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This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 101017454

SEA-EU Research Data Management Policy Framework

Title of the document	SEA-EU Research Data Management Policy Framework
Document type	Policy Guidelines
Version of the document	1.0
Approved by	SEA-EU Alliance
Approval date	
Last review date	





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List of Abbreviations

DMP	Data Management Plan
DR	Data Repository
RDM	Research Data Management
SEA-EU	European University of the Seas (A 'European University' Alliance)





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1. Preamble

The rapid development of information technology has fundamentally altered the parameters of academic research. Research is enabled due to the possibilities for collecting, processing, analysing and exchanging large quantities of data. In the wake of this, foundations were laid for an Open Science culture reflected by the establishment of principles for the open access publishing of research data in a FAIR (findable, accessible, interoperable, reusable) manner. To achieve this, awareness has to be raised amongst the scientific community, accompanied by the implementation of professional research data management services and sustainable information infrastructures.

2. Introduction

2.1 Purpose

The SEA-EU Alliance recognises research data as a valuable asset, pivotal for academic research and its contribution to society. To this effect, the implementation of Research Data Management Policies within the SEA-EU partner universities is fundamental to ensure that research data is organised in a harmonised fashion throughout the entire research lifecycle which supports the protection, archiving and sharing of data, as and where appropriate.

The purpose of this Policy Framework is to provide common principles and guidelines to policymakers responsible for research management within the SEA-EU partner universities. This facilitates the process of how research data should be managed, preserved and disseminated in order to maximise the potential of the research output in support of core values and missions. In practical terms, this Policy Framework aims to support SEA-EU partner universities with the adoption and implementation of institutional Research Data Management Policies that: facilitate the appropriate curation and management of data; secure its longevity; and support its potential to be shared and re-used.

2.2 Scope of the document

This Policy Framework serves as a guideline that is expected to be adopted by the SEA-EU Alliance for the implementation of research data management policies. These policies will facilitate dissemination, visibility and impact of research data generated by the SEA-EU Alliance. The policy builds upon the different national policies applicable to each SEA-EU partner university and any relevant European policies already in place.





3. Definitions

3.1 Data Management Plan

The Data Management Plan (DMP) is a plan that outlines how data is managed from the point of collection at the start of a research undertaking, all the way through to its analysis and elaboration of results and how it will be used beyond the original research undertaking. Typically, a DMP will cover areas such as data types, formats and volumes of data collected, metadata, quality control, scientific integrity, specifics concerning access and information concerning publications (as may be applicable).

3.2 Metadata

Metadata refers to additional informative data that explains and describes the characteristics, context and provenance of a dataset. To allow for findability, traceability and (re)usability, the metadata should follow the FAIR Data Principles and be generous and extensive¹. This should at least include: the name of the dataset's creator(s)/contributor(s); its name or title; its date of collection or generation; its date of publication; a unique and persistent identifier; a description of what the data contains, an explanation of how the data has been created, collected or generated; a description of how it has been analysed, as well as details of any licensing information, where applicable. This metadata provides other researchers with the information needed to understand, reuse and build further on the data, as well as making the data more retrievable.

3.3 Principal Investigator

A Principal Investigator is a researcher responsible for a research undertaking, of any size, conducted for, on behalf of, or in association with the university; on university premises; or using university facilities.

3.4 Research

Research is the creative work undertaken on a systematic basis in order to increase the stock of knowledge, including knowledge of humankind, culture and society, and the use of this stock of knowledge to devise new applications.²

¹ FAIR Data Principle F2: Data are described with rich metadata <https://www.go-fair.org/fair-principles/>

² OECD (2015), Frascati Manual 2015: Guidelines for Collecting and Reporting Data on Research and Experimental Development. <http://oe.cd/frascati>



3.5 Research Data

Research data refers to the evidence that underpins the answer(s) to research question(s) and hypothesis testing, and validates findings and reproducibility regardless of its form (e.g., print, digital or physical). These might be quantitative measurements and information, or qualitative statements collected by researchers in the course of their work by experimentation, observation, modelling, interviews or other data-collection methods, or information derived from existing evidence. Data may be: raw or primary (e.g., direct from creation, measurement or collection); derived from primary data for subsequent analysis or interpretation (e.g., following quality checks, gap filling or as an extract from a larger data set); or derived from existing sources where the rights may be held by others. Data may be defined as a 'relational' or 'functional' component of research, thus signalling that its identification and value lies in whether and how researchers use it as evidence for claims.³ Some examples of types of research data include measurements, videos, surveys, interviews, photos, samples, transcriptions, recordings, translations, models, algorithms, protocols and standards.

3.6 Research Data Management

Research Data Management (RDM) is a term that describes the organisation, storage, documentation, preservation, and sharing of data collected and used in a research undertaking. It involves the everyday management of research data during the lifetime of a research undertaking (e.g., using consistent file-naming conventions which describe the type of data within the file, the initials of the Principal Investigator and date). It also addresses collection strategies, backup and storage of data, data documentation, and ethical and legal requirements related to data, data protection, data sharing, data archiving and data destruction.

3.7 Research Undertaking

Any type of research undertaken, supported or conducted by or within the University.

3.8 Researcher

A researcher is a member of staff of the University who has an appointment of employment and who performs research as defined in this document. It includes students or researchers registered at the University who are undertaking research as part of their studies.

³ Higher Education Funding Council for England, Research Councils UK, Universities UK and Wellcome (2016), UK Concordat on Open Data <https://www.ukri.org/wp-content/uploads/2020/10/UKRI-020920-ConcordatonOpenResearchData.pdf>



4. Policy Guiding Principles

This Policy Framework sets out the fundamental guiding principles which SEA-EU partner universities are encouraged to adhere to and promote while compiling their institutional Research Data Management Policies. These guiding principles include:

- 4.1 **Quality:** It should be ensured that research data is accurate, complete, authentic, and reliable.
- 4.2 **Open Data:** Research Data should be published on a designated discipline-specific or institutional Data Repository⁴ for consultation and reuse by external parties, as quickly as possible with an open data licence⁵. Data access should be as open as possible and as closed as necessary.⁶
- 4.3 **FAIR Data Principles:** Published research data should adhere to the FAIR Data Principles (i.e., data should be findable, accessible, interoperable and reusable).
- 4.4 **Compliance:** Rules and guidelines on complying with statutory, ethical and contractual requirements relating to research data should be defined. Necessary measures should include, amongst others, respect for privacy and confidentiality, copyright provisions, and the safeguarding of Intellectual Property Rights.
- 4.5 **Planning approach:** A Data Management Plan should be created and maintained for every research undertaking.
- 4.6 **Responsibility:** The principal investigator should be responsible for the proper handling and publication of the research data.

⁴ To facilitate interoperability of repositories and to harmonise research data, it is recommended that the Data Repositories of the SEA-EU partner universities should be OpenAire compliant. <https://guidelines.openaire.eu/en/latest/>

⁵ To explicitly allow for using, reusing and redistributing of the research data, the licence should conform to the Open Definition of the Open Knowledge Foundation. <https://okfn.org/>

⁶Balancing “as open as possible” and “as closed as necessary” <https://www.cesaer.org/news/balancing-as-open-as-possible-and-as-closed-as-necessary-758/>



- 4.7** Availability: When feasible, research data should be made available for consultation and reuse as quickly as possible. Published research outputs should include a statement on how to access and use any supporting research data, and in the case of embargos, the timelines when this data becomes available, if and when applicable.

5. Roles and Responsibilities

With the objective of facilitating Research Data Management, there are a number of principles that researchers are encouraged to embrace and follow at the level of the SEA-EU Alliance. On their part, the Universities endeavour to incentivise Research Data Management practices within their research community by providing advice, facilities and support to enable and enhance research data exchange in a manner consistent with international conventions, where applicable.

5.1 The University

- The University is responsible for disseminating information amongst its staff on the requirements of its Research Data Management Policy. Faculties and departments should be proactive in disseminating these requirements within their respective academic communities, as well as, encouraging and facilitating compliance.
- The University should provide advice and support to researchers on data management practices and the compilation of DMPs.
- The University should provide advice and support to researchers on associated issues, such as data protection, research integrity, research ethics, FAIR data principles and Intellectual Property Rights.
- The University should provide an institutional Data Repository (DR) that collects, preserves and provides access to research data. Access to data should be managed by the University.
- The University should offer support and training to researchers on how to deposit and access research data uploaded on the DR.

5.2 Researchers

5.2.1 Principal Investigators

- Principal Investigators hold day-to-day responsibility for the effective management of research data generated within or obtained from their research, including their research groups and research undertakings. This should include understanding and complying with the requirements





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of any relevant contract or grant agreement with the University that includes provisions regarding the ownership, preservation and dissemination of research data.

- Principal Investigators are to ensure that a DMP is written before research undertakings commence.
- Principal investigators are to determine if and when a DMP needs to be updated.

5.2.2 Researchers

- Following a professional approach, researchers should make every reasonable effort to keep an accurate and comprehensive record of their research, including documentation of clear procedures for the collection, storage, use, reuse, access and retention or deletion of the research data associated with their undertaking. Where appropriate, this approach should also include defining and documenting protocols and responsibilities in collaborative research undertakings.
- Researchers should ensure that research data is managed and stored with appropriate security. This includes protecting confidential, personal and sensitive research data in accordance with legal and ethical requirements related to the research they conduct.
- Researchers must ensure that they abide by licences or terms of use when using or sharing third party data.
- Researchers are encouraged to publish or deposit data in an appropriate digital format (i.e. in a non-proprietary format) that is suitable for long-term retention, along with sufficient descriptive metadata on the DR, in order to facilitate data findability and re-use.
- Researchers should ensure that published research outputs include a statement on how to access and use any supporting data.
- Researchers should ensure that the research data is published under an open data licence that conforms to the Open Definition (See Clause 4.2).
- Where researchers supervise students, postdocs or other research staff, they should be aware of supervisor responsibilities with regards to ensuring that data is being managed in conformity with the DMP.
- Students, postdocs, researchers and their supervisors should ensure that data management is planned and documented at the outset of the research undertaking.





6. Data Management Planning

- 6.1. A Data Management Plan (DMP) should be developed at the outset of any research undertaking. The DMP should form the basis of data management throughout the various stages of the research lifecycle. Relevant support services within each SEA-EU partner university should advise whether a research funder requires a DMP to be included in the grant application.
- 6.2. DMPs are intended to address the creation, management, documentation, storage, protection and sharing of research data, and the production of descriptive metadata to aid discovery and re-use.
- 6.3. DMPs evolve with research undertakings and thus may require updating throughout the duration of a research undertaking. It is the responsibility of the Principal Investigator to determine if and when a DMP needs to be updated. Moreover, the DMP should specify where the data is to be deposited after the research undertaking has been concluded, and any conditions that may apply.

7. RDM Policies in Relation with existing Institutional Policies

While complying with this overarching SEA-EU Policy Framework, the specific Research Data Management Policies implemented by the individual SEA-EU partner universities should fall within the specific university's regulatory framework and be interpreted in conjunction with any other existing institutional policies and guidelines pertaining to research (e.g., Open Access Policies, Intellectual Property Policies, Privacy Policies, Copyright Provisions, Research Code of Practice, Ethics and Integrity).

8. Support for the Implementation of Research Data Management Policies

The implementation of Research Data Management policies involves the collaboration of various entities within the respective partner universities of the SEA-EU Alliance (e.g. Library Services, Computer Centre Services, Legal Services, Corporate Research & Knowledge Transfer, Project Support Office). Consequently, it is highly recommended that these entities work closely together to provide the necessary support and advice on the diverse aspects of research data management principles and practice.

14.06.2023

