



# Data Management Plan

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# Deliverable

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# D1.3 Data Management Plan

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## DISSEMINATION LEVEL

- ✓ **P** **Public**
- C** Confidential, only for members of the consortium and the Commission Services

## Version History

REVISION	DATE	AUTHOR	ORG...	DESCRIPTION
v1.0	3.2022	Darcin Hombre	OMIE	Peer review
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## Statement of Originality

This deliverable contains original unpublished work except where clearly indicated otherwise. Acknowledgement of previously published material and of the work of others has been made through appropriate citation, quotation or both.

## Summary

This deliverable presents the Data management plan for the V2Market (V2M) project as defined in the Grant Agreement. This plan aims to clearly define all issues related to data management, making it understandable and available to all project partners to avoid any possible issues related to data misuse. A proper management of all project data is crucial for the V2Market, specially the one regarding vulnerable users.

This document establishes the data management lifecycle for all data collected, shared, processed or generated by the V2M project, reflecting the state of Consortium agreements regarding data management and the overall project results. Thus, presenting datasets descriptions, standards, data sharing and archiving guidelines. This document will be taken into consideration in the execution of all project activities and elaboration of project deliverables and other documents.

This is a first version that presents the plan at the very beginning of the project, nevertheless, any existing changes related to definition of use cases, analysis of regulations and guidelines will be reflected by creating new updated versions when needed until the end of the project.

This document is organised in 4 sub sections, the first and introductory section of the document objectives, followed by a description of the different data and datasets to be collected along the project execution, providing detailed information regarding how to collect it, its purpose and relation to the project objectives, and how will it be managed and treated. Then, there is a third section focused on FAIR data principles, referring to making data Findable, Accessible, Interoperable and Reusable.

The fourth section is dedicated to legal and ethical requirements (of the involved countries) to be considered along the V2MARKET project, according to the General Data Protection Regulation and other existing regulation. Finally, the document concludes with a fifth section focused on data security issues, considering how data will be stored, which backout and recovery systems will be used, who will have access to it, and which anonymisation and encryption procedures will be followed.

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## 1/ Introduction

This document presents the Data Management Plan (DMP) of the V2Market project, which has received funding from the European Union's Horizon 2020 program under the Grant Agreement number 101033686. This document established the data management procedures that will be followed along the project.

The DMP aims to clearly define all issues related to data management, making it understandable and available to all project partners to avoid any possible issues related to data misuse. This document should be considered by all project partners in the execution of all activities and procedures dealing with data management related issues, as well in the elaboration of all project deliverables and other documents.

The DMP will be considered a "live document", which will be updated along the project according to the specific needs of the project pilots and the definition of use cases. This document will be updated only when relevant changes in data management aspects are required and need to be followed by the project Consortium.

## 2/ Data Summary

V2Market aims to develop the market framework conditions for mainstreaming V2G and V2B services into the Flexibility and Energy Efficiency (EE) market as a means to:

- Incorporate Electric Vehicles (EV) in the electricity system as storage and flexibility capacity for participating in the electricity markets.
- Offer new revenue streams for EE and flexibility services for the vehicle owners.
- Enable the large deployment of EV in a way that facilitates grid management and EE.

And, in general, improve the performance of the overall energy system. V2Market intends to integrate EE services with e-mobility and distributed generation to use EV batteries as a key element for EE and flexibility.

To do so, V2Market will perform a market analysis in which interviews and focus groups will be performed with the key stakeholders along the value chain of the technology and the business model, from technology providers, to industrial actors, market regulators, and end-users. Such market analysis, together with a deep analysis of the current electricity market and the potential of the electricity market analysis platform, will permit to provide insights for an economic viability study of the proposed value proposition and business model. Different financial and contractual schemes will then be defined for the different targets, tailored to the identified needs and characteristics. The proposed solution will be tested in a pilot in the AMB, where the ICT tools will be adapted to implemented in the pilot facilities, aiming to be replicated at EU scale through a proper exploitation strategy

In this sense, data will be collected during the market analysis (interview recordings of European experts, and focus groups photos and answers to surveys and dynamics), the ICT tools adaptation and the piloting phase. Moreover, data subjected to intellectual property will be used for the integration of the ICT tools and the electricity market analysis tools. It is worth noting that this section will be the most updated one as the project advances and pilots and data gathered get more defined.

## 2.1. Purpose of the data collection/generation

V2M aims to provide a business model based on the needs defined by the stakeholders along the V2B – V2G value chain, and on usage and behaviour of the end-users in the piloting phase. For this purpose, the project will collect data from interviewed experts and participants to the focus groups, and end-users users that will allow to identify usage and patterns. In summary, the main purpose of collecting data is to better adjust the demand-offer of EV-users to offer the best value proposition and solution.

## 2.2. Relation to planned objectives of the project

Data generated in the V2Market project come from several tasks or activities:

- WP2 – Market Study:
  - Interviews (M3-M5)
  - Focus groups(M5-M7)
- WP6 – ICT tools adaptation
  - Data management of the final service provision (M20-M21)
- WP7 - Pilot testing in the Barcelona Metropolitan Area
  - Task 7.2 Open training of public staff (M27-M28)
  - Task 7.3 Testing period (M28-M33)
  - Task 7.4 Focus groups with the staff after the implementation (M33-M34)

WP1, WP8 and WP9 will produce different data that will be used internally and other publicly, such as the communication and dissemination data. Each data set can produce any scientific publication. The management data, internal technical data and financial data will be also collected and available, specifically, for the partners that will use them.

## 2.3. Types and formats of data generated/collected

At the time this document is being written, it is not possible to know all the data sets and details about them that will be collected, processed and/or stored within the project. During the project implementation, information will be added accordingly when needed.

Currently, the V2M consortium foresees the following datasets:

- Dataset 1: Data from participants in the Interviews, Focus Groups and Trainings
- Dataset 2: Consents of users recruited for the pilots
- Dataset 3: Metering Data from the pilot sites

- Dataset 4: EV-related data from the pilots
- Dataset 5: Internal Project Data

Each dataset will be described using the following example table, where it is specified what means each row:

DATASET NUMBER	<i>Each dataset will be numbered, starting from 1</i>
DATASET NAME	
DESCRIPTION OF DATA	<i>A more detailed explanation of the data collected, such as contact details data, and what it contains (e.g., name, surname, affiliation, etc.)</i>
ORIGIN OF DATA	<i>Here, it specifies from where comes the data (e.g., users' provided, EV, ...)</i>
USAGE	<i>It describes the use of this data within the project (e.g., lds of end users will be used by Focus Group dynamics and statistics)</i>
DATA SCIENTIFIC PUBLICATIONS	<i>In this row, it will be specified if this data is the source, or a source of a scientific publication generated within the project.</i>
FORMAT	<i>It specifies the format in which the data set will be collected/stored.</i>
DATA FREQUENCY	<i>Specify the frequency of collection and treatment in case it is collected more than once. (e.g., mobility patterns)</i>
DATA VOLUME	<i>The size of the data (e.g., videos of the Focus Groups could be 1Gb, but files with IDs or questionnaires just only Kbs or Mbs)</i>
PURPOSE	<i>The purpose for which the project/partner collects this data, needs this data (e.g., EV mobility patterns, the purpose is to create patterns for a better flexibility analysis)</i>
ACCESS POLICY	<i>Highlight the access norms to this data set (e.g., restricted to specific users, access to a group)</i>
ACCESS GROUP	<i>If it is accessible to a group of users.</i>
DATA UTILITY	<i>List or describe the utility of the data, for who was useful and for what. Sometimes, it is useful for more things than the principal usage itself.</i>

### 2.3.1. Description of Datasets

At the time this document is being written, it is not possible to know all the data sets and details about them that will be collected, processed and/or stored within the project. During the project implementation, information will be added accordingly when needed

## 3/ FAIR Data

This section is in line with the FAIR principles, focused on (1) the data visibility and the approach towards search keywords, (2) the identifiability of the data through standard identification mechanisms, (3) the naming conventions, and (4) the approach for clear versioning. Then, to continue with the FAIR principles, the section will outline data accessibility, interoperability, and reusability.



## 3.1. Making Data Findable

### 3.1.1. Data visibility and keywords

Metadata refer to “a set of data that describes and gives information about other data”. These metadata are needed to easily locate and access data, especially when they are on the web. Metadata provision represents the key factor for recovering (i.e., citing or searching) any project data and to make such data more visible, accessible, and usable by any interested stakeholder.

In general, its structure depends on the nature of the data per se, therefore, it is hard to establish a unique criterion for all gathered data. Still, a set of the mandatory search keywords, as specified in section 3.2. *Data openly accessible* of this document, are used for the datasets generated by the V2MARKET project, such as:

- European Union
- H2020
- V2M, Vehicle 2 Market
- GA101033686

### 3.1.2. Identifiability of data

Data will be identified through a standard identification mechanism, namely, through a DOI (Digital Object Identifier) which refers to “a *persistent identifier or handle used to identify objects uniquely, standardized by the International Organization for Standardization (ISO)*”. This identification mechanisms will be used for data produced, such as papers published and similar professional materials.

### 3.1.3. Naming conventions

Regarding the datasets that will contain personal identifiable data, these must be anonymised, as established in section 5.4. of this document. Therefore, of a correct data management, each subject will be referred by an anonymous ID that will be created by data collectors and specified in this section of this document. This ID will provide the necessary information to make clear to which specific dataset the anonymised data belongs to.

At the moment this document is written, this specific nomenclatures and naming convention standards have not been defined, nevertheless, they will be included in this concrete section once they are detailed by the V2MARKET consortium.

### 3.1.4. Clear versioning

Also, for a proper data management, it is important to have a detailed approach to have clear versions of the datasets if needed. This section will include this clear versioning approach and standards in case they are detailed, on the contrary, it will describe what type of metadata will be created along the project.

## 3.2. Openly accessible data

The V2MARKET publications will follow the open access rules held for all projects financed by the European Commission under the H2020 Programme. Therefore, the authors of

publications will deposit the final manuscripts in a public repository to be opened, in a version which complies with the editorial rules of the publisher.

Concerning the datasets, the V2MARKET approach to data access follows the “as open as possible, as closed as necessary” principle, meaning that there will be data that will remain closed due to protection of end users and stakeholders’ personal data and image, always counting with the necessary consent forms. Nevertheless, at the moment, the V2MARKET consortium does not know the specific datasets of the project and therefore, cannot know which data will be kept private or open.

Finally, to make data findable, published datasets will be enriched with a specific metadata that will be defined in future versions of this document, making use of the metadata detailed in section 3.1.1.

### 3.3. Data interoperability

This section is focused on the interoperability of the data in the project, detailing the methodologies, standards or data and metadata vocabularies to follow to simplify this task. As previously stated, this will depend on the type of data and datasets that the project has, and at the this point these are not defined. Therefore, according to the type of data/datasets, the methodology, standards, and vocabularies to follow could be either one for all data in the project or different ones, in that case, it should be specified how the different data/datasets will be interoperable.

### 3.4. Data reuse

This section specifies which and how data will be reused both by the project partners and other third parties, during and after the project ends. As a principle, the V2MARKET project will reuse as much data as possible for research purposes and to disseminate its results. Therefore, it will be essential to explain the licensed allowed for the data to reuse, detailing information such as the date, accessibility period to reuse, data period embargoes...

On the other hand, in case of data reuse by other third parties, especially after the project ends, it is important to specify and clearly define the necessary restrictions in datasets, referring to which data will be restricted, how, why, for how long.

As part of a proper Data management, a Data Quality Assurance methodology will be incorporated to guarantee that all data generated within the system by the users involved during the project are correct. This methodology will also help identifying any possible inconsistency or incomplete information in a timely manner. Additionally, the length of time that data will be available to reuse will be clearly specified.

## 4/ Ethical considerations

All necessary **legal and ethical requirements** (of the involved countries) will be considered in the V2M project for a proper usage and treatment of the collected data. For that, a set of the necessary documents (Consent forms, Information sheets...) will be prepared as templates.

**Consent Forms** will be required to be signed by all pilot participants, to indicate they fully understand and agree upon:

- The type of information they will be sharing with the V2M Consortium.
- The benefits of their participation.
- All confidentiality issues

**Personal data** will be processed following the principles of, and rules on, the protection of personal data laid down under Reg. 2016/679/UE (General Data Protection Regulation). Firstly, the principles of lawfulness, fairness and transparency shall be respected. Furthermore, personal data shall be accurate and subject to the principle of “storage limitation”. Additionally, personal data shall be processed in a manner that ensures appropriate security of the data itself, including prevention against unauthorized or unlawful access and against accidental loss, destruction or damage, in line with the principles of integrity and confidentiality mentioned in the Art. 5 of the GDPR.

## 5/ Data Security

The V2M project will collect and process data according to the required scientific needs and in compliance with EU and national regulations, General Data Protection Regulation (GDPR). For the collected data, partners involved in the collecting process will be responsible of it. Therefore, a responsible person will be nominated as “Data collector” and one as “Data Processor” in project pilot.

This section will be updated if needed in the further versions of this document, in order to provide more specific information regarding this issue.

### 5.1. Files and folders

The V2M project counts with a **SharePoint repository** for all project documents, where only project partners have access to. The repository site allows to provide different rights to the members (read only, editing...), and these rights will be modified accordingly when needed. All accessibility issues will be controlled and managed by the Project Coordinator (PC), Ecoserveis.

### 5.2. Backup and recovery

The SharePoint repository keeps a frequent backup procedure to avoid losing any project information. In case of an incident, the data can be recovered according to the procedures of the data repository owner. The project coordinator, Ecoserveis, will oversee the proper functioning of backup and recovery processes.

### 5.3. Data security risks

Besides the identified project risks included in *D1.2. Risk Management Plan*, the following table details the main data security risks and mitigation actions foreseen:

Risk	Mitigation measure
<b>Accidental data loss due to software or hardware failure</b>	A backup copy of the data is available. The backup copy is not in the same physical location as the original one.
<b>Data access by unauthorised third party</b>	Access to the data repository is allowed only for Consortium members and requires secure authentication mechanisms. Additionally, the access is restricted by rights to each partner contact, depending on its activity.
<b>Data breach</b>	Access to data is restricted to partners. When a data breach is suspected to happen, a procedure of communication and mitigation measure is put in place. The PC gathers the information with the responsible ones and notify within 72 hours to the National Data Protection Authority (DPA). Then the subjects that are affected with this breach will be notified explaining the violations of their data.

*Table 1: Data security risks and mitigation actions*

## 5.4. Anonymisation

Anonymisation is mandatory to unlink data collected from users. This will be applied for the collection of users' and market data for testing (WP7) and assessing the impacts resulting from the action.

As it is too soon for these tasks, the procedure of anonymisation will be detailed in the next version of this document.

## 5.5. Encryption

All special categories of data as defined by Art. 9 of GDPR, especially sensible data must be encrypted to provide confidentiality, integrity, and authenticity of the data. An encryption procedure through software will be specified in the next version of this document for data that requires it.

