



**Horizon Europe (HORIZON)**



<b>Project number:</b>	101079337
<b>Project name:</b>	South Eastern Mediterranean Excellence Development in Fire REsearch
<b>Project acronym:</b>	SEMEDFIRE
<b>Call:</b>	HORIZON-WIDERA-2021-ACCESS-03
<b>Topic:</b>	HORIZON-WIDERA-2021-ACCESS-03-01
<b>Type of action:</b>	HORIZON-CSA
<b>Service:</b>	REA/C/03
<b>Project starting date:</b>	fixed date: 1 December 2022
<b>Project duration:</b>	36 months

## D2.2 Data Management Plan

<b>Work Package</b>	WP2 – Dissemination, Communication, Exploitation and Outreach
<b>Deliverable Number</b>	D2.2
<b>Lead Partner</b>	1 – European University Cyprus (EUC)
<b>Deliverable Type</b>	DMP – Data Management Plan
<b>Dissemination Level</b>	PU – Public
<b>Due Date</b>	Project Month-06   31/05/2023
<b>Authors</b>	Cleo Varianou-Mikellidou (EUC), Iasonas Senekkis (EUC), Costantinos Constantinou (EUC)
<b>Contributors</b>	Pierantonios Papazoglou (EUC), George Boustras (EUC), Guillermo Rein (IMPERIAL), Carlos Walker-Ravena (IMPERIAL), Nikolaos Kalogeropoulos (IMPERIAL), Klelia Petrou (EUC), Maria Thalia Christou (EUC), Frederick Harrault (DGSCGC), Adrien Mangiavillano (NIMES), Cathelijne Stoof (WUR)

Version	Date	Changed page(s)	Cause of change	Partner
<b>V1</b>	17/03/2023	-	Draft to be reviewed and validated by Steering Committee	EUC
<b>V1.1</b>	05/05/2023	Pages throughout document relating to: a) Data Management Plan Template b) Risk Assessment c) Environmental Risk Assessment as requested to be added after our discussion	Suggestions and Comments upon review by the External Independent Ethics Advisor	EUC
<b>V1.2</b>	26/05/2023	Pages throughout document (editing, etc.)	Final Draft for review and final validation by Steering Committee	EUC
<b>V2.0</b> (SyGMA submission)	30/05/2023	Pages throughout document (minor editing/ aesthetics)	Validation by Quality Assurance Managers	EUC

*Disclaimer:* The information in this document is subject to change without notice. Institutional and/or Company or product names mentioned in this document may be trademarks or registered trademarks of their respective institutions and/or companies.

### **All rights reserved**

The document is proprietary of the SEMEDFIRE Consortium Members. No copying or distributing in any form or by any means is allowed without the prior written agreement of the owner of the property rights. This document reflects only the authors' view. The European Community is not liable for any use that may be made for the information contained herein.

## Table of Contents

---

1	Introduction.....	5
1.1	Purpose of the Document .....	5
1.2	Scope and Intended Audience.....	6
1.3	Structure of the Document.....	6
1.4	Referenced Documents .....	6
2	Methodology .....	7
2.1	Plan for Informing Partners of DMP responsibilities.....	7
3	SEMEDFIRE Data Management Policy.....	8
3.1	Naming and Identification of Data set.....	8
3.2	Data Summary / Data Set Description.....	9
3.3	FAIR Data .....	10
3.3.1	Making Data Openly Accessible.....	12
3.3.2	Making Data Interoperable .....	16
3.3.3	Increasing Data Reuse .....	17
3.4	Allocation of Resources .....	18
3.5	Data Security.....	18
3.6	Ethical Aspects.....	18
3.6.1	Ethics and research integrity .....	18
3.6.2	Values .....	19
3.7	Self-Audit Process (regarding data) .....	20
4	Initial aspects of SEMEDFIRE where Data Management is required.....	22
5	Conclusion .....	24
	ANNEX I – SEMEDFIRE Template for DMP.....	25
	ANNEX II – RISK ASSESSMENT TEMPLATE .....	26
	ANNEX III – ENVIRONMENTAL RISK ASSESSMENT.....	30

## List of Figures

---

Figure 1: SEMEDFIRE Data Set Naming Scheme .....	8
Figure 2: <i>The scheme depicts the FAIRification process. The figure was reproduced from <a href="#">GO FAIR</a> and focuses on data and metadata.</i> .....	12

## List of Tables

---

Table 1 Data Management Plan Template .....	<b>Error! Bookmark not defined.</b>
---	-------------------------------------

# 1 Introduction

---

SEMEDFIRE is a WIDERA-TWINNING-Action designed to provide world-class expertise and international-networking from internationally-leading Advanced Partners to the targeted Widening institution; EUC. The uniquely complementary Advanced Partners from four European countries, deliver a synergistically holistic approach for capacity-development and knowledge-transfer to EUC, overall scoping at excellent fire-science research and excellent research-management-&-administration.

## 1.1 Purpose of the Document

Data Management Plans (DMPs) are a key element of good data management. A DMP describes the data management life cycle for the data to be collected, processed and/or generated by the project. This document represents the first version of the SEMEDFIRE Data Management Plan (DMP) (see WP2 – D2.2), which should be followed by the partners for the datasets generated or collected throughout the lifecycle of the project, meaning it will be regularly reviewed and updated through the duration of the project. DMP has been developed according to EU guidelines. Guidelines are provided for communicating the DMP to project partners and ensuring that partners understand the need, and process to take, in order to fulfil this DMP during their research.

This SEMEDFIRE deliverable is in full alignment with the SEMEDFIRE Grant Agreement, where DMP will be produced to overall ensure the FAIR principles. The DMP will delineate all issues related to data management: Data Types/Formats, Standards and Capture Methods, Ethics and GDPR, Access-rights, Data Sharing and Reuse, Resourcing, Deposit and Long-Term Preservation, Short-Term Storage, safeguards to protect data subjects' rights. This holistic DMP will ensure that SEMEDFIRE will follow FAIR principles (see paragraph 3.3); that it will abide by the General Data Protection Regulation; and that it will take into account the principles of Responsible Research Innovation (RRI). A key aspect of the DMP is to make the information collected and produced Findable, Accessible, Interoperable and Re-usable (FAIR). In particular, the DMP identifies the main data to be generated within SEMEDFIRE, outlining how data are used during the project as well as protocols and policies required for data exchange and sharing within and outside the consortium.

It is important to note that the DMP will be a live document, meaning that it will be further detailed, updated, amended and/or corrected during the whole lifespan of the project. Updated versions will be produced whenever significant changes arise, e.g., when new data formats are required to be defined or when new consortium policies on data exchange, sharing or security are enforced.

## 1.2 Scope and Intended Audience

The intended audience are:

- SEMEDFIRE partners to assist in the communication of this Data Management Plan and FAIR principles
- The European Commission and reviewers, to explain the project intentions.

## 1.3 Structure of the Document

This document has 6 Sections as below:

- Section 2 Methodology
- Section 3 SEMEDFIRE Data Management Policy
- Section 4 Initial aspects of SEMEDFIRE where Data Management is required
- Section 5 Data Management Plans
- Section 6 Conclusions

## 1.4 Referenced Documents

- [1] European Commission (2016). H2020 Programme, Guidelines on FAIR Data Management in Horizon 2020. [http://ec.europa.eu/research/participants/data/ref/h2020/grants\\_manual/hi/oa\\_pilot/h\\_2020-hi-oa-data-mgt\\_en.pdf](http://ec.europa.eu/research/participants/data/ref/h2020/grants_manual/hi/oa_pilot/h_2020-hi-oa-data-mgt_en.pdf) (Accessed 5th March 2023)
- [2] Open Aire (2023). How to comply with Horizon Europe mandate for Research Data Management <https://www.openaire.eu/how-to-comply-with-horizon-europe-mandate-for-rdm> (Accessed 29th March 2023)

## 2 Methodology

---

This Data Management Plan considers and applies to data sets that will be collected, processed and/or generated within the project. The methodology followed by the consortium is to create and maintain the project DMP is as follows:

- 1) Create a data management policy.
  - a) Using the elements that the EC guidelines proposes to address for each data set.
  - b) Defining the strategy that the consortium uses to address each of the elements.
  - c) Defining a Self-Audit process for the DMP.
- 2) Create a DMP template that will be used in the project for each of the collected data sets, see Appendix 1 SEMEDFIRE Template for DMP.
- 3) Maintaining DMPs
  - a) If a data set is collected, processed and/or generated within a work package, a DMP should be filled in.
- 4) The filled DMPs should be created, expanding on the topics listed in section 4, plus any additional data sets considered.
  - a) Section **Error! Reference source not found.** of this document is the living document section describing which data is collected within the project as well as how it is managed.
- 5) Towards the end of the project an assessment will be made of which data sets are valuable to keep as Open Data after the end of the project.
  - a) For the data that is considered to be valuable, an assessment of how the data can be maintained and the cost involved will be made.

This methodology is inspired by involvement in previous projects where Data Management Plans have been followed, taking into account the lessons learned from those projects.

### 2.1 Plan for Informing Partners of DMP responsibilities

This deliverable will be promoted across the project, offering both briefings in plenary meetings and the opportunity for EUC to support partners individually for preparation of their individual data management plans, as their work progresses, and prior to any training/ meeting, etc.

### 3 SEMEDFIRE Data Management Policy

---

Several SEMEDFIRE partners will create or collect data during their activity in this project. Data collected or created may be subject for consideration to be retained for open data purposes. Each partner that creates and/or collects data should create a Data Management Plan.

#### 3.1 Naming and Identification of Data set

To have a mechanism for identifying the different collected/generated data easily, we will use a naming scheme. The naming scheme for SEMEDFIRE data sets will be a simple hierarchical scheme including the country, meeting, creating or collecting partner and a describing data set name. This name should be used as the identification of the data set when it is published as Open Data in different open data portals.

SEMEDFIRE\_{WP}\_{Responsible Partner}\_{Description}\_{Data Set Sub Index}

**Figure 1: SEMEDFIRE Data Set Naming Scheme**

The parts are defined as follows:

- **SEMEDFIRE:** Static for all data sets, identifying the project.
- **Pilot/Field Test Site:** The name of the pilot site where the data was collected without spaces,
- **Responsible Partner:** The partner that is responsible for managing the collected data, i.e. creates and maintains the Open Data Management plan for the data set. Using partner acronyms from the Grant Agreement
- **Description:** Short name for the data set without spaces, i.e. PeopleCount etc.
- **Data Set Sub Index:** Optional numerical index starting on 1. The intention is that data sets created/collected at different times can be distinguished and have their individual meta data

Care should be taken with regard to the naming convention with regard to the consent basis of the collected data. Identification could be using different ways, e.g. by naming according to the WP or Task carrying out the data collection.

Meta-data may be as important as the data itself, so consideration should be taken to identify meta-data sets in their own right, or meta-data that accompanies data sets.



**Data-Types/Formats:**

- Files (e.g. Reports and/or Studies and/or Worksheets and/or Presentations) in MS-Office applications (e.g. DOCX, XLSX, PPTX, PDF);
- Fire-Modelling and/or Evacuation Tools data and data formats (e.g. from activities in WP3), typically used by the fire-modelling community, as for example: FARSITE-Fire Area Simulator model development and evaluation of wildfire the FDS – Fire Dynamics Simulator and SMV – Smokeview visualization program<sup>50</sup>, or the WUI-NITY platform for the simulation of wildland-urban interface fire evacuation<sup>51</sup>.
- Data collected within the joint activities of the SET visits and/or the HOTs (e.g. the Short Course and/or Field Exercises within WP3, WP4, WP5, and WP6), in various formats such as worksheets, images, videos, etc.; and
- Processed data such as visualizations, graphs, or other various image and/or video formats.

**3.2 Data Summary / Data Set Description**

The data collected/created should be described to include the following information:

- The purpose of the data collection/generation
- The legal basis if including personally identifiable information
- The relation to the objectives of the project
- The types and formats of data generated/collected
- Whether existing data is being re-used (if any)
- Identification of any re-used data,
  - Name of a reused data set
  - Pointer to external data.
- The origin of the data
- The expected size of the data (if known)
- The data utility
  - Who will find will it be useful for research?
  - Who may wish to exploit the information for reasons other than the intended use of creation/collection?

### 3.3 FAIR Data

In full accordance with European Commission’s policy priorities on Open Science and Data Management of Research Outputs, SEMEDFIRE will implement open-science-practices as an integral part of its approach and methodology. As a general principle, research data produced, collected or processed in the context of the SEMEDFIRE project, follow the FAIR principles. FAIR data management means in general terms, that research data should be “FAIR”, that is

- Findable
- Accessible
- Interoperable
- Re-usable

Making Data Findable, including provisions for metadata

This point addresses the following issues:

- Outline the discoverability of data (metadata provision)
- Outline the identifiability of data and refer to standard identification mechanism.
- Outline the naming conventions used.
- Outline the approach towards search keywords.
- Outline the approach for clear versioning.
- Specify standards for metadata creation (if any).
- Declare the dissemination status (e.g. public/ confidential etc as per the GA)

SEMEDFIRE has identified a number of available best practices and guidelines for working with Open Data, mostly by organisations or institutions that support and promote Open Data initiatives. These include:

- Open Data Foundation<sup>1</sup>
- Open Knowledge Foundation<sup>2</sup>
- Open Government Standards<sup>3</sup>

---

<sup>1</sup> <http://www.opendatafoundation.org>

<sup>2</sup> <https://okfn.org>

<sup>3</sup> <https://www.opengovpartnership.org/>

Furthermore, data should be interoperable, adhering for data annotation, data exchange and compliant with available software applications related to key focus areas of SEMEDFIRE.

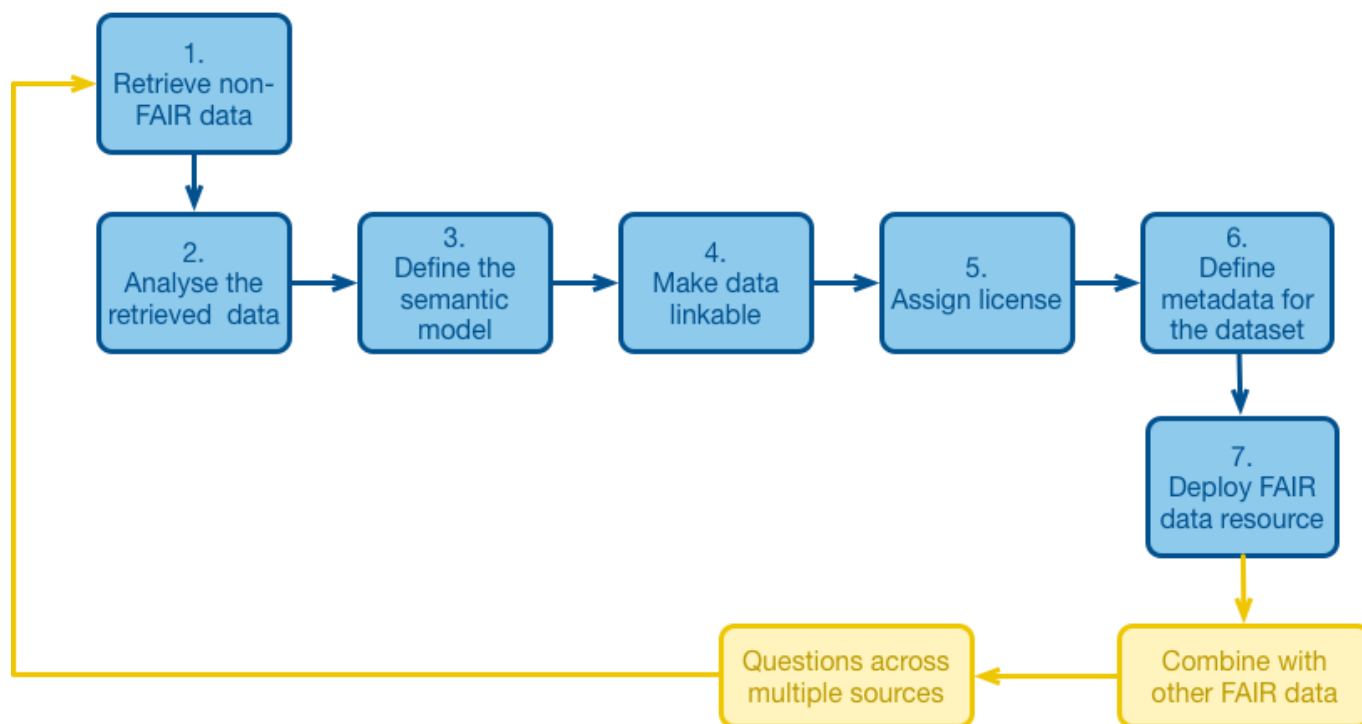
The SEMEDFIRE Consortium is committed to following FAIR principles, in line with the Global Open FAIR Initiative. Accordingly, SEMEDFIRE is committed to making data findable in two distinct ways:

- **On a restricted basis** for access only by the SEMEDFIRE partners and the European Commission services. These relate primarily to data arising from Work Packages (WP) and as they relate to areas of coordination and management.
- **Widely**, through metadata, or standard identification mechanisms, such as persistent and unique identifiers, as also indicated in the FAIR template. Such data will typically arise from WPs relating to areas of research, education, training and innovation, and dissemination, exploitation and communication.

The FAIRification process as can be seen in Figure 2, for making data FAIR starts from the moment we gain access to the data; either these are generated, collected or received data. The first step of the FAIRification process is the analysis of data. In this step, beneficiaries should investigate the origin of input data needed to carry out the analysis—especially if they derive from non-open sources—and assess the licenses to ensure that input data can be used and reused by others without restrictions. For intermediate or final products, this means to investigate their FAIR status: whether best practices for file naming are used, the format, semantics and proper linking of all input data required to produce the data. Similarly, on metadata level, FAIR status should be investigated: if proper standards are used, if they have assigned licenses as well as the status of the information for reusing and accessing the data.

The next step is to assign a license to the dataset. The chosen licensing scheme determines data reusability. Choosing a truly open license makes data available to a larger audience and makes the widest range of uses possible. Subsequently, ensure data is described by proper and rich metadata. Standardised and machine-readable metadata are essential for the automatic discovery of datasets and services, so this is a crucial component of the *FAIRification* process. Improving metadata requires including details such as identification and provenance, keywords, quality and validity, license, copyright, and description of use conditions and access of data.

The final step is to deposit or publish the FAIR data so that they can be indexed by search engines and be accessed even if authentication and authorisation are required.



**Figure 2: The scheme depicts the FAIRification process.**

*The figure was reproduced from [GO FAIR](#) and focuses on data and metadata.*

### 3.3.1 Making Data Openly Accessible

#### 3.3.1.1 Open Science and FAIR Open Data

In full accordance with European Commission’s policy priorities on Open Science and Data Management of Research Outputs, SEMEDFIRE will implement open-science-practices as an integral part of its approach and methodology.

#### 3.3.1.2 Open Access to Scientific Publications

SEMEDFIRE will ensure Open Access to peer-reviewed scientific publications relating to the project’s results. Scientific publications will be green open access at the least, and gold where possible; all SEMEDFIRE scientific data and metadata will be stored in “Πλημοχόη – Plemochoe” (<https://repo.euc.ac.cy/>); the EUC’s institutional repository, and made open access upon publication of results. SEMEDFIRE Consortium will be advised to prioritize Journals/ Conferences that are indexed (in Thomson-Reuters JCR, SCOPUS, etc.), ensuring recognized scientific impact, as well as prioritize Journals not requiring transfer of IPR. Partners will be required to perform plagiarism checks (upon which papers may or may not be submitted). The Advanced Partner WU’s Library will also support with making SEMEDFIRE’s work open access, while also supporting open data practices.

The beneficiaries must ensure open access to peer-reviewed scientific publications relating to their results. In particular, they must ensure that:

- at the latest at the time of publication, a machine-readable electronic copy of the published version or the final peer-reviewed manuscript accepted for publication, is deposited in a trusted repository for scientific publications
- immediate open access is provided to the deposited publication via the repository, under the latest available version of the Creative Commons Attribution International Public Licence (CC BY) or a licence with equivalent rights; for monographs and other long-text formats, the licence may exclude commercial uses and derivative works (e.g. CC BY-NC, CC BY-ND) and
- information is given via the repository about any research output or any other tools and instruments needed to validate the conclusions of the scientific publication. Beneficiaries (or authors) must retain sufficient intellectual property rights to comply with the open access requirements.

These are data that are accessible to all, free of charge, and can be accessed online in the public domain.

Costs for ensuring data is FAIR, including direct and indirect costs related to full open access, storage, archiving, re-use, security will be covered by the project, as and where eligible (i.e. for fully-open access publications) and by Consortium members own funds, as appropriate. Data management responsibility for SEMEDFIRE will be assumed by the Widening Coordinator, and more specifically by EUC's Data Manager and Data Protection Officer. EUC will also ensure Security of Data within its "Πλημοχόη-Plemochoe" institutional repository.

There is understanding that once these data have been made openly and publicly accessible, they might be modified or disclosed unauthorized, but any such misuse of data placed in the open data category should pose no or only minimal threat to the activities of SEMEDFIRE. We are aware that abuse or misuse of this kind of data in some rare cases might be a possibility, so data curators should have a level of monitoring, to the extent feasible, as a precautionary measure. In case of sensitive data, only specific partners might have access and they will not be accessible to the public.

Examples of (O) data may be:

- Research publications and technical reports published in Open Access journals and journals that promote the publication of research data in open access repositories.
- Relevant dissemination or communication material (such as videos, photos, brochures, etc.) that are not restricted by confidentiality, data protection or other privacy policies, laws or regulations, and press releases about SEMEDFIRE activities.
- Information relevant to academic courses offered by SEMEDFIRE in collaboration with Imperial College London and European University Cyprus.

It should be explicitly decided to make data sets openly available or not. The reasoning behind such a decision should be explained, and a status logged for each data set:

- Not yet considered – with who is responsible for the decision
- Open – with reasoning, date of decision and who is responsible for the decision
- No Open – with reasoning, date of decision and who is responsible for the decision

Where it is decided to make a dataset data open, the location of publication should be documented, considering whether the data will be published to any open data registry, published through the SEMEDFIRE website.

It should be specified what methods or software tools are needed to access the data, and any documentation necessary to explain access and use, and details of any relevant software (e.g. any open source code).

It should be specified where the data and associated metadata, documentation and code are deposited and how, to whom and under which conditions access will be provided in case there are any restrictions.

### **3.3.1.3 Intellectual Property Rights (IPR)**

IPR Management is a high priority of the SEMEDFIRE Consortium. The project is committed to a careful planning of IPR, abiding by the applicable IPR directives and regulations for Horizon Europe, and by fully capitalizing on the guidelines and resources of the “European Intellectual-Property Helpdesk”<sup>4</sup>. As such, SEMEDFIRE will stipulate ownership and access to research-data via this deliverable (D2.2), whereas all issues pertaining to: confidentiality and non-disclosure; background/pre-existing IP utilizable within the

---

<sup>4</sup> [https://intellectual-property-helpdesk.ec.europa.eu/ip-management-and-resources\\_en](https://intellectual-property-helpdesk.ec.europa.eu/ip-management-and-resources_en)

project; ownership-modalities of foreground IP; arrangements of sideground IP generated in parallel; settlement of potential disputes; and of course, commercially exploitable IP and its access rights; are stipulated in the Consortium Agreement, as well as in D1.1 – section 3. SEMEDFIRE will utilize the “DESCA model”<sup>5</sup> for CA, as the most-recently-updated and well-accepted principles/ guidelines to follow for overall IPR protection.

### Definitions

- **Access rights** — Rights to use results or background.
- **Dissemination** — The public disclosure of the results by appropriate means, other than resulting from protecting or exploiting the results, including by scientific publications in any medium.
- **Exploit(ation)** — The use of results in further research and innovation activities other than those covered by the action concerned, including among other things, commercial exploitation such as developing, creating, manufacturing and marketing a product or process, creating and providing a service, or in standardisation activities.
- **Fair and reasonable conditions** — Appropriate conditions, including possible financial terms or royalty-free conditions, taking into account the specific circumstances of the request for access, for example the actual or potential value of the results or background to which access is requested and/or the scope, duration or other characteristics of the exploitation envisaged.
- **FAIR principles** — ‘findability’, ‘accessibility’, ‘interoperability’ and ‘reusability’.
- **Open access** — Online access to research outputs provided free of charge to the end-user.
- **Open science** — An approach to the scientific process based on open cooperative work, tools and diffusing knowledge.
- **Research data management** — The process within the research lifecycle that includes the organisation, storage, preservation, security, quality assurance, allocation of persistent identifiers (PIDs) and rules and procedures for sharing of data including licensing.
- **Research outputs** — Results to which access can be given in the form of scientific publications, data or other engineered results and processes such as software, algorithms, protocols, models, workflows and electronic notebooks.

Different confidentiality levels are expected to be applied within SEMEDFIRE:

- **Public:** This option applies to most SEMEDFIRE (final) products.

---

<sup>5</sup> <https://www.desca-agreement.eu/desca-model-consortium-agreement/>

- **Internal use:**

1. **Confidential to partner:** This option applies when data are shared only between specific partners in the consortium (e.g., data involved in collaborative work, sharing of intermediate or incomplete products, data expected to be included in patent applications).
2. **Confidential to consortium:** This option applies for data underlying publications that may not yet be published in peer reviewed scientific papers or that are planned to be published before becoming publicly available.

As the project progresses and data is identified and collected, further information on making data openly accessible will be outlined in subsequent versions of the DMP. In specific, information on methods or software tools needed to access the data and how access will be provided in case there are restrictions.

#### **3.3.1.4 Open science: additional practices**

Where the Grant conditions impose additional obligations regarding open science practices, the beneficiaries must also comply with those.

Where the Grant conditions impose additional obligations regarding the validation of scientific publications, the beneficiaries must provide (digital or physical) access to data or other results needed for validation of the conclusions of scientific publications, to the extent that their legitimate interests or constraints are safeguarded (and unless they already provided the (open) access at publication).

Where the Grant conditions impose additional open science obligations in case of a public emergency, the beneficiaries must (if requested by the granting authority) immediately deposit any research output in a repository and provide open access to it under a CC BY license, a Public Domain Dedication (CC 0) or equivalent. As an exception, if the access would be against the beneficiaries' legitimate interests, the beneficiaries must grant nonexclusive licenses — under fair and reasonable conditions — to legal entities that need the research output to address the public emergency and commit to rapidly and broadly exploit the resulting products and services at fair and reasonable conditions. This provision applies up to four years after the end of the action.

#### **3.3.2 Making Data Interoperable**

An assessment of the data interoperability should be made to specify what data and metadata vocabularies, standards or methodologies will be followed in order to facilitate interoperability. Moreover, it will address whether standard vocabulary will be used for all data types present in the data set in order to allow interdisciplinary interoperability.



The SEMEDFIRE project will consider data of many different types and from very different sources. In addition to that, metadata of deposited publications must be open under a Creative Common Public Domain Dedication (CC 0) or equivalent, in line with the FAIR principles (in particular machine actionable) and provide information at least about the following: publication (author(s), title, date of publication, publication venue); Horizon Europe or Euratom funding; grant project name, acronym and number; licensing terms; persistent identifiers for the publication, the authors involved in the action and, if possible, for their organisations and the grant. Where applicable, the metadata must include persistent identifiers for any research output or any other tools and instruments needed to validate the conclusions of the publication. Only publication fees in full open access venues for peer-reviewed scientific publications are eligible for reimbursement.

Metadata of deposited data must be open under a Creative Common Public Domain Dedication (CC 0) or equivalent (to the extent legitimate interests or constraints are safeguarded), in line with the FAIR principles (in particular machine-actionable) and provide information at least about the following: datasets (description, date of deposit, author(s), venue and embargo); Horizon Europe or Euratom funding; grant project name, acronym and number; licensing terms; persistent identifiers for the dataset, the authors involved in the action, and, if possible, for their organisations and the grant. Where applicable, the metadata must include persistent identifiers for related publications and other research outputs.

### **3.3.3 Increasing Data Reuse**

In every case, SEMEDFIRE partners should specify if the data produced and/or used in the project is useable by third parties, especially, after the end of the project.

Data sets should be licensed to permit the widest reuse possible. The European Data Portal provides a Licensing Assistant<sup>6</sup> to help to understand and chose a licencing model for open data. Reasoning should be provided if a restrictive license has been selected. A data quality assurance process description should be provided, if any. An indication should be made regarding length of time for which the data will remain re-usable.

---

<sup>6</sup> <https://www.europeandataportal.eu/en/content/show-license>

### 3.4 Allocation of Resources

Making data open requires resources to achieve all of the above FAIR principles. Assessment should be made:

- To estimate cost of making data sets FAIR
- To identify the method and/or budget to cover these costs
- To allocate responsibilities for data management and making data open
- To identify potential costs for anonymisation prior to making data open
- To identify costs and Potential value of long-term preservation

### 3.5 Data Security

In addition to consideration of open data, each partner is required to securely store and manage data sets. Security Risk assessment must be carried out for field trials considering both the IT equipment, and the information collected, stored and processed. It must be documented which partners are involved in data collection, storage and processing for each pilot and field trial.

### 3.6 Ethical Aspects

#### 3.6.1 Ethics and research integrity

The action must be carried out in line with the highest ethical standards and the applicable EU, international and national law on ethical principles. The beneficiaries must carry out the action in compliance with:

- ethical principles (including the highest standards of research integrity)
- and
- applicable EU, international and national law, including the EU Charter of Fundamental Rights and the European Convention for the Protection of Human Rights and Fundamental Freedoms and its Supplementary Protocols.

The beneficiaries must pay particular attention to the principle of proportionality, the right to privacy, the right to the protection of personal data, the right to the physical and mental integrity of persons, the right to non-discrimination, the need to ensure protection of the environment and high levels of human health protection.

In addition, the beneficiaries must respect the fundamental principle of research integrity as set out in the European Code of Conduct for Research Integrity.

This implies compliance with the following principles:

- reliability in ensuring the quality of research reflected in the design, the methodology, the analysis and the use of resources
- honesty in developing, undertaking, reviewing, reporting and communicating research in a transparent, fair and unbiased way
- respect for colleagues, research participants, society, ecosystems, cultural heritage and the environment
- accountability for the research from idea to publication, for its management and organisation, for training, supervision and mentoring, and for its wider impacts

and it means that beneficiaries must ensure that persons carrying out research tasks follow the good research practices including ensuring, where possible, openness, reproducibility and traceability and refrain from the research integrity violations described in the Code.

Activities raising ethical issues must comply with the additional requirements formulated by the ethics panels (including after checks, reviews or audits).

The documents must be kept on file and be submitted upon request by the coordinator to the granting authority. If they are not in English, they must be submitted together with an English summary, which shows that the documents cover the action tasks in question and includes the conclusions of the committee or authority concerned (if any).

### **3.6.2 Values**

The beneficiaries must commit to and ensure the respect of basic EU values (such as respect for human dignity, freedom, democracy, equality, the rule of law and human rights, including the rights of minorities).

#### **3.6.2.1 Gender mainstreaming**

The beneficiaries must take all measures to promote equal opportunities between men and women in the implementation of the action and, where applicable, in line with the gender equality plan. They must aim, to the extent possible, for a gender balance at all levels of personnel assigned to the action, including at supervisory and managerial level.

### 3.7 Self-Audit Process (regarding data)

Compliance with legal and ethical issues in terms of information security, data protection and ethical issues must be considered. The existence of an auditing mechanism is deemed necessary in order to avoid the publication of non-validated data.

The steps of the Self-Audit process that will be implemented are summarized below:

1. Self-Audit Planning
  - Plan and Set-up Self-Audit to Collect Relevant Documents
  
2. Identification, Classification and Assessment of Data sets to Analyse Documents
  - Identify Data Sets
  - Classify Data Sets
  - Assess Data Sets
  
3. Report of Results and Recommendations
  - Collate and analyse information from the audit
  - Report on the compliance with the Data Management Plan to Identify weaknesses and decide on corrective actions Other Issues

#### 3.7.1 Ethics Requirements as per the Ethics Summary Report

##### 3.7.1.1 External Independent Ethics Advisor

The applicant has not flagged any ethics issue in the Ethics table despite possible Humans involvement (civil society and citizen are considered as stakeholders along the DoA including i.e. Hands-On Trainings, some of them being expected to become actors in case of fires), non-EU country (UK), Personal data (partners, training, etc.), Environment (fire management strategies are not equal in terms of environmental and health impacts). Some of these issues are discussed in the DoA, mostly in a very general manner, and a deliverable including ethics and research integrity is planned at month 6. Due to a global weakness of awareness of ethics issues, the proposed ethics compliance report deliverable is welcome but should be prepared by an external ethics advisor and should reflect all ethics issues raised by the project.

### 3.7.1.2 General requirement applicable to all grants

The beneficiaries must ensure that all ethics issues related to activities in the grant are addressed in compliance with ethical principles, the applicable international and national law, and the provisions set out in the Grant Agreement. This includes the ethics issues identified in this report and any additional ethics issues that may emerge in the course of the grant. In case any substantial new ethics issues arise, beneficiaries should inform the granting authority. For each ethics issue applicable, beneficiaries must follow the guidance provided in the “How to complete your ethics self-assessment”<sup>7</sup>.

As per the above, in full alignment with the Evaluation and GAP Guidance-on-Actions (in particular point-20), an additional Work Package on “Ethics Requirements” has been added in Part-A on SyGMA. WP7 includes the appointment of an Ethics Advisor, as Deliverable D7.1 “Appointment of Ethics Advisor – OEI Requirement No.1” with due date M01. WP7 also includes the Advisor’s report, as Deliverable D7.2 “Ethics Advisor Report – OEI Requirement No.2” with due date M06.

---

<sup>7</sup> [https://ec.europa.eu/info/funding-tenders/opportunities/docs/2021-2027/common/guidance/how-to-complete-your-ethics-self-assessment\\_en.pdf](https://ec.europa.eu/info/funding-tenders/opportunities/docs/2021-2027/common/guidance/how-to-complete-your-ethics-self-assessment_en.pdf).

## 4 Initial aspects of SEMEDFIRE where Data Management is required

The following gives an initial general list of data categories where thus data management plan should be used. As the work of the project progresses, a DMP should be defined for each of the following, using the template given in ‘ANNEX I – SEMEDFIRE Template for DMP’.

SEMEDFIRE’s Dissemination activities will mainly target the Academic/ Research communities, as well as special-interest audiences from the Government and Industry:

Target Groups	Measures	Tools/ Channels	Timing	Outcomes/ KPIs
Academia/ Research	Peer-Reviewed Scientific Publications	Open Access/ SCOPUS-indexed Journals and Peer-reviewed Conferences	from M12 onwards (both during and after end of project)	<b>6</b> publications in fully open access Journals <b>2</b> in fully open access Peer-rev. Conferences
	Research Data, Processed Data, and Other Research Outputs	FAIR Open data, and the EUC “Πλημοχόη – Plemochoe” repository	from M06 onwards (both during and after end of project)	FAIR and Open Data and Processed Data from/for scientific publications, or from/for other research-outputs
Academia/ Research	Organization, Hosting or Participation of Staff-Exchange Twinning-visits, and Hands-On-Trainings	Staff-Exchange Twinning-visits, and Hands-On-Trainings	M06 – M30	FAIR and Open Data, Processed Data, and Data collected during the:  <ul style="list-style-type: none"> <li>• <b>8</b> Staff-Exchange Twinning-visits,</li> <li>• <b>6</b> Hands-On-Training Short-Courses, and</li> <li>• <b>2</b> Hands-On-Training Field-Exercises.</li> </ul>
Special-Interest Government; and Industry		FAIR Open data, and the EUC “Πλημοχόη – Plemochoe” repository		
Academia/ Research;	Kick-Off and Closure Events	Organization of Meetings/ Events	M01 and M36	FAIR and Open Data, Processed Data, and Data collected during:  <ul style="list-style-type: none"> <li>• <b>1</b> Public Launch Event (M01), and</li> <li>• <b>1</b> Closure Event (M36)</li> </ul>
Special-Interest Government;				

and		activities of the project, meetings/events, work-packages, deliverables/ results		KPI: Number of Visits at the end of SEMEDFIRE-project
Special-Interest Industry	Social Media	Twitter and LinkedIn accounts of SEMEDFIRE	M06 – M36	Creation and Launch of the SEMEDFIRE-Twitter and SEMEDFIRE-LinkedIn (M06)  KPI: Number of Followers at the end of SEMEDFIRE
	Dedicated Deliverables	Documents of the Deliverables  FAIR Open data, and the EUC “Πλημοχώη – Plemochoe” repository	M06 – M36	FAIR and Open Data and Processed Data from/for: <ul style="list-style-type: none"> <li>• 1 Suite on Fire Management</li> <li>• 1 Strategy on Integrated Fire Management</li> <li>• 1 Plan on Forest-Fires Community-Engagement</li> <li>• 1 White Paper on Fire-Governance and Agencies-Interoperability</li> </ul>

## 5 Conclusion

---

This Deliverable **D2.2** presents the **Data Management Plan (DMP) of the SEMEDFIRE project**.

Guidelines are provided for informing and supporting project partners to ensure that partners understand the need, and process to take to fulfil this DMP during their research.



# ANNEX I – SEMEDFIRE Template for DMP

Deliverable	Delivered (YES/NO)	Format (Example: CSV, ME Excel, XML, ASCII, MySQL, netCDF etc)	Est. Size/ Amount	Where will the data be stored and backed-up?	Shared? (YES/NO)	Sensitive Data (YES/NO)*	Partner Name	Contact person responsible for ensuring that data standards are properly applied and data are properly formatted
D1.1 – D1.1 QA and R&BC Procedures	YES							
D1.2 – D1.2 Progress Report								
D1.3 – D1.3 ERMA-Unit Establishment and Operation								
D2.1 – D2.1 DICEO – Plan” on “Dissemination – Communication – Exploitation – Outreach”								
D2.2 – D2.2 Data Management Plan								
D3.1 – D3.1 Report on the WP3 Staff-Exchange Twinning Visits								
D3.2 – D3.2 Report on the WP3 Hands-On Training								
D3.3 – D3.3 Basic Fire Management Suite for Cyprus and the Region								
D4.1 – D4.1 Report on the WP4 Staff-Exchange Twinning Visits								
D4.2 – D4.2 Report on the WP4 Hands-On Training								
D4.3 – D4.3 Integrated Fire Management Strategy for Cyprus and the Region								
D5.1 – D5.1 Report on the WP5 Staff-Exchange Twinning Visits								
D5.2 – D5.2 Report on the WP5 Hands-On Training								
D5.3 – D5.3 Forest Fires Community Engagement Plan for Cyprus and the Region								
D6.1 – D6.1 Report on the WP6 Staff-Exchange Twinning Visits								
D6.2 – D6.2 Report on the WP6 Hands-On Training								
D6.3 – D6.3 Fire-Governance and Agencies- Interoperability White Paper								
D7.1 – OEI - Requirement No. 1	YES							
D7.2 – OEI - Requirement No. 2								

**Table 1 Data Management Plan Template**

## ANNEX II – RISK ASSESSMENT TEMPLATE

1. LEAD DEMONSTRATOR		
Name	Title / Position	Faculty / Department / Section
2. PERSON COMPLETING OVERVIEW / RISK ASSESSMENT (if different from above)		
Name	Title / Position	Faculty / Department / Section
3. ACTIVITY/ FIRE DEMONSTRATION TITLE		
4. OVERVIEW OF ACTIVITY		
Type:	Talk / Demonstration only <input checked="" type="checkbox"/>	Audience participation involved <input type="checkbox"/> If yes, number of participants: .....
Description		
Date of event		
5. LOCATION OF THE ACTIVITY		
6. DECLARATION (Please complete as appropriate)		
Confirm that this activity does not present any significant hazard <input checked="" type="checkbox"/>	If you CANNOT confirm this then you must complete the risk assessment overleaf. If you CAN confirm that there are no significant hazards associated with the activity then please enter details below and forward the form directly to the Events Office.	
Name	Date	

Risk assessment					
1. HAZARD SUMMARY (each identified hazard must then be detailed in Section 2 below)					
Moving machinery	<input type="checkbox"/>	Public areas	<input checked="" type="checkbox"/>	Genetically-modified Micro-organisms	<input type="checkbox"/>
Lifting, carrying or pulling	<input checked="" type="checkbox"/>	Explosions or implosions	<input type="checkbox"/>	Non- GM biological agents	<input type="checkbox"/>
Sharps	<input type="checkbox"/>	Noise	<input type="checkbox"/>	Live animals	<input type="checkbox"/>
Electrical hazards	<input type="checkbox"/>	Extreme hot or cold items	<input checked="" type="checkbox"/>	Laboratory animal allergens	<input type="checkbox"/>
Working at height	<input type="checkbox"/>	Pressure/steam	<input type="checkbox"/>	Flammable substances	<input checked="" type="checkbox"/>
Falling objects	<input checked="" type="checkbox"/>	Naked flames	<input type="checkbox"/>	Chemicals hazardous to health	<input checked="" type="checkbox"/>
Environmental factors (terrain, water, weather)	<input type="checkbox"/>	Cryogenic liquids	<input type="checkbox"/>	Emotive or security issues	<input type="checkbox"/>
Slips, trips or falls	<input type="checkbox"/>	Compressed gasses	<input type="checkbox"/>	Ionising Radiation	<input type="checkbox"/>
Traffic	<input type="checkbox"/>	Travel	<input type="checkbox"/>	UV/lasers/microwave/ other non-ionising radiations	<input type="checkbox"/>
Other (please specify)					
2. Brief description of the hazardous aspect of the activity		Impacts (related with the hazard)	Preventive/ Suggested measures/ controls	Is risk high, medium or low?	
3. Who might be harmed?					
Presenter only <input type="checkbox"/>			Audience plus presenter <input checked="" type="checkbox"/>		
Support staff <input type="checkbox"/>			Other <input type="checkbox"/> Describe:		

If audience participation is involved, do any participants need to be excluded e.g. children?		
4. Describe the waste disposal routes for any hazardous or contentious items		
5. How often is the activity to be carried out?		
7. REVIEW & SIGN OFF (Refer to matrix below)		
Name	Position	Date
If activity is to take place on the premises of a host organisation, confirm that the organisation been provided with a copy of this risk assessment and that no objections have been raised		<input type="checkbox"/>
If activity is to take place in a public location, confirm that any relevant permissions have been obtained.		<input type="checkbox"/>

## GUIDANCE NOTES

### Guidance Notes:

The responsible partner designing/performing the fire demonstration has the responsibility to undertake Risk Assessments before engaging any activity that may present a risk of injury of ill health to both staff and others who may be affected by the activity.

1. Completed forms must be send to the project coordinator (EUC-CERIDES) in advance for allowing time for review and sign-off by the relevant stakeholders.
2. It must be marked clearly the location of the activity taking place, and to be taken in consideration the additional challenges to be faced.
3. Activities involving hazardous substances must as a minimum record:
  - a. The name of the substance, the hazards presented (including any Hazard Statements or Workplace Exposure Limits).
  - b. The quantity being handled (this has a direct bearing on the consequences should something go wrong).
  - c. Consider any transport issues (both within College premises and outside). If hazardous substances are taken outside the College, they may fall within the scope of the transport of dangerous goods regulations. There may also be insurance implications if private vehicles are used for business purposes.
  - d. Consider what precautions need to be in place to prevent exposure (including PPE).

- e. Consider any waste disposal issues.
- f. Consider emergency procedures including spillage control and first aid.

The precautions only need to be proportional to the type and quantity of substance involved.

- 4. Precautions need to be realistic. If a source of running water is required in the event of an eye splash, a source must be readily available. If a spillage can be envisaged, the materials to deal with it need to be at hand. If hazardous waste is generated (including that from a spillage clean-up) it needs to be disposed appropriately – this may involve getting it back to the laboratory in the first instance. These issues can become more problematic when working off site. It is not uncommon to see risk assessments where text is cut—and-pasted from the safety data sheet without consideration as to whether the necessary means are available or workable.
- 5. The issues covered in points 4 & 5 can broadly be applied to biological agents.
- 6. Any activities involving radioactive sources need to be approved by the Departmental Radiation Protection Officer or the Safety Department Radiation protection team.
- 7. Consider any lone working issues. Can a lone worker manage the task on their own? (Particularly if something goes wrong).
- 8. Consider what documentation and ID needs to be carried if working off-site, particularly in public places. If College staff are challenged, they will need to demonstrate that the activity is legitimate and that any necessary permissions have been obtained.

## ANNEX III – ENVIRONMENTAL RISK ASSESSMENT

---

As part of the works of SEMEDFIRE project might arise the possibilities on performing small scale fire tests/demonstrations or participating (organised by other institutions) in others, for enhancing the capacities and knowledge of the EUC- CERIDES (widening partner) in R&I and RMA relating to Fire Safety and Fire Management.

These demonstrations could be performed indoors in a laboratory environment or outdoors in a protected-controlled environment. Safety measures will be in place meeting the safety regulations of each institution, for ensuring the participants safety, no fire and smoke spread and for minimizing the environmental impacts.

This document is presenting an analysis on the potential environmental impacts a demonstration could cause and the safety measures which will be considered when planning these demonstrations for limiting those.

Any potential fire tests as part of SEMEDFIRE project are going to be in the category of demonstration on providing the required training of the widening coordinator-EUC on organising and performing similar tests, i.e. demonstration on Fire Dynamics for WP3- Fire Modelling and Evacuation Tools.

The demonstrations are going to be performed on indicative vegetation fuel types, in a controlled environment and burning only the pre-defined small quantity of fuel vegetation based on the required data to be collected.

The planning of these demonstrations will be in the responsibility of the advanced partners, however the widening coordinator will be actively involved in the planning as this will also be part of the training. A dedicated Risk Assessment will be performed before the demonstration(s).

The purpose, methodology location of demonstrations, the burned materials, and results, will be detailed in the relevant deliverable for each WP where is relevant.

### **Environmental Impacts**

The environmental impacts should be considered in the demonstrations could occur due to the use of materials and fuels in the demonstrations, as well as the release of smoke and other emissions. A list of the potential environmental impacts could include:

1. Air pollution: Fire used in demonstrations would result to the release of smoke and other emissions, which can contribute to air pollution. These emissions can contain harmful particles and gases that can have negative effects on human health and the environment.
2. Soil contamination: Some fuels used in some demonstrations or initiating the fire test, such as diesel or gasoline, can contaminate the soil or laboratory space, if spilled or leaked during the demonstration. This can have negative impacts on soil quality, if performed in an open environment and potentially harm local ecosystems or affect the laboratory air/ ventilation.
3. Water pollution: Demonstrations that use water to extinguish fires or control flames can potentially release contaminants into nearby bodies of water. This can harm aquatic life and affect water quality.
4. Waste generation: The materials used in demonstrations, such as fuels and props, can generate waste that must be disposed of properly to prevent negative impacts on the environment.
5. Fire spread: The accidentally fire spread from the demonstration area, set-up.

To minimise the above environmental impacts, it is important for demonstration organizers to properly plan and manage the material and fuels used, as well as take steps to minimize emissions and waste generation.

## **Safety Measures to be adopted**

Recognising the environmental impacts, it is the important for setting up the safety measures for minimizing and if possible, eliminating those. Some of these measures are listed below and a more specific Risk Assessment will be performed before the demonstrations for fire dynamics.

1. Use of environmentally friendly materials: Use materials that are less harmful to the environment, such as non-toxic fuels and biodegradable props. For instance, the use of typical dry vegetation, such as dry straws, in small quantities.
2. Proper waste management: Ensure that all waste generated during the demonstration is properly disposed of, either through recycling or proper disposal methods.
3. Emissions control: Use methods to control smoke and other emissions from the demonstration, such as using air filtration system for enclosed spaces and in the case of open spaces use small fuel quantities and where is possible biomass as fuel.
4. Water management: Take measures to prevent water contamination, such as using water containment systems to prevent spillage and using non-toxic firefighting agents.
5. Post- demonstration area cleaning: After the demonstration, thoroughly clean up the area to prevent any remaining environmental impacts.
6. Compliance with local regulations: Ensure that all local environmental regulations are followed and obtain any necessary permits before conducting the demonstration.
7. Fire spread: Take the appropriate measures for limiting the fire spread and fire extinguishing. The former can be implemented by maintaining the demonstration area clean from any combustible material; and have the appropriate fire extinguishing equipment and trained personnel.

Any fire demonstrations planned as part of SEMEDFIRE project will be designed carefully with the involvement both, advance partners, and the widening coordinator. In the planning of the fire demonstrations will be taken the required safety measures for the protection of the participants and the environment. A dedicated Risk Assessment will be performed before every fire demonstration and the participants will be informed on the safety procedures.

– END of DELIVERABLE D2.2 –