a-leaf

An Artificial Leaf: a photo-electro-catalytic cell from earth-abundant materials for sustainable solar production of CO_2-based chemicals and fuels

Deliverable D7.6

Data Management Plan Update

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EXECUTIVE SUMMARY

This document, D7.6 Data Management Plan (DMP) update, is a deliverable of the **A-LEAF** Project, which is funded by the European Union's H2020 Programme under Grant Agreement No.732840. The **A-LEAF** project participates in the H2020 Open Research Data Pilot. This second version of the Data Management Plan is an update of the original document (D7.1 A-LEAF Data Management Plan) that provides an analysis of the main elements of the data management policy that will be used by the members of the Consortium with regard to the data generated through the life of the project.

The DMP will be released in compliance with the template provided by the European Commission (EC) and regularly updated (D7.7 and D7.8) throughout the life of the project.

The data that will be generated in the **A-LEAF** project will be mainly experimental data, characterization data sets, and computational modeling data. **A-LEAF** will ensure open access to all the relevant data necessary to validate the project's research results. Research data linked to exploitable results will not be available in the open domain if they compromise its commercialisation prospects or have inadequate protection, which is a H2020 obligation.

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1. INTRODUCTION

The purpose of the DMP is to provide an overview of the main elements of the data management policy that will be used by the Consortium with regard to the project research data. The DMP is not a fixed document but will evolve during the lifespan of the project.

The DMP covers the complete research data life cycle. It describes the types of research data that will be collected, processed or generated during the project, how the research data will be preserved and what parts of the datasets will be shared or kept confidential.

This document is the second version of the DMP, delivered in Month 13 of the project. It includes an overview of the datasets to be produced by the project, and the specific conditions that are attached to them. The next versions of the DMP will be updated in Month 24 (D7.7) and Month 36 (D7.8) respectively as the project progresses.

This Data Management Plan describes the **A-LEAF** strategy and practices regarding the provision of Open Access to scientific publications, dissemination and outreach activities, public deliverables and research datasets that will be produced.

Categories of outputs that **A-LEAF** will give Open Access (free of charge) and will be agreed upon and approved by the Exploitation and Dissemination Committee (EDC) include:

- Scientific publications (peer-reviewed articles, conference proceedings, workshops)
- Dissemination and Outreach material
- Deliverables (public)

A-LEAF public deliverables	Month
Kick off meeting agenda	1
Project Management Book	3
Project Report 1(Public version)	16
Project Report 2 (Public version)	32
Final Report	50
A-LEAF DMP (and updates)	2, 12, 24, 36
Web-page and logo	2
A-LEAF Dissemination and Exploitation Plan (and updates)	3, 12, 24, 36
A-LEAF Communication and Outreach Plan (and updates)	4, 12, 24, 36

- Research Data
- Computational Data

Any dissemination data linked to exploitable results will not be put into the open domain if they compromise its commercialisation prospects or have inadequate protection.

1.1. **A-LEAF** strategy and practices

The decision to be taken by the project on how to publish its documents and data sets will come after the more general decision on whether to go for an academic publication directly or to seek first protection by registering the developed Intellectual Property (IP). Open Access must be granted to all scientific publications resulting from Horizon 2020 actions. This will be done in accordance with the Guidelines on Open Access to Scientific Publications and Research Data in Horizon 2020 (15 February 2016) [1].

Concerning publications, the consortium will provide open access following the 'Gold' model: an article is immediately released in Open Access mode by the scientific publisher. A copy of the publication will be deposited in a public repository, OpenAIRE and ZENODO or those provided by the host institutions, and available for downloading from the **A-LEAF** webpage. The associated costs are covered by the author/s of the publication as agreed in the dissemination and exploitation plan (eligible costs in Horizon 2020 projects).

Concerning research data, the main obligations of participating in the Open Research Data Pilot are:

1. To make it possible for third parties to *access*, *mine*, *exploit*, *reproduce* and *disseminate* - free of charge for any user - the following:
   (i) the published data, including associated metadata, needed to validate the results presented in scientific publications, as soon as possible
   (ii) other data, including raw data and associated metadata, as specified and within the deadlines laid down in the data management plan; and
2. To provide information about *tools* and *instruments* at the disposal of the beneficiaries and necessary for validating the results.

A-LEAF follows the Guidelines on Data Management in Horizon 2020 (15 February 2016) [2].

The consortium has chosen ZENODO [3] as the central scientific publication and data repository for the project outcomes. This repository has been designed to help researchers based at institutions of all sizes to share results in a wide variety of formats across all fields of science. The online repository has been created through the European Commission's OpenAIREplus project and is hosted at CERN.

ZENODO enables users to:

- easily share the long tail of small data sets in a wide variety of formats, including text, spreadsheets, audio, video, and images across all fields of science
- display and curate research results, get credited by making the research results citable, and integrate them into existing reporting lines to funding agencies like the European Commission
- easily access and reuse shared research results
- define the different licenses and access levels that will be provided

Furthermore, ZENODO assigns a Digital Object Identifier (DOI) to all publicly available uploads, in order to make content easily and uniquely citable.

2. SCIENTIFIC PUBLICATIONS

2.1 Dataset Description

As described in the DoA (Description of Action), the consortium will produce a number of publications in journals with the highest impact in multidisciplinary science. As mentioned above, publications will follow the "Gold Open Access" policy. The Open Access publications will be available for downloading from the **A-LEAF** webpage (www.a-leaf.eu) and also stored in the ZENODO/OpenAIRE repository.

2.2 Data sharing

The Exploitation and Dissemination Committee (EDC) will be responsible for monitoring and identifying the most relevant outcomes of the **A-LEAF** project to be protected. Thus, the EDC (as described in the Dissemination and Exploitation plan) will also decide whether results arising from the **A-LEAF** project can pursue peer-review publication.

The publications will be stored at least in the following sites:

- The ZENODO repository
- The **A-LEAF** website
- OpenAIRE

2.3 DOI

The DOI (Digital Object Identifier) uniquely identifies a document. This identifier will be assigned by the publisher in the case of publications.

2.4 Archiving and preservation

Open Access, through the **A-LEAF** public website, will be maintained for at least 3 years after the project completion.

Items deposited in ZENODO, including all the scientific publications, will be archived and retained for the lifetime of the repository, which is currently the lifetime of the host laboratory CERN (at least for the next 20 years).

3. DISSEMINATION / OUTREACH MATERIAL

3.1 Dataset Description

The dissemination and outreach material refers to the following items:

- Conferences: all academic partners of **A-LEAF** will attend the most relevant conferences and promote the results of the project through oral talks and/or posters.
- Workshops: two workshops will be organized in M24 and M48 to promote awareness of the **A-LEAF** objectives and results (data produced: presentations and posters).
- Dissemination material: flyers, videos, public presentations, **A-LEAF** newsletter, press releases, tutorials, etc.
- Communication material: website, social media, press desk, audiovisual material. Outreach activities for project's promotion to the general public.

3.2 Data sharing

All the dissemination and communication material will be available (during and after the project) on the **A-LEAF** website and ZENODO.

3.3 Archiving and preservation

Open Access, through the **A-LEAF** public website, will be maintained for at least 3 years after the project completion. All the public dissemination and outreach material will be archived and preserved on ZENODO and will be retained for the lifetime of the repository.

4. PUBLIC DELIVERABLES

4.1 Dataset Description

The documents associated to all the public deliverables defined in the Grant Agreement, will be accessible through open access mode. The present document, the **A-LEAF** Data Management Plan update, is one of the public deliverables that after submission to the European Commission will be immediately released in open access mode in the **A-LEAF** webpage, CORDIS website and ZENODO.

A-LEAF public deliverables
Kick off meeting agenda
Project Management Book
Project Report 1 (public version)

Project Report 2 (public version)
Final Report
A-LEAF DMP (and updates)
Web-page and logo
A-LEAF Dissemination and Exploitation Plan (and updates)
A-LEAF Communication and Outreach Plan (and updates)

All other deliverables, marked as confidential in the Grant Agreement, will be only accessible for the members of the consortium and the Commission services. These will be stored in the **A-LEAF** intranet with restricted access to the consortium members. The Project Coordinator will also store a copy of the confidential deliverables.

4.2 Data sharing

Open Access to **A-LEAF** public deliverables will be achieved by depositing the data into an online repository. The public deliverables will be stored in one or more of the following locations:

- The **A-LEAF** website, after approval by the Project Advisory Board (PAB) (if the document is subsequently updated, the original version will be replaced by the latest version)
- The CORDIS website, will host all public deliverables as submitted to the European Commission. The **A-LEAF** page on CORDIS is:
  http://cordis.europa.eu/project/rcn/206200_en.html
- ZENODO repository

4.3 Archiving and preservation

Open Access, through the **A-LEAF** public website will be maintained for at least 3 years after the project completion.
All public deliverables will be archived and preserved on ZENODO and will be retained for the lifetime of the repository.

5. RESEARCH DATA

5.1 Dataset Description

Besides the open access to the data described in the previous sections, the Open Research Data Pilot also applies to two types of data:

- The data, including metadata, needed to validate the results presented in scientific publications (underlying data).
- Other data, including associated metadata. The PAB will be able to choose which data (besides the data associated to publications) they make available in open access mode.

All data collected and/or generated will be stored according to the following format:

A-LEAF_WPX_TaskX.Y/Title_Institution_Date

Should the data cannot be directly linked or associated to a specific Work Package and/or task, a self-explanatory title for the data will be used according to the following format:

A-LEAF_Title_Institution_Date

When the data is collected in a public deliverable this other format may also be used:

D.X.Y A-LEAF_ Title of the Deliverable

6.   COMPUTATIONAL DATA

The computational data outcome of the simulations will be stored following the same procedure as before at the local nodes of ioChem-BD.org that allows the generation of DOIs for the particular datasets from the calculations and ensures its reproducibility.

7.   RESPONSIBILITY FOR THE IMPLEMENTATION OF THE DMP

The consortium will make a selection of relevant information, disregarding that not being relevant for the validation of the published results. Furthermore, following the procedure described in section 2.2,
the data generated will be carefully analysed before giving open access to it in order to be aligned with the exploitation policy described in the Dissemination and Exploitation Plan (D7.3).

Therefore, data sharing in open access mode can be restricted as a legitimate reason to protect results expected to be commercially or industrially exploited. Approaches to limit such restrictions will include agreeing on a limited embargo period or publishing selected (non-confidential) data.
The selected research data and/or data with an embargo period, produced in **A-LEAF** will be deposited into an online research data repository (ZENODO) and shared in open access mode.

Each partner of the consortium will be responsible for the storage and backup of the data produced in their respective host institutions. Furthermore, each partner is responsible for uploading all the research data produced during the project to the **A-LEAF** intranet (restricted to the members of the consortium) or for sending it to the coordinator, who will inform the rest of the consortium once it is uploaded. The coordinator will be responsible for collecting all the public data and uploading it in the **A-LEAF** public website and ZENODO.

8. REFERENCES

[1] Guidelines on Open Access to Scientific Publications and Research Data in Horizon 2020, 15 February 2016.
Available at:
http://ec.europa.eu/research/participants/data/ref/h2020/grants_manual/hi/oa_pilot/h2020-hioa-pilot-guide_en.pdf

[2] European Commission, Guidelines on Data Management in Horizon 2020, 15 February 2016. Available at:
http://ec.europa.eu/research/participants/data/ref/h2020/grants_manual/hi/oa_pilot/h2020-hioa-data-mgt_en.pdf

[3] https://zenodo.org/

List of major modifications:

- **Page 8 of 11:** *4.2 Data sharing*

Modification: ʹThe **A-LEAF** website, after approval by the Project Advisory Board (PAB) (if the document is subsequently updated, the original version will be replaced by the latest version)ʼ is substituted by ʻThe **A-LEAF** website (if the document is subsequently updated, the original version will be replaced by the latest version)ʼ

- **Page 9 of 11**: *5.1 Dataset Description*

New addition: ʻWhen the data is collected in a public deliverable this other format may also be used:

  D.X.Y A-LEAF_ Title of the Deliverable'

- **Page 9 of 11**: *7. Responsibility for the implementation of the DMP*

Modification: When it says: ʻFurthermore, each partner is responsible for uploading all the research data produced during the project to the **A-LEAF** intranet (restricted to the members of the consortium) and inform the rest of the consortium once it is uploaded.ʼ It should say ʻFurthermore, each partner is responsible for uploading all the research data produced during the project to the **A-LEAF** intranet (restricted to the members of the consortium) or for sending it to the coordinator, who will inform the rest of the consortium once it is uploaded.ʼ