Platone

PLATform for Operation of distribution NEtworks

D8.4 v1.0

Intermediate report on the stakeholders engagement, exploitation, dissemination, communication and standardization activities

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Abstract

The deliverable D8.4 "Intermediate report on the stakeholder engagement, exploitation, dissemination, communication and standardization activities" covers different tasks within different work packages of the Platone project. The objective of the work reported in this document is to maximise the scientific, industrial and societal impact of the Platone results. With information and knowledge transfer, the consortium is giving general and specific information on all Platone contents and activities. Opening options for actions, convincing, gaining synergy with and supporting the determining stakeholders is an essential step to later exploitation. Developing Platone´s target group, the consortium has focussed on approaching potential users of the Platone Open Framework. To establish Platone´s stakeholder relationship, the partners are continuously proposing an active management of the project´s key stakeholders based on successful information and knowledge transfer. With the project´s exploitation activities, the consortium aims to effectively promote the use of project results through scientific, economic, political or societal exploitation aiming to turn R&I actions into concrete value and impact for society. With the standardisation activities, the consortium elaborates which standards are used in, or are best suited for the Platone project demonstrations and best serve their goals for each use case functionality. Having reached the halfway stage of the project, Platone has already created well-visible impact and produced several results for knowledge transfer. Therefore, the focus for the second half of the project is to actively pursue all initiated collaboration and cooperation activities, foster knowledge transfer, focus on direct involvement and feedback processes and prepare the exploitation of results.

Keyword list

Stakeholder engagement, communication, dissemination, exploitation, standardization

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).

With the activities reported in this document the Platone consortium aims to reach out to society and show the impact and benefits of the funded research, development and innovation (RDI) activities providing possible contributions to the energy transition.

With stakeholder engagement activities Platone already have initiated, coordinated and established a strong relationship to a broad range of stakeholders as well as later target groups. Supported by several communication and dissemination activities, which have made the project highly visible, the consortium has now a very good outreach. With a series of co-creation events on user interaction, Platone has successfully started to put end customers as well as main stakeholders at the centre, investigating their needs and expectations with demonstration-related workshops in Greece, Germany and Italy and a first Open Day at the German demonstration. Several collaboration and cooperation activities kicked-off in the first half of the project. With the constitution of the Platone Advisory and Dissemination Board (ADB), the consortium got very valuable advice and recommendations to further be considered in the process of the project. To create synergies with H2020 sister projects, Platone partners have, from the beginning, collaborated with other H2020 projects working on topics associated to those of Platone with joint workshops and bilateral meetings. The cooperation with EUniversal and Platoon have also seen a cross-participation in the projects´ advisory boards. An intense collaboration was started from the beginning to bring an overall joint community on flexibilities to life. With the community being launched in the middle of November 2021, the initiating projects want to merge work on flexibility solutions to a new level of exchange and to sustain discussions and community beyond project lifetimes.

Communication and dissemination are a precondition for successful stakeholder engagement. With these activities Platone is already creating well-visible impact. A solid project communication was implemented with i.a. a joint project design, a Platone project website and social media channels, project materials and three project videos. Platone was presented at several stakeholder events and successfully submitted two papers for the Congrès International des Réseaux Electriques de Distribution (CIRED), a leading forum for the Electricity Distribution. The Platone partners have been very active in BRIDGE, the initiative of the European Commission, which unites H2020 Smart Grid and Energy Storage Projects, In two cases, the project had a clear leadership position: Platone, under the leadership of project partner areti and with the involvement of the whole project management team, led the preparation of an updated version of the Harmonized Electricity Market Role Models (HEMRM) originally prepared by ENTSO-E. Within the Data Management working group Platone proposed a new approach to the creation of a database of use cases to create a European repository of all the use cases to facilitate the exchange of knowledge among projects. Platone developed as part of its work a totally open source toolchain that makes this repository possible. Furthermore, active contribution to the European Technology and Innovation Platform Smart Networks for Energy Transition (ETIP SNET) has

been made. Platone also has contributed to the OPEN DEI project on aligning reference architectures, open platforms and large-scale pilots in digitizing European industry.

Platone successfully started its cooperation with DEMI in Canada, facilitated by the strategic alliance between RWTH and University of Alberta. With the kick-off in November 2020 three important action points 'Customer engagement', 'Platform technology' and 'Comparison of regulatory schemes Canada/Europe' for the future cooperation were already determined and will significantly contribute to the knowledge transfer. Thanks to this strategic alliance, project coordinator Prof. Antonello Monti from RWTH was invited to give a keynote speech related to Platone to the major "IEEE Canada Power and Energy Conference" in Canada organized by the University of Alberta in November 2020. Thanks to RWTH involvement, Platone was also present at a further IEEE event, Smart Grid for Smart Cities, in 2021 with a virtual booth and a presentation.

An unprecedented visibility including an interview with Prof. Monti for the major international magazine Forbes, was the acceptance of a new project called SOGNO within the Linux Foundation Energy that is the key component of the DSO Technical Platform in Platone. Prof. Monti has been recently selected as chair of the Technical Activity Council of LFE as proof of the key role of the newly created project.

Platone topics have been already successfully implemented to research, a new laboratory class on grid automation has been added to the curriculum at RWTH and a module for a group lecture on digitalization has been added to the class on "Future Energy Networks". Thanks to a new partnership of RWTH with Fraunhofer FIT, a research project in cooperation with E.ON for the implementation of a new automation architecture for DSO in Germany that will be based on the DSO Technical Platform of Platone as cornerstone component has been submitted to the German government to directly reach out to industry for the implementation of the Platone solution in the real field. Platone topics have been introduced in a first professional training in the Energy Delta Institute of Nyenrode Business School, Netherlands. Thanks to the links established between RWTH and the University of Alberta in Platone, an international graduate school programme was submitted and is currently under review by the German research funding organization "Deutsche Forschungsgemeinschaft (DFG).

With the exploitation activities Platone aims to effectively promote the use of project results through scientific, economic, political or societal exploitation to turn R&I actions into concrete value and impact for society. At this stage of the project, 14 key exploitable results (KER), as well as their start and end technology readiness levels (TRL), are identified. Five KERs have a TRL equal to or even below three showing that Platone contributes to basic research by evaluating technological concepts or laboratory studies. But with four KERs with a targeted final TRL 8, at which systems or models are completely qualified, representing the end of the development, Platone proves also to deliver close to the market products or services. Many of Platone's KERs follow the open-source approach and even though the project is not finished yet, three major KERs can already be used by various target groups.

Regarding standardisation topics, the most suitable standardisation suites were identified, and their applicability with regards to the demonstration setup of each demo and suggested gaps were discussed. An ex-ante qualitative analysis of the standards that will be used in Platone was provided. The standards cover all technical areas such as SCADA (Supervisory Control and Data Acquisition) communications, Distribution Management System (DMS)/ Energy Management System (EMS), Advanced Metering Infrastructure (AMI), Demand Response Management Systems (DRMS), Energy and Battery storage (BEMS), cybersecurity, Energy Markets and Blockchain.

Some of the stakeholder engagement, communication and dissemination activities were affected by the global COVID-19 pandemic. The virus still poses an uncertain risk, especially to live meetings. Planned occasions that aimed at communicating and disseminating the Platone approach and involvement of stakeholders in the project phase 1 had to be postponed or cancelled. Due to the worldwide COVID-19 situation all activities have been adapted and rearranged where needed, e.g. in form of interactive virtual meetings and workshops.

Having reached its half-way point, the project Platone already has been created well-visible impact and produced several interim results and results for knowledge transfer. Therefore, the focus for the second half of the project is to actively pursue all initiated collaboration and cooperation activities, foster transferring knowledge and disseminating (interim) results of Platone to relevant stakeholders and later to target groups with a shift up to direct involvement and feedback processes.

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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".

Under Horizon 2020 (H2020) it is essential that society benefits from the investment in these projects. Therefore, there is a clear emphasis on the beneficiaries' obligations to exploit and disseminate the outcomes of the funded activities [2], [3]. To meet the obligation of exploiting and disseminating the outcomes of Platone a transverse work package (WP) on dissemination and exploitation – WP8 – was designed. The main objective of this work package and its related tasks is to maximise the scientific, industrial and societal impact of Platone by organising its engagement with a broad range of stakeholders. As a transverse work package, it is closely related to all other work packages and all partners are contributing. For the topics standardisation activities and stakeholder engagement especially tasks of WP1 "DSO operation strategies and harmonization" and of WP6 "Standardisation, interoperability and data handling" play an essential role, as do the stakeholder activities in the context of the demonstrations related work packages WP3, WP4 and WP5.

1.1 Associated tasks

This deliverable D8.4 "Intermediate report on the stakeholder engagement, exploitation, dissemination, communication and standardization activities" covers different tasks within different work packages.

Regarding stakeholder engagement activities, this deliverable is associated mainly to
- WP1 "DSO Operation Strategies and Harmonization" with the following task:
  - Task 1.5: Harmonization with customers and partners needs and expectations,
  - Task 1.4 "Coordination with similar/twin projects".
- WP3 "Italian demo" with the following task:
  - Task 3.4: Solutions to enable Aggregators to provide flexibility: Aggregator platform and customer involvement (M3-M48).
- WP4 "Greek demo" with the following task:
  - Task 4.5: Customer engagement methodologies (M3-M17).

Regarding the communication, dissemination and exploitation activities, this deliverable covers all six tasks within WP 8:

- Task 8.1: Designing and implementing communications tools (M1-48).
- Task 8.2: Fostering adoption of Platone results (M1-M48).
- Task 8.3: Organizing Platone dissemination and uptake events (M1-M48).
- Task 8.4: Preparing long-term adoption of Platone solutions

- Task 8.5: Contribution to European Joint Research, Development and Innovation (RDI) efforts
- Task 8.6: Exploitation of the results (M1-M48)

Regarding the standardization activities, this deliverable is associated to the WP6 "Standardisation, Interoperability and Data Handling" with its following tasks:

- Task 6.1: List, analyse and evaluate the most relevant standards to the demonstrations,
- Task 6.2: Identify best suited standards for each demonstration,
- Task 6.3: Developing standardized grid models,
- Task 6.4: Analysis of the legislative and regulatory framework,
- Task 6.5: Solutions and recommendations for the roll-out of the designed solutions.

1.2 Objectives of the work reported in this deliverable

The objective of the work reported in this document is to maximise the scientific, industrial and societal impact of the Platone results. With information and knowledge transfer the consortium is giving general and specific information on all Platone contents and activities. Opening up options for actions, convincing, gaining synergy with and supporting the determining stakeholders are essential steps towards later exploitation. Developing Platone´s target group, the consortium has focussed on approaching potential users for the Platone Open Framework. To establish Platone´s stakeholder relationship, the partners are continuously proposing an active management of the project´s key stakeholders based on successful information and knowledge transfer. With the project´s exploitation activities, the consortium aims to effectively promote the use of project results through scientific, economic, political or societal exploitation, aiming to turn R&I actions into concrete value and impact for society. With the standardisation activities, the consortium elaborates which standards are used in, or are best suited for, the Platone project demonstrations and best serve their goals for the functionality of each use case.

Platone sets itself the following impact objectives:

- To influence trends in the energy sector by publishing our research concepts in well-known international journals and demonstrating our trial results;
- Building the foundations of a service industry for Distribution System Operation, and influencing legislation and regulation at European level to ensure that there is support for innovative scenarios and services, defined as a result of Platone implementation activities;
- To build on an innovative exploitation approach, creating the conditions for a European consortium to provide cloud-based services to DSOs. Such an approach will put Europe in the forefront of innovation thanks to science-based legislation, and
- To have an impact on economic development through growth in small and medium-sized enterprises (SMEs) and job creation leading to global market share growth for European providers in the information and communications technology (ICT) and energy sectors. The Platone vision will unlock a new service-oriented market making the energy system of Europe the most advanced and open in the world.

With the reported activities Platone is following the three main project phases.

Figure 1: Project phases of Platone and impact of the COVID-19 pandemic

The first phase of the project spans over 20 months. A definition of the scenarios, use cases, the elicitation of user requirements and system requirements, dynamic assessment modelling, definition of system architecture and data models were elaborated. At the end of phase 1 the first integrated prototype was released. Evaluation was started via prototyping and testing referring to the three trials, to identify potential limitations and drawbacks by involving a group of selected users. Therefore, communication and dissemination activities in phase 1 focused on raising awareness for the project and getting in touch with selected key stakeholders, especially regarding user-centric and customer integration. Standardisation activities focused on describing and identifying standards in the context of the use cases of the demonstrations.

Project phase 2 is based on the feedback from Phase 1. The framework will be evaluated at both usability and performance levels. Testing will be increased, including a user evaluation with a wide group of users. The activities in Phase 2 are focussing on the trials and associated interim results and first steps to prepare the commercial exploitation of the Platone results.

As activities occurring in phase 1 and still in phase 2 have been impacted by the Corona virus disease 2019 (COVID-19) pandemic, activities were adapted and rearranged where needed.

1.3   Outline of the deliverable

The deliverable reports on the stakeholder engagement, exploitation, dissemination, communication and standardization activities. These topics are reported in the chapters 2 to 5, summarizing the measures, the assessment of the measures, interim results and lessons learnt and giving an outlook. The status of the key performance indicators (KPIs) is reported in chapter 6. Chapter 7 draws conclusions from the results of the work done and gives an outlook on the upcoming activities in the current and following project phase.

1.4   How to read this document

This deliverable is a public intermediate report on outcomes, learnings and outlook related to stakeholder engagement, exploitation, dissemination, communication and standardization activities. Most of these activities have been accompanied by public or confidential deliverables. Where appropriate, these documents are referred to for further information.

2 Stakeholder engagement

2.1 Objectives

With its stakeholder engagement approach, Platone fosters the growth and promotes integration of its solutions among not only DSO operators, but also towards all the other market operators involved, unlocking new opportunities for a wider and more efficient flexibility market. To meet the strategic goals and the challenges and opportunities regarding the main stakeholders, a multi-track strategic approach aims to inform and transfer knowledge to all stakeholder groups, to reduce barriers, e.g. for regulators or standardization bodies, to initiate, coordinate and manage the project´s stakeholder relationship, especially customer integration, e.g. within the demonstrations, active involvement of customers, for a flexibility community, harmonising with other projects responding to the same call and lateral project cooperation. To open options for actions, convince, gain synergy with and support the determining stakeholders are essential steps to later exploitation.

2.2 Achievements

With the stakeholder engagement activities, Platone has already initiated, coordinated and established a strong relationship to a broad range of stakeholders as well as later target groups. Supported by several communication and dissemination activities, which have made the project highly visible, the consortium has now a very well outreach. With a series of co-creation events on user interaction Platone has successfully started to put end customers as well as main stakeholders at the centre to investigate their needs and expectations with demonstration related workshops in Greece, Germany and Italy and a first Open Day at the German demonstration. Several collaboration and cooperation activities kicked-off, like the constitution of the Advisory and Dissemination Board with its first meeting, the cooperation with Canada with a kick-off workshop or the exchange with other H2020 projects working on topics associated with those of Platone with joint workshops and bilateral meetings and the preparation phase for a joint community on flexibilities, being kicked-off in Autumn 2021. In addition, active contribution to BRIDGE, the initiative of the European Commission, which unites H2020 Smart Grid and Energy Storage Projects, and the European Technology and Innovation Platform Smart Networks for Energy Transition (ETIP SNET) has been made.

Communication and dissemination are a precondition for stakeholder engagement. Therefore, main activities are to actively approach stakeholders, e.g. for cooperation and collaboration, as a contribution to European joint RDI efforts, at Platone events, at dissemination events or in the context of a community on energy flexibilities. These activities are further described in the chapter 3 on communication and dissemination activities.

2.2.1 Implemented measures

2.2.1.1 Series of co-creation events on user interaction

Because flexibility provision and exploitation mean stakeholder involvement, Platone puts the grid users and responsible stakeholders and enablers at the centre to investigate their needs and expectations, and technically uses the underlying blockchain to unlock the potentials of higher dynamics of response. Stakeholder engagement strategies for the project are developed in task 1.5 of WP1, task 3.7 of WP3, task 4.5 of WP4. In these tasks the partners have defined approaches on harmonisation with customers, stakeholders and partners' needs and expectations, which lays the ground for the entire development and assessment of Platone solution models with the series of co-creation events on user interaction. They also have developed methodologies that assist in engaging the end-customers to voluntarily participate in the proposed demonstration solutions.

The customer engagement process was initialised with a kick-off workshop with all project partners to introduce user-centric design and prepare specific innovation activities. This "capacity building workshop" was conducted in Berlin on November 4th- 5th 2019. The primary objective of the WS was the introduction of the consortium partners to software development methods for user-centric design, which represent the basic methods for stakeholder engagement. The partners were introduced to the most-recent method and mindset of design thinking. Moreover, specific innovation and interactive stakeholder engagement activities were prepared to demonstrate user-centric design and the importance for

developing solutions, which will be accepted by the users because they were developed together with them. In general, a common understanding of "Platone users" was created by defining users and stakeholder groups and their role in the energy system as well as in Platone.

Figure 2: Workshop on capacity building, November 2019

Additionally, the user-centric development process and timeframes for workshops were proposed and discussed by each trial site. The partners agreed to apply these methods in a series of stakeholder and customer engagement workshops. In subsequent meetings and conversations, the partners have set up a strategy for involving stakeholder groups, especially the end customers, as early as possible, but at an appropriate point of time.

Due to COVID-19 restrictions and the overall identified need for physical workshops with stakeholders for prototyping solutions, these co-creation events couldn't take place as planned. Nevertheless, virtual workshop formats to address stakeholder interaction were developed.

The following paragraphs, therefore, summarize the engagement activities of the demonstrations and their key outcomes.

German demonstration

The innovation workshop took place attached to the first official General Assembly at Rome on January the 21st 2020. In a first step, the role of Avacon in Platone and possible scenarios for engaging the customers and other relevant stakeholders were discussed. The workshops on stakeholder engagement with customers therefore were planned for May 2020, but unfortunately postponed due to COVID-19 restrictions. A row of (online) meetings with selected stakeholder groups substituted this event.

The first workshop was held on 18th August 2020 in Syke, Germany with installers. These regional service providers sell technical systems such as photovoltaic systems, heat pumps and night storage heaters from large manufacturers. They are certified by manufacturers and local authorities to sell, install and commission the technical components as general contractors. In addition, some of them are commissioned by Avacon Netz for the installation of electricity meters at customers' premises. With this workshop Avacon, informed the 10 participants about the EU-funded project and the smart grid concept to be implemented and discussed the conceptual approach. Secondly, Avacon identified and investigated the ability of currently marketed flexible load and household storages for external control and measurement, in order to evaluate the feasibility of the system for integration into the local balancing mechanisms by the Avacon Local Flex Controller (ALF-C). The workshop has provided valuable feedback for the further steps of the German demo. The installers stated their general support for the project and support in providing information about systems and, if necessary, in building contact to manufacturers for clarification of open questions.

On 21st October 2020 a next workshop was held with the Local Council of Abbenhausen, part of the municipality of Twistringen. These representatives speak and make decisions on behalf of the entire

community. Avacon targets to acquire customers with flexibility (storage) for active participation in the project and to equip them with control and communication devices for integration into a local energy management system. With this workshop Avacon have created understanding for the targets of the project, of the way of customer recruitment and understanding of technical components to be implemented in the households. The 5 representatives who were present provided direct feedback after presentation and discussion.

The Open Day as a first on-site event with customers (residential consumers, prosumers, electric vehicle owner) and demonstration-relevant stakeholders (like energy community operator, electrical distribution system operator) took place on the 25th and 26th of May 2021. Technical prototypes were presented to a broad audience and feedback collected with appropriate forms. With the comments and the feedback, Avacon could adapt the next steps in the project and collect more experience regarding the future stakeholder engagement process.

Figure 3: Open Day of the German demonstration

Greek demonstration

A first introduction meeting was held on January the 21st 2020 attached to the General Assembly in Rome. General approaches towards customer engagement were discussed. In a virtual workshop held on Monday the 10th of February 2020, the responsible partners discussed the final approach of the series of co-creation events on user interaction. The innovation workshop was postponed due to COVID-19 restrictions and finally took place on the 18th of February 2021. About 30 representatives of the energy sector met virtually in a three-hour session for a professional exchange on the Platone solution that the Greek demonstration proposes for increasing observability of the grid state and harvesting flexibilities for a more efficient operation of the grid.

Figure 4: Event on user interaction for the Greek demonstration

The representatives of industry, energy regulatory authority, academia, DSO and TSO who attended gave positive feedback on the content and scope of the project in general and of the Greek demo specifically.

By informing the relevant stakeholders and receiving feedback on the need for enhanced grid observability, it was possible to anticipate possible challenges Platone might face especially during installation and commissioning of the phasor measurement units (PMUs) so that they are successfully integrated in the Platone architecture, as well as possible gaps towards a future implementation of variable network tariffs schemes. The next workshop on customer engagement is planned to take place in the autumn of 2021.

Italian demonstration

A first internal meeting took place attached to the first General Assembly in Rome. The content of the meeting with the responsible partners was a discussion on a systemic approach for engaging customers in Platone by means of the series of co-creation events on user interaction. As a result, Acea Energia planned to conduct two physical workshops together with areti and B.A.U.M. in the first year of the project with different stakeholder types. The first one was set for April 2020 and aims at involving all stakeholder groups but end customers. The second will involve the end customers. Due to COVID-19 restrictions these couldn't take place as planned. The Italian demonstration, as a consequence, conducted the first two workshops virtually, based on a structured and interactive format with advanced software. The innovation workshop focused on commercial stakeholder groups and representatives of customer organizations and took place on the 18th and 25th of June 2020. The key outcome was a broad understanding of the roles of the invited stakeholder types in the Platone project and a coordinated roadmap for the customer engagement. With these insights, the next workshop on customer engagement of the series of co-creation events on user interaction was conducted on March 2nd, 2021 with potential end customers, with focus on information and user interaction. As a consequence, participants were asked for feedback and their interest in participating in the project. This led to wider acceptance and participation.

Figure 5: Event on user interaction for the Italian demonstration

2.2.1.2 European joint activities on customer engagement

In the series of co-creation events on user interaction and throughout stakeholder engagement activities in the project, the naming of stakeholders, such as "(end) user", "customer", "operator" and "supplier" has not been consistent. As this issue is also relevant for coordination and dissemination activities with, e.g. other H2020 projects, a coherent and coordinated definition of stakeholder types, their possible roles and parameters for engagement is now being developed in coordination with subgroup on customer engagement within BRIDGE and projects within ETIP SNET and inspired by BRIDGE action on the Harmonised Electricity Market Role Model (HEMRM). The stakeholders selected have a direct or indirect role in the future energy system. The resulting template supports a harmonized understanding and communication and supports the scalability and replicability analysis within this project.

1.	**Operators and Utilities**	2.9	electric vehicle owner
1.1	(municipal) energy utility	2.10	landlord for tenant homes
1.2	electrical distribution system operator (DSO)	2.11	property manager

1.3	electrical transmission system operator (TSO)	2.12	energy community member
1.4	local heat/cold distribution system operator	2.13	energy community operator
1.5	gas distribution system operator	2.14	aggregator (energy, flexibility)
1.6	gas transmission system operator	2.15	eMobile Service Provider
1.7	technical employee of utility or operator	**3.**	**framework setters**
1.8	commercial employee of utility or operator	3.1	legislation body / national government
1.9	administrative employee of utility or operator	3.2	regulatory body
1.10	energy trader	3.3	local administration
1.11	operator of wholesale or balancing energy market	**4.**	**Suppliers and Supporters**
1.12	operator of local/regional energy market	4.1	ICT provider
2.	**Distributed System**	4.2	service provider
2.1	operator of generation plant	4.3	data provider
2.2	operator of Virtual Power Plant (VPP)	4.4	association of energy suppliers
2.3	residential consumer	4.5	association of municipalities
2.4	residential prosumer	4.6	academic institution
2.5	residential prostormer	4.7	national NGO (environment, climate)
2.6	commercial consumer	4.8	local NGO (environment, climate)
2.7	commercial prosumer	4.9	media
2.8	commercial prostormer		

Table 1: Stakeholder types extracted from the stakeholder characterization template

Each stakeholder type is described according to the following criteria:

- Description of tasks and activities
- possible roles in the technical or market system
- major drivers to actively participate and promote energy transition
- how to contact, motivate, activate
- definition of parameters for engagement strategies
    - i) Technical
    - ii) Market
    - iii) Regulation
    - iv) Degree of activation

- types of contribution to use case (e.g. active/passive, market, technical)
- artefacts developed in Platone, which affect the stakeholder directly (e.g. hardware or software, new tariff or business offerings)
- other experience from the engagement process
- appearing in following use-cases per trial
- source of information (to fill the template)
- relevant for Platone WP #
- elements for depiction (technical / personal)

2.2.1.3 Advisory and Dissemination Board

Platone has established a promising Advisory and Dissemination Board (ADB) of leading representatives of the critical energy infrastructure and ICT sectors, a total of 18 members. The ADB

kicked-off with a first meeting in November 2020. The ADB advises the project on strategic directions in the sector to assess the overall approach, use cases and field trials and their implications. ADB meetings also serve as an opportunity to identify changes in the framework and new challenges and opportunities. In addition, the ADB advises in the communication of results to stakeholders and helps in opening dissemination paths in preparation for exploitation. Members of the ADB support the communication of the project results and insights and thereby help ensure European-wide acceptance and usability of the Platone project outcomes. ADB members are invited to selected Platone driven events (e.g. family of projects joint online event on "Exploiting the potential of local flexibilities: The role of energy communities", Nov 19th, 2020). The ADB meets annually. While the first meeting focused on the platform's architecture the next meeting will focus on customer integration. All recommendations of the ADB members have been considered for the upcoming project phases.

2.2.1.4 Harmonising with other projects responding to the same call

In the context of defining demo specific KPIs by reviewing and discussing KPIs used in several ongoing and completed European projects, the developments of other relevant projects have been followed, not least projects responding to the same call. First contacts have been made with project promotors, including with the project in Canada, with the aim to set up a collaborative workshop in phase 2 of the project. On 26th of April 2021 Platone finally hosted its first workshop for all projects funded under the H2020 call on Flexibility and Retail Market Options for the Distribution Grid (ES-1-2019). In this interactive session, 75 representatives of all eight projects E-Balance, EUniversal, FEVER, FLEXIGRID.eu, FLEXIGRID.org, PARITY, Platone, and X-FLEX funded under this call, as well as of Canadian Platone partner from the Northern Alberta Institute of Technology (NAIT), joined. The eight project coordinators presented how they approach the challenges of the call. The presentations were followed by breakout sessions where the participants discussed key topics for their projects such as data management and data economy, regulatory obstacles to innovation, key performance indicators, customer engagement and the role of DSOs in battery storage. Among others, these key topics were identified in the breakout session: the need for an incentivised remuneration scheme for DSOs, the introduction of regulatory sandboxes as well as the need for an assessment of tariff structures and regulation in different countries. The workshop was a great success and will be followed up with workshops in person towards the end of the project to dive deeper into the discussion and exchange best practices and key takeaways from the learnings of the projects.

2.2.1.5 Interactive community

In the light of Platone consortium partners having an active role in other H2020 projects focusing on energy market related flexibilities, the idea emerged to not only foster a Platone community but to aim for a general flexibility community. This general flexibility community should be open for all stakeholders interested in flexibility creation, management and trading. The flexibility community created as a joint collaboration of various H2020 projects like for example EdgeFLEX, FEVER and DECIDE on the one hand makes use of synergies between the projects. On the other hand the community itself and thereby its potential members benefit from an enlarged reach and a larger network.

A detailed strategy for the flexibility community is currently developed. In the midst of November 2021 an official virtual launching event for the community is planned. Platone is co-organising the launch-event.

Figure 6: Logo of the flex community to be launched in November 2021

2.2.2 Submitted deliverables

The following deliverables have been submitted so far:

- D3.7 "Italian Demo: Report of customer involvement", January 2021, public report, status approved.
  The report explains the methodology used in customer sensibilization on decarbonization / flexibility matters, the customers' answers/response to the aggregator offers, the actual results in terms of customer satisfaction; implementation of the use cases and of the relevant customer engagement and involvement activities; work progress status.

- D3.2 "Report of optimal communication solutions between customer database and market Players", April 2021, public report, status approved.
  The report is composed of:
  1) The technical specifications for the hardware
  2) The cost-benefit analyses to select the communication channels and the appropriate protocol
  3) The description of the system architecture to connect the stakeholders
  4) Implementation of the use cases
  5) Description of the Shared Customer Database
  6) Work progress status

The following milestones (MS) have been reached so far:

- MS2: "Kick-off Workshop on customer engagement", November 2019.

2.3 Lessons learned

The stakeholder engagement process was initialised with a kick-off workshop with all project partners to introduce user-centric design concepts like design thinking and prepare specific innovation activities. Moreover, specific innovation and interactive stakeholder engagement activities were prepared to address the importance for developing solutions, which will be accepted by the users as they were developed together with them. The partners agreed to apply these described methods in a series of stakeholder and customer engagement workshops.

The project foresees series of co-creation events on user interaction. One core experience (lesson learned) was that the initial roadmap for these workshops was too ambitious. The idea of early-stage user interactive workshops to test prototypes could not be realized, due to internal and framework conditions.

Internally, trial site demos did not have prototypes or similar solutions/products ready for being tested at that early stage. Furthermore, feedback from the system relevant parties had to first be collected in order to define the framework and engagement options (active/passive) and their possible extent. Thus, the first engagement workshops (Italian and Greek demos) took place with system relevant stakeholders like trial-site integrated parties (DSO, aggregator, municipality operators, and commercial prostormers). Accordingly, the following workshops took place with potential private and commercial end users, to discuss their options to participate in the specific demonstration and Platone. The German

demonstration, with Avacon leading the customer engagement process, started their engagement by informing possible households about the project and possible chances to participate.

Deviations

MS6 "Well accepted open days at all 3 trial sites presenting and discussing prototype solutions", due in February 2021.

The changing framework conditions due to the COVID-19 pandemic limited the options for effective stakeholder engagement. It was planned to create events, where stakeholder groups, in particular potential users of Platone outcomes, can test and discuss functionalities of selected results. Especially the format of the Open Days would deliver important feedback from users and involved stakeholders, which would have helped to adapt the presented results in order to foster an increased exploitation level. Because of the COVID-19 pandemic, physical contacts were limited or prohibited and the planning and holding of physical workshops were not possible from March 2020 on, as the rules in Germany, Italy and Greece prohibited physical events. According to discussions within the consortium (especially trial sites responsible partners), virtual events cannot replace physical events appropriately, in terms of the Open Days.

As already described, the first Open Day event could take place under strict hygiene measures at the German demonstration. The on-site event with in total 30 customers (residential consumers, prosumers, electric vehicle owner) and trial-site relevant stakeholders like energy community operator, electrical distribution system operator took place on the 25th and 26th of May 2021. Technical prototypes were presented to a broad audience and feedback collected with appropriate forms. With the comments and the feedback, Avacon could adapt the next steps in the project and collect more experience regarding the future stakeholder engagement process. The Open Day for the Greek demonstration is planned to take place in September 2021. The Italian trial site plans to have their Open Day take place latest by October. Accordingly, the milestone would be achieved with a delay of 8 months.

2.4 Outlook

The next actions regarding the stakeholder engagement process are:

- Filling the stakeholder characterization template with content, in coordination with BRIDGE, ETIP SNET and other interested projects,
- apply results to scalability and replicability analysis (SRA) analysis (WP7),
- conduct Open Days in Greece and Italy with high rate of stakeholder engagement,
- conduct next stakeholder workshops in coordination with task 1.5,
- the next ADB meeting will focus on customer integration.

3 Communication and dissemination activities

3.1 Objective

With its communication activities, Platone aims to reach out to society and show the impact and benefits of the funded RDI activities in providing possible contributions to the energy transition. Platone is informing about and promoting the project and its actions, milestones, results and success stories to the project´s stakeholders and to an audience beyond the project´s own community, including media and the broad public.

These activities pave the path for the project´s dissemination activities. With these dissemination activities the consortium is transferring knowledge and results to enable others to use and take up results, thus maximising the impact of our funded research. With the public disclosure of the results, the project is ensuring that the results are available for others to use, so that the audience Platone is addressing may take an interest of the use of the results, like scientific community, industrial partners but also policy makers. Thanks to strategic partnerships and a unique consortium structure with an excellent network, Platone can offer an unprecedented effort of dissemination and exploitation with focus on DSO experts and final users.

3.2 Achievements

With its communication and dissemination activities, Platone already creates well-visible impact. During the first project phase the consortium has laid a stable foundation for communication, dissemination and exploitation activities in the Platone project. A solid project communication infrastructure was implemented (Platone website, social media activities etc.). Several collaboration and cooperation activities kicked-off.

The best examples are the lead of BRIDGE action on HEMRM, the creation of a BRIDGE Use Case repository, the contribution to the OPEN DEI project on aligning reference architectures, open platforms and large-scale pilots in digitizing European industry and the initiation of a flexibility community with other H2020 flexibility projects, which creates synergies with H2020 sister projects FEVER, edgeFLEX, DECIDE and which kicked-off with a joint online event in November 2020. With the kick-off of our cooperation with Canada in November 2020 three important action points 'Customer engagement', 'Platform technology' and 'Comparison of regulatory schemes Canada/Europe' for future cooperation were already determined and will significantly contribute to the knowledge transfer. Platone established also a good cooperation with the other project funded in the same call and in particular with the projects EUniversal and Platoon: this cooperation materialises in technical workshop and in a cross-participation in the project´s advisory boards. With the first meeting of the Platone Advisory and Dissemination Board (ADB) the consortium got very valuable advice and recommendations to further be considered in the process of the project. Consortium partner RWTH led the creation of a new project called SOGNO [4] within the Linux Foundation Energy (LFE), which is the key component of the DSO Technical Platform in Platone and project coordinator Professor Antonello Monti, RWTH, has been recently selected as chair of the Technical Activity Council of LFE as proof of the key role of the newly created project. This activity got an unprecedented visibility including an interview with Prof. Monti for the major international magazine Forbes [5].

Figure 7: Logo of the LFE project SOGNO

Some communication and dissemination activities were affected by the global COVID-19 pandemic. The virus still poses an uncertain risk, especially to live meetings. Planned events and occasions that aimed on communicating and disseminating the Platone approach in the project phase 1 had to be

postponed or cancelled. Due to the worldwide COVID-19 situation communication and dissemination activities have been adapted and rearranged where needed.

3.2.1 Implemented measures

3.2.1.1 Aligning activities

The Platone consortium kick-off meeting in Brussels in October 2019 marks the point where the Platone communication and dissemination activities kicked-off. Social-media platforms were initiated and the joint process of coordinating the project website began. A communication and dissemination team is responsible for initiation, implementation and evaluation of the measures. The project's website was one of the key communication activities in the first project's months.

Every person in the Platone consortium acts directly or indirectly as a communication and dissemination actor e. g. at events, in dialogue with cooperation partners etc. Every partner is asked to regularly inform about potential social-media-postings and/or news at the Platone website. Regular PMT and WP meetings as well as bilateral exchanges are used to constantly maintain the information flow. A strategic exchange on communication and dissemination activities is regularly made with task leaders on communication and dissemination.

Beyond that, the dissemination team collects, validates and forwards cooperation, media or community inquiries, collects and/ or coordinates event participations and reviews. All consortium members share their dissemination activities with the dissemination team, such as event participation, contact inquiries, publications and press reviews but also special needs.

3.2.1.2 Cooperation and Collaboration

Partners E.DSO and B.A.U.M. have created multiple dissemination occasions linking Platone with other relevant Horizon 2020 funded projects. Participation in scientific events such as the 2020 IEEE International Forum on Smart Grids for Smart Cities allowed the project to be visible also in the scientific community.

Platone successfully started the cooperation with the Distributed Energy Management Initiative (DEMI) in Canada, a partnership between Northern Alberta Institute of Technology (NAIT), ATCO, Siemens and the Future Energy Systems research programme at the University of Alberta. It was facilitated by the strategic alliance between RWTH and University of Alberta and by the fact that SIEMENS is partner in Platone as well as in DEMI.

With this cooperation the Platone consortium makes the Platone platform available to DEMI for testing within a microgrid scenario to understand possible adaptations and to extend the set of use case scenarios for Platone to microgrid flexibility. Therefore, the University of Alberta will bring up the Platone approach in the project "Towards future interconnected electric system", funded in Alliance Grant of the Natural Sciences and Engineering Research Council of Canada (NSERC), the major federal agency responsible for funding natural sciences and engineering research in Canada and NAIT. The testing area is a microgrid within the Centre for Grid Innovation (CGI), which was initiated by DEMI 2018 and is located at NAIT. In this "plug-and-play", microgrid energy companies can develop, test and validate their technologies under realistic field conditions.

With a kick-off meeting in November 2020 three action points for the future cooperation were determined: "Customer engagement", "Platform technology" and "Comparison of regulatory schemes Canada/Europe". In addition, the industry boards will be invited to join an event of the Linux Foundation Energy.

Furthermore, the following activities are performed in support of or as an output of the cooperation:

- DEMI representatives join the Advisory and Dissemination Board of Platone.
- Universities on both sides share data in support of the scalability analysis.
- A joint workshop will be organized in the middle of the project (ca. autumn/winter 2021) to study the market aspects.
- Scientists will be exchanged using funding from the universities already running such a programme.

- Thanks to the links established between RWTH and the University of Alberta in Platone, RWTH and the University of Alberta have submitted an international graduate school programme. The programme is currently under review by the German research funding organization "Deutsche Forschungsgemeinschaft (DFG)". If this is approved, it will create an international long-term cooperation with several scholarships, in the range of 12 Ph.D. from each country, so 24 altogether, based to the topics of Platone.
- Knowledge and insights in relation to the Platone project are constantly exchanged and reviewed between the partners (e.g. presentation of the Platone project to a broader Canadian electrical engineering audience at the IEEE Canada Power and Energy Conference (EPEC) 2020.

Dissemination activities have been used, mostly thanks to the E.DSO activity, as a vehicle of cooperation within the projects supported in the same call. As already mentioned in the chapter on stakeholder engagement (subchapter 2.2.1.3) on 26th of April 2021 Platone consortium partner E.DSO hosted a first interproject workshop for all projects funded under the H2020 call on flexibility and retail market options for the distribution grid.

Special synergies were identified with the projects EUniversal [6], which aims to implement the Universal Market Enabling Interface (UMEI) concept and develop solutions to ensure effective implementation of an interoperable flexibility ecosystem across Europe, and Platoon [7], which aims to digitalise the energy sector, enabling thus higher levels of operational excellence with the adoption of disrupting technologies. This cooperation materialises in technical workshop and in a cross-participation in the advisory boards. Massimo Bertoncini from partner ENG participates also in the BD4NRG [8], BRIGHT [9] and STORE&GO [10] projects, resulting in a multi-project contribution and collaboration with Platone. The focus of the activity was mainly on scaling up models from these projects.

In order to build the representative networks that will be used in the SRA analysis, contacts with the Joint Research Centre (JRC), the European Commission's science and knowledge service, have been established in order to have access to the database of representative networks developed by the JRC. Based on the experiences coming from the "DSO Observatory" project of the JRC [11] and other European works, partner RWTH has been established contacts with the JRC for having access to the EU JRC database of representative networks. Partner areti was involved in the compilation of the JRC report and in the mapping demo assets, based on the extraction of data regarding its grid through Geographic Information System (GIS). Regarding the analysis of the replicability potential of the results in the project in Canada it was discussed with the University of Alberta about the information that will be required to analyse the scalability and replicability potential in Canada.

3.2.1.3 Platone events

One of the current actions in the context of the dissemination and communication as well as stakeholder engagement activities is the Platone midterm conference, related to the milestone MS11 "Successful midterm conference in Brussels". The conference will take place on 14 and 15 September 2021 as a fully virtual event due to the still uncertain development of the Corona pandemic. Above 130 participants already registered. Besides the main conference, the official start of the Italian demonstration is part of the programme. This event will likewise level up the project´s dissemination and stakeholder activities and pave the path for the exploitation activities. With speakers from ACER, ENTSO-E, smartwires, Alliander, dcbel, NET2GRID and the European Parliament, the Platone consortium aim to boost knowledge sharing and help growing the European energy transition. On day 1 of the conference the future of flexibility and digitalisation will be discussed. After a short input from the speakers a dialogue will be created to enable an active discussion between participants, speakers and Platone project representatives. In the afternoon the "Go live" of the Italian Platone demonstration follows as a highlight of the midterm conference. Day 2 focusses on strategies for consumer & citizen engagement and local energy communities (LECs) in the energy transition. Again, inspiring input from the speakers is expected and the possibility to discuss and exchange views and approaches is given prominently. In addition, the German and Greek Platone demonstrations will give insights into their unique local activities and set-ups. The Platone midterm conference has successfully applied to be promoted as a Sustainable Energy Day under the EU Sustainable Energy Week to promote clean energy and energy efficiency [12].

Figure 8: Promotion of the Platone midterm conference

To maximise synergies between EU Horizon 2020 funded projects, members of the consortia of Platone, DECIDE, FEVER and edgeFLEX, as well as external experts, gathered virtually on 19 November 2020 to discuss the potential of local flexibilities in relation to energy communities. On EU and national level, the discussion on advancing the European energy system often centres around technical solutions for harvesting flexibilities and establishing a new organisational and business model that builds on a better involvement of citizens, e.g. in energy communities. Few projects tackle these issues together – but the involved projects do. In order to sound out the possibilities of a closer cooperation, the main objective of the workshop was to elaborate the similarities of the four projects and to find out the differences aiming to learn from each other, to establish a long-term collaboration between the four projects and a broader community on flexibilities. The participants agreed on follow-up activities like workshops to further discuss the different topics and to establish the cooperation in the context of the so-called flex community being launched in autumn 2021 (see chapter 3.2.1.2).

3.2.1.4 Representing Platone at 3rd party events

Even with the COVID-19 restrictions, dissemination has been extremely active in Platone, with the project being present at a long list of events: both scientifically oriented and commercially oriented. The lack of physical impact clearly had an effect but virtual events allowed Platone to reach a wider audience and many events registered a record level of participation.

Thanks to the strategic alliance between coordinating project partner RWTH and University of Alberta coordinator Prof. Antonello Monti has been invited to give a keynote speech related to Platone to the major "IEEE Canada Power and Energy Conference" in Canada organized by the partner, the University of Alberta in November 2020. Thanks to RWTH involvement, Platone also played a key role in a further IEEE event, the Smart Grid for Smart Cities in 2021. Platone was present with a presentation and a virtual booth.

Figure 9: Platone at 2021 IEEE SG4SC

In addition, the Platone project and its activities have been successfully presented in several workshops and international reference events like

- Workshop with DSO associations on the role of local flexibilities for stabilising the grid "Flexibilities for a stable energy system: don't talk - start harvesting!", in the context of the European Utility Week,12.11.2019, Paris, France, Moderation of the workshop & presentation of Platone by B.A.U.M.
- 2nd Workshop on Flexibility Markets of the Future and TSO-DSO Cooperation,13.02.2020, Brussels, Belgium, Presentation by RWTH.
- OPEN DEI 1st Energy Domain Workshop, 06.04.2020, Presentation by ENG.
- Linux Foundation Energy - Architecture group, 06.04.2020, online, Participation/presentation by RWTH.
- Involvement of municipal representatives, 08.05.2020, Twistringen, Germany, Presentation by Avacon.
- Involvement of municipal representatives, 20.05.2020, Twistringen, Germany, Presentation by Avacon.
- OPEN DEI Webinar: The role of the Reference Architectures in data-oriented Digital Platforms, 28.05.2020, online, Presentation by RWTH.
- 20TH IEEE Mediterranean Electrotechnical Conference - IEEE MELECON 2020, 16.-18.06.2020, Palermo, Italy, Presentation by ENG
- FIWARE energy day, 22.06.2020, online, Presentation by RWTH.

Platone successfully submitted two papers for the Congrès International des Réseaux Electriques de Distribution (CIRED), a leading forum for the Electricity Distribution. CIRED holds the major International Electricity Conference every two years as well as different workshops on specific themes. For CIRED BERLIN 2020 workshop the ePoster under the title "Innovative solutions to enable flexibility and retail markets in distribution grids: The Platone approach" was presented. The ePoster for CIRED online 2021 being held in September is titled "Platone: Towards a new open DSO platform for digital smart grid services and operation".

Figure 10: Platone at several stakeholder relevant events

3.2.1.5 Communication and dissemination approach

To maximise the impact of the Platone approach and results, a detailed communication and dissemination plan determining the communication and dissemination strategy as well as measures and implementation was created at the beginning of the project, and detailed key performance indicators (KPIs) on communication, dissemination and exploitation as well as any associated activities, our impact KPIs, were defined that allow to check the project progresses. These impact KPIs are detailed in chapter 6. The two editions of the communication and dissemination plan so far have been published as deliverable D8.1 "Communication and dissemination plan (first draft)", November 2019 and communication and dissemination plan as public reports, available for download at www.platone-h2020.eu/project/deliverables.

Communications activities cover the whole project from the beginning and target multiple audiences, including media and the general public. Dissemination activities focus mainly on the results and target audiences that may use the results in their own work, including peer groups, industry, professional organizations or policymakers. Therefore, the communications activities have been in the focus of the first phase of the project which spans over the first 20 months (M1-20) of the project. Starting phase 2 dissemination activities are gaining impact as results (or interim results) are available.

3.2.1.6 Communication materials and tools

All project activities are supported by high-quality communication material, publications, stakeholder-specific information material and communication tools.

A project identity with a project logo, colour scheme and a project visual and several design elements was created to guarantee that everything realized within Platone is recognized as being part of it.
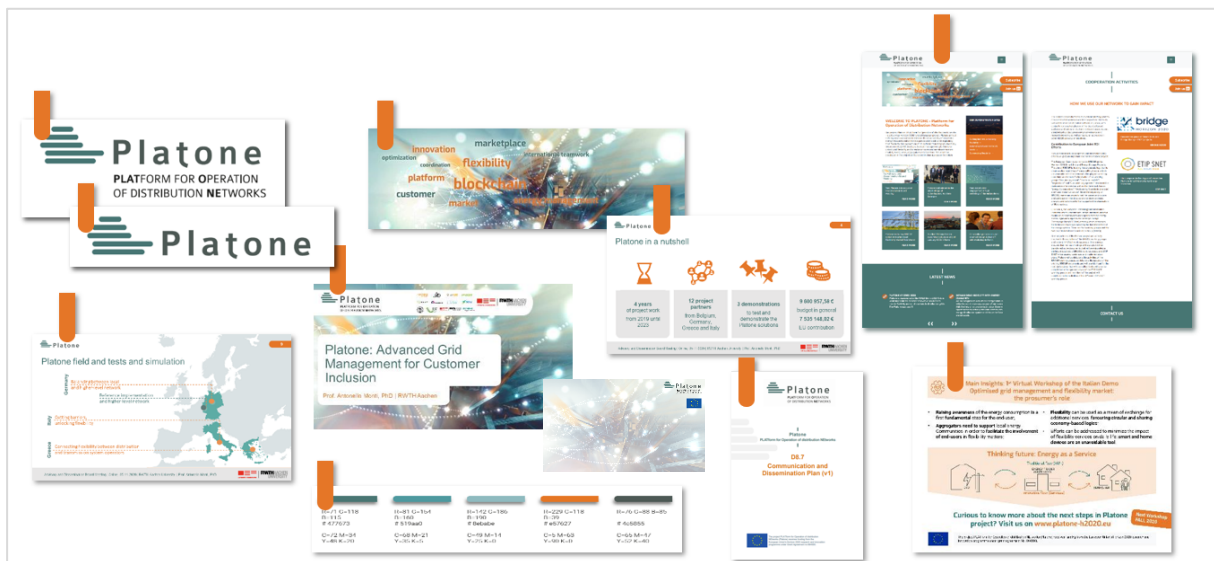

Figure 11: Overview on selected communication elements

The project keywords and a set of slogans were prepared by a co-creation process within the consortium. For general project information currently, the following key slogan is used:

"Smart integration for market innovation – Innovation for the customers, innovation for the grid"
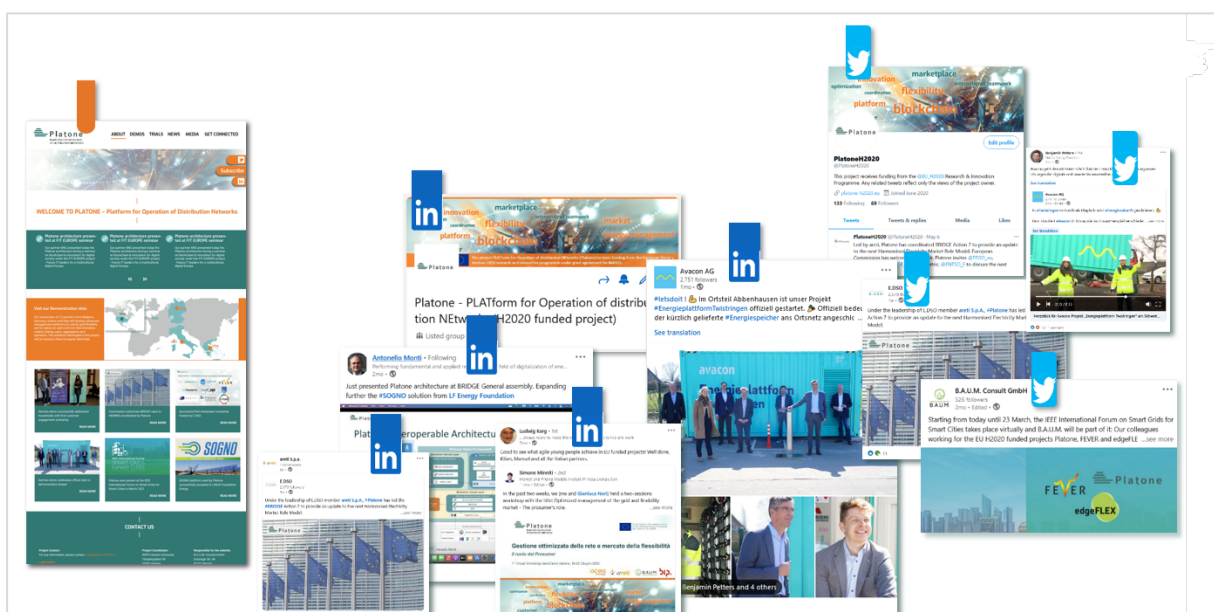

Figure 12: Platone project website, LinkedIn group and twitter channel

The project website www.platone-h2020.eu, launched at the beginning of the project, is the central platform for dissemination of Platone information and it includes all main information on the project, its progress, project related news and events. Different information levels take into account different stakeholder needs. Off page and on page search engine optimization (SEO) ensures high visibility for online content.

The Platone group in the online professional network LinkedIn with the title "Platone - PLATform for Operation of distribution NEtworks (H2020 funded project)", opened on 1st October 2019 and with currently above 70 members is running to share content and actively connect with already established groups and professionals on Platone specific topics.

The Platone Twitter channel "@PlatoneH2020" opened in October 2020 with currently above 80 followers is a good supplement to LinkedIn since LinkedIn focuses more heavily on a professional context whereas Twitter allows for a more grounded communication.

To promote Platone interim results and outcomes, events, etc. a well-established network with intermediaries, e.g. partner projects, joint initiatives is available. Project partner E.DSO reports periodically to its 43 members, which includes some of the largest and most innovative DSOs in Europe, through presentation at quarterly meetings dedicated to projects and innovation and through its members' newsletter. Two contributions to the BRIDGE newsletter were made in December 2019, topic "start of the project" and June 2020, topic "HEMRM".

Based on the project design templates for slides, deliverables and milestones, a set of basic slides materials and templates for Social Media posts were created and are continuously adapted and under active usage of all consortium members.

A stand-up (Kakemono) presenting a general image of the project aiming to capture a first interest/attention and customizable for different purposes was designed
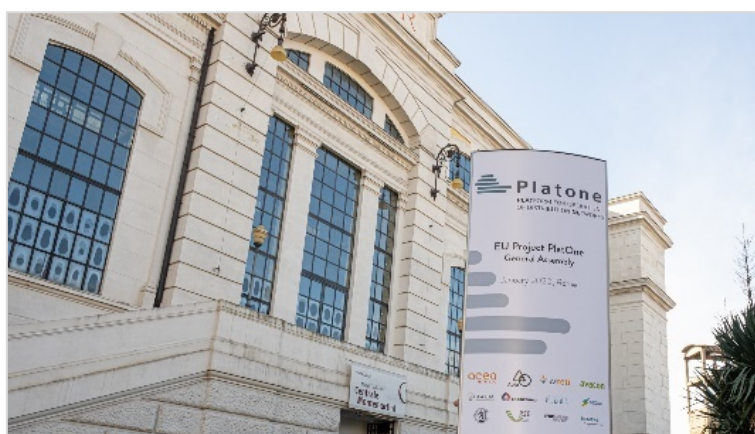

Figure 13: Platone stand-up

Figure 14: Project brochure 2020

A first edition of a project brochure with general project information and details on each of the demonstrations was created to be used digital or printed at virtual or physical fairs etc. to attract experts to our project.

For the virtual midterm conference midst of September 2021 an animated conference logo was designed as well as an animated conference opener.

Figure 15: Animated logo for the Platone midterm conference

In order to present the project, high quality videos were released in August 2021, describing the general project context, the technologies developed and tested in the Platone trials and the expected results. The videos show the similarities as well as the uniqueness of the three trial approaches. The COVID-19 situation has to be taken into account when the concept for the production of the videos is developed. Thus, the videos are not mainly relying on live material that is captured in situ but rather on animated material. The videos are available on the Platone web site, are spread in social media channels and will be used e.g. at booths in fairs or as openers for events or adequate digital formats.

Figure 16: Screenshot video German demonstration

In the first project phase three press releases have been released (downloads at www.platone-h2020.eu/media_content):

- January 22, 2020: Managing the electricity System with blockchain, Platone, European Union.
- January 22, 2020: Presented today in Rome, the European project "Platone" that revolutionises electricity consumption and optimises grid management, Acea, Italy.
- Februar 9, 2021: Herzstück für Avacon-Projekt „Energieplattform Twistringen" im Ortsteil Abbenhausen eingeschwebt, Avacon AG, Germany.

A media information with project description and facts & figures is available as well.

Local media in Italy and Germany have reported on demonstration related milestones.

Figure 17: Local media about Platone

3.2.1.7 Contribution to European Joint RDI Efforts

3.2.1.7.1 BRIDGE

Platone has been fully active in all the working groups of BRIDGE. Currently 11 consortium members are participants in BRIDGE working groups and associated actions and task forces. In addition, Prof. Monti, RWTH is the Co-chair of the task force on Research and Innovation priorities, Ercole de Luca, areti leads Action 7 "Harmonised Electricity Market Role Model – HEMRM" and Ludwig Karg, B.A.U.M. Consult, is the Co-Lead of the task force Energy Communities.

In two cases, the project actually had a clear leadership position:

Within the Data Management working group Platone proposed a new approach to the creation of a database of use cases. The goal of this BRIDGE task force is to create a European repository of all the use cases to facilitate the exchange of knowledge among projects. Platone developed as part of its work a toolchain totally open source that makes this repository possible. The approach has been proposed to the WG, which adopted the solution as standard. Platone is still supporting the advancement of the tool and the creation of new features. The Smart Grid Use Case Repository is available online [13].
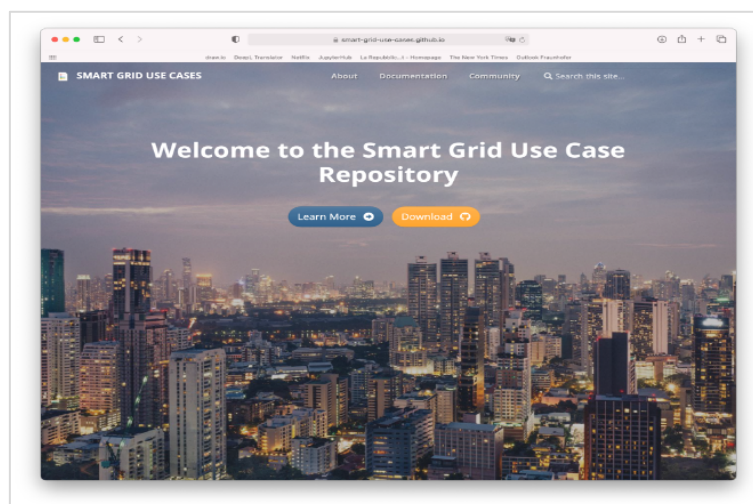

Figure 18: Home page of the use-case repository

Still within BRIDGE, Platone, under the leadership of areti and with the involvement of the whole project management team (PMT), led the preparation of an updated version of the Harmonized Electricity Market Role Models (HEMRM) originally prepared by ENTSO-E. The document published in April 2021 has been recently shared with the Directorate-General for Energy (DG Ener), or ENER, the Directorate-General of the European Commission DG Energy and it is under discussion and evaluation with relevant stakeholders. The document shows a common view of the EU BRIDGE Projects about the roles (and the possible actors playing those roles) in the electricity market with focus on flexibility and provides a base of discussion for an update of the existing model, able to include the new roles identified by the projects under the EU BRIDGE initiative. The finding of the analysis outlines the needs to upgrade of the ENTSO-E – ebIX – EFET HEMRM, assuming it as a base for further discussions with all the relevant stakeholders and Institutions involved in the electricity sector, for comments and further tuning and developments, to be at the end analysed with ENTSO-E – ebIX – EFET [14]. Platone has as well contributed to the task related to creating a common taxonomy for services, products and markets. This was coordinated by E.DSO with the input from especially areti.

Additionally, further contributions were made within the Task Force on Data Architecture, where Platone contributed the definition of the architectural picture that has been presented at the BRIDGE General Meeting 2021. Within the Task Force on Common Information Model (CIM) application Platone participated to the preparation and processing of the analysis of the use of the CIM standard within the H2020 projects. Prof. Monti co-chaired the task force that analysed the concrete results of the complete set of projects of H2020 represented in BRIDGE to identify gaps and opportunities to be considered for the upcoming Horizon Europe. The work has been summarized in a comprehensive report that has been already released to the European Commission.

Representing i.a. Platone, Ludwig Karg from B.A.U.M. together with Leen Peters (ThinkE) chairs the taskforce on Energy Communities. The taskforce liaises with a twin taskforce of Joint Programming Platform ERA-Net Smart Energy Systems (JPP SES) and operates a knowledge platform on expera. Surveys have been done with BRIDGE and JPP SES projects to collect examples of Energy Communities, identify the support needs to develop such structures and better understand the regulatory conditions and tariff specifics in EU countries.

Within the BRIDGE subgroup on customer engagement, partner B.A.U.M. and further Platone representatives have been paving the path for a process developing a coherent and coordinated definition of stakeholder types, their possible roles and parameters for engagement (see chapter 2.2.1.2).

3.2.1.7.2 ETIP SNET

E.DSO is member of the governing board of ETIP SNET, providing a further valuable possibility to increase Platone impact and visibility. Members of Platone project are active in WG1 and WG4. Within WG1, RSE is mostly active for the preparation on the report on sector integration. RWTH provided also input in relation to the use of SGAM approach for multi energy systems. Prof. Monti has served as task force leader within WG4 and led the preparation of the position paper on digitalization. As part of the work of WG4, Prof. Monti contributed to the support provided by ETIP SNET for the preparation of the new framework program. In particular, he was one of the main promoters of the so-called big idea, an overarching view of digitalization to be achieved by means of a set of projects. Currently, Prof. Monti is active in the new task force on use case definition. Platone was presented at the 11th ETIP SNET Regional Workshop on 21 April 2021.

3.2.1.7.3 OPEN DEI

Platone has contributed to OPEN DEI, a H2020 project for aligning Reference Architectures, Open Platforms and Large-Scale Pilots in Digitising European Industry. E.DSO is a leading party of the OPEN DEI working group 1, thus for example preparing a brochure for an OPEN-DEI publication about the Platone demonstration sites, giving an overview about their manifesto and ecosystems. Partner ENG contributes to OPEN DEI working group 2 and working group 4. RWTH hosts the OPEN DEI platforms and supports consortium partner with contributions to the platform. As well Platone was presented at the OPEN DEI 1st Energy Domain Workshop, 06.04.2020 and at the OPEN DEI Webinar: The role of the Reference Architectures in data-oriented Digital Platforms, 28.05.2020.

Figure 19: European joint RDI efforts

3.2.1.8 Implementing Platone topics in research

With RWTH Aachen as Platone project coordinator, a well-recognised and prestigious research partner joins the consortium. RWTH is using its experience to reinforce its leadership in offering education in the field of digital energy. The creation of a cross-faculty program is the key element of this task. The software developed in Platone will play a key role for the experimental activities of the students through laboratory courses. A new laboratory class on grid automation has been added to the curriculum. Furthermore, a module for a group lecture on digitalization has been added to the class on "Future Energy Networks".

RWTH is leading the exploitation of the project results in terms of open-source implementation. A concrete element of this work is the role currently played by RWTH within the LFE in the creation of the new project SOGNO that is the implementation of the DSO Technical Platform. This work is dramatically increasing the international visibility of the research group.

Thanks to a new partnership with Fraunhofer FIT and the creation of the Fraunhofer Center for Digital Energy in Aachen, RWTH is also planning to directly reach out to industry for the implementation of the Platone solution in the real field. A first concrete development in this direction is the submission to the German government of a research project in cooperation with E.ON for the implementation of a new automation architecture for DSOs in Germany that will be based on the DSO Technical Platform as its cornerstone component.

Platone topics will be introduced in RWTH summer schools and have been introduced in a first professional training in the Energy Delta Institute of Nyenrode Business School, Netherlands. The summer school was not held in 2021 because of the COVID situation but it is scheduled again for 2022.

Thanks to the links established between RWTH and the University of Alberta in Platone, RWTH and the University of Alberta have submitted an international graduate school programme. The programme unfortunately has not been granted but the universities are planning a resubmission considering the comments of the reviewers.

3.3 Submitted deliverables

The following deliverables have been submitted so far:

D8.1 "Communication and dissemination plan (first draft)", November 2019, Public report, status approved, download at www.platone-h2020.eu/project/deliverables

The document summarizes and structures all communication and dissemination activities according to the development stage of the project. It is a living document and is continuously integrating the lessons learned of the implemented activities. It also takes into account all changes and improvements of the Platone project and adapts the communication and dissemination strategy accordingly. It is updated annually.

D8.2 "Website with interactive community platform" – November 2019, Public website, visit www.platone-h2020.eu, LinkedIn Group Platone - PLATform for Operation of distribution NEtworks (H2020 funded project)

The project website is a key element of the digital implementation strategy and is accompanied by a LinkedIn Group.

D8.3 "High quality videos explaining the approaches in the 3 trials", Public videos, August 2021, watch at www.platone-h2020.eu/media/media_content.

The videos show the similarities as well as the uniqueness of the 3 approaches of the demonstrations.

D8.5 "Exploitation plan for the involvement of partners and future customers (v1)", August 2021, status submitted.

This first version of the deliverable provides an exploitation and marketing plan for future partners and customers being interested in the Platone solutions. It describes the major lessons learnt so far from trial implementations and partner collaboration, taking into account the market, policy and regulation situation in the EU to find the most promising environment for the further deployment.

D8.7 "Communication and dissemination plan (v1)", November 2020, Public report, status approved, download at www.platone-h2020.eu/project/deliverables

See D8.1

The following milestones have been reached so far:

MS1 "Project website with interactive community platform available", November 2019, www.platone-h2020.eu, LinkedIn Group "Platone - PLATform for Operation of distribution NEtworks (H2020 funded project)"

MS11 "Successful midterm conference in Brussels", August 2021. To increase the potential attendances the conference will take place shortly after the holiday season on 14 and 15 September 2021. Due to the still uncertain development of the Corona pandemic the main conference will be organized as a fully virtual event.

3.4 Lessons learned

Even in the light of the COVID-19 pandemic the communication and dissemination activities were not heavily affected. Platone adapted by using innovative interactive virtual formats to minimise cancellation or postponement of meetings, working groups and 3rd-party events.

The focus in project year 2 is to actively pursue all initiated collaboration and cooperation activities, foster transferring knowledge and disseminating (interim) results of Platone to relevant stakeholders and later to target groups. Beyond that, ongoing work will be done to expand, align and update tools and channels for spreading information to the identified relevant stakeholders who have a high impact on the success of the project to reach the desired engagement with a shift from "taking notice" up to direct involvement and feedback processes, e.g. in trials/demos.

In addition, consortium members representing Platone at mainly virtual stakeholder-relevant events will also play an important role in project year 2. To evaluate how effective the measures are, careful monitoring is done from the very beginning.

3.5 Outlook

One of the highlights for the beginning of the next project phase is the Platone midterm conference on 14 and 15 September 2021 and the official start of the Italian demonstration as part of the programme. This event will enhance the project´s dissemination and stakeholder activities and pave the path for the exploitation activities.

Planned for midst of November 2021, the Flexibility Community platform will be launched with a virtual launch event, supported by Platone as one of the initiating projects. This will again increase the outreach of the Platone concept and will strength the cooperation with project and stakeholders working on energy flexibility.

For autumn 2021, the participation in further events is planned to disseminate the Platone approach. This includes the EU Sustainable Energy Week (EUSEW), where Platone will contribute to the EUSEW Energy Talks under the title "Socrates or Plato – whom shall the future energy system follow?" and will

apply for the EUSEW virtual Networking Village and the Enlit Europe 2021 in Milano, where Platone will register for a project desk in the EU project zone.

In September 2021 Platone will apply for the E.DSO 1st 'Digital DSO Power Award' with the Platone DSO Technical Platform, based on the previous H2020 project SOGNO, meanwhile accepted as a project of the LFE. The award is meant as a recognition of the most meaningful and relevant digital innovation contributing to the shaping of the new role of DSOs.

With the focus on the demonstrations in the upcoming project phase, the communication and dissemination activities around the demonstrations will be extended e.g. with the videos on the Platone demonstrations published end of August 2021, an extension of the description on the website including use case descriptions and further demo-related events like the shortly starting Open Days in virtual, hybrid or physical format in Italy and Greece as well as the continuation of customer engagement activities related to the demonstrations (see chapter 2).

With the deliverable D8.8, the second edition of the communication and dissemination plan due in November 2021 the measures for the next project year will be determined.

Consortium partners will introduce solutions to associations and framework-setting institutions on national, European and worldwide level, mainly in phase 2 and 3 of the project. For that purpose, a link between the task of WP8 "Fostering adoption of Platone results" (Task 8.2) and the subtask "Comparison of demo activities with the state of play in the regulatory framework at national and EU level" (Subtask 1.2.2) of WP1 will be established and used as a base for the policy briefs. In addition, E.DSO continuously monitors policy developments at the European stage and informs consortium partners on topics relevant to Platone project.

RWTH will implement Platone topics in curriculum and postgraduate training (e.g. summer school RWTH, training at the Nyenrode business school in the Netherlands, Ph.D. thesis in Canada).

4 Exploitation activities

4.1 Objectives

With its exploitation activities, Platone aims to effectively promote the use of project results through scientific, economic, political or societal exploitation, aiming to turn R&I actions into concrete value and impact for society. It means the utilisation of results in further research activities or in developing, creating and marketing a product or process or in creating and providing a service or in standardisation activities. The objective is the concrete use of research results by the project partners as well as user groups outside the project.

4.2 Achievements

At this stage of the project, 14 key exploitable results (KER), as well as their start and end technology readiness level (TRL), are identified and shown in the following table.

Key Exploitable Result (KER)	Start TRL	End TRL
Platone Open Framework	0	7
DSO Technical Platform, Platone	3	7
State Estimation Tool	5	7
Platone Market Platform	5	8
Network Tariffs model for optimal control of DERs and ancillary services to the TSO	6	7
Local Flexibility Market	1	3
Blockchain Access Layer (1)	5	8
Blockchain Access Layer (2)	6	8
Phasor Measurement Unit	6	7
Local Flexibility Controller	3	7
Light Node	3	7
Software package for Use Case Description Generation	5	8
Common Information Model (CIM) models	4	4
Open Datasets	0	7

Table 2: Key exploitable results of Platone

Five KERs have a TRL equal to or below three (e.g. Platone Open Framework, DSO Technical Platform Platone, etc.), showing that Platone contributes to basic research by evaluating technological concepts or laboratory studies. But with four KERs (Platone Market Platform, Blockchain Access Layer (1) and (2), etc.) with a targeted final TRL 8, at which systems or models are completely qualified, representing the end of the development, Platone proves also to deliver close to the market products or services.

Many KERs of Platone follow the open-source approach and even though the project is not finished yet, three major KERs can already be used by various target groups. In the following text, each open-source KER will be described briefly with its functions, the target group as well as the exploitation strategy.

1. Blockchain Access Layer (BAL)
   The Platone BAL is includes the two components Platone Blockchain Access Platform, to integrate the data coming from the physical infrastructure, and Platone Shared Customer Database, which contains the energy data and provides access to the other stakeholders involved. The Blockchain technology adds a further level of security, transparency and trustworthiness. The target group of the BAL are all parties that need to share energy data, set points etc., which are TSOs, DSOs, Aggregators and Customers. The BAL is available as open-source and three different versions of this component will be released within the Platone project.

The first version is already available online (https://git.rwth-aachen.de/acs/public/deliverables/platone/platone-blockchain-access-layer).

2. Software package for Use Case Description Generation
The tool Software package for Use Case Description Generation supports the development of Use Case descriptions, to map existing Use Case descriptions produced by commercial tools into a usable, open format and to provide an open repository for Use Cases. It makes Use Case development cheaper than using commercial tools and enables sharing and re-use of Use Cases. The target group is developers of new use cases and users of existing use cases, which could be in industry or research. The tool addresses the need identified by BRIDGE to create a European repository of all existing and new use cases to facilitate the exchange of knowledge among projects. The Smart Grid Use Case Repository is already available online (https://smart-grid-use-cases.github.io/) and is open-source software. Dissemination now and in the future will also be done through the Smart Grids Use Case Repository website. As it is open-source software, it will be tried to establish a community of users. It will continue to be available after the Platone project ends.

3. Common Information Model (CIM) models
The Common Information Model (CIM) is a standard semantic abstract model that represents all the major objects in an electric utility enterprise typically involved in utility operations. This model includes public classes and attributes for these objects, as well as the relationships between them. The standard IEC CIM is described by the International Electrotechnical Commission (IEC) 61970 series. This methodology has been applied to transform three electrical grid demos from the PowerFactory data model to the IEC CIM. Further, it can be extended to other input models and it has been validated in the RSE lab Internet of Things (IoT)-BigData. Using IEC CIM models facilitate the integration of EMS applications developed independently by different vendors, between entire EMS systems developed independently, or between an EMS system and other systems concerned with different aspects of power system operations, such as generation or distribution management systems (DMS). Consequently, the target group consists of DSOs, TSOs, research and industry. The methodology and the transformation code are open-source. The transformation methodology will be shared through conference articles. The code will be available online on GitHub and will be an open-source software. It will continue to be available after the Platone project ends. Furthermore, the transformation code (PowerFactory to IEC CIM) will be integrated in the Multi-Energy Semantic Platform (MESP) developed by RSE.

More information about the KERs, the exploitation strategies as well as about the target groups can be found in the public deliverable D8.5 "Exploitation and marketing plan for the involvement of partners and future customers (v1)", submitted end of August 2021.

4.2.1 Implemented measures

The exploitation at project level is at a very good stage considering the status of the project. In particular, the commitment to adopt an Open Source enables a comprehensive transfer of findings, software code and tools to the target groups. This approach has been already taken to a high level with the commitment to participate in the work of the LFE. RWTH led the creation of a new project called SOGNO (www.lfenergy.org/projects/sogno/) within the foundation. This is the key component of the DSO Technical Platform in Platone. Professor Monti has been recently selected as Chair of the Technical Activity Council of LFE as proof of the key role of the newly created project. This activity got an unprecedented visibility including an interview with Professor Monti for the major international magazine Forbes [5].

An important measure for the exploitation was the identification of the KERs. Each project partner was encouraged to assess and describe their KER. The target group of the KER was identified and the benefit to them explained. An exploitation strategy for each KER is being developed to detail how the KER will be exploited downstream in the value chain in form of a product, process or service or alternatively act as an input to policy, further research or education. The strategy also includes, if already known at this stage of the project, on how the KER will be disseminated to the target group.

4.2.2 Submitted deliverables

The following deliverables have been submitted so far:

D8.5 "Exploitation and marketing plan for the involvement of partners and future customers (v1), public report, August 2021.

This deliverable provides an exploitation and marketing plan for future partners and customers interested in the Platone solutions. It describes the major lessons learnt so far from trial implementations and partner collaboration, taking into account the market, policy and regulation situation in the EU to find the most promising environment for the further deployment.

4.3 Lessons learned

As a common lesson learnt it can be said, that all partners are on track to have a concrete exploitation during but also beyond the project duration. With the drafting of deliverable 8.5 "Exploitation and marketing plan for the involvement of partners and future customers", all the single exploitation strategies aggregate to an encompassing exploitation strategy of the Platone project and give external stakeholders the chance to identify the main interesting results of Platone which could be of use for their own value chain of a product, process or act as an important input to policy or research. The process for drafting this document revealed, that it is of great importance to address each partner individually and work out the exploitation strategy in a bidirectional feedback loop. A milestone for the individual exploitation was the identification of the KER and the classification of the TRL. With this approach, the risk of having an unclear and vague exploitation strategy and targets could be avoided. This shows that defining a concrete exploitation strategy, including the identification of KERs, can't be done early enough in the project and helps to work effective and efficiently.

4.4 Outlook

As the project proceeds the KERs and the corresponding exploitation strategies will be continuously updated. In the next project phase, the exploitation strategies will serve as the basis for the business plans that are foreseen to be developed at the scheduled exploitation workshops. The format of the workshops as well as the point of time are not yet determined. The results of the workshop will serve as input for the deliverable 8.6 "Exploitation and marketing plan for the involvement of partners and future customers (v2)" which is due at the end of the project.

5 Standardisation activities

5.1 Objectives

The purpose of the standardisation task of WP6 is to describe which standards will be used in, or are best suited for, the use cases in the Platone project demonstrations. Based on the ecosystem description performed earlier in the project, the standards cover all technical areas such as SCADA (Supervisory Control and Data Acquisition) communications, Distribution Management System (DMS)/ Energy Management System (EMS), Advanced Metering Infrastructure (AMI), Demand Response Management Systems (DRMS), Energy and Battery storage (BEMS), cybersecurity, Energy Markets and Blockchain.

5.2 Achievements

5.2.1 Implemented measures

So far, the following outcomes have been achieved:

- The ecosystem of standards that are of interest or relevance to Platone have been analysed and the ecosystem of different areas of interest for usage in later stages of WP6 has been categorised.
- The most suitable standardization suites were identified, and their applicability with regard to the demonstration setup of each demo and suggested gaps were discussed.
- WP6 provided an ex-ante qualitative analysis of the standards that will be used in Platone. In addition, WP6 performed analytical simulations on the standardization ecosystem, with a focus on telecommunication, to identify potential issues, with respect to the Platone implementation.
- A lessons-learned report was conducted were valuable insights, on the topic of standardization, from the first year of the project were recorded.

5.2.2 Submitted deliverables

WP6 consists of 5 tasks: Task 6.1 "List, analyse and evaluate the most relevant standards to the demonstrations" which was completed with the submission of D6.1 "Report on the analysis of most relevant standards". Task 6.2 "Identify best suited standards for each demonstration" is still ongoing but subtasks 6.2.1 "Standard guidelines for each demonstration" and 6.2.2 "Ex-ante qualitative evaluation" are completed with the identically named D6.2 and D6.3 submitted. The aforementioned tasks focus on the topic of standards. First, by performing a general ecosystem analysis in Task 6.1. The ecosystem was divided into areas of interest, for each of which a separate analysis was performed in the coming deliverables. Task 6.2.1 increased the resolution on the standards that are of direct relevance to Platone and provided recommendations and guidelines. Finally, in Task 6.2.2, an ex-ante analysis was performed where critical conditions of the Platone solution were simulated in order to identify potential issues and obstacles.

5.3 Lessons learned

On the topic of standards, for the Italian demo the discussion on lessons-learned focused on the complexities of creating the use cases and then, with the assistance of D6.1 and D6.2, the deepening of the analysis on standards. The Greek demo section on standards made the connection between the two exercises of creating use cases and the standards guidelines in D6.2, and highlights the usefulness of this exercise for deepening the understanding on how standards relate to the demo implementation. The German demo section on standards raised the very important issue of standards conformity between vendors of the same technology, in this case batteries, and how that can affect implementation.

Regarding the target audience standardization bodies, the idea was to gather preliminary feedbacks about the preliminary project results; discuss early recommendations with a panel of experts; gather indications about topics that shall be further investigated in project activities. This is still ongoing. So WP6 has conducted the analysis on the standardisation ecosystem and has provided an early set of suggestions and recommendations. However, this analysis has been solely theoretical, as it is expected in this stage of the project. It is expected that as the project activities move to the implementation phase,

the Platone partners will be eligible to participate in standardisation activities where early recommendations can be shared with a panel of experts.

5.4 Outlook

The outlook from the end of year 2 of Platone is that, as the project moves to the implementation phase, experiences and more hands-on lessons-learned regarding standardisation will start to be produced. Demo leaders, platform development contributors and WP6 have a goal of disseminating all important outcomes of the project to the interested bodies.

6 KPI status

Objective	Status	Summary of achievements
Creating awareness for Platone project and results		
To create the necessary tools and interfaces to bring about opportunities for constructive communication and engagement between the project and a broad range of stakeholders.		
1 launched project website based on a joint project design, with a constantly increasing and up-to-date high-quality content based on the progress of the project (link list, publications on results, trial description etc.)	Work in progress	The Platone website launched in November 2019. URL: **www.Platone-h2020.eu** Off page and on page SEO ensures high visibility for online content. An annual revision of the website ensures its topicality and focus. In addition, partial extensions are implemented as ready or as needed (e.g. ADB section, Use Cases demonstrations). Further content is continuously provided according to the project progress.
1 launched community hub within the second project year	Work in progress	On the 19th of November 2020 a kick-off event to merge the work on flexibility solutions to a new level of exchange in form of a cross-project flexibility community was co-organised by Platone. Project members of the EU H2020 projects of DECIDE, edgeFLEX and FEVER participated. Participants agreed on follow-up workshops to further discuss the different topics. The flexibility community platform will be launched midst of September 2021 with a virtual launch event.
3 Flyers, 1 for each of the three trials, that show an overview of the corresponding trial (digital, print on demand)	Work in progress	A first edition of a project brochure was published. The flyer comprises a general project overview and a comprehensive overview on each demonstration. An updated version of a project brochure & for the demonstrations is in coordination process.
6 released and sent press releases of key project milestones to specialised and general media channels	Work in progress	3 Press releases were released and sent. Project information and milestones were published in general media channels. Prof. Monti was interviewed by major international magazine Forbes and role of new automation architectures such as in Platone illustrated to a major public audience.
1 online available press/media kit	Work in progress	A media kit with general project information is available online. The media kit will be updated according to the project progress.
1 LinkedIn group open with regular activity by the Platone consortium and 2 posts by Platone	Work in progress	The LinkedIn group was opened on 1st October 2019. Name: Platone - PLATform for Operation of distribution NEtworks (H2020 funded project).

consortium members on LinkedIn per month		URL: **https://www.linkedin.com/groups/13766819** Content is continuously provided according to the project progress.
1 Twitter channel open with regular activity by the Platone consortium and 2 posts by Platone consortium members on Twitter per month	Work in progress	The Twitter profile of Platone was opened in June 2020. Name: PlatoneH2020 (@PlatoneH2020) URL: **https://twitter.com/PlatoneH2020** Content is continuously provided according to the project progress.
10 successful talks in workshops and international events of reference	Work in progress	The Platone project and its activities have been successfully presented in > 10 workshops and international reference events. This will be further pursued. Selection of events: Workshop with DSO associations on the role of local flexibilities for stabilising the grid "Flexibilities for a stable energy system: don't talk - start harvesting!", in the context of the European Utility Week,12.11.2019, Paris, France, Moderation of the workshop & presentation of Platone by B.A.U.M. 2nd Workshop on Flexibility Markets of the Future and TSO-DSO Cooperation,13.02.2020, Brussels, Belgium, Presentation by RWTH OPEN DEI 1st Energy Domain Workshop, 06.04.2020, Presentation by ENG Linux Foundation Energy - Architecture group,06.04.2020, online, Participation/presentation by RWTH Involvement of municipal representatives,08.05.2020, Twistringen, Germany, Presentation by Avacon Involvement of municipal representatives, 20.05.2020, Twistringen, Germany, Presentation by Avacon OPEN DEI Webinar: The role of the Reference Architectures in data-oriented Digital Platforms, 28.05.2020, online, Presentation by RWTH 20TH IEEE Mediterranean Electrotechnical Conference - IEEE MELECON 2020, 16.-18.06.2020, Palermo, Italy, Presentation by ENG FIWARE energy day, 22.06.2020, online, Presentation by RWTH Kick-off Workshop with Rolls-Royce Solutions Berlin GmbH, 08.07.2020, Helmstedt, Germany, Presentation by Avacon

		E.DSO quarterly Projects Committee meeting, 18.09.2020, online, Presentation by EDSO
		CIRED Berlin Workshop "How to Implement Flexibility in the Distribution System?", 22.-23.09.2020, online, ePoster presented by RSE
		Municipal representatives, 30.09.2020, Twistringen, Germany, Presentation by Avacon
		EON Energy Innovation Days, 05-08.10.2020, online, Presentation by Avacon
		IEEE Canada Power and Energy Conference 2020, 09-10.11.2020, online, Presentation by RWTH (Keynote)
		Exploiting the potential of local flexibilities: the role of Energy community: Joint online workshop H2020 projects FEVER, Platone, edgeFLEX and DECIDE, Hosted by BRIDGE and SES taskforce on Energy community, 19.11.2020, online, Presentation by RWTH and EDSO, Moderation by B.A.U.M.
		"Digitalisierung der Energiewende: Potentiale und Geschäftsmodelle", Franco-German Office for the Energy Transition (Deutsch-französisches Büro für die Energiewende,DFBEW) in partnership with E-World trade fair, 11.02.2021, online, Presentation by Avacon
		1st E.DSO Projects in the Spotlight event "DSOs at the centre of Data Exchange", 10.03.2021, online, Presentation by areti
		2021 IEEE International Forum on Smart Grids for Smart Cities, 17.-23.03.2021, online, Presentations by Avacon & EDSO; virtual booth
		ETIP SNET 11th Regional Workshop, 21.04.2021, online, Presentation by RWTH
		LF Energy Spring Summit 2021, 14.04.2021, online, Presentation by RWTH
		H2020 ES-1 call Inter-Projects Webinar, 26.04.2021, online, Presentation by EDSO.
		InnoGrid, 04. & 11.06.2021, online, presentation by HEDNO.
		Seminar "Blockchain & innovation for digital society" under the project FIT EUROPE, 10.06.2021, online, presentation by ENG.
1 successful series of co-creation events on user interaction including:		
- 1 successful workshop on capacity building (internal) to introduce user-centric design and specific	Completed	The capacity building workshop was hold on 05-11-2019 in Berlin, Germany.

innovation activities to all trial site responsible partners		
- 3 successful virtual or physical kick-off workshops, one per trial with potential customers (private, commercial) and other relevant stakeholder groups to engage a critical number of private customers in Platone Project and with feedback of > 5 participants of the workshop	Work in progress	German demo: The first workshop on customer engagement of the series of co-creation events on user interaction was held on 18 August 2020, Syke, Germany, presenting the German demo to regional fitters resp. installers. Italian demo: On 2 March 2021 the first workshop on customer engagement of the series of co-creation events on user interaction was held virtually with > 10 residential customers and building managers representing additional end-users actually interested in taking part in the Italian Demo, from the Centocelle and Tor di Valle district areas. About 9 customers already signed their participation in the Platone project.
- 3 successful virtual or physical follow-up workshops, one per trial with potential customers (private, commercial) and other relevant stakeholder groups to engage a critical number of private customers in Platone Project and with feedback of > 5 participants of the workshop	Work in progress	German demo: A follow-up workshop on customer engagement of the series of co-creation events on user interaction was held on 21 October 2020, Twistringen, Germany with the Local Council of Twistringen.
- 3 successful virtual or physical innovation workshops, one per trial, with a user and target group-oriented design process e. g. prototyping solutions with design thinking approach	Completed	German demo: The innovation workshop on customer engagement of the series of co-creation events on user interaction was held 21 January 2020 attached to the General Assembly in Rome. Italian demo: The innovation workshop on customer engagement of the series of co-creation events on user interaction under the title "Optimized grid management and flexibility market: the prosumer's role", was divided in two parts and held on June 18th and 25th 2020. The first workshop was an informational workshop for stakeholder groups (except end customers), interested and relevant for Platone project. The second workshop had systemic character and discusses actual and future roles in the energy system with relevant stakeholder groups (except end customers) in an interactive format. These workshops took place with more than 30

		participants in total. The third Workshop was designed for end customers only. In this workshop their role and active/passive options for participation was discussed. In total feedback from more than 5 participants was gathered. Greek demo: The innovation workshop on customer engagement of the series of co-creation events on user interaction was held on February 18th 2021 with around 30 participants in total discussing outcomes of the demo and options for passive participation. Feedback from more than 30 participants was gathered.
- 1 final virtual or physical coordination workshop to complete the analysis of the lessons learned after the complete cycle of workshop (MS15)	Pending, no relevance in reporting period	
Well accepted open days at all 3 trial sites presenting and discussing prototype solutions (MS6)	Work in progress	German demo: 25 and 26 May 2021, Abbenhausen, Germany: Open Day with over 50 participants from households, local councils.
4 well-visited virtual or physical study tours to trials sites with more than 100 participants altogether	Pending, no relevance in reporting period	Study tours will be organized for all types of interested stakeholder as soon as prototypes of solutions are implemented, by the end of the project.
2 successful virtual or physical exploitation workshops for the commercial exploitation and market take up	Pending, no relevance in reporting period	The workshops will be organised due to a more advanced state of the Platone project. The organisation and conceptualization of these workshops require mature and concrete project results. These results have been collected for the submitted deliverable D8.5 "Exploitation and marketing plan for the involvement of partners and future customers (v1), which are the basis for the organization of the workshops The workshops will be conducted in the second part of the project.
1 successful midterm conference in Brussels or on virtual level	Work in progress	The midterm conference under the title "Growing the energy transition" will be held virtually on 14.9. - 15.9.2021.
1 successful final virtual or physical event at the end of the project	Pending, no relevance in reporting period	
≥ 1 documented impact to the BRIDGE H2020 Working Groups	Work in progress	Several partners of the Platone project are actively involved in the activities of the BRIDGE working groups. This synergy ensures that the main findings of the project will be transferred.

		In May 2020 the BRIDGE Working Group on Regulation started new action on "Harmonized, Electricity Market Role Model (HEMRM)". Platone was assigned the lead of this ambitious scheme.
		An open-source Use Case Repository has been developed and adopted by BRIDGE as the way to store Use Cases for all H2020 projects.
		Further impact will be made.
≥ 3 contributions to the BRIDGE H2020 Newsletter	Work in progress	BRIDGE Newsletter #9 – June 2020: Platone news, topic "HEMRM"
		BRIDGE Newsletter #8 – December 2019: Platone news, topic "start of the project"
≥ 2 documented contributions to all BRIDGE H2020 events during the project where input of Platone is required	Work in progress	Platone was represented at the BRIDGE General Assembly 2020 and 2021.
		Further contributions will be made.
Significant increasing number of contacts with the main stakeholders and target groups in a data base until the end of Phase 2 of the project	Work in progress	Platone contacts are composed of several data sets, i.a. the following: - mailing lists of the consortium partners like E.DSO, B.A.U.M. (> 400) and RWTH (>1000), - E.DSO members (43) - contacts in the context of the series of co-creation events on user interaction (> 60), - subscribers via Platone website (> 25), - members of the LinkedIn group (> 70), - participants of own events (up to 70), - ADB members (18) - cooperation projects and partners. Activities to constantly increase the number of contacts with the main stakeholders and target groups are implemented, e.g. in the context of the flexibility community A subscription form is active at the project website.

Dissemination activities towards the Research Communities

To implement a bidirectional communication process to share knowledge and quickly identify and adopt new needs and opportunities for the Platone enabled solutions.

1 developed and organised virtual or physical professional course to enable energy sector professionals to update their knowledge with a	Work in progress	Due to the COVID-19 pandemic a physical professional course is unlikely, a virtual course was planned for summer 2021 but it was cancelled because the virtual format would not fit with the educational target. It will be rescheduled for next year.

course promoting the use of the concepts developed in the Platone project, as part of the RWTH Academy Programme for life-long learning.		The German Association for Electrical, Electronic & Information Technologies (VDE), the Fraunhofer Society for the Advancement of Applied Research and RWTH are jointly looking to how bring Platone topics to the education of engineers in Germany. VDE wants to develop a new initiative about digitalisation, platforms, especially data platforms for utilities. VDE, Fraunhofer and RWTH will develop a coordinated offer.
4 published articles in highly ranked, prestigious, international peer-reviewed journals and magazines	Work in progress	1 OPEN DEI brochure that contains an overview of the demonstration sites in the Platone, InterConnect and Interrace projects, published July 2021. A set of Ph.D. theses with a focus on Platone concepts and solutions is expected at RWTH.
10 contributions in international peer-reviewed scientific conferences	Work in progress	ePoster for CIRED BERLIN 2020 workshop, title "Innovative solutions to enable flexibility and retail markets in distribution grids: The Platone approach" ePoster for CIRED online 2021, title "Platone: Towards a new open DSO platform for digital smart grid services and operation"
1 designed and implemented informative special session e. g. in the IEEE PES series of webinars	Pending, no relevance in reporting period	The informative session will be organised due to a more advanced state of the Platone project when rather concrete project results are available. Platone was presented at the following IEEE events: Representing Platone at the 2021 IEEE International Forum on Smart Grids for Smart Cities, 17.-23.03.2021, online, Presentations by Avacon & EDSO; virtual booth IEEE Canada Power and Energy Conference 2020, 09-10.11.2020, online, Presentation by RWTH (Keynote) 20TH IEEE Mediterranean Electrotechnical Conference - IEEE MELECON 2020, 16.-18.06.2020, Palermo, Italy, Presentation by ENG
2 summer schools at RWTH, where Platone topics are introduced	Pending	In the first project summer 2020, the COVID-19 situation was uncertain. Additionally, the Platone project had just started. Summer schools will be organised due to a more advanced state of the Platone project when rather concrete project results are available in summer 2022.
1 course created and successful implemented in the university curriculum (Contribution in developing course content) to foster a	Work in progress	RWTH implemented a new laboratory class on Grid Automation based on the application of typical international standards such as IEC61850 and coordinated also with the architecture of Platone.

new generation of modern power engineers		RWTH developed a new module on Digitalization for the group course "Future Energy Network"
		RWTH is also developing a completely new Master level course on Digital Energy that will use significant input from the experience of Platone.

Attracting and supporting grid operators

To implement a bidirectional communication process to share knowledge and quickly identify and adopt new needs and opportunities for the Platone enabled solutions.

2 successfully organised events with a total of 75 participants, that invite DSOs to the Lab at the RWTH (or virtual)	Pending, no relevance in reporting period	
1 created and successful implemented informative course with a total of 30 participants to enable Energy Sector professionals to update their knowledge	Work in progress	At the Energy Delta Institute of Nyenrode Business School, Netherlands, Platone findings were also presented in 2020 and has been again presented in 2021.
5 documented updates on the progress of the project using the mailing list of E.DSO and to national associations in the energy industry	Work in progress	E.DSO members received three written updates on the process of the project.
15 ambassadors in an established "ambassador system" who share information of the project with their business networks	Completed	A Platone Advisory and Dissemination Board was successfully established. Total amount of members: 18. The ambassador system will be maintained and further expanded.
≥ 2 early preliminary feedbacks by the DSO community on preliminary project results by discussing early recommendations with a panel of experts and gather indications about topics that shall be further investigated in project activities via DSOs community driven by E.DSO and its 39 Members (connecting 70% of the DSO customers in Europe), in cooperation with the 3 other DSO associations at EU level CEDEC, Eurelectric and GEODE	Pending, no relevance in reporting period	Feedback will be sought as soon as there are preliminary results in the project that can be discussed.

≥ 2 early preliminary feedbacks by the TSO community on preliminary project results by discussing early recommendations with a panel of experts and gather indications about topics that shall be further investigated in project activities via cooperation with ENTSO-E	Pending, no relevance in Reporting Period	Feedback will be sought as soon as there are preliminary results in the project that can be discussed.
≥ 2 early preliminary feedbacks by Manufacturers, Academy and research centres (universities, EERA Joint Programme on Smart Grids) on preliminary project results by discussing early recommendations with a panel of experts and gather indications about topics that shall be further investigated in project activities via cooperation, e.g. organization of side events during the periodical meetings of associations like T&D Europe and EASE.	Work in progress	At the first Platone ADB meeting, feedback from representatives of EERA JP Smart Grids, EPRI, T&D Europe, AIT, Comillas, and CIGRE on Platone architecture was received. Trial site kick-off workshops with potential customers (private, commercial) and other relevant stakeholder groups likewise delivered first feedback. Further feedback will be sought as soon as there are preliminary results in the project that can be discussed.

Fostering business innovation

To foster the adoption of Platone solutions and trigger further innovation processes and the development of a broad set of technical and business applications based on our results.

3 documented joint activities with business-oriented institutions on European level, e. g. contributions to international business-oriented workshops such as those organized by Smart Grid Forum or with the European Institute of Innovation and Technology (EIT) to reach out to Start-ups and innovative SMEs	Pending, no relevance in reporting period	Joint activities with business-oriented institutions will be enhanced due to a more advanced state of the Platone project when rather concrete project results are available.
5 productive and documented focus meetings with specialized industry initiatives with energy focus	Pending, no relevance in reporting period	Focus meetings will be enhanced due to a more advanced state of the Platone project when rather concrete project results are available.

5 published high-quality professional articles in industry-related special interest journals	Pending, no relevance in reporting period	Professional articles in industry-related journals will be enhanced due to a more advanced state of the Platone project when rather concrete project results are available.
2 successful organised virtual or physical exhibition stands in industry innovation events	Work in progress	Virtual booth at the 2021 IEEE International Forum on Smart Grids for Smart Cities, 17.-23.03.2021. Events will be further enhanced due to a more advanced state of the Platone project when rather concrete project results are available.
1 Business plan for each of the finally defined Platone results	Pending, no relevance in reporting period	
10 DSOs expressing interest in using our Platone platform	Work in progress	The ADB delivers a common ground for the adoption of Platone solutions. 4 DSO's were attending the 1st ADB-meeting, increasing the likelihood to express interest in using Platone platform at the end of the project.
10 companies interested in the services, expressed as coming to a Platone event	Work in progress	Registration for the Platone midterm conference is open.
4 instances deployed of Platone results (uptake of Platone by service providers)	Pending, no relevance in reporting period	The ADB delivers a common ground for the adoption of Platone solutions. Representatives from TSO, industry but also regulation and governance, were attending the 1st ADB-meeting, increasing the likelihood to express interest in using Platone platform at the end of the project.
Introducing Platone platform and solutions in standards To ensure that project results feed into standardisation processes for global visibility.		
≥ 2 early preliminary feedbacks by standardization bodies (IEC, CEN, CENELEC) on preliminary project results by discussing early recommendations with a panel of experts and gather indications about topics that shall be further investigated in project activities.	Pending, no relevance in reporting period	The focus on standardization bodies is planned for the 2nd Advisory and Dissemination Board Meeting. Activities to further gather feedbacks by standardization bodies will be enhanced due to a more advanced state of the Platone project when rather concrete project results are available
≥ 3 successful and documented contributions to standardisation bodies, groups or committees e. g. of the IEC, CEN,	Work in progress	The SOGNO platform been accepted in the international Linux Foundation Energy (LFE). Platone uses the SOGNO architecture as reference and expands the work of SOGNO with the integration of the market aspects and with the

CENELEC, IEEE, ETP Smart Grid Working Group on Utility Digitalization and the Conseil International des Grands Réseaux Electriques / International Council on Large Electric Systems CIGRE (via active roles of consortium partners)		customer connection based on blockchain technology. The integration of SOGNO into LFE enables Platone to further exploit the possible growth of SOGNO and the corresponding new services. Further contributions to standardisation bodies, groups or committees will be enhanced due to a more advanced state of the Platone project when rather concrete project results are available.
Contribution to policies and governance		
To define and establish a comprehensive exploitation strategy (ES) that defines the management and promotion of the exploitation of project results during the project lifetime and beyond		
≥ 2 inputs (e.g. presentation, publication) on Platone findings as soon as available to ETIP SNET (preferably at events and platforms of the ETIP SNET support structure: SPRING) and BRIDGE	Work in progress	ETIP SNET: Presentation of Platone at the ETIP SNET 11th Regional Workshop (online), 21.04.2021 by RWTH BRIDGE: Platone is leading party of the BRIDGE WG Regulation action "Harmonized, Electricity Market Role Model (HEMRM)". Platone provided the open-source software approach adopted in BRIDGE for the creation of the use case database to be later adopted as standard European solution. Prof. Monti served as co-chair of the Task Force on R&I priorities that prepared a full report on the status of H2020 and future perspectives for Horizon Europe. Several members of the Platone consortium are active in BRIDGE and ETIP SNET working groups and activities
≥ 2 inputs on Platone findings via an established connection enabling input to all types of industry and R&D associations in Europe and worldwide (via E.DSO)	Work in progress	At the first ADB meeting industry and R&D associations like EERA JP Smart Grids, EPRI, T&D Europe, AIT, Comillas, ISGAN, and CIGRE were attending.
≥ 2 inputs (e.g. presentation, publication) on Platone findings to programme managers and framework setters in almost every EU country through the ERA-Net Knowledge Community (via B.A.U.M. Consult)	Pending, no relevance in reporting period	

Successfully placed recommendations to national regulatory bodies via their European agency and association (ACER, CEER).	Work in progress	Platone leads the BRIDGE Working Group action "HEMRM". Together with other EU projects, BRIDGE, system operator's associations, citizen energy communities, EU institutional bodies like the European Commission, Agency for the Cooperation of Energy Regulators (ACER) and Council of European Energy Regulators (CEER) a joint draft for a common understanding of electricity market model in cooperation was submitted in October 2020. In April 2021 the current edition of the "EU BRIDGE HEMRM View" was published, intended as a differential analysis with the actual official HEMRM.
1 successful presentation of Platone findings and the demo results to the Eurelectric in order to inform the main European Utilities and DSOs about the development of robust flexibility mechanisms and the adoption of novelties such as blockchain technology, integrated CBA analysis and interoperability	Pending, no relevance in reporting period	
≥ 2 early feedbacks by regulators on preliminary project results by discussing early recommendations with a panel of experts and gather indications about topics that shall be further investigated in project activities via cooperation with • Working groups of the Council of European Energy Regulators (CEER) • Florence forum (Florence school of regulation) for webinars and participation to Florence Forum	Pending, no relevance in reporting period	

Table 3: KPI status

7 Conclusion

Having reached its halfway point, Platone has already created well-visible impact and produced several interim results and results for knowledge transfer. With the first ADB meeting the consortium got very valuable advice and recommendations to further be considered in the process of the project.

Even in the light of COVID-19 the communication and dissemination activities were not heavily affected. A short gap in presenting Platone project and its approach, due to cancelled or postponed dedicated meetings of working groups as well 3rd-party events, was quickly filled by focussing on basic as well as innovative interactive virtual formats.

The focus for the second half of the project is to actively pursue all initiated collaboration and cooperation activities, foster transferring knowledge and disseminating (interim) results of Platone to relevant stakeholders and later to target groups. Beyond that, ongoing work will be done to expand, align and update tools and channels for spreading information to the identified relevant stakeholders who have a high impact on the success of the project to reach the desired engagement with a shift from "taking notice" up to direct involvement and feedback processes, e.g. in the demonstrations.

In addition, consortium members representing Platone at mainly virtual stakeholder-relevant events will play an even more important role in the second half of the project. The Platone midterm conference and the upcoming well-established conference as well as the launch of the flexibility community will give Platone a new level of outreach. This will also affect the stakeholder engagement processes with its Open Days in Greece and Italy with high rate of stakeholder engagement and the upcoming stakeholder workshops in coordination with task 1.5. Beyond this, the work within BRIDGE, ETIP SNET and with other interested projects will align customer engagement activities.

The success of the communication and dissemination activities are an essential precondition for the activities in the following project phases that will focus on the demos and associated interim results, deepen the customer integration and do first preparations for the exploitation of results. The KERs and the corresponding exploitation strategies will serve as the basis for the business plans that are foreseen to be developed at the scheduled exploitation workshops.

Regarding standardization, WP6 has provided an early set of suggestions and recommendations. With moving to the implementation phase, demo leaders, platform development contributors and WP6 have a goal of disseminating all important outcomes of the project to the interested bodies and the Platone consortium will be eligible to participate in standardisation activities where early recommendations can be shared with a panel of experts.

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11 List of Abbreviations

Abbreviation	Term
ACER	Agency for the Cooperation of Energy Regulators
ADB	Advisory and Dissemination Board
ALF-C	Avacon Local Flex Controller
AMI	Advanced Metering Infrastructure
BAL	Blockchain Access Layer
BEMS	Building Energy Management System
CBA	Cost-benefit analysis
CEDEC	European Federation of Local Energy Companies
CEER	Council of European Energy Regulators
CEN	European Committee for Standardization
CENELEC	European Committee for Electrotechnical Standardization
CIGRE	Conseil International des Grands Réseaux Electriques (International Council on Large Electric Systems)
CIM	Common Information Model
CIRED	Congrès International des Réseaux Electriques de Distribution
COVID-19	Corona Virus Disease 2019
DEMI	Distributed Energy Management Initiative
DER	Distributed Energy Resources
DFG	Deutsche Forschungsgemeinschaft
DMS	Distribution Management System
DRMS	Demand Response Management Systems
DSO	Distribution System Operator
EASE	European Association for Storage of Energy
EERA	European Energy Research Alliance
EIT	European Institute of Innovation and Technology
EMS	Energy Management System
ENTSO-E	European Network of Transmission System Operators - Electricity
EPRI	Electric Power Research Institute
ERA-Net	European Research Area Network
ETIP SNET	European Technology and Innovation Platform Smart Networks for Energy Transition
ETP	European Technology Platform
EU	European Union
GEODE	GEODE - the Voice of Local Energy Distributors across Europe
GIS	Geographic Information System
H2020	Horizon 2020 (Funding programme of the European Commission)

HEMRM	Harmonised Electricity Market Role Model
ICT	Information and Communication Technology
IEC	International Electrotechnical Commission
IEEE	Institute of Electrical and Electronics Engineers
IoT	Internet of Things
JRC	Joint Research Centre, the European Commission's science and knowledge service
JPP SES	Joint Programming Platform ERA-Net Smart Energy Systems
KER	Key Exploitable Result
KPI	Key Performance Indicator
LEC	Local energy community
LFE	Linux Foundation Energy
LoCo PMU	Low Cost Phasor Measurement Unit
MESP	Multi-Energy Semantic Platform
MS	Milestone
NAIT	Northern Alberta Institute of Technology
NGO	Non-Governmental Organization
R&D	Research & Development
RDI	Research, Development and Innovation
SCADA	Supervisory Control and Data Acquisition
SEO	Search Engine Optimization
SGAM	Smart Grid Architecture Model
SME	Small and Mid-sized Enterprise
SRA	Scalability and Replicability Analysis
T&D Europe	European association of the electricity transmission and distribution equipment and services industry
TRL	Technology Readiness Level
TSO	Transmission System Operator
URL	Uniform Resource Locator (web address)
VPP	Virtual Power Plant
WG	Working Group