made open, and how it will be curated and preserved.

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1. INTRODUCTION

1.1 Background: about OSHub.Network

The Open Science Hub Network (OSHub.Network), a consortium of nine partners across Europe, engages schools and local stakeholders in research and innovation as a tool for sustainable community development.

More specifically, the OSHub.Network is establishing a European network of community hubs – OS Hubs, in communities that traditionally do not engage with research and innovation due to various barriers, geographical location, socio-economic status, or ethnic minority group background. OS Hubs inspire, empower and engage citizens – from school children to senior citizens – in STEAM (Science, Technology, Engineering, Arts and Mathematics) learning and research opportunities, grounded on collaboration with societal agents.

As such, local OS Hubs work as mediators in their local communities, positioning schools as active agents for collaboration between civil society, enterprises, research institutes, and families. This is performed by promoting an open schooling approach grounded in community-based participatory research practices: throughout this process, schools and communities identify local relevant challenges, which are then transformed into relevant research and innovation projects, led by students and teachers, in collaboration with local stakeholders.

The OSHub.Network is developing a common methodological framework, that allows each OS Hub to identify and analyse local needs, issues, opportunities and relevant actors, in order to address socio-economic, geographical, gender equity issues, and untapped growth potential. Inspired by the “Mission-Oriented Research & Innovation in the European Union”² approach, developed by Mariana Mazzucato, OSHub.Network will define a set of Open Schooling Missions, aimed at addressing local relevant challenges linked to the Sustainable Development Goals. These Open Schooling Missions will then constitute the basis for the creation and development of the open schooling projects, enabling real collaboration across communities.

Importantly, to ensure diversity, inclusion and sustainability, in each OS Hub location, there will be a local management board with representatives from local stakeholder groups – schools (including students), families, research institutes and universities, enterprises, industry, media, local governments, civil society organizations and wider society – which will be involved in all key processes and decisions regarding local OS Hub programmes and initiatives.

2 Mariana Mazzucato (2018), Mission-Oriented Research and Innovation in the European Union – A problem solving approach to fuel innovation-led growth’, European Commission, Retrieved from: https://ec.europa.eu/info/sites/info/files/mazzucato_report_2018.pdf

By supporting local schools and communities with the tools and network to tackle relevant challenges, OSHub.Network aims to create local impact while simultaneously promoting an active global citizenship attitude, thus contributing to community development, innovation and well-being. To encourage usage and maximise impact in Europe and beyond, all resources, products and solutions developed by OSHub.Network will be fully based on Open Standards, such as open education, open technology, open science, open hardware, open design and open architecture. Also, OSHub.Network will create an online platform to share OSHub expertise, resources, and best practices with all OS Hubs, their partners and the communities they serve. To ensure the legacy and reach of the project, all OSHub.Network resources will also be shared on existing large online educational repositories, and relevant national networks and repositories.

Finally, OS Hubs will develop a legacy and sustainability plan, and will work closely with local governments, to ensure that each local OS Hub has the tools and resources to continue beyond the lifetime of the project, and that the Open Schooling approach is incorporated in the school vision and organizational structure.

By the end of the project, it is expected that the OSHub.Network will have impacted 25000 students, 1250 teachers and 4000 members of the community, through involvement in more than 150 school-university-industry-civil society partnerships in open schooling projects and activities.

In the long-run, we envision OS Hubs as education brokers in their local communities, supporting local school networks to incorporate Open Schooling in their vision and organizational structure, leading to sustainable quality of education. Most particularly, OS Hubs will facilitate the bridge between the needs and realities of schools and their local context and resources, as well as brokering for implementing national/regional policies, passing along signals from schools when policies are failing and advocating for context-sensitive policies.

1.2 Data Management Plan Objectives

This document is an initial Data Management Plan (DMP) for the OSHub.Network project. The DMP identifies the datasets that will be generated and used during the project with respect to each work package, and defines each dataset's purpose and life cycle.

In accordance with Guidelines on FAIR Data management in Horizon 2020 (European Commission, 2016), the objectives of the DMP are:

- To identify the datasets that the OSHub.Network project will produce;
- To define how these datasets will be made 'FAIR' (Findable, Accessible, Interoperable and Reusable);
- To define the allocation of resources (costs and responsibility) for data management during and after the project;
- To define procedures for data security (including data recovery as well as safe storage) during the project and for long term preservation.

The current document – Deliverable 1.1 Data Management Plan – is part of Work Package 1 “Management”, and has been developed following the Horizon 2020 guidelines^{3,4,5}. The DMP is intended to be a living document where information will be continuously added and revised as the implementation progresses. A key element of sustainable data management, the DMP outlines what, and how, data will be collected, processed and/or generated, which methodology and standards will be applied, whether data will be shared/made open access and also how data will be curated and preserved during and after the end of the project. It provides guidelines, answers to issues, and presents the approach that the OSHub.Network project will adopt with respect to the management and protection of data. Legal and ethical issues related to the project’s collecting and/or processing of personal data are identified and practically considered, taking into consideration the different methods by which data are collected (interview, online survey, workshop, questionnaire etc.).

The DMP will be updated throughout the life of the project, including before the first assessment (tentatively, M18, March 2021) and at the end of the project before the final review (M36, September 2022). An updated version of the DMP will also be released whenever significant changes arise, such as (but not limited to): new kinds of data; changes in consortium policies; changes in consortium composition; other external factors that affect the validity of the present DMP.

With regards to personal data, the Consortium shall ensure that data on individuals are transmitted and used in a secure environment; that the use of the data complies with ethical and legal requirements (including signed informed consent and applicable data protection laws); and that the use of both existing and new data is agreed with the data owner/data provider. Data records containing personal data are managed in accordance with the General Data Protection Regulation (GDPR, Regulation (EU) 2016/679). The GDPR is a regulation by which the European Parliament, the European Council and the European Commission (EC) intend to strengthen and harmonise data protection for individuals within the European Union (EU).

The intended audience for this DMP is primarily constituted by the project partners. This document should be read in conjunction with deliverables D8.1, D8.2, D8.3 and D8.4 which examine the use of the data in conjunction with the EU Data Protection Policy and the ethical use of data, respectively; this document is therefore restricted purely to the mechanics of the data management.

It is the responsibility of every partner to notify the coordinator of changes in the data they are collecting during the project.

3 Data Management – H2020 Online Manual: https://ec.europa.eu/research/participants/docs/h2020-funding-guide/cross-cutting-issues/open-access-data-management/data-management_en.htm

4 Template Horizon 2020 Data Management Plan (DMP): https://drive.google.com/file/d/1HoDzGLRdiRgAnO-srHUdJ52xWHXhg_Wtj/view?usp=sharing

5 H2020 Programme Guidelines on FAIR Data Management in Horizon 2020: https://ec.europa.eu/research/participants/data/ref/h2020/grants_manual/hi/oa_pilot/h2020-hi-oa-data-mgt_en.pdf#page=10

2. DATA SUMMARY

Below, we present an overview of the datasets identified by the OSHub.Network project, including information about the following parameters⁵:

- Purpose of the data collection/generation and relation to the objectives of the project
- Types and formats of data generated/collected
- Information if existing data is being re-used
- Origin of the data
- Expected size of the data (if known)
- Data utility: to whom will it be useful

Table 1: Overview of the datasets identified within the OSHub.Network Project

DATASET NAME AND OUTLINE OF DATA	INSTITUTION IN CHARGE	WP
DS_OSHUB-NET_1_OSHub.Network_Ecosystem This dataset consists of members of consortium members, members of advisory board, members of the local OSHub Management Boards, schools participating in the project, stakeholders involved in Open Schooling projects	ULEI	1
DS_OSHUB-NET_2_Subscribers_and_Participants This dataset consists of mailing list subscribers and participants of Open Schooling initiatives (teacher training sessions, activities, events)	ULEI	4,6

DS_OSHUB-NET_3_Project_Outputs

This dataset consists of project outputs, such as deliverables (which are not research data, but is included within this organisation of data due to reasons of completeness), academic publications, records of initiatives

ULEI, TCD, IH

All

DS_OSHUB-NET_4_Stakeholder_Mapping

This dataset consists of information about stakeholders involved in the OSHub project, and their needs, motivations and assets to participate in the OSHub project

ULEI, TCD, IH

2

DS_OSHUB-NET_5_Schools_Assessment

This dataset consists of information about schools needs, motivations, challenges and opportunities for the implementation of the OSHub project

ULEI

2

DS_OSHUB-NET_6_ Occupational_Health_Safety_Plan

This datasets consists of data from Occupational Health and Safety Risk Assessment and respective Plan

ULEI

3

DS_OSBHUB-NET_7_Open_furniture

This dataset consists of blueprints for open furniture for the OSHubs according to the identified needs

ULEI

3

DS_OSBHUB-NET_8_Workshops

This dataset consists of workshops and co-creation sessions related with Open Schooling

TCD 4

DS_OSBHUB-NET_9_Teacher_Training_Modules

This dataset consists of materials and data on training modules

TCD 4

DS_OSBHUB-NET_10_Evaluation_Impact_Assessment

This dataset consists of data about the assessment of the impact of the OSHub.Network project

TCD 5

DS_OSBHUB-NET_11_Communication

This dataset consists of communication and dissemination materials

ULEI 6

DS_OSBHUB-NET_12_Legacy_Sustainability_Plan

This dataset consists of a legacy and sustainability plan for each OSHub

IH 7

3. FAIR DATA

This section is written using the standard H2020 template for FAIR data given in Guidelines on FAIR Data management in Horizon 2020⁵.

3.1 Making data findable, including provisions for metadata

3.1.1 Outline the discoverability of data (metadata provision)

Each dataset will have an associated metadata document (stored as a .txt file) which describes key aspects of the data, as defined in Annex 1 – Metadata to be recorded against each Dataset.

3.1.2 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?

This will be outlined in subsequent versions of the DMP as the project progresses and data is identified and collected.

3.1.3 Outline naming conventions used

Initiative (events, workshops, co-creation sessions) listings are stored in a central spreadsheet and individual events are assigned a unique identifier of the format [short name partner]_[date]

Project deliverables are assigned a unique identifier OSHub.Network_[number of Deliverable]_[date of submission], e.g. OSHub.Network_D8.1 H-POPD_23122019).

All files made publicly available reference OSHub.Network in their name, with the recommendation of the convention OSHub.Network_XXXXXXX_[date], where XXXXXX is a meaningful short description of the file.

Photographs and audio/visual recordings are named OSHub.Network_[event]_[date of event]_[description of event/photograph content, e.g. workshop/dinner/group meeting].

3.1.4 Outline the approach towards search keyword

We provide search keywords for optimizing possibilities for re-use.

3.1.5 Outline the approach for clear versioning

This will be outlined in subsequent versions of the DMP as the project progresses and data is identified and collected.

3.1.6 Specify standards for metadata creation

Each Dataset will have an associated text document with its associated metadata. An appropriate scheme is being developed and evaluated during the course of time.

3.2 Making data openly accessible

3.2.1 Specify which data will be made openly available

The only data which will not be made openly accessible will be data which contains personally identifiable information (e.g. individual assessment forms). These will be summarised and any individual forms used for research publications will be redacted or anonymised before online storage.

Personal data will not be openly accessible to guarantee participants' privacy. Visual materials including personal data or personal images that can endanger participants' privacy will not be made publicly available, unless they provide written consent. The original recordings and artefacts will not be made publicly available due, respectively, to personal data protection reasons, and to practical issues. Both single questionnaires and single transcriptions will not be made publicly accessible as Open Research Data (ORD). Transcriptions and questionnaires will be stored on a secure space by the Consortium. In any case, personal data, such as names and e-mail addresses, will never be made publicly available for protecting users' privacy.

3.2.2 Specify how the data will be made available

During the project, a subset of summary data (e.g. statistics of participants of Open Schooling initiatives, feedback summaries) will be made accessible by one or more methods below:

- Via newsletters, reports and other publications on the OSHub.Network website;
- Via partner's local websites;
- Via social media.

Detailed data will be available to all consortium partners via the project's shared drive (with the exception of individual questionnaires, which will be stored at consortium's premises), the access to this drive is restricted to project partners. Should other individuals wish to access the data for research purposes during the project, it will be openly shared on request. Throughout the project, data to be preserved (as identified in Annex 2) will be stored in a suitable data repository – ZENODO was the selected data repository.

3.2.3 Specify what methods or software tools are needed to access the data

Data will be published using standard file formats (txt, pdf, csv, svg, etc.). All data will be accessed using standard tools. Software relevant to access the data would be made available, but it is not seen as being a requirement. Should it be needed we will provide the required open source to access and analyse the data.

3.2.4 Specify where the data and associated metadata, documentation and code are deposited

For the duration of the project, personal data will be stored on a local secure server that the Consortium takes care of. Data to be public, like open educational resources, training modules, open furniture blueprints and other outcomes of the project are stored on a central drive, on the project's website and/or on ZENODO.

3.2.5 Specify how access will be provided in case there are any restrictions

At this stage, no restrictions are envisaged; should it be required, the appropriate open software will be provided to access the data or export the data to standard formats.

3.3 Making data interoperable

3.3.1 Access the interoperability of your data, specify what data and metadata vocabularies, standards you will follow to facilitate interoperability

The OSHub.Network project will generate diverse outputs, as can be seen in Annex 2.

The Consortium will observe OpenAIRE guidelines for online interoperability⁶ as well as the Metadata Standards Directory⁷ from the Research Data Alliance.

As the project progresses and data is identified and collected, further information on making data interoperable will be outlined in subsequent versions of the DMP. In particular, information on data and metadata vocabularies, standards or methodology to follow to facilitate interoperability and whether the project uses standard vocabulary for all data types present to allow interdisciplinary interoperability.

3.3.2 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?

Please see 3.3.1.

3.4 Increase data re-use (through clarifying licenses)

3.4.1 Specify how the data will be licenced to permit the widest reuse possible

It is planned that Creative Common (CC) Licenses will be used for all data to be preserved. Since there are different data types, different licensing will apply. Which licenses will be granted in individual cases will be determined during the course of the project work.

6 OpenAIRE Guidelines: <https://guidelines.openaire.eu/en/latest/>

7 Metadata Standards Directory: <http://rd-alliance.github.io/metadata-directory/>

3.4.2 Specify when the data will be made available for re-use

This section will be compiled throughout the course of the project, when we get more information on the datasets that are made available for OSHub.Network.

It is not envisaged that the project will publish or seek patents. The data collected and analysed during the project will be made openly available throughout the project.

3.4.3 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

The OSHub project does not include third-parties. However, how the data produced in the project will be used by collaborators of the OSHub.Network project, in particular after the end of the project, will be outlined in subsequent versions of the DMP as the project progresses and data is identified and collected.

3.4.4 Describe data quality assurance processes

A quality assurance process is to be installed within the duration of the project.

3.4.5 Specify the length of time for which the data will remain re-usable

We define 2 different situations, as specified in Annex 2, for specific datasets:

- for another 5 years after the end of the project in September 2022, being the re-usability of the data ensured by the local OS hubs
- unlimited (for resources that are not research data, such as open educational resources, workshops and training modules)

4. ALLOCATION OF RESOURCES

4.1 Estimate the costs for marking your data FAIR

ZENODO is free so no additional costs for its usage is expected. Data will be uploaded by ULEI as Coordinator and by TCD and IH as WP leaders. More specifically, deliverables, publications and other relevant documents will be uploaded no later than 3 months after release or whenever we have the OK from the reviewers, whereas datasets will be uploaded at the end of the project, within 3 months by the closing of project activities (M36).

Data archiving at ZENODO: free of charge. Copyright licensing with CC: free of charge

4.2 Clearly identify responsibilities for data management in the project

Each beneficiary leading the WP is responsible for preparing the datasets to make FAIR the data collected within its own activities, provided that ULEI, as Project Coordinator is co-responsible for general coordination and supervision. There will be, at least, one responsible person from each partner institution involved in data collection activities. Below we present the list of responsible persons per partner institution.

Table 2: Team responsible for data collection activities, from each partner institution

INSTITUTION	RESPONSIBLE PERSONS
ULEI	Pedro Russo, Maria Vicente, Sanne van Gammeren
TCD	Mairéad Hurley Brendan Owens (WP2, 4, 6), Joseph Roche, Shaun Ussher (WP5)

IH	Rosario Sapienza
FAB	Cristina Olivotto
AE	Andrew Newman
CCSTI	Yoanna Nowicki, Catherine Demarcq
SCIN	Petr Mares
MFCR	Ana Faustino
SCICO	Pandora Sifnioti

4.3 Describe costs and potential value of long term preservation

The associated costs for dataset preparation for archiving will be covered by the project itself. Long-term preservation will be provided and associated costs covered by the repository.

5. DATA SECURITY

The OSHub.Network project will ensure that any personal data collected throughout the activities of the project will be protected in a safe and secure way, in full compliance with GDPR requirements, assuring privacy requirements and preventing improper use. For all data collected during any of the phases of the project (e.g. needs assessment of schools, impact assessment of the project, etc.) the principle of storage limitation (Article 5 (e)) is obligatory, which states that personal data must be “kept in a form which permits identification of data subjects for no longer than is necessary for the purposes for which the personal data are processed [...]”

To comply with this, the project partners storing personal data have identified and provided justification for the length of time any data they have gathered is stored, and for what purposes. OSHub.Network, and especially the responsible project partners have to carefully consider all challenges for data storage, including deleting all data no longer required for the project, or at the request of the owner of that data. Project partners responsible for the data are therefore obliged to periodically review the data they hold and erase or anonymise it when no longer needed.

Project partners must define the period of retention of personal data and adopt a data retention policy in accordance with the purpose of the data. In addition, when the period of retention is identified, project partners will evaluate the appropriate actions to take in regards to anonymising or erasing the data that have been processed. All data collected during the project will be deleted at the end of the project (09/2022), with the exception of data and information that are relevant for the continuation of the OSHubs, during the 5 year period that the local OSHubs will take responsibility for its continuity. At the point of handover to the local OSHubs, a new DMP will be out in place.

The table presented below – Table 3 – shows how long certain data is needed by the different WPs and which data is relevant for the local OSHubs beyond the duration of the project. These are namely the information about the local partners and collaborators, the data from the school and local stakeholder needs and motivation assessment, impact assessment of the project and legacy and sustainability plans for each OSHub. Retention plans for the individual WPs are developed as part of the DMP and are maintained and updated as a living document over the entire duration of the project.

The decisions on the duration of storage take into account the following aspects:

- Considering the purposes for processing the personal data
- Considering whether you need to keep a record of a relationship with the individual once that relationship ends. You may not need to delete all personal data when the relationship ends.
- Considering whether you need to keep information to defend possible future legal claims.
- Considering any legal or regulatory requirements.

The data is stored in secure locations. The project partners, who are responsible for data collection and processing, determine the data storage location in accordance with the data protection guidelines. A detailed overview of which data is stored where by which partner is an integral part of the DMP (see Annex 2).

On the confidentiality and integrity of the treatment of data, GDPR Article 5(f), says that personal data should be processed in a manner that ensures appropriate security of the personal data, including protection against unauthorised or unlawful processing and against accidental loss, destruction or damage, using appropriate technical or organisational measures ('principle of integrity and confidentiality').

In order to establish OSHubs that are relevant and sustainable in their local communities, there will be the need to assess local needs, issues, opportunities and relevant actors, as well as to assess the impact of the project. This will involve collecting and processing personal data. Formalized questionnaires and data will be stored at the local level and pseudo-/anonymization will be applied. Every subject name will be replaced by a unique study number (ID code). The data warehouse at the end of the study will eventually be made publicly accessible after a process of anonymization.

The following procedures will be included in the research protocol to safeguard the privacy of study subjects:

- Reported study results will pertain to analyses of aggregate data. No individual names will be associated with any published or unpublished report of this study.
- Personal information, including questionnaires, will be safely stored locally in secure facilities, and names will be replaced by unique study members – ID code stored separately. Primary databases and analysis files will be stored on computers with personal identifiers removed. In each of the OSHubs, a person will be appointed as responsible for the data, and they will coordinate with the project Data Manager for the corresponding dataset.
- ID will link all basic data required for the study and will be stored in password protected computer files. Access to these files will be limited to authorized project personnel.
- In the case that participants will provide their contact details (telephone, email-address) after having given their consent to participating and having agreed to be re-contacted for research purposes, this information will be stored in password protected computer files. Access to these files will be limited to authorized project personnel, whose names will be communicated to participants.
- Hard copy records or computer-generated records containing personally identifiable information will be stored in locked cabinets in an office with limited access.
- The project personnel will be informed of the importance of confidentiality of individual records and required to sign a confidentiality agreement.
- Personal data such as individual questionnaire responses, mail addresses etc will be stored by partners in locked cabinets and shredded at the end of the project. During the project regular data backups will be taken.
- For each dataset a responsible partner has been identified who will be responsible for ensuring everyone involved in the data is aware of their individual responsibilities.

Table 3: Overview of OSHub.Network Datasets, relevance to the project and period of storage

DATASET NAME	INSTITUTION IN CHARGE	WP	PURPOSE OF THE DATA COLLECTION/ GENERATION AND ITS RELATION TO THE OBJECTIVES OF THE PROJECT	TYPES OF DATA	PERIOD OF STORING DATA
DS_OSHUB-NET_1_ OSHub.Network_Ecosystem	ULEI	1	OSHub.Network Management Structures	Contacts database: name, email address, job title, gender and other identifying details for analytics	—
	ULEI	1	Local OSHub Management Structures, direct beneficiaries and collaborators	Contacts database: name, email address, job title, gender and other identifying details for analytics	Duration of the project (09/2022) plus 5 years each local OSHub guarantees its continuity
DS_OSHUB-NET_2_ Subscribers_and_Participants	ULEI	4,6	Enables to build a network of open schooling, mainstreaming and strengthening the community	Contacts database: name, email address, job title, gender, age and other identifying details for analytics	Duration of the project (09/2022) plus 5 years each local OSHub guarantees its continuity

DS_OSHUB-NET_3_ Project_Outputs	ULEI, TCD, IH	All	OSHub.Network Deliverables	Project deliverables	Unlimited
	TCD	5	OSHub.Network Academic Publications	Academic publications	Unlimited
	ULEI	4,6	To monitor the open schooling initiatives organized by the project and the events/ conferences that project partners attended to communicate and disseminate the project	Record of Open Schooling initiatives and events / conferences	Unlimited
DS_OSHUB-NET_4_ Stakeholder_Mapping	TCD, IH	2	To map the local stakeholders that will be involved with the different OSHubs and the respective degree of engagement	Stakeholders map – name of institutions	Duration of the project (09/2022) plus 5 years each local OSHub guarantees its continuity
	TCD, IH, ULEI	2	To assess the needs, motivations and assets of local stakeholders to participate in the OSHub project	Data from interviews	Duration of the project (09/2022) plus 5 years each local OSHub guarantees its continuity
DS_OSHUB-NET_5_ Schools_Assessment	ULEI	2	<p>1) To co-create a common vision and strategy regarding the implementation of the Open Schooling strategy in the schools that will participate in the OSHub.Network project – the OSHub Manifesto;</p> <p>2) To assess the needs, motivations, opportunities and challenges of the schools for the implementation of the Open Schooling strategy in the following 2 years.</p>	Data from interviews and questionnaires	Duration of the project (09/2022) plus 5 years each local OSHub guarantees its continuity

DS_OSHUB-NET_6_
Occupational_Health_Safety_Plan

ULEI

3

To perform a Risk Assessment Plan in each OSHub, to guarantee that each OSHub physical space will meet the appropriate health and safety procedures, conforming to relevant local/national guidelines/legislation, for the staff involved in this project

Data from interviews and questionnaires

Unlimited

DS_OSBHUB-NET_7_
Open_furniture

ULEI

3

To support the local OSHubs with the open resources to equip their spaces

Blueprints

Unlimited

DS_OSBHUB-NET_8_
Workshops

TCD

4

To support the local OSHubs with the open resources to implement open schooling and co-creation workshops

Open Schooling and co-creation workshops

Unlimited

DS_OSBHUB-NET_9_
Teacher_Training_Modules

TCD

4

To support teachers and non-formal educators with the tools and resources to implement open schooling and co-creation strategies

Teacher training modules created by the OSHub. Network

Unlimited

DS_OSBHUB-NET_10_
Evaluation_Impact_Assessment

TCD	5	To assess the impact of the project in each OSHub location	Data from interviews and questionnaires, workbook analysis	Duration of the project (09/2022) plus 5 years each local OSHub guarantees its continuity
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DS_OSBHUB-NET_11_
Communication

ULEI	6	To monitor the impact of digital communication and dissemination efforts	Website and social media reports	Unlimited
ULEI	6	To communicate initiatives organized by OSHub.Network partners	Multimedia, e.g. photos, videos	Unlimited
ULEI	6	To advocate for the importance of Open Schooling strategies	Policy briefs	Unlimited

DS_OSBHUB-NET_12_
Legacy_Sustainability_Plan

IH	7	<p>1) To set in place Legacy plans for material, resources and knowledge for each of the OSHub established</p> <p>2) To set in place the Economic sustainability plan for each of the OSHubs established</p>	8 matrix social business model	Unlimited
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6. ETHICAL ASPECTS

Deliverables 8.1, 8.2, 8.3 and 8.4 cover the ethics requirements in connection with the main issues of data management within the project. These documents will be regularly updated by the project coordinator (ULEI) in collaboration with the WP leaders and the members of the Project Board. It is therefore a living document, which will be processed until the end of the project period.

Summary of Deliverables 8.1, 8.2, 8.3 and 8.4:

D8.1: H – POPD – Requirement No. 1

In this deliverable, we describe: the procedures and criteria that will be used to identify/recruit research participants; and, since children will be involved, the informed consent/assent procedures that will be implemented for the participation of humans and regarding the processing of personal data, and details on how the consent of the legal representatives will be acquired. The templates of the informed consent/assent forms and information sheets (in language and terms intelligible to the participants) will be kept on file, as well as the copies of the opinions/approvals by the Ethics Advisor and/or competent authorities for the research with humans that will be obtained before the start of the relevant research.

D8.2: POPD – Requirement No. 2

In this deliverable, we provide: information about the appointed Data Protection Officer for the OSHub project, including the contact details which will be made available to all data subjects involved in the research; describe how the data that the OSHub project intends to process is relevant and limited to the purposes of the research project, in accordance with the 'data minimisation principle', and provide a plan for establishing the technical and organisational measures that will be implemented to safeguard the rights and freedoms of the data subjects/research participants.

D8.3: EPQ – Requirement No. 3

In this deliverable, we describe the measures and procedures that will be taken by the OSHub project, taking into account the European Directives, in order to comply with this Ethics Requirement. Namely, we set out the process that underlies Occupational Health and Safety Risk Assessment, which will then constitute the basis for defining the appropriate health and safety procedures in each OSHub.

D8.4: GEN – Requirement No. 4

In this deliverable we appoint the Ethics Advisor, justify the respective selection based on the experience and expertise in the field, and describe the nature of the advisory role. Also, we set out how the Ethics Advisor integrates the Management Structure of OSHub.Net, as well as the internal communication plan.

7. CONCLUSION

This document is the deliverable concerning the OSHub.Network DMP in fulfilment of the requirements of WP1. The DMP has described how the OSHub.Network will align with the principles of FAIR data handling according to the EC requirements. It has also summarized the key aspects of data collection, processing, storage and sharing within the proposed data lifecycle elements

The DMP will be updated throughout the life of the project and it will also be reviewed if there are any significant changes that affect the project, such as changes in relevant policies, necessary adaptations to research methodologies, or any other developments that occur that affect data management.

It is hoped that the DMP will enable all partners to understand the different actions required when handling data of different natures, and how to store and share it securely, in keeping with the EC requirements.

ANNEX 1

METADATA TO BE RECORDED AGAINST EACH DATASET

Each Dataset folder in the central drive should contain a text file with the following information:

PROJECT NAME OSHub

PRINCIPAL INVESTIGATOR Pedro Russo

PROJECT DESCRIPTION

The OSHub Network (OSHub.Network), a consortium of nine European partners, engages schools and local stakeholders in research and innovation, as a tool for tackling local relevant challenges and contributing to sustainable community development, through Open Schooling.

Most particularly, OSHub.Network is establishing an European network of 8 community hubs – OSHubs – , that work as mediators in each local community, positioning schools as active agents for collaboration between families, universities, research institutes, industry, enterprises, media, local governments, civil society organizations, and wider society, by engaging in real-life projects that meet societal needs.

The OSHub network is being created in communities that traditionally do not engage with research and innovation due to various barriers – geographical location, socio-economic status, or ethnic minority group background, ultimately aiming to contribute to community development, innovation and well-being, and to break down borders and barriers across Europe.

FUNDING SOURCES

Horizon 2020

RESPONSIBLE ORGANISATION

Partner Name

CONTACT PERSON

Partner Contact Name

CONTACT EMAIL

Partner Email

DATA OVERVIEW

Dataset description as given by this document

**TECHNICAL INFORMATION
OF FILES**

For qualitative data, description and format
of each element

CODING INSTRUMENT

The name of the mechanism for accessing files

DATA COLLECTION START DATE

Start Date of Data Collection

DATA COLLECTION END DATE

End Date of Data Collection

CONFIDENTIALITY CLASSIFICATION

Confidential/Public

DATA SUBJECT

Events/Methodology/Technology/People

KEYWORDS

List of Keywords

ANNEX 2

DATASETS⁸

8 This is a living document. Is it located in the OSHub.Network shared drive: <https://docs.google.com/spreadsheets/d/14zWzqN5uwlwNc5gTHra2MKsBv-uY8gV7zTfAqv3XGSE/edit?usp=sharing>

ANNEX 3

CREATIVE COMMONS LICENCE

All publicly available reports should contain the following creative commons text:

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**EMPOWERING CITIZENS
THROUGH STEAM
EDUCATION WITH
OPEN SCHOOLING**



DELIVERABLE 1.1
Data Management Plan