

Open Data Management Plan

(D.2.1.)

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0. How to read this document

This Open Data Management Plan (ODMP) is aimed at researchers, support staff, and management who are affiliated with EUniWell and is the result of the collaborative work of the EUniWell Open Science Working Group. The Open Science working group has defined and created a roadmap for open science.¹

The first chapter describes research data in the context of EUniWell and the process of writing a data management plan. The second chapter explains an overarching framework for managing research data within EUniWell projects. Chapter three explains the concept of Findable, Accessible, Interoperable, Reusable (FAIR) data. Core components of research data management are explained in chapter four. How to deal with data security and ethical issues are explained in chapter five and six. Available support and training for researchers and data stewards are addressed in chapter 7. Adjustments to the ODMP and how to deal with other resources are addressed in chapter 8 and 9. The annex contains a data management template which can be used to write a EUniWell Data Management Plan.

This ODMP is a living document, that is to say, it should be seen as evolving alongside the developments of the Open Science Agenda of the Alliance. New versions will be made, producing a maturing document that will be shared within the Alliance. A final version will be submitted to the European Commission as the final public version.

1. Research data in the context of EUniWell

EUniWell is a European University collaborative alliance that unites the eleven Universities of Birmingham, Cologne, Florence, Linnaeus, Murcia, Nantes, Semmelweis, Kyiv, Konstanz,

¹ More information can be found in the following reports created by the Open Science working group (links will be added in next version when documents are made public by EUniWell Central Office): D5.14 A EUniWell Roadmap towards Open Science, D5.15 Advancement of Open Science Agenda year 1, D5.16 Advancement of Open Science Agenda year 2

Santiago de Compostela and INALCO. The Alliance offers students, researchers and teachers new, international opportunities for collaboration, mobility, and development.

The eleven universities want to show that diversity and working beyond disciplinary and national borders is the best way to deal with the challenges surrounding well-being in universities, in society and in the world as a whole. EUniWell actively promotes pioneering research and innovation in education and research. The Alliance focuses on four interdisciplinary areas of research that are in line with the Sustainable Development Goals (SDG) of the United Nations:

- Health and well-being
- Individual and social well-being
- Environmental well-being and urbanity
- Teacher education.

Within these four interdisciplinary areas research data will be created, analysed and shared.

Research data includes "measurement data, laboratory values, audiovisual information, texts, survey or observation data, methodological test procedures and questionnaires. Compilations and simulations can likewise constitute a key outcome of academic research and are therefore also included under the term "research data".² Good data management is an important aspect of research integrity and data management planning is an essential starting point for good data management. This planning is described in a Data Management Plan (DMP) that lists all activities in the data management life cycle for collecting, processing and archiving data within EUniWell. EUniWell expects and requires good data management practices, and to that purpose a DMP is required for all projects participating in EUniWell. For all research that is part of EUniWell, the following process applies:

- Lead investigators should consult an RDM contact person (in this document called data stewards) at their own institute, before the research starts:
 - University of Birmingham: research-data@contacts.bham.ac.uk
 - University of Cologne: <u>fdm-support@uni-koeln.de</u>
 - University of Murcia: <u>bib.gestiondedatos@um.es</u>
 - Nantes Université: <u>bu-science-ouverte@univ-nantes.fr</u>
 - Linnaeus University: <u>dau@lnu.se</u>
 - University of Florence: <u>assistenza-oa-sba-group@unifi.it</u>
 - Semmelweis University: <u>antalovits.ferencne@semmelweis.hu</u>

² Deutsche Forschungsgemeinschaft, "Handling of Research Data". Available at <u>https://www.dfg.de/en/research_funding/principles_dfg_funding/research_data/</u>

- University of Konstanz : <u>openscience@uni-konstanz.de</u>
- University of Santiago de Compostela : <u>minerva@usc.es</u>
- Taras Shevchenko National University of Kyiv : no contact yet
- INALCO : no contact yet
- This RDM contact person will give guidance on how to write a EUniWell DMP.
- After the DMP has been written, local data stewards will perform a check on the DMP.
- When the check verifies that the DMP complies with national legislation, local institutional practice and policy, as well as with the guidelines for FAIR data, they will pass on a copy of the DMP to EUniWell #Research management team : pierre.francois@univ-nantes.fr.
- The copy of the DMP will be sent to EUniWell Central Office (EUWO).

2. Roles and responsibilities

Research data are a driving force behind academic research. EUniWell considers the careful handling of research data to be of great importance in increasing the reliability, quality, and reproducibility of research, as well as in promoting the reuse of research results. Research data management refers to the careful organisation and management of research data throughout the research cycle. This requires attention during all phases of research. This Open Data Management Plan is intended to provide guidance to researchers and data stewards affiliated to EUniWell on how to deal with research data management.

This ODMP specifically does not describe data in individual projects within the EUniWell partnership. Instead, it aims to describe an overarching framework that provides guidelines for the activities to manage research data in a responsible way.

All phases of research must comply with current regulations and legislation, including the General Data Protection Regulation (GDPR)³. During all phases of research, the work must be carried out in line with applicable codes of conduct, and with privacy and information security policies.

³ https://ec.europa.eu/info/law/law-topic/data-protection/data-protection-eu_en

This ODMP applies to all persons affiliated with EUniWell, including external PhD candidates and contract PhD candidates, as well as any other guests or partners who carry out research under the auspices of EUniWell.

Research data are understood to mean the following: All data, irrespective of type and format, used and generated in the course of academic research.

Before research starts, a data management plan (DMP) is drawn up in accordance with the EUniWell Data Management Template.

In short, this EUniWell DMP describes:

- what data are collected or produced;
- what data will be processed and how;
- what requirements and restrictions apply either from the part of funders or resulting from contractual or legal obligations;
- what data will be suitable and/or valuable for archiving at the end of a project, and how these are made FAIR (Findable, Accessible, Interoperable, Reusable).

The Principal Investigator is responsible for drawing up, regularly updating, and archiving the DMP. The Principal Investigator needs to consult a data steward at his/her university.

After the DMP has been written, local data stewards will perform a check on the DMP. When they have verified that the DMP complies with national legislation, local institutional practice and policy as well as with the guidelines for FAIR data, they will pass on a copy of the DMP to the Central EUniWell Office.

During the research the DMP should be updated as required based on the actual situation. The most recent version of every DMP is stored at the EUniWell Central Office.

DMPs need to be based on templates that comply with the H2020 template⁴, or the DMP template in Annex A in this document: the EUniWell Data Management Plan template.

⁴ https://ec.europa.eu/research/participants/data/ref/h2020/grants_manual/hi/oa_pilot/h2020-hi-oa-data-mgt_en.pdf

3. FAIR data

The FAIR principles are guidelines for improving the findability, accessibility, interoperability, and reusability of research data.

• Findable:

Researchers or data stewards can make the data findable by depositing them in a certified repository at the end of a project; the repository will require a minimum set of metadata, mostly adhering to the Dublin Core standard, in the upload form.⁵ (After the upload a DOI will be assigned to the dataset. If parts of the data cannot be uploaded (e.g. in order to respect privacy legislation), this can be mentioned in the metadata, so that these data are findable too.

• Accessible

We recommend data to be published open unless there are grounds for access being restricted. Open data can be licensed under a CC BY⁶ and made available via a downloadable link directly from the repository.⁷ If parts of the data cannot be uploaded (e.g. in order to respect privacy legislation), this can be mentioned in the metadata, so that access information on these data is at least available.

• Interoperable

For most researchers this is very abstract, and this is an area in which the help of local data stewards will be much appreciated.

Reusable

For most researchers this is something they have not yet much thought of and an area in which the help of local data stewards will be much appreciated. We recommend that they add a readme file to ensure the proper interpretation of deposited data files by

⁵ https://www.dublincore.org/specifications/dublin-core/dces/

⁶ CC BY licence allows anyone to copy, distribute and transmit/adapt work, and/or make commercial use of the work under the condition that the user must attribute the work in the manner specified by the author or licensor.

⁷ https://creativecommons.org/licenses/by/4.0/

future users. We also recommend attaching a clear usage license to their uploads into a certified data archive, which is commonly required by those archives anyway.

In some disciplines, the knowledge of FAIR is far ahead of the average or may be driven to a high level by highly knowledgeable researchers on individual projects. We should not aim to slow down developments in those areas of research, but at the same time a realistic minimum level of FAIRification that can be met by all EUniWell project participants should be sought.

4. Data management before, during, and after research

Within the EUniWell alliance, a number of researchers will initiate projects in which they collect and generate a variety of research data in order to answer or validate their research questions. Researchers are responsible for the management of their data before, during, and after research. The activities to manage these data are described in an (Open) DMP.

Before

Before the start of a project, the principal investigator will write an (Open) DMP in collaboration with a local data steward. In this DMP, they will describe what data will be collected or generated, what data will be processed and how, what requirements and restrictions apply either from the part of funders or resulting from contractual or legal obligations. In case sensitive (either commercially or from the perspective of privacy) data are processed, this is the appropriate moment to seek the expertise from local institutional staff.

The DMP template specifically contains questions on any restrictions that apply, thereby asking researchers who do not publish open data to explain why their project data cannot be open.

During

During a project, the local universities' ICT departments can provide a stable infrastructure, with appropriate access conditions and restrictions, and back-up facilities, allowing researchers to work according to local policy and practice.

This may be a network storage, or a cloud solution, depending on the needs of the projects concerned. If the data processed within the projects contain personal or sensitive information, local privacy officers at the host institutions can provide advice on local procedures in place for handling and processing personal data, in accordance with national and European law.

Researchers can and should document their data using metadata and ontologies that are appropriate to their discipline, so as to facilitate to the best of their ability that their peers will be able to understand and reuse their data. In order to guarantee long-term access, research data will be stored as much as possible in sustainable formats.

After

EUniWell supports Open Science principles. We encourage data to be as open as possible, but at the same time as closed as necessary to allow researchers to abide by contractual and legal obligations that may also apply to their projects.

We are aware that open publication is not feasible for all data. The researchers will have written in the DMP which data will be archived publicly, and which data will be kept in a closed environment at the institute/institutional network share. The researchers on the projects concerned are best equipped to indicate what data are suitable and valuable for open publication. Similarly, any decision to dispose of data lies with the researchers, and the reason for doing so should be documented in the data management plan.

EUniWell data will be archived in a certified repository. We do not stipulate a specific repository to be used, so that researchers retain freedom of choice. However, the requirement of certification serves as a guarantee for quality. Data support staff can point researchers to (a list of) appropriate repositories, if there is not one commonly used in their discipline.

Projects that cannot make use of an institutionally hosted repository or a discipline specific archive can be directed towards general data repositories, such as Zenodo.

For data archived at the end of the project, metadata will be added according to the standard used by the data repository of their choice. If a repository has already been selected, that repository's requirements for documentation can be adhered to right from the start of the project. All other documentation needed to understand and re-use the datasets will be stored together with the data.

5. Data security

Data collected within projects may contain personal or sensitive information. Privacy officers at the partner universities will provide advice on local procedures in place for handling and processing personal data, in accordance with national and European law.

To store and share data securely during the project, the researchers will use secure facilities provided or endorsed by their own universities.

The EUniWell Partner universities will ensure that back-up procedures are in place for researchers on EUniWell projects. Researchers will comply with local information security policies and will ask for support from local support staff, privacy officers and the institutional Data Protection Officer.

6. Ethics

Ethical issues will be discussed in the context of the ethics review of the individual research projects by the Partner universities involved. Informed consent forms will pay attention to data sharing and long-term preservation of research data in line with national and European privacy law. Further ethical issues related to research data will be dealt with in the DMPs.

7. Training and support

If needed, local data stewards will receive training and then cooperate with researchers and educators to create and manage FAIR data.

Training and support for data stewards

In order to enable local data stewards to facilitate the necessary support and instruction to the researchers at their institutes, a train-the-trainer-program will be developed. This programme will:

- Define EUniWell principles of data stewardship
- Train data stewards on how to write a DMP
- Provide data stewards with teaching materials
- Instruct data stewards on data FAIRification
- Include personal coaching of data stewards.

Training and support for researchers

Training and support for researchers and project leaders within the EUniWell Alliance can be provided locally by data stewards. Data stewards will:

- Set up a 'How to write a EUniWell DMP' instruction for researchers.
- Guide researchers with writing the EUniWell DMP
- Provide assistance in the FAIRification of data

Pilot projects for high level FAIRification for a few selected projects

In cooperation with local data stewards and project leaders at the EUniWell Partner universities, we strive to set up a selected number of pilot projects that involve data FAIRification at a high level.

EUniWell has allocated budget to strengthen data stewardship and the infrastructure for FAIR data. This includes support for:

- Infrastructure: implementation of FAIR data points.



- Personnel: Train-the-trainers, FAIR pilots.

8. Revisions of the Data Management Plan

This is the second version of the general DMP. Version 1 was completed on 21st February 2022.

This DMP will be updated over the course of the project whenever significant changes arise in consortium policies or composition; at minimum it will be updated when the periodic evaluation/assessment of the project takes place.

Individual DMPs generated for projects and work packages within EUniWell will be written at the start of these projects/work packages and should also be updated whenever major changes occur.

9. Other research outputs

Details on research outputs other than digital data will be given in the data management plans for each individual project. All research output will be made available for re-use in line with national and European law.

FAIRification can apply to these research outputs, including software, models, protocols, physical materials.

10. Recommendations

It is recommended to start dissemination and monitoring within direct EUniWell research activities and therefore link it to, for example, research activities such as the EUniWell Seed Funding Calls and Well-being Research Incubator.

Annex A: EUniWell Data Management Plan

The general EUniWell Data Management Plan requires researchers to write a Data Management Plan when applicable. Contact your local university research data management support service (see p4) or EUniWell local project team if you need help.

EUniWell Action Number: [insert project reference number]

Action Acronym: [insert acronym]

Action title: [insert project title]

Date: [insert date]

DMP version: [insert DMP Version]

0. Administrative details

0.1	Contact details	Name, email address and phone number
0.2	ORCID	Add link to ORCID info
0.3	Name of project and group	Name your work package and task
0.4	Description of the research	Briefly describe your research to help others understand the purposes for which the data are being collected or created. Max. 50 words.
0.5	Project duration	Start: <i>DD-MM-YYYY</i> End: <i>DD-MM-YYYY</i>
0.6	Names of people and their responsibilities for data management	List name, position, affiliation and ORCID (if known) plus the responsibility for data associated with this project, for example, collecting data, describing data, giving permissions for sharing and archiving the data. Naming anyone with specific roles and responsibilities for data management is especially important for collaborative projects that involve many researchers and/or partner organisations.
0.9	Partner organisations	<i>If applicable. These may be research partners that use your data, or that you use data from.</i>
0.10	Relevant agreements or protocols	Mention any consortium agreement, institutional data protocol or data management plan at group level, etc. that complements this plan.

0.11	Ethical review	<i>If applicable, mention the registration number of your protocol and the name of the ethics committee.</i>
0.12	Personal data	 I do not collect personal data. I collect personal data and I will contact the Data Protection Officer or privacy officer at my institution. I collect personal data and I have complied with all GDPR procedures at my institution.
0.13	Name of data management support staff consulted during the preparation of this plan	Mention name of individual and / or organisational unit
0.14	Date of consultation with support staff	DD-MM-YYYY

About this Data Management Plan	
Date of creation	DD-MM-YYYY
Updated on (date of last update):	DD-MM-YYYY A new version of the DMP should be created whenever important changes to the project occur due to inclusion of new data sets, changes in consortium policies or external factors.
Changes in this version	Indicate here what changes have been made to this plan since the last version was recorded, and explain why these changes have been made.

1. Data Summary

1.1 Will the project use existing or third party data ?

🗆 No

- □ Own / group previous research
- □ Academic collaborators
- Commercial collaborators
- \Box Publicly available database / archive
- $\hfill\square$ Specialist commercial data provider
- \Box Other (please specify)

If you will use existing or third party data, describe briefly the origin and type of existing data.

1.2	How will you collect and/or create your data?				
	Describe the resec	arch methodology.			
1.3	What tools, instruments, equipment, hardware or software will you use to capture, produce, collect, create and process the data?				
	Please give the na	Please give the names of the tools, their versions (if needed) and state if they are already available.			
1.4		mat(s), estimated size of data will you coll	lect and create?		
1.4	What type(s), for	mat(s), estimated size of data will you coll Type of research data	lect and create? Format(s), software(s)	Size	
1.4	What type(s), for			Size 250 Mo	
1.4	What type(s), for Data description Datasets Dataset 1	Type of research data <i>Experimental, observation</i>	Format(s), software(s)		
1.4	What type(s), for Data description Datasets Dataset 1 Description 	Type of research data Experimental, observation Numerical, textual, images	Format(s), software(s) .csv, .rdf, .txt, .png	250 Mo	

	2. Data storage, access and security		
2.1	Where will you store your data during your research?		
	Multiple answers possible.		
	 On our university Cloud service (e.g. BEAR Cloud, Sciebo, UNCloud, Box storage, etc.) On our laboratory network storage / workgroups On university personal network storage In a virtual research environment (e.g. OSF, Sharepoint) Physical storage (e.g. USB, external hard drive) Institutional service, namely: Other, namely: 		

2.2	How will your data be backed up?
	 I store my data on the university network storage which is backed-up. I have my own provision which I describe below:
2.3	What are the main risks to data security?
	 Accidental deletion or file corruption Theft of, or damage to, equipment Overwriting or version loss Data leak, unauthorised access, or unauthorised use Other (explain):
	Please describe how you will mitigate the risks described above:
2.4	Do you use a standard or convention for file naming and folder structures?
	 Yes, I use a standard that is common in my discipline, namely (specify below): Yes, my group has a convention which I will describe below. No, I use my own method which I will describe below.
	You can provide a screenshot of your folder structure and an example of file naming (ex: wp1_experiment1_results1_v1_johndoe_20240101)
2.5	During your project, before publishing your results, with whom will you share your data? In most cases you will share raw or processed data with at least one person.
	 Only my supervisor My immediate collaborators (including supervisor) Collaborators and (consortium) partners Any researcher in my field Anyone interested

	3. Making your data FAIR (Findable, Accessible, Interoperable, Re-usable)
3.1	Will you comply with EUniWell's requirement of making your data FAIR ?
	Mention embargo period if applicable.

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	 I will share (all or parts of) my data open access immediately upon publishing my results I will share my data upon request for the reasons I explain: I will share (all or parts of) my data open access after an embargo period of (specify and explain) I cannot share the following data for the reasons I explain:
3.2	Are any restrictions placed on sharing your data?
	Please account for not sharing (parts of) your data.
	 I have no restrictions I have restrictions on sharing (parts of) my data but I will share at least the metadata.
	Restrictions are due to:
	 Protection of personal data Intellectual property
	Copyright
	Commercial reasons
	Security-related issues
	Ethical issues
	□ Other (explain):
3.3	Which of the following will you use for long-term findability and availability of your data?
	□ I will deposit data in a trusted data repository (see the EC's <u>list</u> of trusted repositories) as indicated below:
	□ According to the data protocol of my institute, I will archive data in the data repository indicated below (<i>e.g. KON Data, KUPS, Recherche Data Gouv, Minerva, Digitum, etc.</i>):
	□ I will deposit data in a discipline-specific data repository as indicated below:
	 I will use an archive/website specifically for my collaboration, namely: I will not use a data repository and will explain below how I will make my data findable and accessible
	for the long term.
	□ I will not make my data findable and accessible and I will explain why.
3.4	If archiving in a data archive or repository, does it provide a persistent identifier (PID)?
	Please add additional information if needed and the PID when available.
	Yes, a DOI
	□ Yes, a different PID
	□ No

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What will you do to prepare your data for archiving? Will there be extra costs for this preparation?
Describe how you intend to meet publisher or database / archive / repository requirements, e.g. converting the file formats, providing supplementary documentation. Mention (expected) costs in section 4.
If applicable, describe your strategy for publishing research software that will be generated in this project.
Indicate whether potential users need specific tools or software (e.g. specific scripts, codes or algorithms developed during the project) to access, interpret and (re-)use the data.
What licence will you apply to your data or research software?
□ I will use the default licence of the repository, namely:
□ I will use a creative common licence, namely:
□ I will use an open source licence, namely: □ Other
What standard will you use to describe your data?
Please refer to any metadata standards in your field if they exist.
□ I have a discipline-specific metadata standard, namely:
Archival metadata standard (e.g. Dublin Core), namely:
Other metadata standard, namely:
□ I have my own documentation which I will describe below.
Where will metadata be registered?
□ In the data repository
□ In a separate README file
□ Within the data file(s)
As a separate formatted file
 In the data storage interface / platform Other, namely:
What supporting information / documentation will be needed to understand and reuse the data?

.....

0	Please describe briefly how peers should be able to understand the data. Examples are lab journals, a codebook, survey questions, software documentation, readme.txt etc. Some institutes have mandatory publication packages.

	5. Other issues
5.1	Do you or will you make use of other national/funder/sectorial/departmental procedures for data management? If yes, which ones?
5.2	Here you can put any additional information that you were not able to list in the boxes above.