



*Smart system of renewable energy storage based on **IN**tegrated **EV**s and **bA**tteries to empower mobile, **D**istributed and centralised **E**nergy storage in the distribution grid*

Deliverable n°:	D2.3
Deliverable name:	Data management plan
Version:	1.0
Release date:	15/05/2017
Dissemination level:	Public
Status:	Submitted
Author:	UPC – Pol Olivella, Pau Lloret



Document history:

Version	Date of issue	Content and changes	Edited by
0.1	15/05/2017	First draft version	Pol Olivella
0.2	24/05/2017	Second draft version	Pol Olivella & Pau Lloret
1.0	07/06/2017	Contents check and executive summary	Pol Olivella

Peer reviewed by:

Partner	Reviewer
Schneider	Cristóbal Cordobés
GreenFlux	Michel Bayings

Deliverable beneficiaries:

WP / Task
All partners

Table of contents

Executive summary	5
1 Introduction	6
2 Data summary.....	7
3 FAIR data	7
3.1 Making data findable, including provisions for metadata	7
3.2 Making data openly accessible	8
3.3 Increase data re-use	9
4 Allocation of resources.....	9
5 Data security.....	9
6 Ethical aspects	9
References	10

Abbreviations and Acronyms

Acronym	Description
DMP	Data management plan

Executive summary

The main purpose of the Data Management Plan (DMP) is to describe the characteristics of the data collected from research and real pilots.

This report settles the first version of the data management plan which will be updated in further project developments including more details.

This document has been elaborated following the Guidelines on FAIR Data Management in Horizon 2020 including all sections

This document is divided in 5 sections after the introduction to cover all issues related to the DMP:

2. Data summary
3. FAIR data
4. Allocation of resources
5. Data security
6. Ethical aspects

The DMP updates will be included further versions of the present document in M18 and M36.

1 Introduction

According to Guidelines on FAIR Data Management in Horizon 2020 [1]:

“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 a Horizon 2020 project. As part of making research data findable, accessible, interoperable and re-usable (FAIR), a DMP should include information on:”

- the handling of research data during and after the end of the project
- what data will be collected, processed and/or generated
- whether data will be shared/made open access
- how data will be curated and preserved (including after the end of the project).

This document is divided in 5 sections after the introduction to cover all issues related to the DMP:

7. Data summary
8. FAIR data
9. Allocation of resources
10. Data security
11. Ethical aspects

The DMP will be updated over the course of the project whenever significant changes arise, such as (but not limited to):

- new data
- changes in consortium policies (e.g. new innovation potential, decision to file for a patent)
- changes in consortium composition and external factors (e.g. new consortium members joining or old members leaving).

The DMP should be updated as a minimum in time with the periodic evaluation/assessment of the project. The DMP updates will be included further versions of the present document in M18 and M36.

This DMP has been created with the template from “Pla de Gestió de Dades de Recerca” [2] based on the template offered by the Commission in [1].

2 Data summary

The INVADE Integrated Platform (IIP) is the core of the project and it will require to use simulation and real field data to ensure the appropriate IIP development. Collection of real data is then crucial for the correct development of the IIP. Additionally, research activities will produce data from simulations that will be used for IIP development as well.

The inventory dataset is the starting point for the IIP smartness development during research and development activities.

A range of simulation and real field data will be collected on excel spreadsheets for easy accessibility.

INVADE re-uses Open Access datasets for early stages and produces its own datasets from pilots for further developments.

Data generated within the project by simulation tools and by real field trials will be used to compare the base case scenario without IIP and the new scenario applying IIP functionalities.

The data size will be considerable due to the number of pilots and monitored devices (20 GB approximately).

The dataset will be valuable for researchers, ICT developers for energy applications and utilities. They can use the data for developing energy management algorithms, elaborate energy efficiency studies, market-value quantifications and life-cycle analysis.

The Zenodo repository selected assigns Data Object Identifier (DOIs) for persistent identification and citability of the dataset. Zenodo repository is explained below.

3 FAIR data

This document helps Horizon 2020 beneficiaries make their research data findable, accessible, interoperable and reusable (FAIR), to ensure it is soundly managed.

3.1 Making data findable, including provisions for metadata

The metadata standard used to describe the dataset will be in CERIF <http://www.eurocris.org/cerif/main-features-cerif>

The Common European Research Information Format (CERIF) is the standard that the EU recommends to its member states for recording information about research activity. Since version 1.6 it has included specific support for recording metadata for datasets.

3.2 Making data openly accessible

The following data will be available in [ZENODO](#)

Data category	Data field	Pilot				
		Bulgaria	Germany	Norway	Spain	The Netherlands
Consumption data	Appliance level	Y	N	N	N	N
	Household level	Y	Y	N	Y	Y
	Aggregated level	Y	?	Y	Y	Y
Generation data	Installation level	Y	Y	N	?	Y
	Aggregated level	Y	?	Y	?	Y
Storage data	Installation level	Y	Y	N	?	Y
	Aggregated level	Y	?	Y	?	Y
EV data	EV chargers	Y	N	N	?	Y
	User profile data	Y	N	N	?	Y
Grid data	Grid data	Y	?	N	Y	?
Weather data	Solar radiation forecast	Y	N	N	?	N
	Wind forecast	Y	N	N	?	N

(Y: Yes, it will be available, No it won't, ?: Not defined)

During further versions of this document, the data access right type will be determined including the appropriate intellectual property protection.

Zenodo data repository has been considered as the best option for INVADE Project according to the [comparison table](#) elaborated by UPC. For more information <http://www.re3data.org/>

There is no standard for electricity related datasets. Therefore, the project will provide the necessary documentation to interpret the project data correctly.

The data will be shared through the ZENODO repository providing the corresponding data object identifiers (DOI).

3.3 Increase data re-use

The deliverables associated to the dataset are licensed through an All rights reserved license as they are working papers not intended to be re-used. Nevertheless, the database should be shared as a possible reusable dataset. For this reason, when deposited to the repository, an Attribution-NonCommercial license (by-nc) will be requested. The data will be available for re-use from the final depositing repository (Zenodo) and from OpenAire.

4 Allocation of resources

The Data manager responsible is Schneider Electric as pilot responsible. Schneider will ensure that pilots and researchers publish their data in the appropriate manner. Pilot partners (Albena, ElaadNL, Estabanell, Lyse and NewEn) and research partners (NTNU, VTT, SmartIO and UPC) are responsible to provide the aforementioned data.

5 Data security

One private hard disk drive will probably be allocated to secure data recovery for recovering if it is needed. The digital signature of the whole dataset, or the storage of the dataset in a repository, could provide support for the correct duplication and preservation.

6 Ethical aspects

The ethical aspects related to the personal data collected in this dataset are addressed in the D11.1 - Humans, D11.2 - POPD (Protection Of Personal Data), and D11.3 – NEC (Non-EU country).

According to D11.1 “At the end – after the pilot is completed – data is destructed and/or anonymized”

References

- [1] European Commission, “Guidelines on Data Management in Horizon 2020,” 2013.
- [2] CSUC (Commission of Academic Libraries of Catalonia), “Research Data Management Plan,” 2016. [Online]. Available: <https://dmp.csuc.cat/>. [Accessed: 18-May-2017].