



PLANINNG AND ENGAGEMENT ARENAS FOR RENEWABLE ENERGY LANDSCAPES

PEARLS

Marie Skłodowska -Curie Actions (MSCA)

Research and Innovation Staff Exchange (RISE)

H2020-MSCA-RISE-2017 – 778039 - PEARLS

Document Title	Data Management Plan
Version	1.0
Status	Version submitted to EC
Work Package	WP6
Deliverable Type	ORDP: Open Research Data Pilot
Contractual Date of Delivery	31 January 2019
Actual Date of Delivery	31 January 2019
Responsible Unit	USE
Contributors	USE; CLANER, Territoria; ICSUL; ENERCOUTIM; COOPERNICO; UNITN; AUTH; GSH; CONSORTIS; CONSORTIS Geospatial; BGU; SP Interface
Keyword List	Data Management, FAIR, Security, Ethics
Dissemination level	Public

Version 1 change record

Version	Date	Status	Author (Unit)	Description
0.1	2019-01-17	Draft	USE	First Draft
0.2	2019-01-22	Draft	USE	Tables
0.3	2019-01-28	Draft	USE	Second draft
0.4	2019-01-29	Draft	USE	First Complete Draft
0.5	2019-01-31	Final Version	USE	Finalised Draft

Abstract:

According to Work Package 6, this deliverable presents the first version of Data Management Plan (DMP). The DMP includes the following issues: the origin of data; data used in the Project related to its specific work package; main features of data used as metadata; interoperability and accessibility; and data legal protection procedures according to current legislation. To conclude, eventual ethical aspects related to data security are mentioned also.

Index:

I.	Data Summary	5
II.	FAIR data	10
	1. Making data findable, including provisions for metadata	10
	2. Making data openly accessible.....	11
	3. Making data interoperable.....	12
	4. Increase data re-use (through clarifying licences)	13
III.	Allocation of resources.....	14
IV.	Data security.....	15
V.	Ethical aspects	16
VI.	Other issues.....	17
VII.	Further support in developing your DMP	18
VIII.	PEARLS Consortium.....	19

I. Data Summary

The aim of Data Summary (DS) is to organise the data management during PEARLS Project. The DS includes the following points or questions:

- What is the purpose of the data collection/generation in relation to the objectives of the project?
- What types and formats of data will the project generate/collect?
- Will you re-use any existing data and how?
- What is the origin of the data?
- What is the expected size of the data?
- To whom might it be useful ('data utility')?

The PEARLS Project purpose of data collection/generation is:

- To develop applied knowledge about how to increase public engagement in the behalf of sustainable renewable energy system through planning processes.
- Using secondment, staff exchange and collaborative research, the project will investigate on national legal basis; will develop methodologies on social innovation; and will explore tools from the multidisciplinary approach of Social Sciences in different European regions.
- Establishing international, cross-cutting and multidisciplinary collaboration as the nexus of a five-country holistic pool of universities and research centres in close cooperation with non-academic sectors.

All Project activity is structured into work packages. Type of data which will be collected during PEARLS Project figures in tables 1 to 7.

Table 1: Origin of Data in PEARLS Project. WP 1

Participants	Purpose (in relation to the project objectives)	Data type	Format	Data utility (public or not)
All Consortium	External communication and dissemination strategies development. Project IP treatment. Expert recruitment.	Website, patents filling, report.	MS Office / Open Office documents	Public

Table 2: Origin of Data in PEARLS Project. WP 2

Participants	Purpose (in relation to the project objectives)	Data type	Format	Data utility (public or not)
1 – USE 2- CLANER 3 – Territoria 5- ENERCOUTIM 8- AUTH 9- GSH 10 – AKKT 12 – UH 13 –SP Interface	Examine and compare national energy policy, land use planning and landscape practice schemes. Fieldwork.	Research reports, interviews and research seminar.	MS Office / Open Office documents Audio o video (mp3 .aif, .aiff, .wav, .avi, .mp4)	Both confidential as public

Table 3: Origin of Data in PEARLS Project. WP 3

Participants	Purpose (in relation to the project objectives)	Data type	Format	Data utility (public or not)
1 – USE 2-CLANER 3 – Territoria 5 – ENERCOUTIM 7 – UNITN 9 – GSH 10 – AKKT 12 – UH 13 – SP Interface	Identify focus groups and behaviour – consumptions patterns. Determine factors that prevent engagement with renewable energies and efficiency. Preliminary agreements.	Confidential report about market segmentation, key actor maps and indicators analysis. Statement supporting renewable energy efficiency. Crowdsourcing working schemes.	MS Office / Open Office documents	Both, confidential and public

Table 4: Origin of Data in PEARLS Project. WP 4

Participants	Purpose (in relation to the project objectives)	Data type	Format	Data utility (public or not)
1 – USE 3- Territoria 7 – UNITN 8 – AUTH 9 – GSH 11 – TSAKOU MIS 13 – SP Interface	Knowledge transfer and skills enhancement. Development of advanced methodologies and tools. Website design.	Technical report Scientific report on advanced methodologies Web-GIS Platform	MS Office / Open Office documents GIS format files	Public

Table 5: Origin of Data in PEARLS Project. WP 5

Participants	Purpose (in relation to the project objectives)	Data type	Format	Data utility (public or not)
1 – USE 2 – CLANER 3 – Territoria 4 – ICSUL 5 – ENERCOUTIM 6 – COOPERNICO 7 – AUTH 9- GSH 12 - UH	Identification and replication of social innovations in renewable energies. Innovative practices in public engagement. To strengthen cultural dimension of renewable energy. Methodologies training and dissemination.	Case Study Training	MS Office / Open Office documents	Public

Table 6: Origin of Data in PEARLS Project. WP 6

Participants	Purpose (in relation to the project objectives)	Data type	Format	Data utility (public or not)
All Consortium	Financial and administrative monitoring. Intellectual property management. Communication with the Advisory Board.	Internal Communication - website, patents filling, etc. Data Management Plan –ORDP: Open Research Data Pilot. Reports.	MS Office / Open Office documents	Both, confidential and Public

Table 7: Origin of Data in PEARLS Project. WP 7

Participants	Purpose (in relation to the project objectives)	Data type	Format	Data utility (public or not)
1 - USE	Compliance with the “Ethics Requirements”	Informed consent forms and information sheet –template. Copies of ethics approvals for the research with humans. Copies of opinion or confirmation by Institutional Data Protection Officer.	MS Office / Open Office documents	Confidential Both confidential as public

The data generated by ESRs would strongly depend on the individual doctoral projects, tools and research methods used within these projects. Whenever possible, the dataset will be made available online using the following formats.

Table 8: File formats

Text format	File extension
Acrobat PDF/A	.pdf
Comma-Separated Values	.csv
Open Office Formats	.odt, .ods, .odp
Plain Text (US-ASCII, UTF-8)	.txt
XML	.xml
Image / Graphic formats	File extension
JPEG	.jpg
JPEG2000	.jp2
PNG	.png
SVG 1.1. (no java binding)	.svg
TIFF	.tif, .tiff
Audio formats	File extension
AIFF	.aif, .aiff
WAVE	.wav
Motion formats	File extension
AVI (uncompresssed)	.avi
Motion JPEG2000	.mj2, .mjp2
Arc Gis	.shp, .txt, .xls, .csv, .dgn, .dwg, .dxf, .img, .dt, HDF, .sid, .ntf, .tif.

It is encouraged to make existing data available for research within the Project. WP6 and WP1 will provide data templates, in order to be able to harmonize the different datasets that are provided. Data origin would be from beneficiaries along the whole project. They are needed to implement the action or exploit the results. The expected size of the data is going to be evaluated during the course of the project. It depends on the extent and the nature of the data availability. Besides, data might be useful to final development of the Project as follows:

- European Commission. Research Executive Agency.
- The Framework Programme for Research and Innovation Horizon 2020.
- Open access to disseminate results.
- Open access to scientific publications.
- Open access to research data.
- Transfer of beneficiaries' results.

II. FAIR data

1. Making data findable, including provisions for metadata

Following points or questions are here included:

Are the data produced and/or used in the project discoverable with metadata, identifiable and locatable by means of a standard identification mechanism (e.g. persistent and unique identifiers such as Digital Object Identifiers)?

What naming conventions do you follow?

Will search keywords be provided that optimize possibilities for re-use?

Do you provide clear version numbers?

What metadata will be created? In case metadata standards do not exist in your discipline, please outline what type of metadata will be created and how.

The data produced and collected by each member have to be carefully stored and managed at the facilities of the Project Coordinator -University of Seville, European Social Research Lab.

Informatics services will ensure regular files backup. Besides, additional archiving will be made.

Best practices will be followed for data management. To facilitate document evaluation and review, participants create all deliverables and other official documents in agreement with established templates.

Besides that, each data is provided with its corresponding metadata in order to keep data findable. PEARLS Project favours metadata standard following EU recommendations: the Common European Research Information Format (CERIF) standard. Identifiers such as Digital Object Identifiers (DOI) will also be used for publication.

2. Making data openly accessible

To make open data accessible, following points are here included:

Which data produced and/or used in the project will be made openly available as the default? If certain datasets cannot be shared (or need to be shared under restrictions), explain why, clearly separating legal and contractual reasons from voluntary restrictions.

Note that in multi-beneficiary projects it is also possible for specific beneficiaries to keep their data closed if relevant provisions are made in the consortium agreement and are in line with the reasons for opting out.

How will the data be made accessible (e.g. by deposition in a repository)?

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)?

Where will the data and associated metadata, documentation and code be deposited? Preference should be given to certified repositories which support open access where possible.

Have you explored appropriate arrangements with the identified repository?

If there are restrictions on use, how will access be provided?

Is there a need for a data access committee?

Are there well described conditions for access (i.e. a machine readable license)?

How will the identity of the person accessing the data be ascertained?

Data related to the social media, courses, open access publications, results and deliverables will be openly accessible. Also, some data will be communicated via PEARLS Project social channels, as Twitter and RSS Feed. According to PEARLS Project Agreement, project results will be accessible by appropriate means, such scientific publications. Beneficiaries will be able to access, mine, exploit, reproduce and disseminate those data. However, the beneficiaries do not have to ensure open access to specific parts of their research data if some parts of the research data not be openly accessible. In this case, reasons for not giving access must be in the management plan contained. Besides, beneficiaries must give each other access to background data, which are necessary to implement the Project and exploit the results, except in case of limits or legal restrictions. Affiliated entities must make a written request to beneficiaries. There is any data access committee in the development for the PEARLS Project. Participants have their own user identified for Intranet access, where private data will be deposited.

3. Making data interoperable

To make open data interoperable, following points are here included:

Are the data produced in the project interoperable, that is allowing data exchange and re-use between researchers, institutions, organisations, countries, etc. (i.e. adhering to standards for formats, as much as possible compliant with available (open) software applications, and in particular facilitating re-combinations with different datasets from different origins)?

What data and metadata vocabularies, standards or methodologies will you follow to make your data interoperable?

Will you be using standard vocabularies for all data types present in your data set, to allow inter-disciplinary interoperability?

In case it is unavoidable that you use uncommon or generate project specific ontologies or vocabularies, will you provide mappings to more commonly used ontologies?

Data will be available in the format consultable rendered, when possible. It will be used a standard vocabulary for all data types. This vocabulary will allow inter-disciplinary interoperability.

4. Increase data re-use (through clarifying licences)

To increase data re-use, following points are here included:

How will the data be licensed to permit the widest re-use possible?

When will the data be made available for re-use? If an embargo is sought to give time to publish or seek patents, specify why and how long this will apply, bearing in mind that research data should be made available as soon as possible.

Are the data produced and/or used in the project useable by third parties, in particular after the end of the project? If the re-use of some data is restricted, explain why.

How long is it intended that the data remains re-usable?

Are data quality assurance processes described?

Some data results may be transferred in order to allow data Project by third parties useable. However, some re-use can be restricted if the Party's interests in relation to the results would be harmed. In that case, a request is necessary for necessary modifications. Data are Creative Commons licensed and remain re-usable during the Project.

Validation of data quality is a milestone part of Work Package 2, which is in PEARLS Grant Agreement included.

III. Allocation of resources

To allocate the resources, following points are here included:

What are the costs for making data FAIR in your project?

How will these be covered? Note that costs related to open access to research data are eligible as part of the Horizon 2020 grant (if compliant with the Grant Agreement conditions).

Who will be responsible for data management in your project?

Are the resources for long term preservation discussed (costs and potential value, who decides and how what data will be kept and for how long)?

Eventual costs for making data FAIR in the Project would be as Eligible Cost of PEARLS Grant Agreement covered, as it could be expenditure decided solely by each beneficiary, according to Consortium Agreement's eligible costs by beneficiaries. The following concepts indicatively will be considered as Eligible Costs for Research, Training and Network Costs and Management and Indirect Costs:

- Research Costs:

- Data bases and Software and Web-GIS platform.
- Interviews and on-line questionnaires.
- Case studies and fieldwork.
- Research reports.
- Scientific paper review by experts.
- Maps, statements and advanced methodological reports.
- Health insurance.
- Participation in congress, workshops, conferences and other scientific meetings.
- Translations and Revision of scientific production.
- Other expenditures decided solely by each Beneficiary for ensuring the successful and eligible implementation of the project.

- Training and networking costs:

- Research Seminar for PhD students.
- Seminar on Social Analysis Innovation.
- Methodological Course.
- Training through online courses.
- Local Workshops participation and other communication activities at host organisation.
- Papers and publications in other divulgation formats of network material.
- Other expenditures.

- **Management and Indirect Costs:**

- Project Website and Social Media content update and providing supporting information.
- Periodic management reports.
- Gender balance and ethics requirements.
- Other expenditures decided solely by each Beneficiary for ensuring the successful and eligible implementation of the project.

A party shall be funded only for its tasks carried out in accordance with the Consortium Plan. All participants will be responsible for Data Management in the Project. Data collection will be in relation to research activities in the Project. The Project will not collect personal data, but it may collect basic biographical data of people which participates in research. However, those data will be collected and stored as anonymous data. Data will be collected in a way that responsible will not impose any bias on the data itself. They will be kept along the development of the Project itself. Besides, it will not be necessary to create databases about individuals. Once all Project activity has been finished, data will be destroyed six months past the termination of the project. Paper data will be physically destroyed. Digital data will be overwritten to ensure that they are effectively scrambled and remain inaccessible.

IV. Data security

To data security, following points are here included:

What provisions are in place for data security (including data recovery as well as secure storage and transfer of sensitive data)?

Is the data safely stored in certified repositories for long term preservation and curation?

All data collected throughout the Project will be securely stored and among partners transferred, when necessary also following all security protocols. Data will be stored throughout the whole of the PEARLS project execution plan and will be destroyed six months after its conclusion.

V. Ethical aspects

To ethical aspects, following points are here included:

Are there any ethical or legal issues that can have an impact on data sharing? These can also be discussed in the context of the ethics review. If relevant, include references to ethics deliverables and ethics chapter in the Description of the Action (DoA).

Is informed consent for data sharing and long term preservation included in questionnaires dealing with personal data?

According to Research and Innovation activities in civil applications carried out under Horizon 2020 and PEARLS Project ethical issues table, there are volunteers for social or human sciences research.

PEARLS Project does not access to private data, such names or personal identification numbers. The research does not include any human unable to give informed consent. Researchers and other participants are only able to work with average and aggregated data, which guarantees the reliability of research without access to private data. The project requires the use of interviews, surveys and focus groups, and fieldwork photographs and videos with not-invasive equipment.

The most important ethical issues for PEARLS project are:

- Respect current European and National regulations.
- Fully and responsibly inform any participant of the purpose of the research and of the ways in which their data and the information will be used.
- Take care of a correct and rightful use of the results of the research.

All data collected will be subject to usual rules about data protection with respect to data confidentiality, anonymity and privacy. Ethical and legal issues are included in Deliverables 7.1 - 7.5, which are related to ethics and data management and were submitted in 11/31/2018 to EC.

An information sheet provision and a consent form related to the Project are provided to each participant into different activities. Participants will be informed that:

- Any data, video or audio recording portraying or featuring him or her is treated as confidential.
- Any recording and data are securely stored and used only for the purpose of the present research.
- None of the participants' personal details will be published and or available to the public without their explicit consent.

VI. Other issues

**Do you make use of other national/funder/sectorial/departmental procedures for data management?
If yes, which ones?**

Any other procedures for data management are used. However, participants will submit the Data Management Plan to the competent National Authority for Data Protection, if necessary.

VII. Further support in developing your DMP

The Research Data Alliance provides a Metadata Standards Directory that can be searched for discipline-specific standards and associated tools.

The EUDAT B2SHARE tool includes a built-in license wizard that facilitates the selection of an adequate license for research data.

Useful listings of repositories include:

Registry of Research Data Repositories

Some repositories like Zenodo, an OpenAIRE and CERN collaboration), allow researchers to deposit both publications and data, while providing tools to link them.

Other useful tools include DMP online and platforms for making individual scientific observations available such as ScienceMatters.

HISTORY OF CHANGES		
Version	Publication date	Change
1.0	31.01.2019	▪ First version

VIII. PEARLS Consortium

1		USE C/ S Fernando 4, Sevilla 41004 Spain	Contact: María-José Prados
2		CLANER C/ Pierre Laffitte nº6 Edificio CITIC TECNOLÓGICO DE AN, Málaga 29590 Spain	Contact: Carlos Rojo Jiménez
3		Territoria C/ Cruz Roja nº10 piso 1 pta b Sevilla 41008 Spain	Contact: Michela Ghislanzoni
4		ICSUL Avda Prof Anibal de Bettencourt 9, Lisboa 1600 189, Portugal	Contact: Ana Delicado
5		ENERCOUTIM Centro de Artes e Ofícios, Rua Das Tinas 1 esq, Alcoutim 8970 064, Portugal	Contact: Marc Rechtl
6		COOPERNICO Praca Duque de Terceira 24 4 Andar 24 Lisboa 1200 161 Portugal	Contact: Ana Rita Antunes
7		UNITN Via Calepina 14, Trento 38122, Italy	Contact: Rossano Albatici
8		AUTH University Campus Administration Bureau, Thessaloniki 54124 Greece	Contact: Eva Loukogeorgaki
9		GSH Gkonosati 88A, Metamorfosi, Athina 14452 Greece	Contact: Vasiliki Charalampopoulou
10		CONSORTIS Vasileos Georgiou, 15 Thessaloniki 54640 Greece	Contact: Ahí Mantouza
11		CONSORTIS Geospatial Vasileos Georgiou 15, Thessaloniki 54640 Greece	Contact: Georgios Tsakoumis
12		Ben-Gurion University of the Negev P.O.B. 653 Beer-Sheva 8410501 Israel	Contact: Na'ama Teschner
13		SP Interface 8 Nave Matz St, Rehovot 7624416 Israel	Contact: Daniel Madar