GUIDE FOR THE PREPARATION OF A RESEARCH DATA MANAGEMENT PLAN

Sección de Apoyo a la Investigación y Servicios
Área de Biblioteca, Archivo y Publicaciones

Contents

1. Introduction

Within the framework of the *Horizon 2020 (H2020)* framework programme*,* the European Commission (EC) launched the Open Research Data Pilot Scheme (ORD Pilot: Open Research Data Pilot), which was initially limited to projects in certain scientific areas and in 2017 was extended to cover any project funded by H2020. These initial efforts to boost open science are being maintained and reinforced under *Horizon Europe*, the new Framework Programme for Research and Innovation for 2021-2027.

Beneficiaries of EU-funded projects must comply with a series of research data requirements to be included in the *Data Management Plan* the researcher is required to deliver during the first 6 months of the project and which are set out in this document. The data must also be deposited in a repository for publication in open access under CCBY, CC0 or equivalent licences.

The Library of the University of Cádiz manages the [Institutional Repository of the UCA (RODIN)](), where the data associated with research carried out at the UCA is deposited. This repository complies with the necessary recommendations and technical requirements for deposit of this material, guaranteeing its preservation and facilitating its visibility, access and re-use.

2. Data Management Plan (DMP)

The preparation of the DMP is a requirement that funding agencies[1] request from researchers at the beginning, during and at the end of the project.

The obligation to prepare a DMP for projects that generate or re-use data meets the need to:

- Manage research data responsibly, helping researchers to consider all relevant aspects of data management from the outset of a research project.
- Ensure open access to research data in line with the FAIR (***Findable, Accessible, Interoperable, Re-usable***) principles.
- Enhance the visibility of researchers' data while protecting their rights to the data and ensuring its preservation, in addition to complying with the requirements of the funding agency.

Set out below is the structure and information to be included in a DMP according to the FAIR principles for responsible data management. The DMP describes how research data

---

[1] See the Sherpa Juliet directory[https://v2.sherpa.ac.uk/juliet/search.html]() for the policies and requirements of project funding agencies.

collected or generated in the course of the research project will be collected, organised, analysed, preserved and shared. This guide is based on the *Horizon Europe Data Management Plan Template.*[2]

2.1. Project Information

Include project data such as the project name and identification, project description, institution, funding agency, principal investigator and ID, contact details and versions of the DMP.

2.2. Data summary

Describe the data to be used in the project, including the type and format, purpose, size, provenance and utility of the data.

- **Data re-use**

Indicate whether the data consists of re-use of existing data and what it will be re-used for. Indicate the provenance of the data. Describe the treatment of copyright of re-used data.

- **Data type and format**

Explain what type of data the project will generate or re-use (observational, experimental, simulation, derived or compiled, reference, other), as well as its format (jpeg, pdf, docs, xlsx...).

- **Purpose of the data and relation to the project objectives**

Indicate the purpose of the data collection and use, as well as the relation of the data to the project objectives.

- **Data size**

Specify the expected size of the data to be generated or re-used. Indicate the volume of the dataset in MB/ GB/ TB and the incremental growth.

- **Provenance of the data**

Indicate the provenance of the data. If generated, indicate the methodology used for its generation. If re-used, indicate the source and authors.

- **Data utility**

Describe the utility of the data for future research.

---

[2] Horizon Europe. Data Management Plan Template. Version 1.0, 05 May 2021.

2.3. FAIR Data

The DMP must ensure that the data complies with the **FAIR** principles, i.e. it meets the necessary requirements for it to be **F**indable, **A**ccessible, **I**nteroperable and **R**e-usable.

2.3.1. Making data findable, including provisions for metadata

Include metadata to make the data findable. Indicate:

- Persistent Identifiers (DOI).
- Provide keywords that optimise re-usability.
- Describe the data with rich metadata.
- Indicate the nomenclature conventions used.
- Indicate the number of versions.
- Use of standard metadata. If no metadata standards exist in the project discipline, describe what kind of metadata will be created and how.

2.3.2. Making data accessible

The characteristics of the repository where the data will be deposited must be specified, as well as the accessibility of the data and its description with metadata.

- Indicate the repository where the data will be deposited. In the case of the UCA, the project data will be deposited in the Institutional Repository of the UCA, where it can be shared, re-used and cited at the end of the project. The datasets are identified with DOI.
- Indicate which data produced and/or used in the project will be open. If any dataset cannot be shared or must be shared with restrictions, the legal and contractual reasons for such restrictions must be explained.
- If there are restrictions on use, indicate how access is provided.
- Indicate if the metadata will be open access.
- Indicate the methods or software tools for accessing the data and whether documentation on the software is included.

2.3.3. Making data interoperable

The data produced under the project must be interoperable, allowing exchange and re-use between researchers, institutions, organisations, countries, etc.

- Indicate the vocabularies and standards to be used.
- Indicate the rules, formats or methodologies to be applied to allow data exchange and interoperability.

2.3.4.   Increase data re-use

Document the provenance of the data and provide the necessary information to validate the data and facilitate its re-use, e.g. with *readme* files. Provide licences to use the data.

- Indicate what type of licence has been used to allow for the widest possible re-use.
- Indicate when the data will be available. If an embargo period is necessary to make the data available for re-use, the reason for the embargo must be indicated.
- Indicate whether the data produced and/or used under the project can be used by third parties. If the re-use of some data is restricted, please indicate why.
- Indicate how long the data will be available for re-use.
- Describe the data quality assurance processes.

2.4.   Other research outputs

This considers issues relating to FAIR data which may be applied to the management of other research outputs generated or re-used in the project such as software, workflows, protocols, new materials, samples, etc. and how they will be managed, shared or made available for re-use in line with the FAIR principles.

2.5.   Allocation of resources

Indicate the costs to make the data FAIR (e.g. direct and indirect costs relating to storage, archiving, re-use, security, etc.) and who will be responsible for managing the data.

- Record the costs incurred.
- Indicate how these costs will be covered.
- Indicate the person responsible for management of the project data.
- Describe the costs necessary for long-term preservation.

2.6.   Data security

Ensure that the data is securely stored in trusted repositories for long-term preservation and curation.

- Indicate what provisions exist for data security (data recovery, secure storage and transfer of sensitive data).
- The data is securely stored in the Institutional Repository of the UCA.

2.7. Ethical aspects

Outline any ethical or legal issues that may have an impact on data sharing. These may also be dealt with in the context of the ethical review.

- Describe potential ethical issues during data collection, storage, processing and archiving, together with the ethical approval procedures relating to the project.
- Include informed consent for data sharing and long-term preservation of questionnaires involving personal data.

2.8. Other issues

Describe whether other national/funder/sectorial/departmental procedures will be used for data management.

3. Related documentation

- GO FAIR International Support and Coordination Office (GFISCO) FAIR Principles https://www.go-fair.org/fair-principles/

- Working Group on "Open Access Data Deposit and Management" of the RECOLECTA project. The preservation and re-use of scientific data in Spain. Report of the working group on best practices [online] Madrid: Fundación Española para la Ciencia y la Tecnología, FECYT (2012). Available at WWW.FECYT.ES http://eprints.rclis.org/21007/1/informe_datos_cientificos_en_esp.pdf

- 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

- Horizon 2020 online manual https://ec.europa.eu/research/participants/docs/h2020-funding-guide/cross-cutting-issues/open-access-data-management/data-management_en.htm

- Horizon Europe. Data Management Plan Template. Version 1.0, 05 May 2021 https://enspire.science/wp-content/uploads/2021/09/Horizon-Europe-Data-Management-Plan-Template.pdf

- Science Europe Working Group on Research Data. Science Europe. Practical Guide to the International Alignment of Research Data Management. D/2018/13.324/4, November 2018 https://www.scienceeurope.org/media/jezkhnoo/se_rdm_practical_guide_final.pdf

- Sherpa Juliet https://v2.sherpa.ac.uk/juliet/search.html

9