Platone

PLATFORM FOR OPERATION
OF DISTRIBUTION NETWORKS

Platone

PLATform for Operation of distribution NEtworks

D9.5 v1.0

Project Management Plan, Version 3

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Abstract

This is the third and final version of the project management plan for Platone. This technical management plan covers both the project implementation plan and project management planning and reporting

Keyword list

Project Management, Technical Management

Executive Summary

"Innovation for the customers, innovation for the grid" is the vision of project Platone - Platform for Operation of distribution Networks. Within the H2020 programme "A single, smart European electricity grid", Platone addresses the topic "Flexibility and retail market options for the distribution grid". Modern power grids are moving away from centralised, infrastructure-heavy transmission system operators (TSOs) towards distribution system operators (DSOs) that are flexible and more capable of managing diverse renewable energy sources. DSOs require new ways of managing the increased number of producers, end users and more volatile power distribution systems of the future. Platone is using blockchain technology to build the Platone Open Framework to meet the needs of modern DSO power systems, including data management. The Platone Open Framework aims to create an open, flexible and secure system that enables distribution grid flexibility/congestion management mechanisms, through innovative energy market models involving all the possible actors at many levels (DSOs, TSOs, customers, aggregators). It is an open source framework based on blockchain technology that enables a secure and shared data management system, allows standard and flexible integration of external solutions (e.g. legacy solutions), and is open to integration of external services through standardized open application program interfaces (APIs). It is built with existing regulations in mind and will allow small power producers to be easily certified so that they can sell excess energy back to the grid. The Platone Open Framework will also incorporate an open-market system to link with traditional TSOs. The Platone Open Framework will be tested in three European demos and within the Canadian Distributed Energy Management Initiative (DEMI).

Deliverable D9.5 is the third and final version of the project management plan for Platone. This technical management plan covers two fundamental aspects of the project, i.e. the project implementation plan, and project management planning and reporting.

The project implementation plan is articulated at work package (WP) level as well as at task level. First, the high-level description of the project implementation plan is given by presenting the overall structure of the work plan organized per WP, showing a coherent overall project flow. Second, the project implementation plan is given in more details by providing the task dependencies, showing how the developed research concepts are linked to the validation, implementation, exploitation, and dissemination activities.

Another important aspect of the project technical management covered in this deliverable is the project planning. Complementarily to the management structure and procedures defined in the project Grant Agreement, during the Kick-off Meeting, the management approach to monitor progresses of work was planned.

A systematic method to ensure delivery of quality results in a timely manner for the remainder of the project is presented by providing an updated detailed reporting plan.

Platone has many internal deliverables between different WPs and Tasks. An analysis defining the inputs and outputs of each task is included.

Authors and Reviewers

Main responsible		
Partner	**Name**	**E-mail**
RWTH		
	Pádraic McKeever	pmckeever@eonerc.rwth-aachen.de
Reviewer(s)		
Partner	**Name**	
HEDNO		
	Eleni Daridou Effrosyni Maria Gralista	
NTUA		
	Panagiotis Pediaditis	
Approver(s)		
Partner	**Name**	
RWTH		
	Pádraic McKeever	

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1 Introduction

The project “PLATform for Operation of distribution Networks – Platone” aims to develop an architecture for testing and implementing a data acquisition system based on a two-layer Blockchain approach: an “Access Layer” to connect customers to the Distribution System Operator (DSO) and a “Service Layer” to link customers and DSO to the Flexibility Market environment (Market Place, Aggregators, …). The two layers are linked by a Shared Customer Database, containing all the data certified by Blockchain and made available to all the relevant stakeholders of the two layers. This Platone Open Framework architecture allows a greater stakeholder involvement and enables 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), Market, customers and aggregators. In particular, the DSOs will invest in a standard, open, non-discriminatory, blockchain-based, economic dispute settlement infrastructure, to give to both the customers and to the aggregator the possibility to more easily become flexibility market players. This solution will allow the DSO to acquire a new role as a market enabler for end users and a smarter observer of the distribution network. By defining this innovative two-layer architecture, Platone strongly contributes to aims to removing technical and economic barriers to the achievement of a carbon-free society by 2050 [1], 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 three European demos (Greece, Germany and Italy) and within the Distributed Energy Management Initiative (DEMI) in Canada. The Platone consortium aims to go for a commercial exploitation of the results after the project is finished. Within the H2020 programme “A single, smart European electricity grid” Platone addresses the topic “Flexibility and retail market options for the distribution grid”.

1.1 Tasks 9.1 and 9.2

This deliverable is associated with Task 9.1: “Platone contractual, operational, and administrative management” and Task 9.2: “Platone Technical management”. Task 9.1 provides the overall management and administration and Task 9.2 provides the overall technical and innovation management for the project.

1.2 Objectives of the Work Reported in this Deliverable

The objective of this deliverable is to provide a detailed project management plan with a Gantt chart and a schedule showing per task, responsible partner related deliverables, and dependencies on other tasks.

1.3 Outline of the Deliverable

The project Gantt chart is shown in Ch. 2. Ch. 3 gives an overview of the project’s WPs and Tasks. Ch.4 details the project management planning and reporting, including the review planning of the deliverables.

Platone has many internal deliverables between different WPs and Tasks. In order to ensure consistency between, Ch. 5 analyses the handovers between the tasks, detailing the tasks’ inputs and outputs.

1.4 How to Read this Document

For background to Platone, please refer to the Platone Grant Agreement [2].

2 Project Gantt Chart

The overall Gantt chart is shown in Table 1. Because the text in Table 1 is small, it is also shown in more readable sections in Table 2 and Table 3.

Table 1: Project Gantt Chart [2]

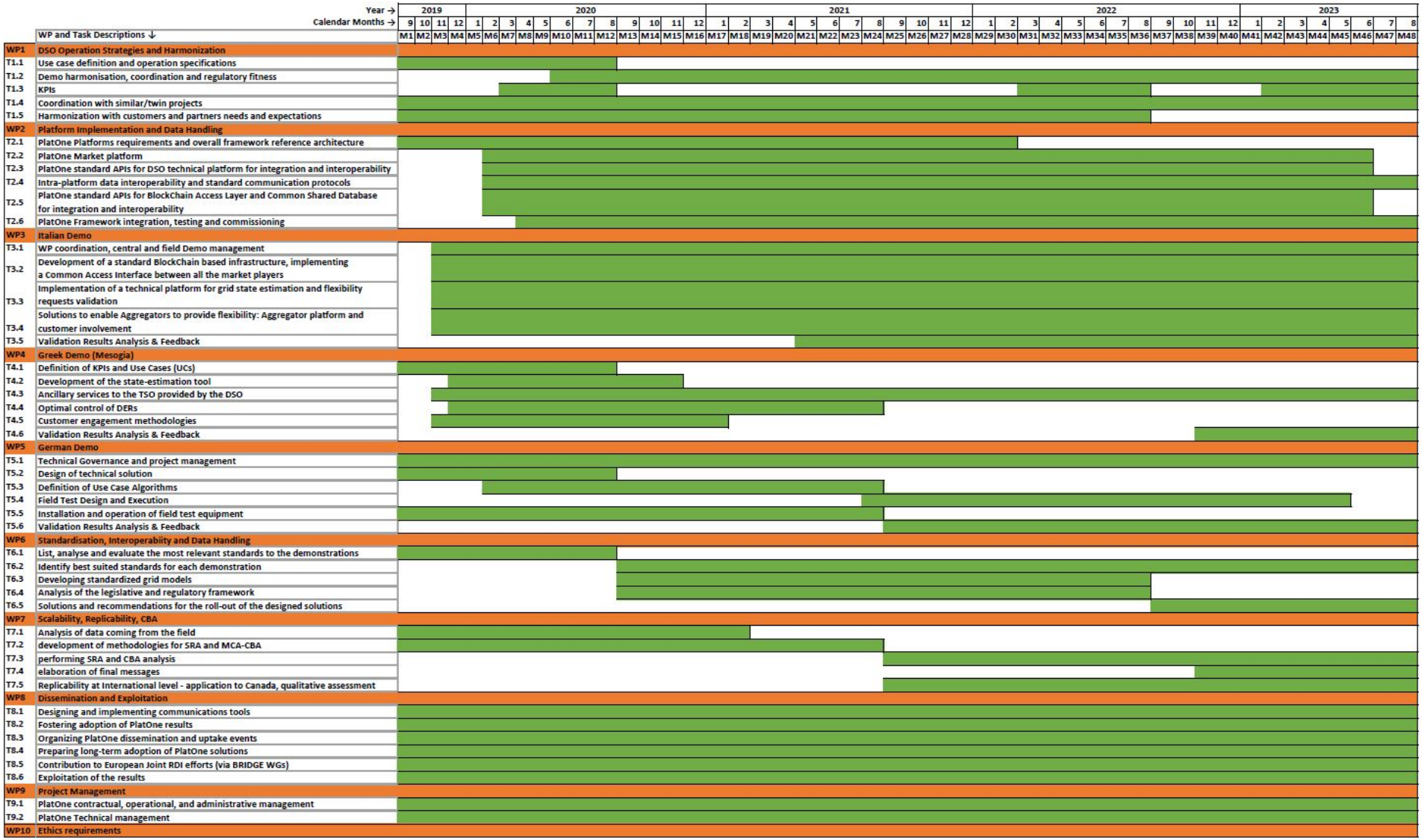
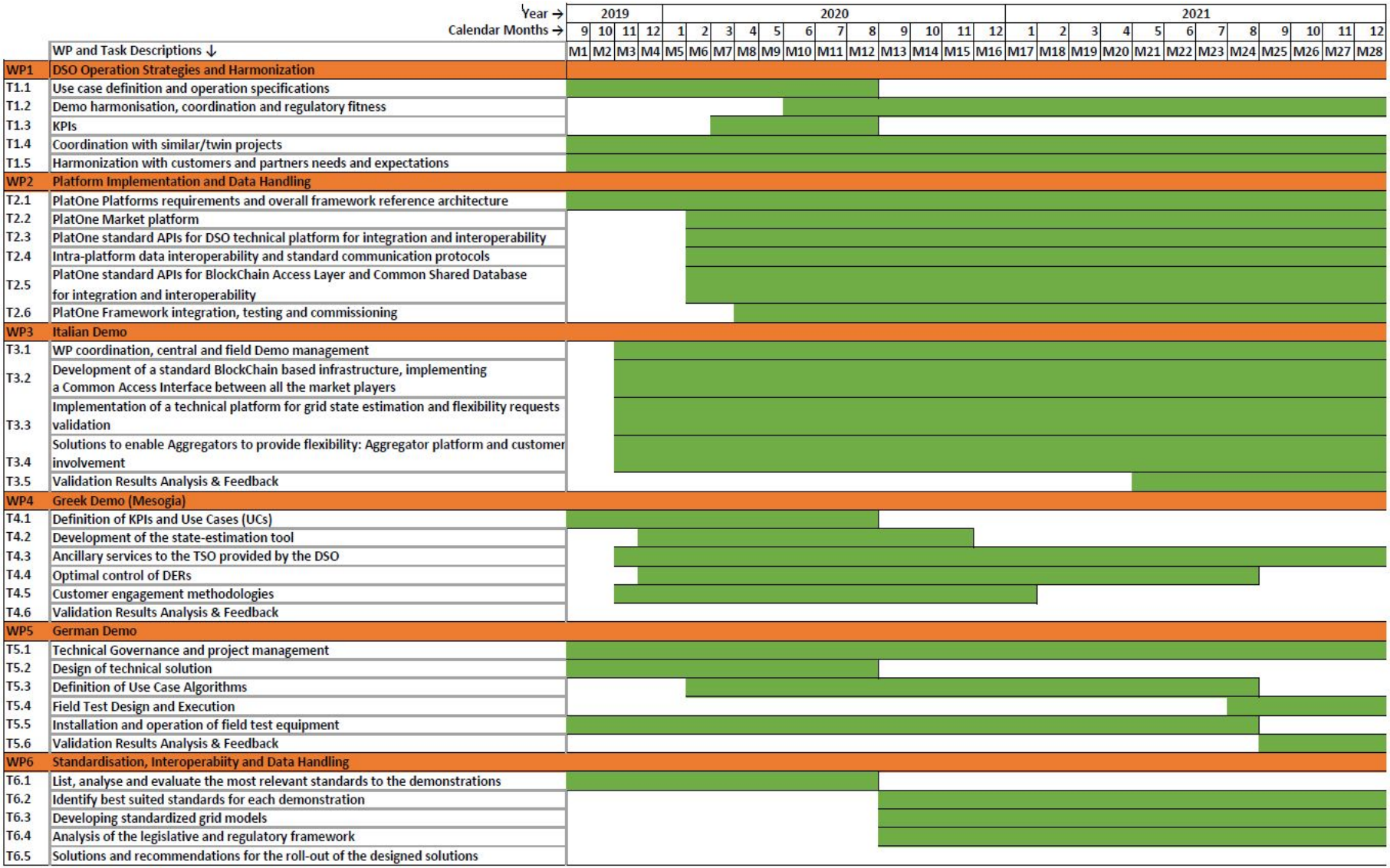


Table 2: Part of Project Gantt Chart (to 2021)



		Year →	2019				2020												2021											
		Calendar Months →	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12
	WP and Task Descriptions ↓		M1	M2	M3	M4	M5	M6	M7	M8	M9	M10	M11	M12	M13	M14	M15	M16	M17	M18	M19	M20	M21	M22	M23	M24	M25	M26	M27	M28
WP7	Scalability, Replicability, CBA																													
T7.1	Analysis of data coming from the field																													
T7.2	development of methodologies for SRA and MCA-CBA																													
T7.3	performing SRA and CBA analysis																													
T7.4	elaboration of final messages																													
T7.5	Replicability at International level - application to Canada, qualitative assessment																													
WP8	Dissemination and Exploitation																													
T8.1	Designing and implementing communications tools																													
T8.2	Fostering adoption of PlatOne results																													
T8.3	Organizing PlatOne dissemination and uptake events																													
T8.4	Preparing long-term adoption of PlatOne solutions																													
T8.5	Contribution to European Joint RDI efforts (via BRIDGE WGs)																													
T8.6	Exploitation of the results																													
WP9	Project Management																													
T9.1	PlatOne contractual, operational, and administrative management																													
T9.2	PlatOne Technical management																													
WP10	Ethics requirements																													

Table 3: Part of Project Gantt Chart (2022 - 2023)

		Year →	2022												2023							
		Calendar Months →	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8
	WP and Task Descriptions ↓		M29	M30	M31	M32	M33	M34	M35	M36	M37	M38	M39	M40	M41	M42	M43	M44	M45	M46	M47	M48
WP1	DSO Operation Strategies and Harmonization																					
T1.1	Use case definition and operation specifications																					
T1.2	Demo harmonisation, coordination and regulatory fitness																					
T1.3	KPIs																					
T1.4	Coordination with similar/twin projects																					
T1.5	Harmonization with customers and partners needs and expectations																					
WP2	Platform Implementation and Data Handling																					
T2.1	PlatOne Platforms requirements and overall framework reference architecture																					
T2.2	PlatOne Market platform																					
T2.3	PlatOne standard APIs for DSO technical platform for integration and interoperability																					
T2.4	Intra-platform data interoperability and standard communication protocols																					
T2.5	PlatOne standard APIs for BlockChain Access Layer and Common Shared Database for integration and interoperability																					
T2.6	PlatOne Framework integration, testing and commissioning																					
WP3	Italian Demo																					
T3.1	WP coordination, central and field Demo management																					
T3.2	Development of a standard BlockChain based infrastructure, implementing a Common Access Interface between all the market players																					
T3.3	Implementation of a technical platform for grid state estimation and flexibility requests validation																					
T3.4	Solutions to enable Aggregators to provide flexibility: Aggregator platform and customer involvement																					
T3.5	Validation Results Analysis & Feedback																					
WP4	Greek Demo (Mesogia)																					
T4.1	Definition of KPIs and Use Cases (UCs)																					
T4.2	Development of the state-estimation tool																					
T4.3	Ancillary services to the TSO provided by the DSO																					
T4.4	Optimal control of DERs																					
T4.5	Customer engagement methodologies																					
T4.6	Validation Results Analysis & Feedback																					
WP5	German Demo																					
T5.1	Technical Governance and project management																					
T5.2	Design of technical solution																					
T5.3	Definition of Use Case Algorithms																					
T5.4	Field Test Design and Execution																					
T5.5	Installation and operation of field test equipment																					
T5.6	Validation Results Analysis & Feedback																					

	Year →	2022												2023							
	Calendar Months →	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8
	WP and Task Descriptions ↓	M29	M30	M31	M32	M33	M34	M35	M36	M37	M38	M39	M40	M41	M42	M43	M44	M45	M46	M47	M48
WP6	Standardisation, Interoperabiity and Data Handling																				
T6.1	List, analyse and evaluate the most relevant standards to the demonstrations																				
T6.2	Identify best suited standards for each demonstration																				
T6.3	Developing standardized grid models																				
T6.4	Analysis of the legislative and regulatory framework																				
T6.5	Solutions and recommendations for the roll-out of the designed solutions																				
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WP10	Ethics requirements																				

3 Project Implementation Plan

This chapter presents the project implementation plan with emphasis on the upcoming work package and task dependencies. The goal is to show that the project will develop coherently and that quality results will be effectively delivered.

The chapter is structured as follows. First, the overall project flow showing the work package relationships is presented. Then, the detailed task dependencies are given.

3.1 Overall Project Flow

Figure 1 shows the overall structure of the work plan. The project Platone is structured in 10 work packages.

WP1 “DSO Operation Strategies and Harmonization” prepares detailed specifications for the scope of the project to ensure the overall technical coordination of the three demonstrators. It applies a common methodology to collect the functional requirements of the demonstrators. It defines the DSO operation specifications for the aggregator/customer flexibility market handling system, harmonises the methodologies of the demonstration sites, defines KPIs, co-ordinates with other H2020 projects and defines customer engagement strategies for the project.

WP2 “Platform Implementation and Data Handling” designs and implements the overall Platone framework to create a fully replicable and scalable system that enables distribution grid flexibility/congestion management mechanisms through P2P market models that include all the possible actors involved at any level (DSOs, TSOs, Customers, Aggregators).

WP3 “Italian Demo” realises and performs a field trial of a fully functional system that enables distributed resources connected in medium and low voltage to provide grid services in different flexibility market models which include all the stakeholders (TSO, DSO, aggregators and end-users). It uses Blockchain technology to exploit local flexibility.

WP4 “Greek Demo (Mesogeia)” realises and performs a field trial of a fully functional system which performs state estimation, enables the DSO to offer the TSO flexibility as an ancillary service and optimally controls DERs.

WP5 “German Demo” demonstrates a local balancing mechanism implemented in coordination with centralized grid operation and DSO-owned flexibility mechanism.

WP6 “Standardisation, Interoperability and Data Handling” lists, analyses and evaluates the most relevant and up-to-date standards and standardisation Work Groups that apply to the three demonstrations on issues of ICT, network architecture, device interoperability, data handling and exchange and cyber security.

WP7 “Scalability, Replicability, CBA” analyses the data coming from the demos, performing a scalability and replicability analysis, and a cost-benefit analysis.

The non-technical WPs are:

WP8 “Dissemination and Exploitation”.

WP9 “Project Management”

WP10 “Ethics requirements”.

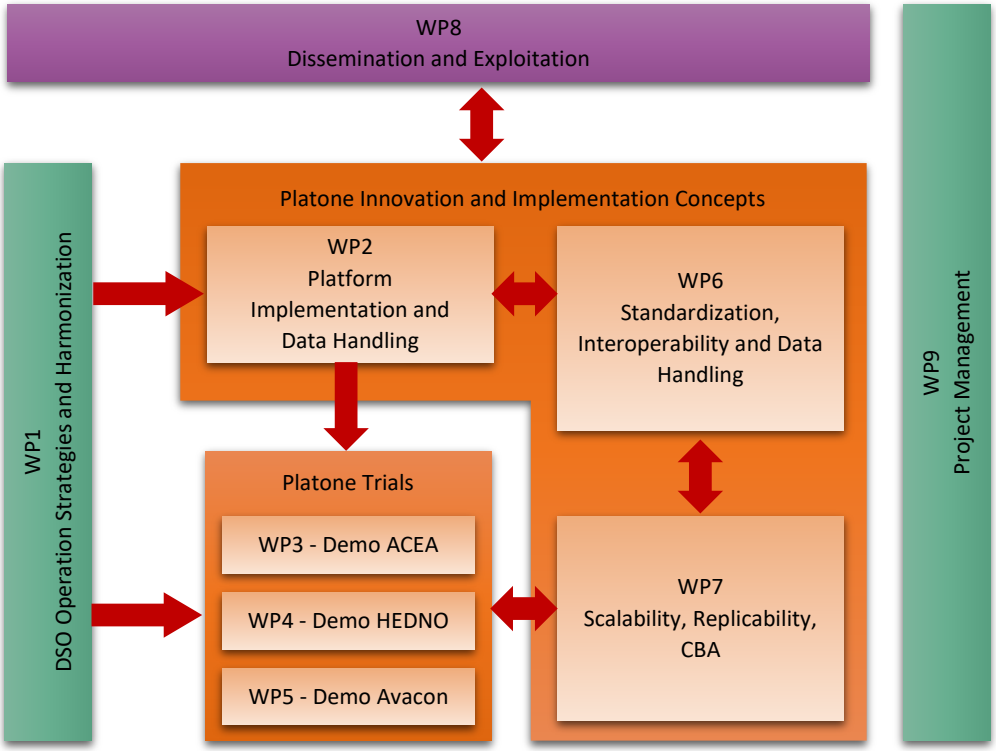


Figure 1: Work package and interrelationship (PERT Chart) [2]

The following terminology has been used in defining task inputs and outputs in the chapters below:

- each non-documentary thing produced in a WP is a *subsystem*,
- a *system* is a set of *subsystems*, integrated and working together;
- the interfaces offered by subsystems are called Application Programming Interfaces (APIs). An API comprises a description (in a project deliverable) and the software supporting the API (a *subsystem*).

3.2 Work Package 1: DSO Operation Strategies and Harmonization

Table 4 shows the task input/output relationships within WP1.

T1.1 maps the architectures of the demos and the Use Cases onto an SGAM (Smart Grid Architecture Model) layered representation.

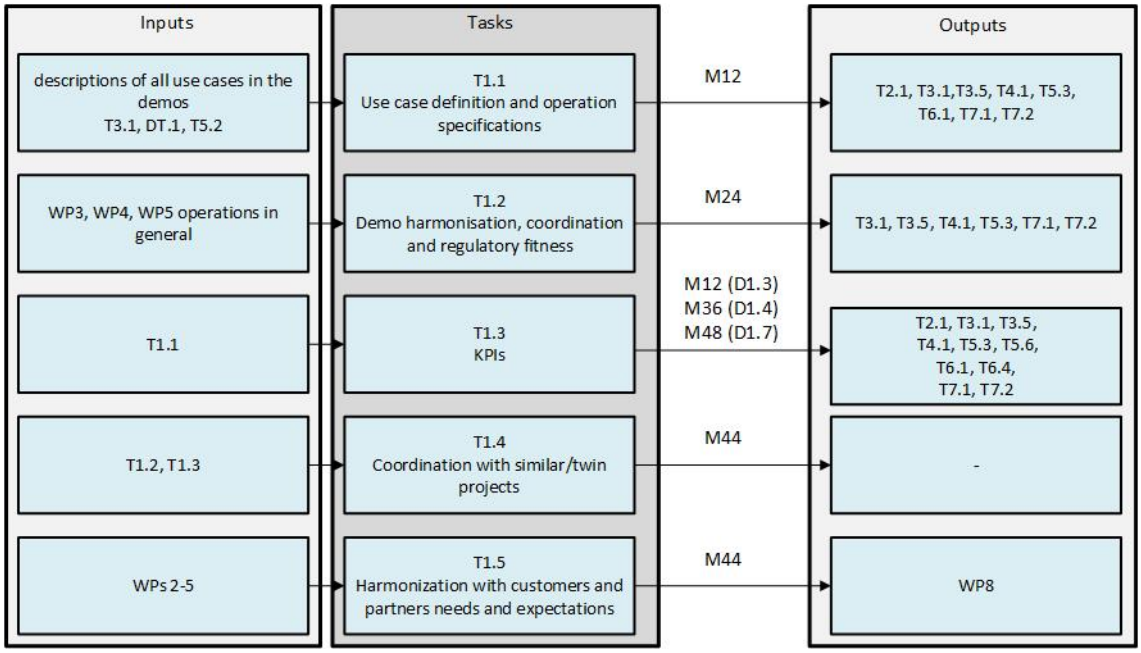
T1.2 continuously harmonises the demo activities.

T1.3 defines the Key Performance Indicators of the project.

T1.4 coordinates with other H2020 projects responding to the same call, especially paying attention to projects where partners overlap

T1.5 involves guiding partners in WPs 2-5 through a user and target group-oriented design process.

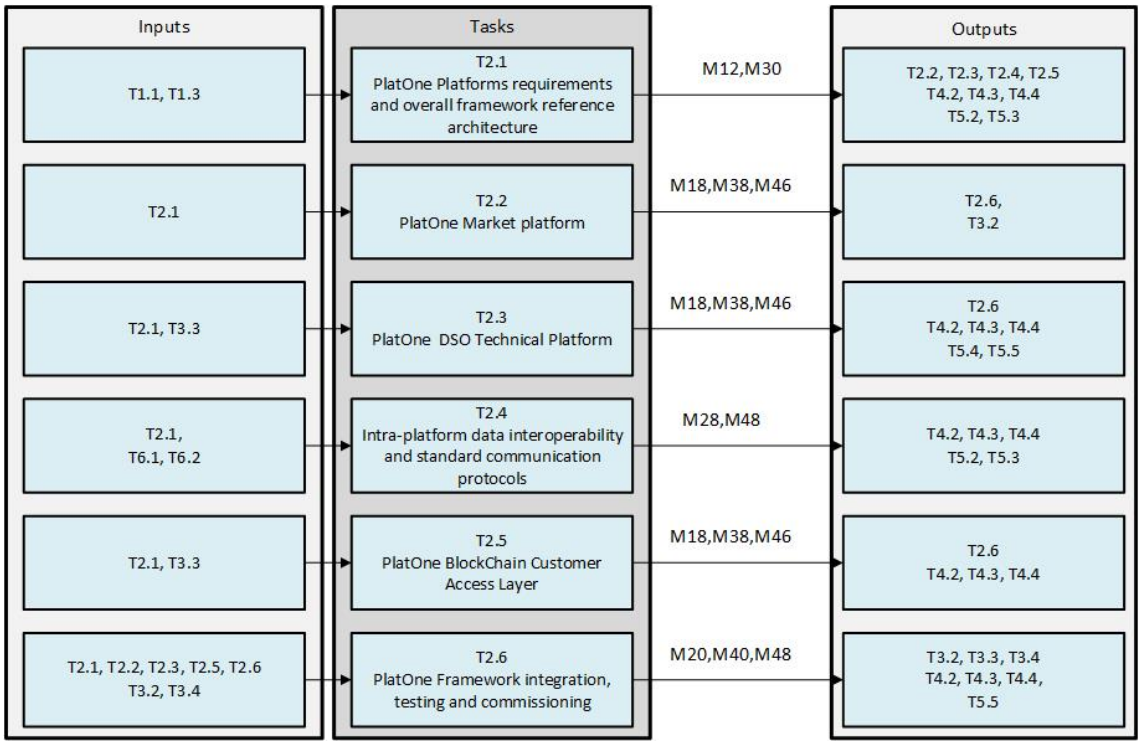
Table 4: Task dependencies within WP1.



3.3 Work Package 2: Platform Implementation and Data Handling

Table 5 shows the task input/output relationships within WP2.

Table 5: Task dependencies within WP2.



T2.1 defines the Platone overall framework reference architecture exploiting the scenarios and use cases provided by WP1 and specific system functional and non-functional requirements.

T2.2 develops the Platone Market platform subsystem. This platform allows managing both TSO (for wide geographical areas) and DSO (for local areas). The available flexibility is coordinated to optimize requests for flexibility and congestion.

T2.3 develops the generic Platone DSO Technical Platform and open APIs for the Platone DSO Technical Platform. The DSO Technical Platform acts as conjunction between customers, aggregators and TSOs, allowing the DSO's grid to react to specific market requests, ensure the market functionalities and activating local flexibility requests to connected customers.

WP4 and WP5 will use the DSO Technical Platform and the APIs delivered by T2.3.

Since T2.3, T2.5 have the same deadlines as T3.3 (i.e. the complete Italian demo that, differently from the other demos, will deliver the complete solution in a first version at month 18), the development work in T2.3, T2.5 and T3.3 has to be done (sharing a proper intermediate release plan between WP2 and WP3). This means that WP2's and WP3's deliverables are reciprocally input for each other between T2.3 and T2.5 in WP2 and T3.3 in WP3.

T2.4 defines the required communication protocols and specifications for data interoperability for facilitating the cooperation of the different customers.

T2.5 develops a subsystem for a native Blockchain Customer Access Layer, including a DSO Common Access Interface in Blockchain Technology which is used by Greek and German pilots for the local customization. T2.5's deliverables will focus in particular on the exploitation of blockchain combined with distributed storage approach to store, share and replicate data in a secure and reliable manner cross the nodes to address scalability issues.

T2.6 performs integration, testing and commissioning of the subsystems according to the framework reference architecture of T2.1, providing a Platone framework prototype system which is used by the Italian, Greek and German demos in WP3, WP4 and WP5.

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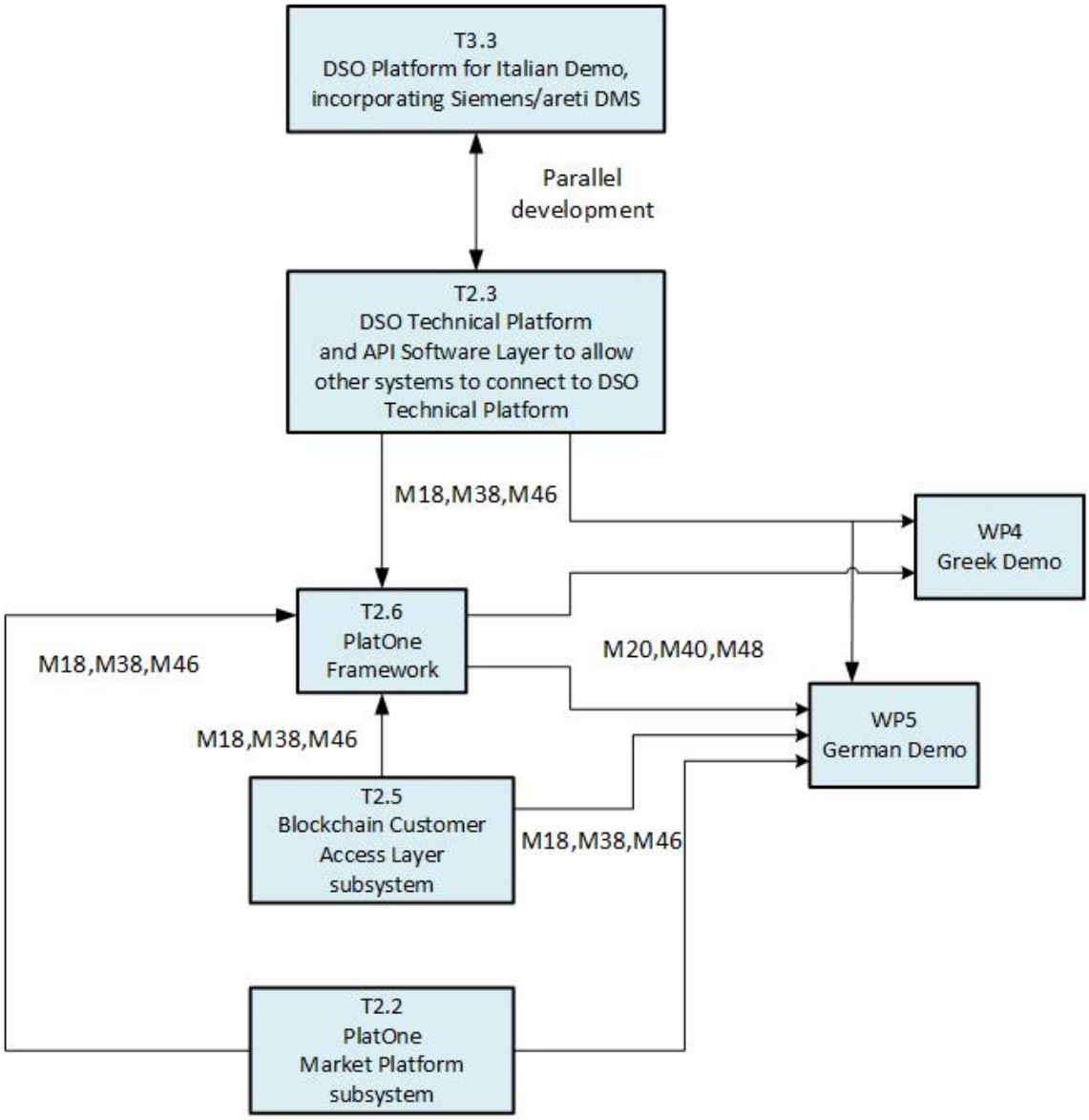


Figure 2: Outline of Deliveries of Subsystems to Framework Integration and to Greek and German Demos

Figure 2 shows how the Greek and German demos will receive three incremental deliveries of subsystems from WP2. In addition to the framework prototype produced by T2.6, the demos will also take subsystems directly from T2.2, T2.3 and T2.5.

3.4 Work Package 3: Italian Demo

Table 6 shows the task input/output relationships within WP3.

T3.1 performs the WP3 management.

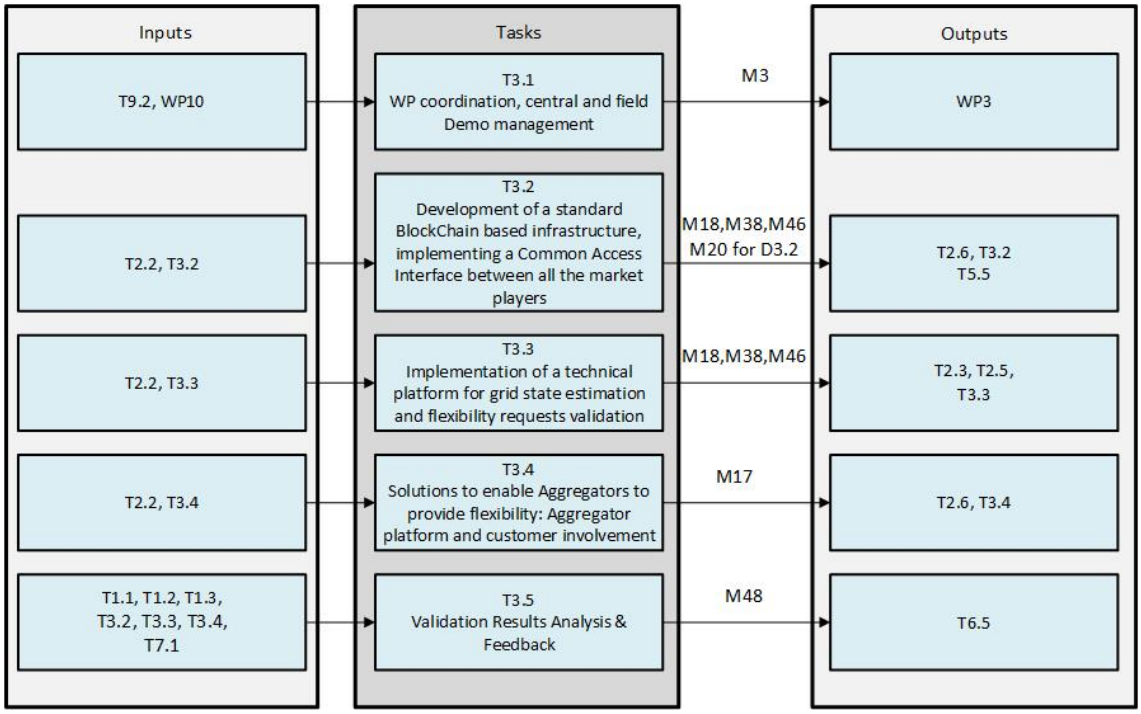
T3.2 develops a subsystem with a standard Blockchain based infrastructure, implementing a Common Access Interface to give all market players an access layer to customers' building automation.

T3.3 develops a subsystem for a DSO Technical Platform which works as the link between customers, aggregators, and marketplaces, allowing the DSO's grid to react to specific market signals.

T3.4 develops a subsystem for an Aggregator Platform to enable Aggregators to provide flexibility on the market.

T3.5 evaluates the effectiveness of the Italian pilot.

Table 6: Task dependencies within WP3.



3.5 Work Package 4: Greek Demo (Mesogeia)

Table 7 shows the task input/output relationships within WP4.

The deployment of WP4 will be structured in two stages.

1) During the first stage (T4.2, 4.3.1 and 4.4.1), T2.1 outputs are used for the development phase of the T4.2 State estimation tool and T4.3.1, 4.4.1 algorithms.

2) Then, in the second stage (T4.2, 4.3.2 and 4.4.2), the final delivery of the T2.6 Platone framework prototype system as software necessary for the Greek demo along with the relevant. APIs from T2.3 will be used for the integration of the T.4.2, 4.3 and 4.4 subsystems integration in the DSO Technical Platform, developed and delivered within WP2.

3) Furthermore, the deployed PMUs of RWTH in Mesogeia will be connected in the DSO technical platform, developed and delivered within WP2, employing the corresponding APIs also developed within WP2. The use of PMUs and the integration are critical for the collection of field data.

4) HEDNO legacy systems and data coming from meters, RES production, etc. will be integrated in the DSO technical platform using the T2.3 APIs.

T4.1 tailors the KPIs and Use Cases identified in WP1 to define specific target value on which the methods realized in the demonstration will be evaluated.

T4.2 develops a state-estimation tool and tests it at the Mesogeia pilot.

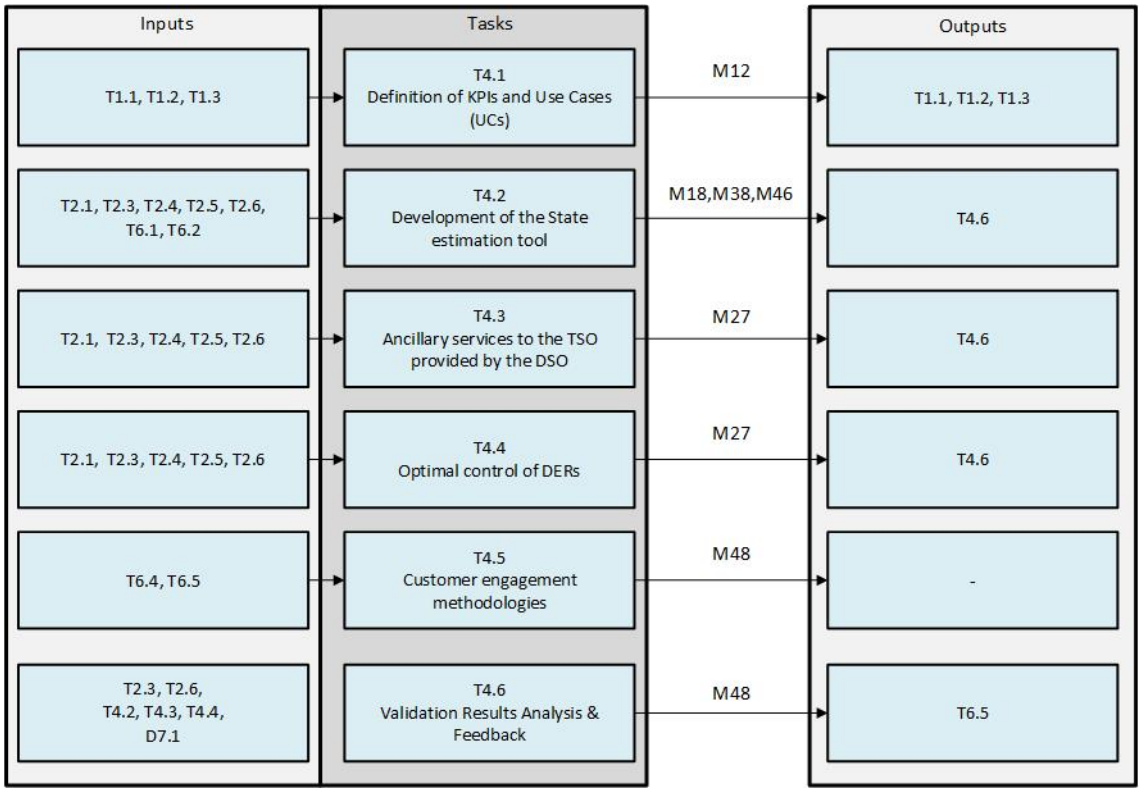
T4.3 develops an algorithm for providing ancillary services using distribution network flexibility and tests it at the Mesogeia pilot.

T4.4 develops an algorithm for optimal control of DERs and tests it at the Mesogeia pilot.

T4.5 develops methodologies to engage the end-customers to voluntarily participate in the pilot.

T4.6 evaluates the effectiveness of the Mesogeia pilot.

Table 7: Task dependencies within WP4.



3.6 Work Package 5: German Demo

Table 8 shows the task input/output relationships within WP5.

T5.1 performs the WP5 management.

T5.2 designs the technical solution required to execute field-testing.

T5.3 designs the Use Case Algorithms which enable local balancing of low voltage network with high penetration of DER, coordination of local balancing with flexibility demand from higher instances and allow upload as well as download of energy packages out of local grids. The Use Case Algorithms are documented in the D5.3 report and realised as a subsystem which T5.3 delivers to T5.4 in M18.

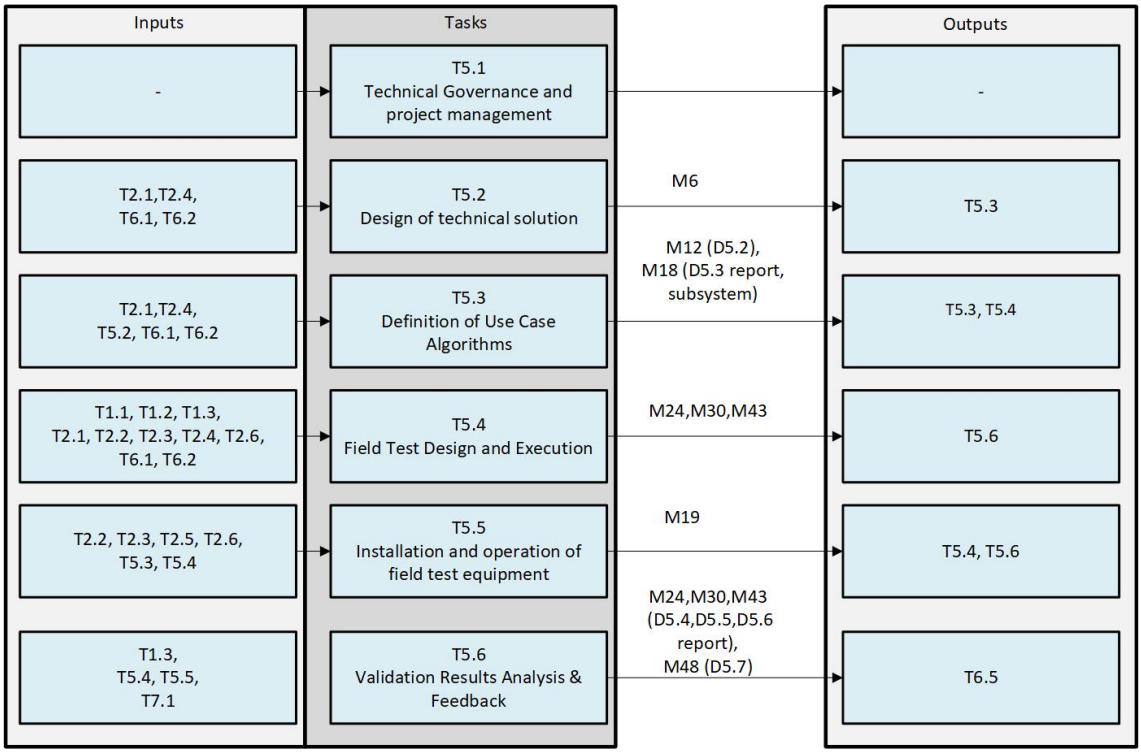
T5.4 performs the field test design and execution and performs an in-depth analysis of the demonstration results based on the Key Performance Indicators (KPI) of the demonstration.

T5.4 focuses on the implementation of Avacon's DSO-platform and application of Use Cases. The DSO-Platform will be exclusively available for Avacon. The platform will be connected to a communication infrastructure for measurement and controlling of flexibilities, which will be installed in the field in frame of T5.5. Task 5.4 will have increments at M24, M30, and M43.

T5.5 covers the planning, installation, testing and commissioning of the required field-testing equipment. The field test environment installed in T5.5 consist of an secondary substation, a large scale DSO-Battery storage and customers' households providing flexibility, which need to be equipped with meters and controlling devices as well as battery storages as additional flexibility. T5.5 will be finished at M24.

T5.6 evaluates the effectiveness of the German pilot.

Table 8: Task dependencies within WP5.



3.7 Work Package 6: Standardisation, Interoperability and Data Handling

Table 9 shows the task input/output relationships within WP6.

T6.1 lists, analyses and evaluates the most relevant standards to the demonstrations.

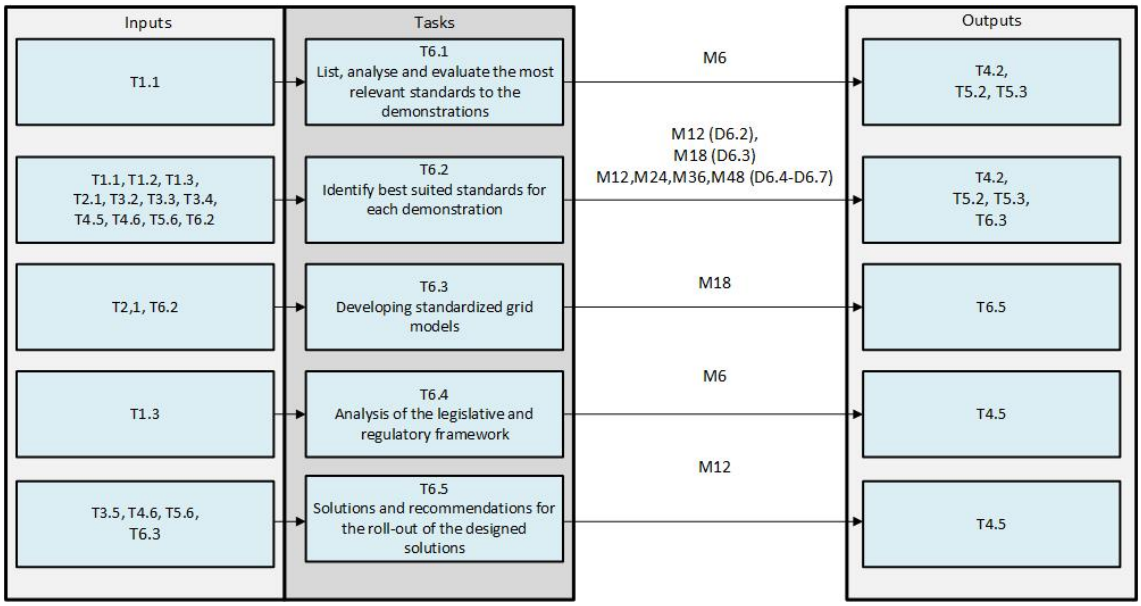
T6.2 identifies the best-suited standards for each demonstration.

T6.3 develops standardized grid models.

T6.4 analyses the legislative and regulatory framework, Blockchain technology.

T6.5 makes solutions and recommendations for the rollout of the designed solutions.

Table 9: Task dependencies within WP6.



3.8 Work Package 7: Scalability, Replicability, CBA

Table 10 shows the task input/output relationships within WP7.

T7.1 analyses the use cases identified in Task 1.1 to identify set of data needed and the relevant boundary conditions.

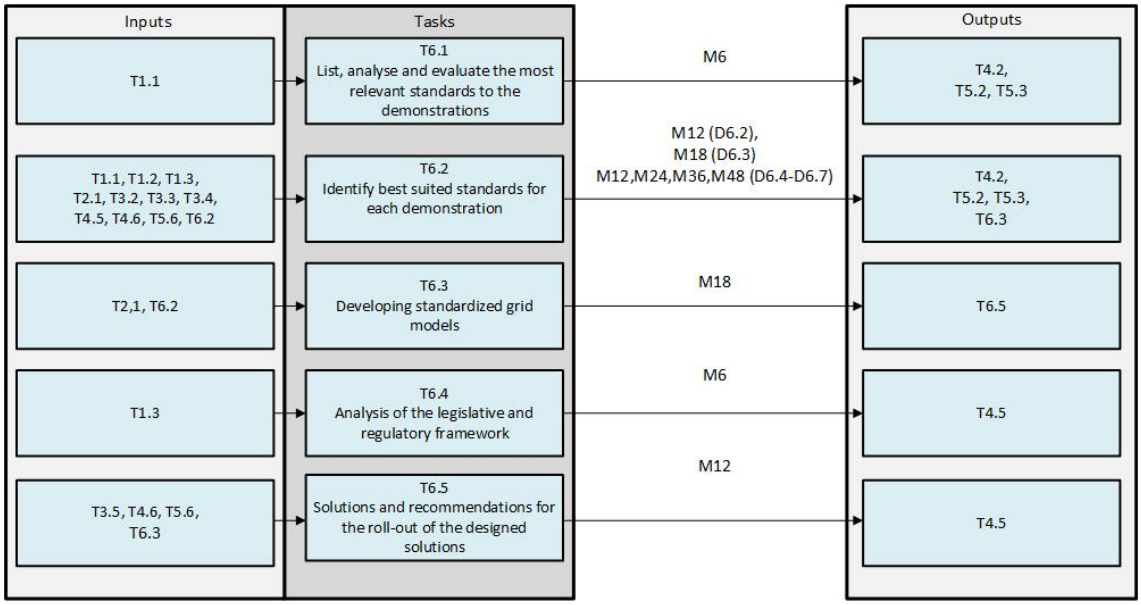
T7.2 develops methodologies for the Scalability and Replicability Analysis (SRA) and the Multi-Criteria Analysis-Cost Benefit Analysis (MCA-CBA).

T7.3 performs the SRA and CBA analysis.

T7.4 uses the results of the previous tasks to elaborate recommendations for supporting the large-scale deployment of the solutions tested in the demos.

T7.5 assesses the potential drivers and barriers affecting the deployment of the project solutions in Canada.

Table 10: Task dependencies within WP7.



4 Project Management Planning and Reporting

The management structure and procedures were already defined in the Platone Grant Agreement [2]. The objective of this section is to provide more information about the upcoming project planning and reporting after decisions were taken in the project Kickoff Meeting held on 30 September-1 October 2019 in Brussels.

4.1 Project Planning

As highlighted in [2], the overall project management is split between RWTH-ACS as project coordinator and ENG as technical coordinator. However, as ENG have no budget for the technical coordinator role, it was agreed at the Kickoff Meeting that RWTH-ACS shall also fulfil this role. Project coordinator and technical coordinator both play the key role of maintaining the overall project plan. The current project management structure is shown in Figure 3.

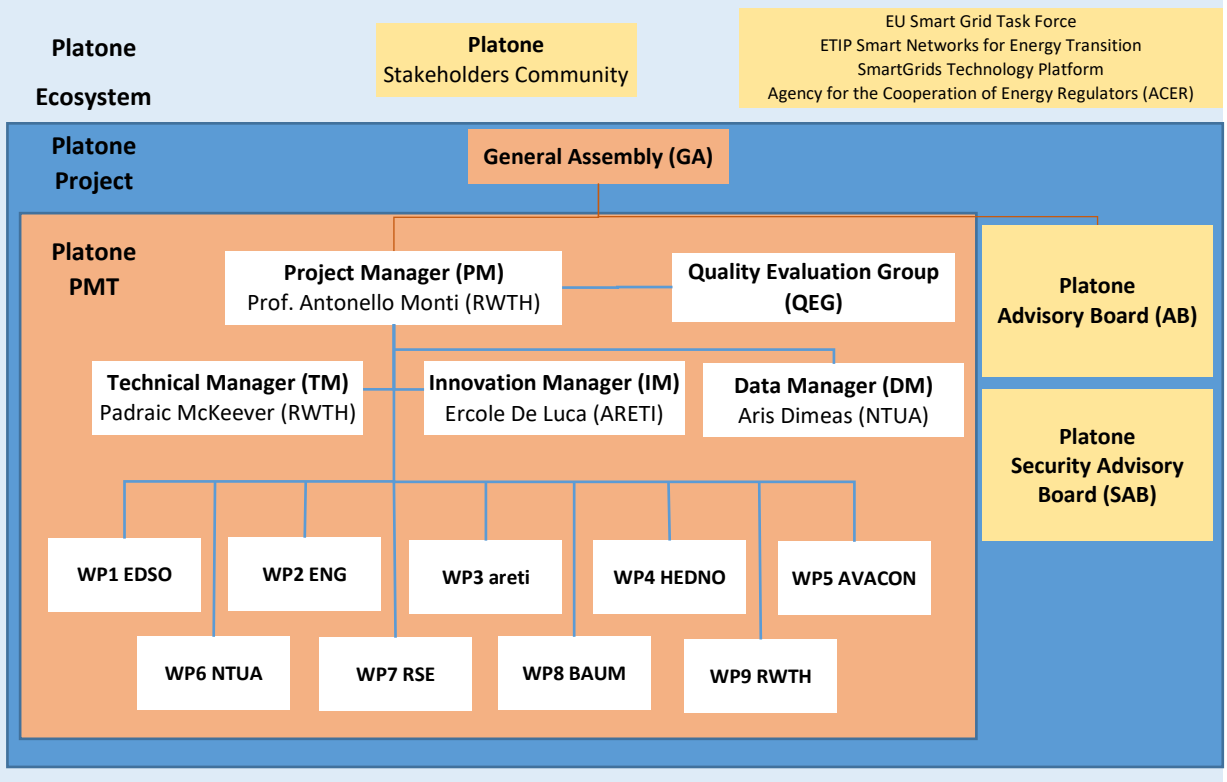


Figure 3: Platone Project Management Structure

Internal financial reports will be submitted by partners to coordinator every 6 months. Three technical and financial reports will be provided to the EC:

I. After 18 months (01/09/2019 - 28/02/2021)

II. After 12 months (01/03/2021 - 28/02/2022)

III. After 18 months (01/03/2022 - 31/08/2023)

The Project Management Team (PMT) takes cares of the operational management of the project by holding monthly PMT voice conferences.

The progress of the work of the WPs, i.e. WPs 1-8, is monitored regularly by holding monthly voice conferences per WP.

Moreover, it is planned to hold face-to-face meetings three times a year. The first project General Assembly meetings were scheduled as follows:

- General Assembly meeting 1: – Rome – 21st – 22nd January 2020.
- General Assembly meeting 2: – Virtual meeting, 23rd-24th September 2020, 09:30-14:00 each day.
- General Assembly meeting 3: – Virtual meeting, 4th-5th February 2021, 09:30-14:00 each day.
- General Assembly meeting 4: – Virtual meeting, 27th September 2021, 09:30-14:00.
-

Due to Corona restrictions, GA meetings 2, 3 and 4 were organised as virtual meetings.

A project web site (www.Platone-h2020.eu) has been prepared. A project repository (https://rwth-aachen.sciebo.de/s/iBdMxkR8MF9l0Rv) for easy sharing of documents and results among the Platone partners is up and running.

4.2 Project Deliverables

Table 11 to Table 20 present a detailed reporting plan for the deliverables categorised by WP. The aim of the reporting plan is not only to ensure timely submissions, but also that research results are delivered in quality manuscripts. This quality target is achievable by allocating a period of time for internal review to the consortium, during which selected partners are called to review the draft documents. Moreover, the deliverable responsible is responsible not only for preparing the first draft for internal revision, but also that the review process is effectively carried out within the time allocated for the revision.

Table 11: Review plan for WP1.

Del.Nr.	Deliverable Name	Associated Task	Main Authors	Other Authors	Type	Reviewers	Due Date	First Draft Ready	Ready for Internal Review	Submission end of
D1.1	D1.1 General Functional Requirements and specifications of joint activities in the Demonstrators	T1.1	ESDO	RWTH, RSE, BAUM, AVAC, ENG	Report	RWTH SIE	M12	10.07.2020	31.07.2020	Aug 2020
D1.2	Project KPIs definition and measurement methods	T1.3	ESDO	RWTH, RSE, BAUM, AVAC, ENG	Report	ACEA APIO	M12	10.07.2020	31.07.2020	Aug 2020
D1.3	Overview of regulatory aspects that impact the solutions tested in the demos in European countries	T1.2	ESDO	RWTH, RSE, BAUM, AVAC, ENG	Report	ARETI HEDNO	M24	10.07.2021	31.07.2021	Aug 2021
D1.4	Assessment of Project KPIs	T1.3	ESDO	RWTH, RSE, BAUM, AVAC, ENG	Report	NTUA BAUM	M36	10.07.2022	31.07.2022	Aug 2022
D1.5	Report on Workshops on customer engagement	T1.5	BAUM	RWTH, RSE, BAUM, AVAC, ENG	Report	RSE SIE	M44	10.03.2023	31.03.2023	Apr 2023
D1.6	Report on twin projects coordination Workshops	T1.4	ESDO	RWTH, RSE, BAUM, AVAC, ENG	Report	APIO ARETI	M44	10.03.2023	31.03.2023	Apr 2023
D1.7	Update of Project KPIs	T1.3	ESDO	RWTH, RSE, BAUM, AVAC, ENG	Report	RWTH AVAC	M48	10.07.2024	31.07.2024	Aug 2024

Table 12: Review plan for WP2.

Del.Nr.	Deliverable Name	Associated Task	Main Authors	Other Authors	Type	Reviewers	Due Date	First Draft Ready	Ready for Internal Review	Submission end of
D2.1	PlatOne Platform requirements and reference architecture (v1)	T2.1	ENG	RWTH, RSE, ACEA, SIE	Report	ARETI HEDNO	M12	10.07.2020	31.07.2020	Aug 2020
D2.2	PlatOne Platform requirements and reference architecture (v2)	T2.1	ENG	RWTH, RSE, ACEA, SIE	Report	EDSO APIO	M30	10.01.2022	31.01.2022	Feb 2022
D2.3	PlatOne Market platform (v1)	T2.2	ENG	RWTH, RSE, ACEA, SIE	Report, Demonstrator	NTUA HEDNO	M18	10.01.2021	31.01.2021	Feb 2021
D2.4	PlatOne Market platform (v2)	T2.2	ENG	RWTH, RSE, ACEA, SIE	Report, Demonstrator	ARETI EDSO	M38	10.09.2022	30.09.2022	Oct 2022
D2.5	PlatOne Market platform (v3)	T2.2	ENG	RWTH, RSE, ACEA, SIE	Report, Demonstrator	NTUA HEDNO	M46	10.07.2024	30.05.2024	Jun 2024
D2.6	PlatOne DSO Technical Platform (v1)	T2.3	SIE	RWTH, RSE, ACEA, ENG	Report, Demonstrator	APIO ARETI	M18	10.01.2021	31.01.2021	Feb 2021
D2.7	PlatOne DSO Technical Platform (v2)	T2.3	SIE	RWTH, RSE, ACEA, ENG	Report, Demonstrator	HEDNO NTUA	M38	10.09.2022	30.09.2022	Oct 2022
D2.8	PlatOne DSO Technical Platform (v3)	T2.3	SIE	RWTH, RSE, ACEA, ENG	Report, Demonstrator	ENG AVAC	M46	10.07.2024	30.05.2024	Jun 2024
D2.9	Specification of the interoperability and standard communication protocols (v1)	T2.4	RWTH	RSE, ACEA, SIE, ENG	Report	NTUA AVAC	M28	10.11.2021	30.11.2021	Dec 2021
D2.10	Specification of the interoperability and standard communication protocols (v2)	T2.4	RWTH	RSE, ACEA, SIE, ENG	Report	ARETI NTUA	M48	10.07.2024	31.07.2024	Aug 2024
D2.11	PlatOne BlockChain Customer Access Layer (v1)	T2.5	ENG	RWTH, RSE, ACEA, SIE	Report, Demonstrator	ARETI RSE	M18	10.01.2021	31.01.2021	Feb 2021
D2.12	PlatOne BlockChain Customer Access Layer (v2)	T2.5	ENG	RWTH, RSE, ACEA, SIE	Report, Demonstrator	BAUM AVAC	M38	10.09.2022	30.09.2022	Oct 2022
D2.13	PlatOne BlockChain Customer Access Layer (v3)	T2.5	ENG	RWTH, RSE, ACEA, SIE	Report, Demonstrator	RWTH EDSO	M46	10.07.2024	30.05.2024	Jun 2024
D2.14	PlatOne Integrated Framework Prototype (v1)	T2.6	ENG	RWTH, RSE, ACEA, SIE	Report, Demonstrator	APIO NTUA	M20	10.03.2021	31.03.2021	Apr 2021
D2.15	PlatOne Integrated Framework Prototype (v2)	T2.6	ENG	RWTH, RSE, ACEA, SIE	Report, Demonstrator	EDSO BAUM	M40	10.11.2022	30.11.2022	Dec 2022
D2.16	PlatOne Integrated Framework Prototype (v3)	T2.6	ENG	RWTH, RSE, ACEA, SIE	Report, Demonstrator	HEDNO AVAC	M48	10.07.2024	31.07.2024	Aug 2024

Table 13: Review plan for WP3.

Del.Nr.	Deliverable Name	Associated Task	Main Authors	Other Authors	Type	Reviewers	Due Date	First Draft Ready	Ready for Internal Review	Submission end of
D3.1	Internal operational plan and WP3 roadmap	T3.1	ARETI	RWTH, ACEA, SIE, APIO, BAUM, ENG	Report	ENG RWTH	M3	07.11.2019	14.11.2019	Nov 2019
D3.2	Report of optimal communication solutions between customer database and market players	T3.2	ARETI	RWTH, ACEA, SIE, APIO, BAUM, ENG	Report	BAUM EDSO	M20	10.03.2021	31.03.2021	Apr 2021
D3.3	Delivering of technology (v1)	T3.2,3.3,3.4	ARETI	RWTH, ACEA, SIE, APIO, BAUM, ENG	Demon strator	N/A	M18	10.01.2021	31.01.2021	Feb 2021
D3.4	Delivering of technology (v2)	T3.2,3.3,3.4	ARETI	RWTH, ACEA, SIE, APIO, BAUM, ENG	Demon strator	N/A	M38	10.09.2022	30.09.2022	Oct 2022
D3.5	Delivering of technology (v3)	T3.2,3.3,3.4	ARETI	RWTH, ACEA, SIE, APIO, BAUM, ENG	Demon strator	N/A	M46	10.07.2024	30.05.2024	Jun 2024
D3.6	Report on first integration activity in the field	T3.2,3.3,3.4	SIE	ARETI, RWTH, ACEA, APIO, BAUM, ENG	Report	HEDNO AVAC	M20	10.03.2021	31.03.2021	Apr 2021
D3.7	Report of customer involvement	T3.4	ACEA	ARETI, RWTH, SIE, APIO, BAUM, ENG	Report	AVAC EDSO	M17	10.12.2021	31.12.2020	Jan 2021
D3.8	Report on second integration activity in the field	T3.2,3.3,3.4	SIE	ARETI, RWTH, ACEA, APIO, BAUM, ENG	Report	HEDNO AVAC	M40	10.11.2022	30.11.2022	Dec 2022
D3.9	Report on main results achieved in the field test	T3.5	ARETI	RWTH, ACEA, SIE, APIO, BAUM, ENG	Report	NTUA RSE	M48	10.07.2024	31.07.2024	Aug 2024

Table 14: Review plan for WP4.

Del.Nr.	Deliverable Name	Associated Task	Main Authors	Other Authors	Type	Reviewers	Due Date	First Draft Ready	Ready for Internal Review	Submission end of
D4.1	Report on the definitions of KPIs and UCs	T4.1	HEDNO	RWTH, NTUA, BAUM	Report	ENG SIE	M12	10.07.2020	31.07.2020	Aug 2020
D4.2	State estimation tool	T4.2	NTUA	HEDNO, RWTH, BAUM	Report	ENG ACEA	M15	10.10.2020	31.10.2020	Nov 2020
D4.3	Algorithm for ancillary services	T4.3	NTUA	HEDNO, RWTH, BAUM	Report	ACEA APIO	M27	10.10.2021	31.10.2021	Nov 2021
D4.4	Algorithm for optimal DER control	T4.4	NTUA	HEDNO, RWTH, BAUM	Report	RSE ACEA	M27	10.10.2021	31.10.2021	Nov 2021
D4.5	Mesogeia demonstration: report	T4.6	HEDNO	RWTH, NTUA, BAUM	Report	ENG AVAC	M48	10.07.2024	31.07.2024	Aug 2024
D4.6	Report on lessons-learned from the customer engagement methodologies	T4.5	BAUM	HEDNO, RWTH, NTUA	Report	EDSO ACEA	M48	10.07.2024	31.07.2024	Aug 2024
D4.7	Mesogeia demonstration: metaanalysis and lessons learned	T4.6	HEDNO	RWTH, NTUA, BAUM	Report	ARETI AVAC	M48	10.07.2024	31.07.2024	Aug 2024

Table 15: Review plan for WP5.

Del.Nr.	Deliverable Name	Associated Task	Main Authors	Other Authors	Type	Reviewers	Due Date	First Draft Ready	Ready for Internal Review	Submission end of
D5.1	Solution Design and Technical Specifications	T5.2	AVAC	RWTH, BAUM	Report	ENG ARETI	M6	10.01.2020	31.01.2020	Feb 2020
D5.2	Detailed Use Case Descriptions	T5.3	AVAC	RWTH, BAUM	Report	HEDNO NTUA	M12	10.07.2020	31.07.2020	Aug 2020
D5.3	Definition of Use Case algorithms	T5.3	AVAC	RWTH, BAUM	Report & Subsystem	SIE APIO	M18	10.01.2021	31.01.2021	Feb 2021
D5.4	Use Case 1 Demonstration Report	T5.6	AVAC	RWTH, BAUM	Report	ACEA ENG	M24	10.07.2021	31.07.2021	Aug 2021
D5.5	Use Case 2 Demonstration Report	T5.6	AVAC	RWTH, BAUM	Report	RSE EDSO	M30	10.01.2022	31.01.2022	Feb 2022
D5.6	Use Case 3 and 4 Demonstration Report	T5.6	AVAC	RWTH, BAUM	Report	SIE APIO	M43	10.02.2024	29.02.2024	Mar 2024
D5.7	Final Report	T5.6	AVAC	RWTH, BAUM	Report	NTUA ENG	M48	10.07.2024	31.07.2024	Aug 2024

Table 16: Review plan for WP6.

Del.Nr.	Deliverable Name	Associated Task	Main Authors	Other Authors	Type	Reviewers	Due Date	First Draft Ready	Ready for Internal Review	Submission end of
D6.1	Report on the analysis of most relevant standards	T6.1	NTUA	RSE, ACEA, SIE, ARETI, HEDNO, ENG	Report	EDSO ACEA	M6	10.01.2020	31.01.2020	Feb 2020
D6.2	Report on standard guidelines for each demonstration	T6.2	NTUA	RSE, ACEA, SIE, ARETI, HEDNO, ENG	Report	SIE APIO	M12	10.07.2020	31.07.2020	Aug 2020
D6.3	Ex-ante qualitative evaluation	T6.2	NTUA	RSE, ACEA, SIE, ARETI, HEDNO, ENG	Report	RWTH BAUM	M18	10.01.2021	31.01.2021	Feb 2021
D6.4	Periodic report on lessons-learned (v1)	T6.2	NTUA	RSE, ACEA, SIE, ARETI, HEDNO, ENG	Report	ENG BAUM	M12	10.07.2020	31.07.2020	Aug 2020
D6.5	Periodic report on lessons-learned (v2)	T6.2	NTUA	RSE, ACEA, SIE, ARETI, HEDNO, ENG	Report	AVAC APIO	M24	10.07.2021	31.07.2021	Aug 2021
D6.6	Periodic report on lessons-learned (v3)	T6.2	NTUA	RSE, ACEA, SIE, ARETI, HEDNO, ENG	Report	BAUM RWTH	M36	10.07.2022	31.07.2022	Aug 2022
D6.7	Periodic report on lessons-learned (v4)	T6.2	NTUA	RSE, ACEA, SIE, ARETI, HEDNO, ENG	Report	SIE HEDNO	M48	10.07.2024	31.07.2024	Aug 2024
D6.8	Report on the analysis of the regulatory and legislative framework	T6.4	NTUA	RSE, ACEA, SIE, ARETI, HEDNO, ENG	Report	BAUM EDSO	M6	10.01.2020	31.01.2020	Feb 2020
D6.9	Report on solutions and recommendations for the roll-out of the designed solutions	T6.5	NTUA	RSE, ACEA, SIE, ARETI, HEDNO, ENG	Report	ARETI ENG	M12	10.07.2020	31.07.2020	Aug 2020
D6.10	Standardised grid models	T6.3	RSE	NTUA, ACEA, SIE, ARETI, HEDNO, ENG	Report	RWTH AVAC	M18	10.01.2021	31.01.2021	Feb 2021

Table 17: Review plan for WP7.

Del.Nr.	Deliverable Name	Associated Task	Main Authors	Other Authors	Type	Reviewers	Due Date	First Draft Ready	Ready for Internal Review	Submission end of
D7.1	Definition of data to be collected by the field to perform the analyses	T7.1	RSE	RWTH, SIE, ARETI, HEDNO, NTUA, BAUM, ENG	Report	ACEA SIE	M18	10.01.2021	31.01.2021	Feb 2021
D7.2	Methodology for SRA	T7.2	RSE	RWTH, SIE, ARETI, HEDNO, NTUA, BAUM, ENG	Report	APIO ARETI	M24	10.07.2021	31.07.2021	Aug 2021
D7.3	CBA methodology	T7.2	NTUA	RWTH, RSE, SIE, ARETI, HEDNO, BAUM, ENG	Report	HEDNO ACEA	M24	10.07.2021	31.07.2021	Aug 2021
D7.4	Results of CBA and SRA	T7.3	RWTH	NTUA, RSE, SIE, ARETI, HEDNO, BAUM, ENG	Report	RSE ENG	M48	10.07.2024	31.07.2024	Aug 2024
D7.5	Replicability at International level - application to Canada	T7.4	RSE	RWTH, SIE, ARETI, HEDNO, NTUA, BAUM, ENG	Report	ACEA ARETI	M48	10.07.2024	31.07.2024	Aug 2024
D7.6	Main findings and recommendations	T7.5	RWTH	NTUA, RSE, SIE, ARETI, HEDNO, BAUM, ENG	Report	ARETI ENG	M48	10.07.2024	31.07.2024	Aug 2024

Table 18: Review plan for WP8.

Del.Nr.	Deliverable Name	Associated Task	Main Authors	Other Authors	Type	Reviewers	Due Date	First Draft Ready	Ready for Internal Review	Submission end of
D8.1	Communication and Dissemination Plan (first draft)	T8.6	BAUM	RWTH, RSE, EDSO, ACEA, SIE, APIO, ARETI, HEDNO, NTUA, AVAC, ENG	Report	RWTH ENG	M3	14.11.2019	21.11.2019	Nov 2019
D8.2	Website with interactive community platform	T8.1	BAUM	RWTH, RSE, EDSO, ACEA, SIE, APIO, ARETI, HEDNO, NTUA, AVAC, ENG	Other	N/A	M3	14.11.2019	21.11.2019	Nov 2019
D8.3	High quality videos explaining the approaches in the 3 trials	T8.1	BAUM	RWTH, RSE, EDSO, ACEA, SIE, APIO, ARETI, HEDNO, NTUA, AVAC, ENG	Other	N/A	M24	10.07.2021	31.07.2021	Aug 2021
D8.4	Intermediate report on the stakeholders engagement, exploitation, dissemination, communication and standardization activities	T8.1	BAUM	RWTH, RSE, EDSO, ACEA, SIE, APIO, ARETI, HEDNO, NTUA, AVAC, ENG	Report	RSE NTUA	M24	10.07.2021	31.07.2021	Aug 2021
D8.5	Exploitation and Marketing Plan for the involvement of partners and future customers (v1)	T8.6	BAUM	RWTH, RSE, EDSO, ACEA, SIE, APIO, ARETI, HEDNO, NTUA, AVAC, ENG	Report	ARETI AVAC	M24	10.07.2021	31.07.2021	Aug 2021
D8.6	Summary of PlatOne contribution to Bridge WGs	T8.5	BAUM	RWTH, RSE, EDSO, ACEA, SIE, APIO, ARETI, HEDNO, NTUA, AVAC, ENG	Report	RWTH RSE	M48	10.07.2024	31.07.2024	Aug 2024
D8.7	Communication and Dissemination Plan (v1)	T8.3	BAUM	RWTH, RSE, EDSO, ACEA, SIE, APIO, ARETI, HEDNO, NTUA, AVAC, ENG	Report	SIE APIO	M15	10.10.2020	31.10.2020	Nov 2020
D8.8	Communication and Dissemination Plan (v2)	T8.3	BAUM	RWTH, RSE, EDSO, ACEA, SIE, APIO, ARETI, HEDNO, NTUA, AVAC, ENG	Report	HEDNO NTUA	M27	10.10.2021	31.10.2021	Nov 2021
D8.9	Communication and Dissemination Plan (v3)	T8.3	BAUM	RWTH, RSE, EDSO, ACEA, SIE, APIO, ARETI, HEDNO, NTUA, AVAC, ENG	Report	EDSO SIE	M36	10.07.2022	31.07.2022	Aug 2022
D8.10	Exploitation and Marketing Plan for the involvement of partners and future customers (v2)	T8.6	BAUM	RWTH, RSE, EDSO, ACEA, SIE, APIO, ARETI, HEDNO, NTUA, AVAC, ENG	Report	ACEA ARETI	M40	10.11.2022	30.11.2022	Dec 2022

Table 19: Review plan for WP9.

Del.Nr.	Deliverable Name	Associated Task	Main Authors	Other Authors	Type	Reviewers	Due Date	First Draft Ready	Ready for Internal Review	Submission end of
D9.1	Data Management Plan (initial release)	T9.2	RWTH	RSE, EDSO, ACEA, SIE, APIO, ARETI, HEDNO, NTUA, BAUM, AVAC, ENG	ORDP: Open Research Data Pilot	RSE EDSO	M6	10.01.2020	31.01.2020	Feb 2020
D9.2	Data Management Plan (final)	T9.2	RWTH	RSE, EDSO, ACEA, SIE, APIO, ARETI, HEDNO, NTUA, BAUM, AVAC, ENG	ORDP: Open Research Data Pilot	APIO HEDNO	M20	10.03.2021	31.03.2021	Apr 2021
D9.3	Project Management Plan Version 1	T9.2	RWTH	RSE, EDSO, ACEA, SIE, APIO, ARETI, HEDNO, NTUA, BAUM, AVAC, ENG	Report	NTUA BAUM	M2	16.10.2019	27.10.2019	Oct 2019
D9.4	Project Management Plan Version 2	T9.2	RWTH	RSE, EDSO, ACEA, SIE, APIO, ARETI, HEDNO, NTUA, BAUM, AVAC, ENG	Report	AVAC ENG	M18	10.01.2021	31.01.2021	Feb 2021
D9.5	Project Management Plan Version 3	T9.2	RWTH	RSE, EDSO, ACEA, SIE, APIO, ARETI, HEDNO, NTUA, BAUM, AVAC, ENG	Report	HEDNO NTUA	M30	10.01.2022	31.01.2022	Feb 2022

Table 20: Review plan for WP10.

Del.Nr.	Deliverable Name	Associated Task	Main Authors	Other Authors	Type	Reviewers	Due Date	First Draft Ready	Ready for Internal Review	Submission end of
D10.1	H - Requirement No. 1	T10.1	RWTH		Ethics	BAUM RSE	M4	10.11.2019	30.11.2019	Dec 2019
D10.2	POPD - Requirement No. 2	T10.2	RWTH		Ethics	EDSO BAUM	M6	10.01.2020	31.01.2020	Feb 2020

5 Task Dependencies

This chapter defines the inputs and outputs of each task.

It uses the following terminology:

- each non-documentary thing produced in a WP is a subsystem,
- a system a set of subsystems, integrated and working together
- the interfaces offered by subsystems are called APIs

E.g. DSO Technical Platform is a subsystem. The reference system in RWTH is a system. The blockchain light node at the Smart Meter is a subsystem which uses an API called Blockchain Protocol offered by its Blockchain peer.

Subsystems are things which are real in the sense that they exist. They may take different forms. They may (or may not) have HW and SW. They may be virtual machines offering services over an API. APIs may be defined in project deliverables.

In the tables in this chapter, inputs and outputs are of the following types:

- report (i.e. a document, probably a deliverable Dx.y)
- subsystem (i.e. a thing which is not a document, e.g. SW)
- system (i.e. a set of subsystems, integrated and working together)

Table 21: Task Dependencies for WP1.

		Input	Input Type	Output	Output Type	Used In
Task 1.1	Use case definition and operation specifications	descriptions of all use cases in the demos D3.1, D4.1, D5.2	answers to questionnaires from demos	(methodology to be used in T2.1, T3.1, T4.1, T5.2, WP6 & WP7) use case description	Report (D1.1)	T2.1, T3.1, T3.5, T4.1, T5.2, T6.1, T7.1, T7.2
Task 1.2	Demo harmonisation, coordination and regulatory fitness	WP3, WP4, WP5 operations in general	provided via regular calls	Overview of situation in the demos, and the regulatory environment for DSOs in Europe in general to T7.1 & T7.2	Report (D1.3)	T3.1, T3.5, T4.1, T5.2, T6.4, T7.1, T7.2
Task 1.3	KPIs	T2.1, T3.1, T4.1, T5.1	answers to questionnaires from demos	to T2.1, WP3, 4 & 5 and T7.1 & T7.2	Report (D1.2, D1.4, D1.7)	T2.1, T3.1,T3.5, T4.1, T5.2, T6.1, T7.1, T7.2
Task 1.4	Coordination with similar/twin projects	no direct interlinks with other tasks		no direct interlinks with other tasks	Report (D1.6)	
Task 1.5	Harmonization with customers and partners needs and expectations	T3.4, T4.5, T5.2	Workshop participation, internal report/questionnaire	to WP8	Report (D1.5)	WP8

Table 22: Task Dependencies for WP2.

		Input	Input Type	Output	Output Type	Used In	Notes
Task 2.1	Platone Platforms requirements and overall framework reference architecture	WP1 -> User requirements, use cases, scenarios, KPIs (D1.1, D1.2, D1.4, D1.7)	Report	Reference Architecture, functional requirements, technical specifications	Report (D2.1, D2.2)	T2.2, T2.3, T2.4, T2.5 T4.2, T4.3, T4.4, T5.2, T5.3	
Task 2.2	Platone Market platform	T2.1 -> Reference Architecture, functional requirements, technical specifications	Report (D2.1, D2.2)	Platone Market Platform	Subsystem (D2.3, D2.4, D2.5)	T2.6, T3.3	1
Task 2.3	Platone DSO Technical Platform	T2.1 -> Reference Architecture, functional requirements, technical specifications	Report (D2.1, D2.2)	Platone DSO Technical Platform and Platone standard APIs for DSO technical platform for integration and interoperability	Report and Subsystem (D2.6, D2.7, D2.8)	T4.2, T4.3, T4.4 T5.2, T5.3	2
Task 2.4	Intra-platform data interoperability and standard communication protocols	T2.1 -> Technical Specifications	Report (D2.1, D2.2)	Communication protocols, Data Interoperability mechanisms, Guidelines for privacy and security	Report (D2.9, D2.10)	T4.2, T4.3, T4.4 T5.2, T5.3	
		WP6 -> Report on standards on communication and interoperability	Report (D6.1, D6.2)				
Task 2.5	Platone BlockChain Customer Access Layer	T2.1 -> Reference Architecture, functional requirements, technical specifications	Report (D2.1, D2.2)	Blockchain Access Layer for RWTH Reference Implementation Available for German and Greek Demos	Report and Subsystem (D2.11, D2.12, D2.13)	T2.6	3

Task 2.6	Platone Framework integration, testing and commissioning	T2.1 -> Overall system requirements	Report (D2.1, D2.2)	Platone Overall Framework	System (D2.14, D2.15)	T4.2, T4.3, T4.4, T5.5	
		T 2.4 -> Interoperability mechanisms	Report (D2.9, D2.10)				
		T2.2 -> Platone Market Platform	Subsystem				
		T2.3 -> Platone DSO Technical Platform	Subsystem and APIs (also a subsystem)				
		T2.5 -> Blockchain Customer Access Platform	Report (D2.11, D2.12, D2.13) Subsystem				
		T3.2, T3.4	Subsystem				

Note 1: At month 18 a first release of the Standard Market Place Platform will be released working in the Italia Demo WP3, including the interfaces with the Italian Demo subsystems (i.e. DSO Platform, Aggregator Platforms, BC Access Layer and Common Shared Customer Database). The standardized interface of the Market Place with the WP3 Italian Demo subsystems and the correct interworking and functionalities between the Market Place Platforms and WP3 Italian Demo subsystems will be secured by Engineering.

Note 2: The scope of T2.3 (D2.6, 2.7 and 2.8) is to allow a local DMS (the ones used by national demos) to be interfaced with other Platone subsystems, and properly work in conjunction with the Market Place Platform.

The Siemens' engagement in WP2 will consist in a cooperation with ENG to develop this SW API working in Italy.

The leadership of this task is taken by RWTH, which will act as a guarantor towards the European Commission, giving evidence and demonstrating that modules provided and released by Siemens and Engineering constitute together deliverable D2.6 and related following versions D2.7 and D2.8, according to the description provided in the DoW. Siemens will release this SW layer exclusively in WP3 for the Italian pilot, already including the standard indications agreed with Engineering, while Engineering will release the standard version to be used by the Greek and German pilots for the local customization. The 8 person-months of Siemens' effort in WP2 will be used by Siemens to design and develop the standard APIs between the Italian Demo DSO Platform (developed and delivered by Siemens in WP3 in cooperation with Areti) and: a. the Market Place Platform (developed and delivered by Engineering in T2.2 serving initially the Italian Demo and then, if required also the other Demos); b. the WP3 Shared Customer Database (developed and delivered in T3.2 by Areti for the Italian Demo); c. the WP3 Blockchain Platform (developed and delivered by Apio in T3.2 for the Italian Demo, in cooperation with Areti); d. the WP3 Aggregator Platform (developed and delivered by Siemens in T3.4 for the Italian Demo, in cooperation with Acea Energia).
Note 3: The scope of this WP2 task is to provide a Blockchain Access Layer for the Greek and German demos. Engineering will release in T2.5 the BAL versions (D2.11, D2.12, D2.13) to be used by Greek and German pilots for the local customization. Those deliverables will focus in particular on the exploitation of blockchain combined with distributed storage approach to store, share and replicate data in a secure and reliable manner cross the nodes to address scalability issues. The BC Access Layer for the Italian Demo will be developed by Apio and areti in WP3 in the Task 3.2: the physical software and hardware of the Blockchain Access Layer for Italian pilot will be released by areti and Apio exclusively in WP3 deliveries, focusing in particular on the integration of Customers in the DSO optimal grid management and the enhancement of measurement / billing services serving all the flexibility market players (customers, aggregators, DSO, TSO, ...).

Table 23: Task Dependencies for WP3.

		Input	Input Type	Output	Output Type	Used In
Task 3.1	WP3 coordination, central and field Demo management	- Project Management Plan Version 1 (D9.3) [M2] - Data Management Plan (initial release) (D9.1)* - H - Requirement No. 1 (D10.1)** - POPD - Requirement No. 2 (D10.2)***	D1.2, D1.2, D1.3, D1.4, D1.7: Report D9.3: Report D9.1: Report D10.1: Report D10.2: Report	Internal operational plan and WP3 roadmap (D3.1) [M3]	D3.1: Report	WP3
Task 3.2	Development of a standard BlockChain based infrastructure, implementing a Common Access Interface between all the market players	- Data Management Plan (initial release) (D9.1) [M6] - Internal operational plan and WP3 roadmap (D3.1) [M3] - Platone - Platform requirements and reference architecture (D2.1) [M12] -Platone BlockChain Customer Access Layer (v1) (D2.11) [M18] - Platone Market platform (v1) (D2.3) [M18] ****	D9.1: Report D3.1: Report D2.1: Report D2.3: Subsystem D2.11Subsystem	- Delivering of technology (v1) (D3.3) [M18] - Report of optimal communication solutions between customer database and market players (D3.2) [M20]	D3.3: System D3.2: Report	D3.3 to T2.6 D3.2 to T6.2
		- Delivering of technology (v1) (D3.3) [M18]	D3.3: System	- Report on first integration activity in the field (D3.6) [M20] (owners: Siemens + Areti)	D3.6: Report	T6.2
		- Delivering of technology (v2) (D3.3) [M18] - Report on first integration activity in the field (D3.6) [M20] (owners: Siemens + Areti) - Platone BlockChain Customer Access Layer (v2) (D2.12) [M38] - Platone Platform requirements and reference architecture (v2) [M30] - Platone Market platform (v2) (D2.4) [M38] ****	D2.2: Report D3.3: System D3.6: Report D2.4: Subsystem D2.12: Subsystem	- Delivering of technology (v2) (D3.4) [M38]	D3.4: System	T2.6

		- Delivering of technology (v2) (D3.4) [M38]	D3.4: System	- Report on second integration activity in the Field (D3.8) [M40] (owners: Siemens + Areti)	D3.8: Report	T6.2
		- Delivering of technology (v2) (D3.4) [M38] (owners: Siemens + Areti) - Report on second integration activity in the Field (D3.8) [M40] - Platone BlockChain Customer Access Layer (v3) (D2.13) [M46] - Platone Market platform (v3) (D2.5) [M46] ****	D3.4: System D3.8: Report D2.5: Subsystem D2.13: Subsystem	- Delivering of technology (v3) (D3.5) [M46]	D3.5: System	T2.6
Task 3.3	Implementation of a technical platform for grid state estimation and flexibility requests validation	- Data Management Plan (initial release) (D9.1) [M6] - Internal operational plan and WP3 roadmap (D3.1) [M3] - Platone standard APIs for DSO technical platform for integration and interoperability (D2.6) [M18] - Platone Market platform (v1) (D2.3) [M18] ****	D9.1: Report D3.1: Report D2.3: Subsystem D2.6: Subsystem	- Delivering of technology (v1) (D3.3) [M18]	D3.3: System	
		- Delivering of technology (v1) (D3.3) [M18]	D3.3: System	- Report on first integration activity in the field (D3.6) [M20] (owners: Siemens + Areti)	D3.6: Report	T6.2
		- Delivering of technology (v1) (D3.3) [M18] - Report on first integration activity in the field (D3.6) [M20] (owners: Siemens + Areti) - Platone standard APIs for DSO technical platform for integration and interoperability (D2.7) [M38] - Platone Market platform (v2) (D2.4) [M38] ****	D3.3: System D3.6: Report D2.4: Subsystem D2.7: Subsystem	- Delivering of technology (v2) (D3.4) [M38]	D3.4: System	
		- Delivering of technology (v2) (D3.4) [M38]	D3.4: System	- Report on second integration activity in the Field (D3.8) [M40]	D3.8: Report	T6.2

				(owners: Siemens + Areti)		
		- Delivering of technology (v2) (D3.4) [M38] (owners: Siemens + Areti) - Report on second integration activity in the Field (D3.8) [M40] - Platone standard APIs for DSO technical platform for integration and interoperability (D2.8) [M46] - Platone Market platform (v3) (D2.5) [M46] ****	D3.4: System D3.8: Report D2.5: Subsystem D2.8: Subsystem	- Delivering of technology (v3) (D3.5) [M46]	D3.5: System	
Task 3.4	Solutions to enable Aggregators to provide flexibility: Aggregator platform and customer involvement	*outputs deriving from Customer engagement workshops held in target countries (within WP1)*	D1.5: Report	- Report of customer involvement (D3.7) [M17]	D3.7: Report	T6.2
		- Data Management Plan (initial release) (D9.1) [M6] - Internal operational plan and WP3 roadmap (D3.1) [M3] - Platone Market platform (v1) (D2.3) [M18] ****	D9.1: Report D3.1: Report D2.3: Subsystem	- Delivering of technology (v1) (D3.3) [M18]	D3.3: System	T2.6
		- Delivering of technology (v1) (D3.3) [M18]	D3.3: System	- Report on first integration activity in the field (D3.6) [M20] (owners: Siemens + Areti)	D3.6: Report	T6.2
		- Delivering of technology (v1) (D3.3) [M18] - Report on first integration activity in the field (D3.6) [M20] (owners: Siemens +Areti) - Platone Market platform (v2) (D2.4) [M38] ****	D3.3: System D3.6: Report D2.4: Subsystem	- Delivering of technology (v2) (D3.4) [M38]	D3.4: System	T2.6
		- Delivering of technology (v2) (D3.4) [M38]	D3.4: System	- Report on second integration activity in the Field (D3.8) [M40]	D3.8: Report	T6.2

				(owners: Siemens + Areti)		
		- Delivering of technology (v2) (D3.4) [M38] - Report on second integration activity in the Field (D3.8) [M40] (owners: Siemens + Areti) -Platone Market platform (v3) (D2.5) [M46] ****	D3.4: System D3.8: Report D2.5: Subsystem	- Delivering of technology (v3) (D3.5) [M46]	D3.5: System	T2.6
Task 3.5	Validation Results Analysis & Feedback	T1.1, T1.2, T1.3 D3.5 Delivering of technology (v3) [M46] D7.1 Definition of data to be collected by the field to perform the analyses	D3.5: System	Report on main results achieved in the field test (D3.9) [M48]	D3.9: Report	T6.5

Notes:
* The Data Management Plan (initial release) (D9.1) will be delivered at month 6 (after the delivery date of D3.1, which will be delivered at month 3 by Areti). However, the document will be take into consideration by Areti in order to update the WP3 operational plan, with reference to the data exchange issues.
** H - Requirement No. 1 (D10.1) will be delivered at month 4 (after the delivery date of D3.1, which will be delivered at month 3 by Areti). However, the document will be take into consideration by Areti in order to update and adequate the WP3 operational plan and roadmap document, accordingly.
*** POPD - Requirement No. 2 (D10.2) will be delivered at month 6 (after the delivery date of D3.1, which will be delivered at month 3 by Areti). However, the document will be take into consideration by Areti in order to update and adequate the WP3 operational plan and roadmap document, accordingly.
**** Market Place Platform (D2.3, 2.4, 2.5) will be delivered simultaneously to Italian Demo Technological Releases (D3.3, D3.4, D3.5): WP2 and WP3 will work closely to guarantee the simultaneous release of interacting subsystems in the Italian Demo.

Table 24: Task Dependencies for WP4.

		Input	Input Type	Output	Output Type	Used In
Task 4.1	Definition of KPIs and Use Cases (UCs)	D1.1 General Functional Requirements and specifications of joint activities in the Demonstrators	report	D4.1 Report on the definitions of KPIs and UCs	report	T1.1, T1.2, T1.3
		D1.2 Project KPIs definition and measurement methods	report			
		D1.3 Overview of regulatory aspects that impact the solutions tested in the demos in European countries	report			
		D1.4, D1.7	report			
Task 4.2	Development of the State estimation tool	D2.1, D2.2 Platone Platform requirements and reference architecture	report	D4.2 State estimation tool	subsystem & report	T4.6
		D2.6,D2.7,D2.8 Platone DSO Technical Platform (v1, v2, v3) - second phase of WP4	report & subsystem			
		D2.9, D2.10 Specification of the interoperability and standard communication protocols	report			
		D2.11, D2.12, D2.13 Platone Blockchain Customer Access Layer	report & subsystem			
		D2.14, D2.15 Platone Integrated Framework Prototype (v1, v2) - second phase of WP4	report & system			
		D6.1 Report on the analysis of most relevant standards	report			
		D6.2 Report on standard guidelines for each demonstration	report			

Task 4.3	Ancillary services to the TSO provided by the DSO	D2.1, D2.2 Platone Platform requirements and reference architecture	report	D4.3 Algorithm for ancillary services	subsystem & report	T4.6
		D2.6,D2.7,D2.8 Platone DSO Technical Platform (v1, v2, v3) - second phase of WP4	API (report & subsystem)			
		D2.9, D2.10 Specification of the interoperability and standard communication protocols	report			
		D2.11, D2.12, D2.13 Platone Blockchain Customer Access Layer	report & subsystem			
		D2.14, D2.15 Platone Integrated Framework Prototype (v1, v2) - second phase of WP4	report & system			
Task 4.4	Optimal control of DERs	D2.1, D2.2 Platone Platform requirements and reference architecture	report	D4.4 Algorithm for optimal DER control	subsystem & report	T4.6
		D2.6,D2.7,D2.8 Platone DSO Technical Platform (v1, v2, v3) - second phase of WP4	API (report & subsystem)			
		D2.9, D2.10 Specification of the interoperability and standard communication protocols	report			
		D2.11, D2.12, D2.13 Platone Blockchain Customer Access Layer	report & subsystem			
		D2.14, D2.15 Platone Integrated Framework Prototype (v1, v2) - second phase of WP4	report & system			
Task 4.5	Customer engagement methodologies	D6.8 Report on the analysis of the regulatory and legislative framework	report	D4.6 Report on lessons learned from the customer engagement methodologies	report	

		D6.9 Report on solutions and recommendations for the roll-out of the designed solutions	report			
Task 4.6	Validation Results Analysis & Feedback	D7.1 Definition of data to be collected by the field to perform the analyses	report	Mesogeia demo	system	T6.5
		D4.2, D4.3, D4.4	report & subsystem	D4.5 Mesogeia demonstration: report D4.7 Mesogeia demonstration: meta-analysis and lessons learned	report	
		D2.6,D2.7,D2.8 Platone DSO Technical Platform (v1, v2, v3) - second phase of WP4	report & subsystem			
		D2.14, D2.15 Platone Integrated Framework Prototype (v1, v2) - second phase of WP4	report & system			

Table 25: Task Dependencies for WP5.

		Input	Input Type	Output	Output Type	Used In
Task 5.1	Technical Governance and project management					
Task 5.2	Design of technical solution	D2.1, D2.2 Platone Platform requirements and reference architecture	Report	Solution Design and Technical Specifications Concept a Decentral and a Central Flexibility Managements Platform (Functionalities, Components, Interfaces and necessary Data for Local Balancing of Local grids).	D 5.1 - report	T5.3
		D2.9, D2.10 Specification of the interoperability and standard communication protocols	Report			
		D6.1 Report on the analysis of most relevant standards	Report			
		D6.2 Report on standard guidelines for each demonstration	Report			
Task 5.3	Definition of Use Case Algorithms	D2.1, D2.2 Platone Platform requirements and reference architecture	Report	Detailed Use Case Description	D5.2 - report	T5.3
		D2.9, D2.10 Specification of the interoperability and standard communication protocols	Report			

		D6.1 Report on the analysis of most relevant standards	Report			
		D6.2 Report on standard guidelines for each demonstration	Report			
		D2.1, D2.2 Platone Platform requirements and reference architecture	Report	Definition of Use Case algorithms	D5.3 - report & subsystem (for Task 5.4) in M18	T5.4
		D2.9, D2.10 Specification of the interoperability and standard communication protocols	Report			
		D6.1 Report on the analysis of most relevant standards	Report			
		D6.2 Report on standard guidelines for each demonstration	Report			
Task 5.4	Field Test Design and Execution	D1.1 General Functional Requirements and specifications of joint activities in the Demonstrators	Report	Analysis of the demonstration results based on Key Performance Indicators (KPI)	D5.4,D5.5,D5.6,D5.7 - report	
		D1.2 Project KPIs definition and measurement methods	Report			
		D1.3 Overview of regulatory aspects that impact the solutions tested in the demos in European countries	Report			

		D2.1, D2.2 Platone Platform requirements and reference architecture	Report			
		D2.3, D2.4, D2.5 Platone Market Platform	Subsystem			
		D2.6, D2.7; D2.8 Platone DSO Technical Platform (Interfaces)	Subsystem			
		D2.9, D2.10 Specification of the interoperability and standard communication protocols	Subsystem			
		D6.1 Report on the analysis of most relevant standards	Subsystem			
		D6.2 Report on standard guidelines for each demonstration	Subsystem			
		D2.3, D2.4, D2.5 Platone Market Platform	Subsystem	Decentral and a Central Flexibility Management Platform (Avacon DSO Platform)	System	
		D2.6, D2.7; D2.8 Platone DSO Technical Platform (Interfaces)	Subsystem (Interfaces)			
		D2.11, D2.12, D2.13 Platone Blockchain Customer Access Layer	Subsystem			
		D2.14, D2.15, D2.16 – Platone Integrated Framework Prototype	System			
		Physical devices (flexibilities) implemented in frame of T5.5.	Subsystem			

Task 5.5	Installation and operation of field test equipment	D2.3, D2.4, D2.5 Platone Market Platform	Subsystem	Decentral and a Central Flexibility Management Platform (Avacon DSO Platform)	Subsystem (for Task 5.4) in M19	T5.4
		D2.6, D2.7; D2.8 Platone DSO Technical Platform (Interfaces)	System (Interfaces)			
		D2.11, D2.12, D2.13 Platone Blockchain Customer Access Layer	Subsystem			
		D2.14, D2.15, D2.16 – Platone Integrated Framework Prototype	System			
Task 5.6	Validation Results Analysis & Feedback	D1.2 Project KPIs definition and measurement methods	Report	Use Case 1 Demonstration Report	D5.4 - report	
		D1.2 Project KPIs definition and measurement methods	Report	Use Case 2 Demonstration Report	D5.5 - report	
		D1.2 Project KPIs definition and measurement methods	Report	Use Case 3 and 4 Demonstration Report	D5.6 - report	
		D7.1 Definition of data to be collected by the field to perform the analyses	Report			
				Final Report	D5.7 - report	T6.5

Table 26: Task Dependencies for WP6.

		Input	Input Type	Output	Output Type	Used In
Task 6.1	List, analyse and evaluate the most relevant standards to the demonstrations	D1.1 General Functional Requirements and specifications of joint activities in the Demonstrators	Informal input	D6.1 An analysis on the most relevant standards	Report	T4.2, T5.2, T5.3
Task 6.2	Identify best suited standards for each demonstration	D1.1 General Functional Requirements and specifications of joint activities in the Demonstrators D1.2 Project KPIs definition and measurement methods D1.3, D1.4, D1.7 D2.1 Platone Platform requirements and reference architecture D6.1 An analysis on the most relevant standards Also, D3.6, D3.8, 3.9, D4.5, D4.6, D4.7, D5.4, D5.5, D5.6, D6.7	Report	D6.2 Guidelines on the most suited standards D6.3 Ex-ante qualitative evaluation D6.4-D6-7 Periodic reporting on lessons learned	Report	T4.2, T5.2, T5.3
Task 6.3	Developing standardized grid models	D2.1 Platone Platform requirements and reference architecture D6.2 Guidelines on the most suited standards	Report	D6.10 Standardised Grid models	Models	
Task 6.4	Analysis of the legislative and regulatory framework	D1.3 Overview of regulatory aspects that impact the solutions tested in the demos in European countries	Informal input	D6.8 Legislative and regulatory framework analysis	Report	T4.5
Task 6.5	Solutions and recommendations for the roll-out of the designed solutions	D3.9, D4.7, D5.7	Report	D6.9 Guidelines in the form of solution and recommendations	Report	T4.5

Table 27: Task Dependencies for WP7.

		Input	Input Type	Output	Output Type	Used In
Task 7.1	Analysis of data coming from the field	data coming from WP1, 3,4, 5	database	D7.1	report D7.1	T3.5, T4.6, T5.6, T7.4, T7.5
Task 7.2	Development of methodologies for SRA and MCA-CBA	WP1, D7.1 exploration of methodologies to perform the MCA - CBA, SRA, qualitative analysis of stakeholder characteristics		Methodologies to perform the M, CA - CBA, SRA, stakeholder characteristics D7.2 D7.3	report D7.2, D7.3	T7.3, T7.4, T7.5
Task 7.3	Performing SRA and CBA analysis	D7.2 information about representative networks from AVACON; HEDNO and ARETI	database	SRA and CBA analysis D7.4	report D7.4	T7.4, T7.5
Task 7.4	Elaboration of final messages	suggestions to optimise the large scale deployment of most promising solutions	input from WP8	recommendations for identified barriers D7.6	report D7.6	T7.5
Task 7.5	Replicability at International level - application to Canada, qualitative assessment	information about network boundary conditions from Canada	database	replicability at International level, application to Canada D7.5	report D7.5	

Table 28: Task Dependencies for WP8.

		Input	Input Type	Output	Output Type	Used In
Task 8.1	Designing and implementing communications tools			D8.1 Communication and Dissemination Plan (D8.1, D8.7, D8.8, D8.9) Website with interactive community platform (D8.2) High quality videos explaining the approaches in the 3 trials (D8.3) Intermediate report on the stakeholders engagement, exploitation, dissemination, communication and standardization activities (D8.4)	report website videos report	
Task 8.2	Fostering adoption of Platone results					
Task 8.3	Organizing Platone dissemination and uptake events					
Task 8.4	Preparing long-term adoption of Platone solutions.			Exploitation and Marketing Plan for the involvement of partners and future customers (D8.5, D8.10)	report	
Task 8.5	Contribution to European Joint RDI efforts (via BRIDGE WGs)			Summary of Platone contribution to Bridge WGs (D8.6)	report	
Task 8.6	Exploitation of the results					

Table 29: Task Dependencies for WP9 and 10.

		Input	Input Type	Output	Output Type	Used In
WP9	Project Management					
Task 9.2	Platone Technical Management			Data Management Plan (D9.1, D9.2)	report	
WP10	Ethics requirements			D10.1, D10.2	report	

6 Conclusion

This deliverable presented the third and final version of the project management plan for Platone. The focus of this deliverable is on the project implementation plan, and project management planning and reporting. The goal is to demonstrate that the Platone project is entirely under an effective technical coordination that guarantees the project flows in a coherent manner and the delivery of quality results in a timely manner.

The basic management plan defined in the first two versions of this deliverable, D9.3 and D9.4, has worked well in the first 30 months of the project. Hence it has been continued in this version D9.5 of the deliverable.

7 References

[1] European Commission, “2050 long-term strategy”, [Online]. Available: https://ec.europa.eu/clima/policies/strategies/2050_en
[2] Grant Agreement No. 864300 – Platone

8 List of Tables

9 List of Figures