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Platone

PLATform for Operation of distribution NETworks

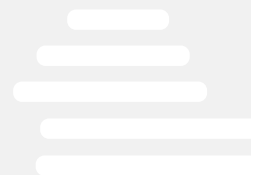
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D9.1 v1.0

**Data Management Plan
(initial release)**



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Abstract

This document is the first version of the Platone Data Management Plan (DMP) due in project month 6. The document is a living document and will be updated in a second version in month 20.

This deliverable describes how the data in project will be processed and shared to support Open Research Data during the project's development and after the project's conclusion. It provides a description of the data management procedures to be followed at trial sites as well as across the overall project including procedures for data security and privacy. The datasets expected to be generated and used in the project are identified and characterised.

Keyword list

Data Management, open data, renewable energy, power grid

Disclaimer

All information provided reflects the status of the Platone project at the time of writing and may be subject to change. All information reflects only the author's view and the Innovation and Networks Executive Agency (INEA) is not responsible for any use that may be made of the information contained in this deliverable.

Executive Summary

This deliverable identifies the datasets which are applied in Platone project and describes how these datasets will be processed and shared to support the H2020 Open Research Data Pilot during the project's development and after the project's conclusion. An updated version of this deliverable will be released as D9.2 in M20.

Five datasets are identified for Platone: the first four are technical datasets, versions of which will be made openly available on FIWARE Lab Data [1]. The last dataset relates to customers' personal data; this is confidential data which will be treated in a restricted way and certainly not as open data; the protection of this data is detailed in the D10.2 deliverable.

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1 Introduction

The Platone project [2] aims to develop an architecture for testing and implementing a data acquisitions system based on a two-layer approach (an access layer for customers and distribution system operator (DSO) observability layer) that will allow greater stakeholder involvement and will enable an efficient and smart network management. The tools used for this purpose will be based on platforms able to receive data from different sources, such as weather forecasting systems or distributed smart devices spread all over the urban area. These platforms, by talking to each other and exchanging data, will allow collecting and elaborating information useful for DSOs, transmission system operators (TSOs), customers and aggregators. In particular, the DSO will invest in a standard, open, non-discriminating, economic dispute settlement blockchain-based infrastructure, to give to both the customers and to the aggregator the possibility to more easily become flexibility market players. This solution will see the DSO evolve into a new form: a market enabler for end users and a smarter observer of the distribution network. By defining this innovative two-layer architecture, Platone removes technical barriers to the achievement of a carbon-free society by 2050, creating the ecosystem for new market mechanisms for a rapid roll out among DSOs and for a large involvement of customers in the active management of grids and in the flexibility markets. The Platone platform will be tested in 3 European trials (Greece, Germany and Italy) and the consortium aims to go for a commercial exploitation of the results after the project is finished.

The Data Management Plans (DMP) is a formal description of the procedures of data handling during and after a project. A DMP describes the data management life cycle for the data to be collected, processed and/or generated. By providing an assessment of data used in a project and a structured approach for aspects as naming conventions, metadata and versioning, the DMP should also support data quality, efficient processing and sharing of data and to ensure it is soundly managed. It is required for projects in the Horizon 2020 framework programme that have not opted out of the Open Research Data Pilot (ORDP) [3].

As part of making research data findable, accessible, interoperable and re-usable (FAIR), the 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;
- which methodology and standards will be applied;
- whether data will be shared/made open access and
- how data will be curated and preserved (including after the end of the project).

Naturally, not all questions regarding the handling and type of data can be answered at the start of a project, as procedures have to be coordinated and implemented and the data management infrastructure has to be set up. To meet this lack of knowledge, the DMP is meant to be a living document which should be adapted and completed during the project lifetime 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).

Platone is aware of the BRIDGE reports on “Data Handling” [4] and “Cybersecurity and Resilience” [5] and will adopt their principles and recommendations, which are considered to agree with the approach of D9.1 and D10.2. More detailed information on this will be included in the D9.2.

All data will be treated according to the EU legislation governing the unbundling of DSOs and market operators (traders, aggregators, resellers, etc.). In order to comply with this unbundling legislation, initial contacts with customers to recruit them to participate in the Platone demos will not be made by the Platone partners running the demo infrastructures but by a third-party (the project partner BAUM).

1.1 Task 9.1

The task associated with the D9.1 deliverable is task 9.1. This task is about the Platone contractual, operational and administrative management. The task leader is RWTH Aachen University.

1.2 Objectives of the Work Reported in this Deliverable

The first version of the Platone DMP will be released in deliverable D9.1 “Data Management Plan (initial release)” in M06. The objective of this deliverable is to identify the datasets which are applied in Platone project and describes how these datasets will be processed and shared to support the H2020 Open Research Data Pilot during the project’s development and after the project’s conclusion. An updated version of this deliverable will be released as D9.2 “Data Management Plan (final)” in M20.

1.3 Outline of the Deliverable

This document is structured according to Annex 1 of the “Guidelines on Fair data management in Horizon 2020” [3]. In Chapter 2, the methods and tools to be used in Platone approach to making data “FAIR” (findable, accessible, interoperable, re-usable) are described. The data appearing in the Platone project is assessed in Chapter 2 and structured in datasets. The allocation of resources for making the data “FAIR” is explained in Chapter 4. Chapter 5 and chapter 6 are dedicated to data security and ethical aspects defined in the project.

1.4 How to Read this Document

This document can be read independently of other Platone deliverables. It relates, however, to the following Platone deliverables:

D9.2: “*Data Management Plan (final)*” is an updated version of this D9.1 is deliverable which will be released in M20. D9.1 is being prepared early in Platone; it covers the outline of the Platone DMP but many details are not currently available and will be included in D9.2.

D10.1: “*H - Requirement No. 1*” is an Ethics deliverable detailing procedures and criteria used to identify/recruit participants (customers) in Platone demos. It gives detailed information on the informed consent procedures including information about the management of informed consent forms.

D10.2: “*POPD - Requirement No. 2*” is an Ethics deliverable detailing the handling of customers’ personal data.

2 FAIR data

The FAIR data principle is required to be used in EU-Projects by the “Guidelines on FAIR Data Management in Horizon 2020” [3]. It should support the exchange of scientific data and lead to knowledge discovery and innovation. The FAIR data approach is described by the acronym:

- **F**indable data: Clear naming and versioning of (meta-) data, use of search keywords and Digital Object Identifiers (DOI)
- **A**ccessible data: Specification how data is made available, what tools are needed to access data
- **I**nteroperable data: Use of standards and vocabularies for (meta-) data and datatypes
- **R**e-usable data: Specification when and for which duration data is made available, licensing of data

2.1 Making data findable, including provisions for metadata

It is assumed that the datasets will be published on the FIWARE Lab Data repository [1]. The datasets will be stored on under the Smart Energy Data tag.

Datasets will be structured under the headings of the trial site (Italy, Greece and Germany), the overarching Datasets (1 to 4 in Ch. 2 above) and the data object. For example, power consumption measurements from customers in Germany (such as measurements of power, voltage current) will be labelled as Smart Energy Data: German Energy Consumption Profile. Within this profile, there will be data sets for each customer. Hence the data resources will be labelled like:

germany_energy_consumption_customer_1

germany_energy_consumption_customer_2, etc.

These data resources will link to the actual data (which would be a .csv file containing the date and time for each measurement, as well as the measurement itself). Additionally each data resource will contain a metadata file describing the resource and explaining the meaning of the data in the .csv file.

The intention is to provide historical datasets only. The individual data resources in the datasets will be given version numbers, to distinguish different versions of the dataset produced during the project.

Details of the naming conventions for data and meta-data will be specified in D9.2.

2.2 Making data openly accessible

Platone will publish datasets of historical trial site data as open data. The current plan is to publish the datasets on the FIWARE Lab Data repository [1]. External entities, e.g., researchers, can use the interface of the FIWARE Lab Data repository to search for and download Platone data, which is referred to as “Smart Energy Data” in FIWARE Lab. The FIWARE Lab Data platform is freely available to be used by the public, without the need to register or open an account for browsing or downloading data. The data will be stored in standard formats (such as .csv files) to be freely accessible for all external entities to download.

The FIWARE Lab Data platform has already been used by RWTH to publish open Smart Energy data.

2.3 Making data interoperable

Making data interoperable mainly depends on the use of suitable standards for the creation of metadata along with an appropriate associated vocabulary (e.g. search keywords). These standards are not specified yet and will be provided in the update of this deliverable; D9.2.

2.4 Increase data re-use (through clarifying licences)

The current intention is that Platone datasets will be published as open data under the Creative Commons CC-BY-SA 4.0 license [6]. This license allows the datasets to be used if the data source is accredited and if the same licensing conditions (CC-BY-SA 4.0) are applied to its derivative use.

3 Data Summary

Platone purposes an innovative approach to data management to increase the level of observability of the electricity grid at distribution level and exploit the flexibilities in electricity production and consumption. Platone puts the electricity end-users at the centre of its solutions, and will test these in three large pilots in Italy, Greece and Germany.

Due to the heterogeneity of the data which is to be collected and generated in the Platone project, this chapter is structured by a differentiation by datasets. This allows for a detailed assessment of the data collection and generation as well as issues of data privacy and security for each dataset.

The following datasets have been identified to appear in the Platone project:

1. Topology and asset description
2. Measurements
3. Market
4. Prediction and planning
5. Customers' personal data

All datasets appear in every trial site.

To assess the data, each dataset is described in a factsheet presented in the following sub-chapters.

The first four datasets are technical datasets, in the sense that they are generated in, and through the operation of, the Platone pilots and relate to the management by the DSOs of the Platone infrastructure in the DSOs' distribution grids in the pilot sites.

These technical datasets come in two different forms:

- The raw technical datasets are generated through the execution of the Platone grid management functions and are mainly time-series data. These raw technical datasets themselves remain the property of the respective Platone partners and will be deleted after the Platone project ends.
- Curated versions of these raw datasets will be made openly available in the FIWARE Lab Data repository [1].

With the exception of the "Format of the open datasets", the details given in the factsheets concern the raw technical datasets. Details of the data formats of the raw technical datasets are project-internal. The "Format of the open datasets" concerns the curated versions of the raw datasets.

The last dataset relates to customers' personal data; this is confidential data which will be treated in a restricted way and certainly not as open data; the protection of this data is detailed in the confidential D10.2 deliverable.

In case there are differences among the three trial sites (Areti- Italy, HEDNO- Greece and Avacon-Germany) it will be clearly stated in the factsheet. If the information is not split up for each trial site answer it means that it is valid for all the trial sites.

3.1 Dataset 1 – Topology and asset description

Factsheet for dataset 1	
Dataset name	Topology and asset description
Dataset description	The topology and asset description includes plans and documentation about assets and equipment. These data include: - Technical data (like topology and technical features of network's components); - geographical data to locate the grid elements
Source of the data	
Re-use of historical data	German Demo: Yes, installed power of loads and generators, storage capacity of battery energy storage systems. Greek Demo: Yes, e.g. Number of substations, installed power, number of RES, and available capacity per substation are openly available on HEDNO's website. Italian Demo: Yes, number of substations in MV and LV grid, number of points of delivery in medium and in low voltage, installed power; grid length, number of prosumers and available capacity per substation are openly available in the Acea Sustainability report [7].
Data from live trial measurements, sensors	This dataset concerns static topology and asset data, not time-series data.
Origin of data	German Demo: The data will come from - the software managed by the DSO: - Geographic Information System (GIS) Greek Demo: The data will come from - Geographic Information System (GIS), - Enterprise Resource Planning (ERP) Italian Demo: data will come from: - the software managed by the DSO (areti): - Geographic Information System (GIS);
Format of the open datasets	
Format of the data	The geographical data are provided in shape files (.shp), the network data is stored in a database, and can be extracted in formats like .csv, .xml, .dbs among others.
Metadata and documentation	The date and origin of the data should be included as metadata. Further detailed information will be included in D9.2.
Data security and privacy	
Classification level of data	The anonymised and encrypted data which can be made openly available (Public) will be detailed in D9.2.
Data privacy	These datasets will be anonymized and encrypted.
Exploitation and dissemination	
Purpose of data collection/generation, relation to project objectives	These data are needed for the state estimation of the grid
Data utility, usefulness to external parties	Such data, coming from real grid infrastructures, is expected to be useful for simulations and product development purposes to research institutions, private companies, and also DSOs and TSOs who are not Platone partners.
Availability (long-term storage)	Geographical information on the location of particular grid elements and topology information will not be provided as open data as they are commercially confidential, sensitive grid information.

	<p>All the technical data will be available without the confidential information (like supplier; model, brand, owner, etc.). Versions of the datasets will be made available as open data on the FIWARE Lab Data [1] platform.</p>
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3.2 Dataset 2 – Measurements

Factsheet for dataset 2	
Dataset name	Measurements
Dataset description	<p>The dataset includes:</p> <ul style="list-style-type: none"> - Generators: installed capacity, generation (P, Q), - Loads: installed capacities, voltage level, power demand (P,Q), - Battery storages (P,Q,V, Phi)): state of charge (SOC)/State of Energy (SOE) - Electrical Measurements acquired from the sensors installed on the grid (like busbar voltage in primary substations and in several secondary substations, currents on MV lines)
Source of the data	
Re-use of historical data	<p>German Demo: Historic measured data collected during the field test, will be re-used for forecasts</p> <p>Greek Demo: Some aggregated measurements could be re-used (further examination needed).</p> <p>Italian Demo:</p> <ul style="list-style-type: none"> - At LV level: customers’ total monthly consumption (read from smart meters); the data is aggregated and anonymised; - At MV level: customers’ total hourly consumption (read from smart meters); the data is aggregated and anonymised; - Measurements acquired through SCADA, concerning the current absorbed by/power consumption for each feeder (grid state simulation). Other historical measurements data will be defined and collected during the field tests.
Data from live trial measurements, sensors	<p>German Demo: Yes.</p> <p>Greek Demo: Yes.</p> <p>Italian Demo: Yes.</p> <p>For all 3 demos: live streaming of the data is not planned. Bulk datasets will be released as open datasets.</p>
Origin of data	<p>German Demo: Measurement and controlling devices implemented in private customer households</p> <p>Greek Demo: HEDNO's AMI system</p> <p>Italian Demo:</p> <ul style="list-style-type: none"> - DSO's Advance Metering Infrastructure (AMI); - Supervisory Control And Data Acquisition (SCADA). - Production measurements (from programmable and non-programmable sources); - DSO asset measurements (from sensors placed on the grid); - Charging station measurements from Italian Demo (EV Pool Site)
Format of the open datasets	
Format of the data	The measurements are information stored in Database, so they can be extracted in format like .csv, .xml, .dbs or other type of format
Metadata and documentation	Will be specified in D9.2.
Data security and privacy	
Classification level of data	The anonymised and encrypted data which can be made openly available (Public) will be detailed in D9.2.
Data privacy	These datasets will be anonymized and encrypted.

Exploitation and dissemination	
Purpose of data collection/generation, relation to project objectives	This data will be used to monitor local power generation and demand, state of systems and estimate available used flexibility. To increase the grid observability and to involve the users in the market flexibility.
Data utility, usefulness to external parties	Such data, coming from real grid infrastructures, is expected to be useful for simulations and product development purposes to research institutions, private companies, and also DSOs, TSOs and aggregators who are not Platone partners.
Availability (long-term storage)	Versions of the datasets will be made available as open data on the FIWARE Lab Data [1] platform.

3.3 Dataset 3 – Market

Factsheet for dataset 3	
Dataset name	Market
Dataset description	The following will be used for market exchange: <ul style="list-style-type: none"> - TSO flexibility requests; - DSO flexibility requests; -Service specifications (like ramp, duration, volumes and grid nodes); - Aggregator bids
Source of the data	
Re-use of historical data	<p>German Demo: No.</p> <p>Greek Demo: TSO requests.</p> <p>Italian Demo: Use of TSO requests if available on Italian TSO website.</p>
Data from live trial measurements, sensors	Yes. Live streaming of the data is not planned. Bulk datasets will be released as open datasets
Origin of data	<p>German Demo: Market data will be provided to the DFM-platform via the Platone DSO-Platform.</p> <p>Greek Demo: DSO Technical Platform</p> <p>Italian Demo: For flexibility requests the data will come from: <ul style="list-style-type: none"> - DSO Technical Platform, for local flexibility market - Ancillary Service Market Concerning the energy price, data will come from: - Italian Electricity Market. </p>
Format of the open datasets	
Format of the data	Will be specified in D9.2.
Metadata and documentation	Will be specified in D9.2.
Data security and privacy	
Classification level of data	The anonymised and encrypted data which can be made openly available (Public) will be detailed in D9.2.
Data privacy	These datasets will be anonymized and encrypted.
Exploitation and dissemination	
Purpose of data collection/generation, relation to project objectives	Data enables the communication with Platone market and exchange of flexibility located within the field test region
Data utility, usefulness to external parties	Such data, coming from real grid infrastructures, is expected to be useful for simulations and product development purposes to research institutions, private companies, and also DSOs, TSOs and aggregators (customers and balance responsible providers - BRPs) who are not Platone partners.
Availability (long-term storage)	Versions of the datasets will be made available as open data on the FIWARE Lab Data [1] platform.

3.4 Dataset 4 – Prediction and planning

Factsheet for dataset 4	
Dataset name	Prediction and planning
Dataset description	<ul style="list-style-type: none"> - Weather forecasts; - Energy consumption forecasts, - Energy production forecasts; - Schedules for controllable energy resources (baseline)
Source of the data	
Re-use of historical data	<p>German Demo: Weather forecast will be used to predict generation and demand of individual devices and of the total field test network.</p> <p>Greek Demo: Some aggregated data would be re-used</p> <p>Italian Demo: Some aggregated data could be reused, we'll define them during the project.</p>
Data from live trial measurements, sensors	Not Applicable
Origin of data	<p>German Demo: Data will be provided by commercial weather forecasting institutions.</p> <p>Greek Demo: Energy consumption/production forecasts: data from HEDNO's departments</p> <p>Italian Demo:</p> <ul style="list-style-type: none"> - For weather forecasts, a weather forecast provider for Rome area will be used - For energy consumption and energy production forecast, dedicated tools integrated in the areti SCADA will be used. - For the controllable resources the algorithms implemented on the Aggregator Platform will be used.
Format of the open datasets	
Format of the data	Typical database format like .csv, .xml, .dbs or other type of format.
Metadata and documentation	Will be specified in D9.2.
Data security and privacy	
Classification level of data	The anonymised and encrypted data which can be made openly available (Public) will be detailed in D9.2.
Data privacy	These datasets will be anonymized and encrypted.
Exploitation and dissemination	
Purpose of data collection/generation, relation to project objectives	Data can be used for forecasting of generation and demand and derivation of advanced control strategy and for optimizing the local consumptions of energy, for foreseeing and predicting grid status and eventual criticalities, as well as for customizing commercial offers towards clients/users by profiling consumption
Data utility, usefulness to external parties	Such data, coming from real grid infrastructures, is expected to be useful for simulations and product development purposes to research institutions, private companies, and also DSOs, TSOs and aggregators (customers and balance responsible providers - BRPs) who are not Platone partners.
Availability (long-term storage)	Versions of the datasets will be made available as open data on the FIWARE Lab Data [1] platform.

3.5 Dataset 5 – Customers’ personal data

Factsheet for dataset 5	
Dataset name	Customers’ personal data
Dataset description	<p>These data will be collected during the recruitment of customers into the project. It includes customers’:</p> <ul style="list-style-type: none"> - Name - Address - Point of Delivery (POD) - Bank account details
Source of the data	
Re-use of historical data	<p>German Demo: Re-use, if data are available in Avacon’s customer data base.</p> <p>Greek Demo: No</p> <p>Italian Demo: No</p>
Data from live trial measurements, sensors	No.
Origin of data	<p>German Demo: Data will be provided by</p> <ul style="list-style-type: none"> -Geographic Information System (GIS), -Customer Relation Management (CRM) database, -Renewable database of Avacon <p>-Customer themselves via questionnaire if not already provided to Avacon’s customer data base.</p> <p>Greek Demo: HEDNO's CRM if necessary</p> <p>Italian Demo: The data will come from:</p> <ul style="list-style-type: none"> - Customer Relationship Management (CRM); - Geographic Information System (GIS); - Enterprise Resource Planning (ERP); - Customer Engagement questionnaire/inform consent forms filled-in and signed by customers’ participating in project activities (owner Acea Energia).
Format of the data	
Format of the data	Not applicable.
Metadata and documentation	Not applicable.
Data security and privacy	
Classification level of data	<p>These data are strictly confidential and will be treated as personal data under European and national laws for personal data protection. The detailed description of the handling and protection of customers’ personal data is presented in confidential deliverable D10.2.</p>
Data privacy	<p>The data are strictly guarded under personal data protection (European and national laws). The detailed description of the handling and protection of customers’ personal data is presented in confidential deliverable D10.2.</p>
Exploitation and dissemination	
Purpose of data collection/generation, relation to project objectives	The customers are customers of the electricity DSOs in the three field trials who are recruited to participate in the trial site demos. Their participation is needed to implement trial site use cases related to customer flexibility.
Data utility, usefulness to external parties	Not applicable.
Availability (long-term storage)	No availability. These data are strictly under personal data protection (European and national laws). The detailed description of the handling

	and protection of customers' personal data is presented in confidential deliverable D10.2
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4 Allocation of resources

The method for preparing the datasets for publication remains to be discussed in the project consortium. No estimation of the involved cost has yet been made.

It is, however, expected that the work will be done by the partners running the three trial sites (areti, HEDNO and Avacon) and by RWTH.

The partner responsible for the Data Management Plan is RWTH.

Long-term preservation of the project data will be performed by publishing the datasets on the FIWARE Lab Data [1] platform, which will provide storage of the datasets. In addition, RWTH will store a long-term backup of the datasets using its data archiving service (<https://doc.itc.rwth-aachen.de/display/ARC/Home>).

5 Data security

Each partner is responsible for the security, recoverability and storage of their own generated data (according to their institution or company practice).

The long-term preservation of the Platone technical datasets will be achieved by publishing them on an open data platform, while retaining a long-term copy at RWTH, as described in Ch. 4.

The protection and privacy preservation policy about customers' personal dataset is presented in deliverable D10.2 in detail.

6 Ethical aspects

The reference for ethical and legal issues in Platone is the EU General Data Protection Regulation (EU) 2016/679 (GDPR) [8].

The considerations of Platone related to sharing and long term preservation of customers' personal data is detailed in the D10.2 deliverable.

7 List of References

- [1] "FIWARE Lab Data," [Online]. Available: <https://data.lab.fiware.org/>.
- [2] *Grant Agreement No. 864300 – PLATONE*.
- [3] „Guidelines on FAIR Data Management in Horizon 2020,“ EUROPEAN COMMISSION, 2016.
- [4] Horizon 2020 Bridge Data Management WG, „Data Handling,“ 2019.
- [5] Horizon 2020 Bridge Data Management WG, „Cybersecurity and resilience,“ 2019.
- [6] Creative Commons, „About The Licenses,“ [Online]. Available: <https://creativecommons.org/licenses/>.
- [7] ACEA Group, „2018 Sustainability Report,“ [Online]. Available: <https://www.gruppo.acea.it/content/dam/acea-corporate/acea-foundation/pdf/en/company/sustainability/SustainabilityReport/sustainability-report-2018.pdf>.
- [8] "Guide to General Data Protection Regulation (GDPR)," ico. (information commissioner's office), 2018.

8 List of Abbreviations

Abbreviation	Term
AMI	Advance Metering Infrastructure
BRP	Balance Responsible Provider
CRM	Customer Relationship Management
DMP	Data Management Plan
DSO	Distribution System Operator
ERP	Enterprise Resource Planning
FAIR	Findable, Accessible, Interoperable, Re-usable
GIS	Geographic Information System
LV	Low Voltage
MV	Medium Voltage
ORDP	Open Research Data Pilot
RES	Renewable Energy Source
SCADA	Supervisory Control and Data Acquisition
TSO	Transmission System Operator