



**Efficient water splitting via a flexible solar-powered Hybrid thermochemical-Sulphur dioxide depolarized Electrolysis Cycle**

[www.hyselect.eu](http://www.hyselect.eu)

**D9.2 Data Management Plan - Public**

30.06.2023

WP9 - Knowledge and innovation management, dissemination and communication



**Co-funded by  
the European Union**

## Disclaimer

Co-funded by the European Union. Views and opinions expressed are however those of the author(s) only and do not necessarily reflect those of the European Union or Clean Hydrogen JU. Neither the European Union nor the granting authority can be held responsible for them.

## Acknowledgement

The project is supported by the Clean Hydrogen Partnership and its members Hydrogen Europe and Hydrogen Europe Research.

## Document Identifier

|                             |                                                                                                                                                                                                                                                              |                     |           |            |
|-----------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------|-----------|------------|
| Grant Agreement No.         | 101101498                                                                                                                                                                                                                                                    | Acronym             | HySelect  |            |
| Title                       | Efficient water splitting via a flexible solar-powered Hybrid thermochemical-Sulphur dioxide depolarized Electrolysis Cycle                                                                                                                                  |                     |           |            |
| Call Topic                  | HORIZON-JTI-CLEANH2-2022-01-06                                                                                                                                                                                                                               |                     |           |            |
| Type of action              | HORIZON JU Research and Innovation Actions                                                                                                                                                                                                                   |                     |           |            |
| Start date                  | 01.01.2023                                                                                                                                                                                                                                                   | Duration            | 48 months |            |
| Project URL                 | www.hyselect.eu                                                                                                                                                                                                                                              |                     |           |            |
| Project Officer             | Claudiu PAVEL                                                                                                                                                                                                                                                |                     |           |            |
| Project Coordinator         | DLR - German Aerospace Center                                                                                                                                                                                                                                |                     |           |            |
| Deliverable                 | D9.2 Data Management Plan                                                                                                                                                                                                                                    |                     |           |            |
| Date of Delivery            | Contractual                                                                                                                                                                                                                                                  | 30.06.2023          | Actual    | 30.06.2023 |
| Nature                      | Report                                                                                                                                                                                                                                                       | Dissemination level | Public    |            |
| Lead Beneficiary            | DLR - German Aerospace Center                                                                                                                                                                                                                                |                     |           |            |
| Responsible Author          | Dimitrios Dimitrakis (DLR), <a href="mailto:dimitrios.dimitrakis@dlr.de">dimitrios.dimitrakis@dlr.de</a>                                                                                                                                                     |                     |           |            |
| Contributors                | Christos Agrafiotis (DLR), <a href="mailto:christos.agrafiotis@dlr.de">christos.agrafiotis@dlr.de</a>                                                                                                                                                        |                     |           |            |
| Reviewers                   | Niusha Shakibi Nia (FENR), <a href="mailto:niusha.shakibinia@fen-research.org">niusha.shakibinia@fen-research.org</a><br>Nikolaus Fleischhacker (FENR), <a href="mailto:nikolaus.fleischhacker@fen-research.org">nikolaus.fleischhacker@fen-research.org</a> |                     |           |            |
| Final version approval date | 30.06.2023                                                                                                                                                                                                                                                   |                     |           |            |

## Preface

HySelect will demonstrate the production of hydrogen (H<sub>2</sub>) by splitting water via concentrated solar technologies (CST) with an attractive efficiency and cost, through the Hybrid Sulphur cycle (HyS). The HyS consists of two central steps: the high temperature -yet below-900°C -decomposition of sulphuric acid forming Sulphur dioxide (SO<sub>2</sub>) and the subsequent low temperature (50-80°C) SO<sub>2</sub> depolarized electrolysis (SDE) of water to produce H<sub>2</sub>. HySelect will introduce, develop and operate under real conditions a complete H<sub>2</sub> production chain focusing on two innovative, full scale plant prototype core devices for both steps of the HyS cycle: an allothermally heated, spatially decoupled from a centrifugal particle solar receiver, sulphuric acid decomposition-Sulphur trioxide splitting (SAD-STS) reactor and a Sulphur dioxide depolarized electrolyzer (SDE) without expensive Platinum Group Metals (PGMs). Furthermore, a heat recovery system will be integrated to exploit the temperature difference within the cycle and boost the overall process efficiency. In the course of the work, non-critical materials and catalysts will be developed, qualified and integrated into the plant scale prototype units for both the acid splitting reactor and the SDE unit. Experimental work will be accompanied by component modelling and overall process simulation and culminate with a demonstration of the complete process integrating its key units of a 750kW<sub>th</sub> centrifugal particle receiver, a hot particles storage system, a 250kW<sub>th</sub> SAD-STS and a 100kW<sub>e</sub> SDE into a pilot plant. Testing for a period of at least 6 months in a large-scale solar tower, driven with smart operation and control strategies, will establish the HySelect targeted efficiency and costs. Finally, an overall process evaluation will be carried out in order to assess the technical and economic prospects of the HySelect technology, directly linked to the know-how and developments of the sulphuric acid and water electrolyzers industries.

|        |                                                                                           |    |                                                                                       |
|--------|-------------------------------------------------------------------------------------------|----|---------------------------------------------------------------------------------------|
| DLR    | German Aerospace Center                                                                   | DE |  |
| CERTH  | Centre for Research and Technology Hellas                                                 | GR |  |
| AALTO  | Aalto University                                                                          | FI |  |
| ENEA   | Italian National Agency for New Technologies, Energy and Sustainable Economic Development | IT |  |
| FENR   | FEN Research GmbH                                                                         | AT |  |
| GRILLO | Grillo Werke AG                                                                           | DE |  |

## Summary

---

This document presents the first version of Deliverable D9.2 "Data Management Plan" developed as part of WP9 of the Clean Hydrogen JU HySelect project. It outlines the Data Management Plan (DMP) for the data to be generated and used as part of the project. This version of the DMP, which is prepared at the beginning of the project, serves as the basis for defining the processes that will be followed by each partner with respect to data management, as well as for designing the data management strategy at the project level. The DMP will be updated throughout the project to reflect the data generated and the uses identified by the consortium.

To make research data FAIR-compliant (i.e., findable, accessible, interoperable, and reusable), D9.2 includes information and clear descriptions about:

- a. the types of datasets to be generated, collected, and processed;
  - b. the key criteria for distinguishing between:
    1. private data;
    2. data to be published;
    3. open access data;
  - c. the adopted methods and standards to be used;
  - d. the consortium's data sharing policy;
  - e. the data handling/archiving/preservation processes during/after the project and the metadata created to manage the life cycle of the collected datasets.
-

## Contents

|                                                                                |    |
|--------------------------------------------------------------------------------|----|
| Disclaimer .....                                                               | 1  |
| Acknowledgement .....                                                          | 1  |
| Document Identifier .....                                                      | 1  |
| Preface.....                                                                   | 2  |
| Summary.....                                                                   | 3  |
| Contents.....                                                                  | 4  |
| 1. Introduction.....                                                           | 5  |
| 2. Data Summary .....                                                          | 5  |
| 2.1. Purpose of data generation or re-use .....                                | 5  |
| 2.2. Types and formats of data which the project will generate or re-use ..... | 6  |
| 2.3. Data size .....                                                           | 7  |
| 2.4. Data users.....                                                           | 7  |
| 3. FAIR data .....                                                             | 8  |
| 3.1. Making data findable, including provisions for metadata.....              | 8  |
| 3.2. Making data openly accessible.....                                        | 9  |
| 3.3. Making data interoperable .....                                           | 10 |
| 3.4. Increase data re-use (through clarifying licenses) .....                  | 10 |
| 4. Allocation of resources .....                                               | 10 |
| 5. Data security .....                                                         | 11 |
| 6. Ethical aspects .....                                                       | 12 |
| 7. Conclusions.....                                                            | 12 |

## 1. Introduction

This is the first version of D9.2 "Data Management Plan". This document "Data Management Plan" is produced as part of Work Package 9 Knowledge and Innovation Management, Dissemination, Communication of the HySelect project to outline the approach that will be taken during and after the project to acquire, organize and share relevant data. In this context, the specific objectives of this document are:

- Identify the data sets that the project will generate as it progresses and group them according to format and content.
- Establish processes to ensure that the data is made 'FAIR' (Findable, Accessible, Interoperable and Reusable).
- Ensure sound data management in accordance with FAIR principles and the General Data Protection Regulation (GDPR).
- Establish procedures for handling/archiving/retention of data during and after the project.
- Draft and further develop the consortium's data sharing policy.

The DMP will continue to evolve over the life of the project reflecting new input into data management. According to the Grant Agreement, the DMP is intended to be revised twice, follow-up versions shall follow as part of the interim and final project review.

## 2. Data Summary

### 2.1. Purpose of data generation or re-use

All of the data to be generated or collected are necessary and will be used for the successful implementation of the various research tasks of the project.

Specifically:

- Flowcharts, Piping & Instrumentation Diagrams (P&ID), process simulation data for drafting of the plant concepts, simulating the process and comparison with experimental data.
- The Life Cycle Analysis (LCA) data, to assess the environmental impact and sustainability of the technology.
- The stakeholders' database for the purposes of assessing the environmental, social and economic impact of the project's results and appraise policy options for accelerating diffusion of the technology through a wider stakeholder/public engagement.
- The material characterisation data to allow for catalyst evaluation and shortlisting
- The synthesis recipes and shaping protocols to establish reliable, reproducible, scalable and environmental-friendly synthesis and shaping routes.
- Technical drawings, computer-aided design (CAD) files, graphics and automation data will be used for the design and operation of the units and subunits of the process.
- Experimental data to evaluate activity & degradation, efficiency and overall performance.

All data above will also be used for the "transversal" project activities, i.e.:

- Communication and dissemination of the project results.
- Articulation of the exploitation strategy for key exploitable project results.
- Management of Intellectual Property Rights (IPR) inside the consortium.
- Overall project management.

The project will not specifically collect or re-use existing data sets.

## 2.2. Types and formats of data which the project will generate or re-use

A diverse set of data types and format will be generated. Both experimental as well as numerical research data will be generated during the project from the lab tests, the demonstration campaign and the modelling and operation simulation tasks, spanning the main research areas, e.g. Concentrated Solar Power (CSP) and Renewable Energy (RE) in general, materials synthesis and characterization, thermochemical management of chemical reactions and LCA. Naturally, in the course of the project and depending on its needs, pre-existing open research data/software /algorithms might also be used. Qualitative data will also be generated resulting from surveys, key stakeholder engagement activities and other activities.

Table 1 contains an indicative initial list of types of datasets expected to be generated and managed along the evolution of the HySelect project, together with their origin and the partners foreseen to generate them.

Table 1: datasets generated within HySelect

| No | Dataset/research output                                                                                                     | Data type                                                                                                                        | Origin of data                                               | Partners                        |
|----|-----------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------|---------------------------------|
| 1  | Computer codes                                                                                                              | MATLAB scripts (*.m)<br>Python scripts (*.py)<br>other text files                                                                | In-house generated scripts.                                  | DLR, ENEA, CERTH, AALTO, GRILLO |
| 2  | Material characterisation files (e.g. SEM pictures, crystallographic data etc.) generated by various analytical instruments | *.png, *.jpg, *.tiff, ASCII, *.csv, *.opg, etc.                                                                                  | Use of relevant characterisation and analytical instruments. | DLR, CERTH, AALTO               |
| 3  | Synthesis recipes and shaping protocols                                                                                     | *.txt, *.doc, *.pdf, etc.                                                                                                        | Experiments performed and relevant laboratory records.       | DLR, CERTH                      |
| 4  | CAD models and drawings, manufacturing drawings                                                                             | Autodesk Inventor (*.ipt, *.iam, *.idw), *.stp, *.iges, etc.<br><br>SolidWorks (*.sldprt, *.sldasm *.slddrw)<br><br>Other (.dxf) | Use of open source and licensed software.                    | DLR, CERTH, AALTO, GRILLO       |
| 5  | Graphics files                                                                                                              |                                                                                                                                  | Use of open source and licensed software.                    | All partners                    |
| 6  | Flowcharts, Piping and Instrumentation diagrams (P&ID) files                                                                | *.png, *.jpg, *.tiff, *.draw, *.pdf, *.vsdx                                                                                      | Use of open source and licensed software.                    | DLR, CERTH, ENEA, GRILLO        |

|    |                                                      |                                                |                                                                                        |                                 |
|----|------------------------------------------------------|------------------------------------------------|----------------------------------------------------------------------------------------|---------------------------------|
| 7  | Process simulation files, mass and heat balance      | ASPEN PLUS (*.awp, *.bkp), data table (*.xlsx) | Use of open source and licensed software.                                              | DLR, ENEA                       |
| 8  | Control software (data logging and control software) | Labview virtual instrument files (*.vi)        | Use of open source and licensed software.                                              | DLR, CERTH, ENEA, GRILLO        |
| 9  | TEA/LCA data files                                   | *.xlsx, *.docx, *.pdf, *.txt, *.csv, *.opj     | Existing literature and partners own analysis using open source and licensed software. | FENR, DLR, ENEA                 |
| 10 | Stakeholders database                                |                                                | Partners input.                                                                        | FENR                            |
| 11 | Reports, documents                                   |                                                | Partners input.                                                                        | All partners                    |
| 12 | Statistical data from dissemination activities       |                                                | Partners input.                                                                        | DLR, CENER                      |
| 13 | Experimental results                                 |                                                | Experiments and test runs                                                              | DLR, CERTH, GRILLO, ENEA, AALTO |

This table will be further imported into an excel table as part of the Dissemination, Exploitation and Communication (DEC) monitoring tool and shared with the project consortium on the teamsite. This live document will be regularly reviewed and updated by all partners during the project.

### 2.3. Data size

The project is expected to generate < 1 TB of data with the majority of datasets being under 1GB.

### 2.4. Data users

The data generated will be directly useful for the consortium partners, guiding their activities towards the achievement of the project's technical goals. Furthermore, on the one hand, the "sensitive" ones will be employed to identify Key Exploitable Results of the project and establishing relevant IPR strategies. On the other hand, the data eventually published in the form of articles in scientific journals and conference presentations will be useful for the research and industrial community active in the fields addressed within the project, i.e. materials science and engineering, design and implementation of thermochemical engineering processes, and CSP and RE in general to name a few. Overall, the generated data will be useful to the first list of main potential stakeholders and industrial end users identified in the "Impact" section of the Project, namely:

- Hydrogen industrial users
- Sulphuric acid industries
- Electrolyzer manufacturing companies
- Catalyst and ceramics industries
- CSP plant development companies
- Engineering, procurement and construction (EPC) contractors

- Grid and Transmission System Operators (TSOs)
- Mining industry
- Policy makers
- Political and/or governmental authorities
- Society and citizens

The abovementioned list is further structured in identified categories and will be regularly updated in the developed DEC monitoring tool. The data generated is distinguished between (1) private, (2) publishable and (3) Open Access. Private data (1) are considered all data included in sensitive deliverables, as well as data identified of commercial interest, such as technical drawings, CAD models or material characterization files. The rest of the data produced is intended to be publishable (2) either in the form of scientific publications or information disseminated through the project website, partners websites, conference posters, brochures etc. Publishable data (2) are foreseen to be Open Access (3) for the most part, for the cases where the Gold/Green Model or upload to Zenodo<sup>1</sup> (see also point 4. Allocation of Resources) can be applied. The identified categories for the generated data can be further correlated with the categorized list of potential stakeholders and industrial end users.

### 3. FAIR data

#### 3.1. Making data findable, including provisions for metadata

Provisions and actions that will be taken to ensure the discoverability of the HySelect data include accompanying datasets with properly structured and accurate metadata according to FAIR data principles and/or making them identifiable by using standard identification mechanisms where applicable. For the latter case, persistent identifiers (either Digital Object Identifiers/DOIs, or Uniform Resource Names/URNs) provided by the data repository will be used as well as ORCID researchers' identifiers. Several datasets will be linked to respective Digital Object Identifiers (DOIs). Those for the scientific publications for example, will be provided from the publisher, while for other literature (e.g. reports etc.) will be assigned via the repository in which they will be archived. Published and FAIR-compliant data will be archived in open data trusted repository options, such as Zenodo, a joint collaborative effort of CERN, the OpenAIRE initiative and the European Commission (zenodo.org, see also Chapter 4. Allocation of Resources below.). Therein, all uploads/ published data sets are associated with standard Zenodo metadata, which are by default:

- Digital Object Identifiers.
- Version numbers.
- Bibliographic information.
- Keywords.
- Abstract/description.
- Associated project and community.
- Associated publications and reports and their types (e.g. Publication, Poster, Presentation, Dataset, Video/Audio etc.) with mandatory basic information: publication date, title, authors, description (abstract).
- Funding: Grant programme name and number.
- Access and licensing info: access rights (open, embargoed, restricted, closed access), license name (Creative Commons versions).
- Language.

In addition, links for all project's uploads to the Open Access Research Data repository initiated by the European Commission (Open AIRE [openaire.eu](https://openaire.eu)) is envisaged. Each partner will be

---

<sup>1</sup> <https://en.wikipedia.org/wiki/Zenodo>

responsible for uploading public datasets that they have generated and assign specific keywords relevant to these datasets.

### 3.2. Making data openly accessible

The project partners will take all efforts to make as much as possible project-generated data openly available and usable for third parties for study, teaching and research purposes. All reports and data associated with the project's Public (PU) Deliverables, that are not confidential will be made in principle available (mainly via CORIDS and project website). Exceptions and possible embargo time, relevant to potential of scientific publications, the protection of partners' IPR and potential commercial exploitation will be decided by the consortium as foreseen in the respective Grant Agreement and Consortium Agreement. Other exceptions are associated with the findings of the non-public, Sensitive (SEN) Deliverables identified as relevant for potential exploitation from the partners, stated explicitly in Table 2 below.

Table 2: Sensitive, non-public Deliverables and respective reason.

| Deliverable        | Deliverable name                                | Reasons for exception                                                                                                                                           |
|--------------------|-------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------|
| D1.3 / D1.4 / D1.5 | Annual data reporting for the Clean Hydrogen JU | requested by the Project Officer                                                                                                                                |
| D3.2               | Selected catalytic formulations                 | exploitation potential, patent application                                                                                                                      |
| D3.3               | Structured SO3 splitting catalytic systems      | exploitation potential, patent application                                                                                                                      |
| D3.5               | SDE membrane materials                          | strong exploitation potential, commercial application                                                                                                           |
| D3.6               | Au-coated SDE bipolar plates                    | strong exploitation potential, commercial application                                                                                                           |
| D5.2               | Pilot SDE design                                | Core technology output of the project, possible patent application, commercial potential, interest from the industrial partner for application in H2 production |
| D5.3               | Pilot SDE prototype                             | as above                                                                                                                                                        |
| D6.1               | 2 kWth prototype SAD-STS reactor                | Core technology output of the project, possible patent application                                                                                              |
| D6.2               | 250 kWth SAD-STS reactor design                 | Core technology output of the project, possible patent application, commercial potential                                                                        |
| D6.3               | 250 kWth SAD/STS reactor                        | as above                                                                                                                                                        |
| D7.1               | High-temperature heat recovery system           | very strong exploitation potential, interest from the industrial partner for application in similar high temperature processes                                  |
| D7.2               | SO2 separation system                           | contains protected background information of the industrial partner                                                                                             |

|      |                                                    |                                                        |
|------|----------------------------------------------------|--------------------------------------------------------|
| D9.3 | Dissemination, exploitation and communication plan | Contains listing of stakeholders, other sensitive data |
|------|----------------------------------------------------|--------------------------------------------------------|

Furthermore, additional datasets from those included in Table 1, can be during their generation judged as of potentially having commercial value for the partner(s) generating them and thus worthy of further protection methods. Indicative, but not exhaustive examples include CAD and process simulation files.

As already mentioned, in order to render project results and associated metadata easily findable and accessible, it is envisaged that data will be archived in the Zenodo open data trusted repository. This platform is very commonly used for sharing research results from EC-funded projects following the FAIR principles. Publications or other research results, can be added therein under open, closed, or embargoed access, enabling sharing of the latter not immediately, but only after a certain time.

In addition to Zenodo, some partners may make use of their own research publication open repositories. For example, DLR supports the Open Access principle with the introduction of its own open current research information system ELIB (Electronic Library System) <https://elib.dlr.de/> where self-archiving of all publications of its personnel is mandatory (sometimes after a short embargo period, depending on the publisher's contract) – in full accordance with the Green Open Access model (see Section 4, below); these publications are publicly available and accessible through external searches.

### 3.3. Making data interoperable

Interoperability of generated data will be ensured by following metadata vocabularies, standards, formats and methodologies commonly endorsed or considered as standard from those using these data, and by depositing them in a repository that uses the same data and metadata vocabularies. As already stated, the most probable solution is to use the Zenodo repository, which offers export of its internal representation of metadata to other popular formats. Zenodo is a general-purpose repository and therefore it doesn't provide additional discipline-specific machine-readable metadata for data-level documentation. The interoperability of the data files and their contents can be enhanced by using file formats that are commonly used for the respective data types. In case this file format is only usable with proprietary software, we will consider depositing a copy in an open file format alongside the proprietary format. Where applicable, data will be documented within the files or the attached README files using standard vocabularies or metadata formats, which enable smoother combining with similar data. In cases where it is unavoidable to use uncommon ontologies or generate project-specific ones these will be openly published alongside the open datasets.

### 3.4. Increase data re-use (through clarifying licenses)

All reports and data that are not confidential will be licensed under the global Creative Commons licenses CC-BY-SA or CC-BY that are used for open publications and relevant open datasets, secure re-use of data/research outputs and also include relevant disclaimers of liability for such re-use. The project partners will provide the relevant documentation needed to validate the data analysis and facilitate data re-use, basically in the relevant publications and as part of the publicly available datasets in the Zenodo repository. Obviously, upon their availability as Open Access in these sources, data can be used by third parties, even after the end of the project. Again, as elaborated above, in case it is envisaged that scientific publications will be produced from certain data, then an embargo period will be applied until these are accepted by the publisher, that will concern also the relevant documentation for the data analysis and re-use.

## 4. Allocation of resources

During the project, consortium partners will be responsible for managing datasets securely at their possession. Each partner will appoint *a person of its research team* involved in the project, as *responsible for data management* and data assurance for their organization. Similarly, a *Data Manager* will be appointed, responsible for data archiving/preservation during/beyond the project and to manage the lifecycle of the generated datasets. **The appointed persons will be presented in the next revised version of the DMP (due M21).**

The Gold Open Access model is foreseen to be used widely from the project partners when submitting manuscripts to journals. The relevant fees foreseen from several publishing houses (2,000-3000 €/paper published) have been included in the budgets of all research institutes and university partner of the consortium (2-3 such publications per partner). For the coordinator, fees for Open Access publications with major academic publishers Wiley and Springer are already covered through a nationwide agreement (DEAL). Alternatively, publications in Open Access Journals free of costs will also be explored. A list of potential journals relevant to the topics of research, including Open Access publications and fees is currently under development in the DEC monitoring tool and will be made available to the project consortium by the end of month 6.

The Industrial partner of the consortium may use part of their project budget to file any necessary patents for protecting their intellectual property. Even when fees for this model are not budgeted in projects, DLR's (the coordinator) library can under circumstances assume them. Creative Commons license CC-BY4.0 is recommended. DLR always strives to retain copyright to articles and publications to enhance their reuse. DLR supports the Open Access principle with the introduction of its own open current research information system ELIB (Electronic Library System) <https://elib.dlr.de/> where self-archiving of all publications of its personnel is mandatory (sometimes after a short embargo period, depending on the publisher's contract) –in full accordance with the so-called Green Open Access model; these publications are publicly available and accessible through external searches. DLR considers collaborative way to work as a core element of research process and always promotes it within the organization as well as among consortium partners as in the present and any other international project.

The Zenodo open data trusted repository envisaged for archiving the data generated, is free of charge. Furthermore, the teamsite created by the Project Coordinator, DLR in its own intranet domain for efficient communication and exchange of information among the partners, is meant to function also as a data repository. All partners have been granted password-protected access to it and capability of uploading/downloading documents that can be stored and exchanged therein. Being part of the coordinator's internal project management system, this "teamsite-repository" does not induce any extra costs to the project or the partners.

The resources and terms for long-term preservation of the data will be discussed among the consortium partners at a later stage of the project. Such issues will involve, for example, the maintenance of the Project's website (including the public deliverables) and social media accounts and the sharing of data deposited after the official end date of the project. The outcomes of these discussions will be included in the following, updated versions of the DMP.

## 5. Data security

During the project, consortium partners will be responsible for managing datasets securely at their possession. Each partner possesses its own security system, but in general, rely on local, protected servers with additional back-up service. The data available at the project's public website [www.hyselect.eu](http://www.hyselect.eu) created and maintained by FENR and those in the teamsite created and maintained by DLR, are subjected to the data security, backup and recovery mechanisms of the respective hosts. With respect to long-term preservation and curation spanning after the project's end, as already mentioned it is currently envisaged that data will be archived in the Zenodo open data trusted repository.

## 6. Ethical aspects

There are currently no ethical aspects identified within the HySelect project. The technology developed in this project does not show potential for dual use, therefore export control will not affect the possibilities of publishing data with Open Access. If activities involving stakeholders will include questionnaires or other contact and exchange of information aiming at making relevant data public, suitable anonymisation techniques will be applied prior to data archiving. All project-related dissemination activities involving distribution of project material/information to third parties will be designed to ensure a priori compliance to the elements/requirements of the EU General Data Protection Regulation (GDPR).

## 7. Conclusions

The present Deliverable comprises the first version of the Data Management Plan (DMP) for the HySelect project.

At first, the datasets that the project will generate through its course are identified and grouped following the evolution of the project. Then, the processes to be followed for rendering these data FAIR' (Findable, Accessible, Interoperable and Reusable) are established and procedures for data handling/archiving/preservation during and beyond the project are discussed.

All research and academic partners are strongly committed to promote open science policies, principles and research practices, encouraging their researchers to publish results and interpretations of their research in an open and transparent manner, yet respecting on the other hand confidentiality when this is required due to legitimate obligations (for example, with respect to the findings of the non-public deliverables identified as relevant for potential exploitation from the partners). In parallel, the consortium has appropriate technical and organizational skills and measures in place for data protection during the project. All partners are also committed to provide relevant metadata and their documentation to facilitate data's re-use and interoperability.