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PLATOON

Digital platform and analytic tools for energy

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6.0	05/12/2022	FBA updates concerning section 4.	Diana Järve
7.0	09/12/2022	CEPV updates concerning section 2 and 3.	Begoña Molinete

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Terms and abbreviations

BDVA	Big Data Value Association
CA	Consortium Agreement
CO	Confidential
DM	Dissemination Manager
EC	European Commission
EM	Exploitation Manager
ETIP- SNET	European Technology & Innovation Platforms - Smart Networks for Energy Transition
GA	Grant Agreement
GAM	General Assembly Meeting
H2020	Horizon 2020 Programme
HEU	Horizon Europe Programme
IDSA	International Data Spaces Association
NGIoT	Next Generation Internet of Things
PM	Project Manager
PU	Public
QA	Quality Assurance
RE	Restricted
SC	Steering Committee
SGAM	Smart Grid Reference Architecture Model
TM	Technical Manager
WP	Work package
WPL	Work package Leader

Executive Summary

This document summarises the networking activities performed in PLATOON to seek synergies and ensure cooperation with other related H2020 funded projects, in particular with those which are represented at the BRIDGE initiative as well as with other cooperation groups such as ETIP-SNET, NGIOT and OPENDEI. Also, it specifically covers the one to one collaboration with other two similar projects which are part of OPENDEI, namely INTERCONNECT and PLATONE projects. Additionally, it includes recent collaboration with new upcoming HEU projects (ENERSHARE, OMEGA-X and INTNET) and FAIRWINDS project that aim to stablish the grounds for a Common European Energy Data Space. Besides, this document also summarises the main networking activities performed under the umbrella of different industrial groups and clusters such as International Data Spaces Association (IDSA), Big Data Value Association (BDVA), GAIA-X, European Industry Clusters, IMEC Smart Data Initiative and Fiware Smart Data Models. Finally, the document collates the marketing strategy and activities developed to create the PLATOON Community.

1 Introduction

This document summarises the different networking activities performed in PLATOON to seek synergies and ensure cooperation with other related H2020 funded projects. This document is the second and final version of deliverable "D7.5 Report on Networking activities" which includes the updates concerning new collaborations with initiatives,/projects since V1 deliverable which was submitted in June 2021 (M18).

The document is structured in 4 main sections:
Section 2 of the document covers the different collaborations with in particular with those which are represented at the BRIDGE initiative as well as with other related H2020 funded projects through different cooperation groups such as BRIDGE, ETIP-SNET, NGIOT and OPENDEI. Also, it specifically covers the one to one collaboration with other two similar projects which are part of OPENDEI, namely INTERCONNECT and PLATONE projects. Additionally, it includes recent collaboration with new upcoming HEU projects (ENERSHARE, OMEGA-X and INTNET) and FAIRWINDS project that aim to stablish the grounds for a Common European Energy Data Space.
Section 3 covers the main networking activities performed under the umbrella of different industrial groups and clusters such as International Data Spaces Association (IDSA), Big Data Value Association (BDVA), GAIA-X, European Industry Clusters, IMEC Smart Data Initiative and Fiware Smart Data Models.
Finally, section 4 collates the marketing strategy and activities developed to create the PLATOON Community.

2 Networking Activities through Cooperation Groups

2.1 BRIDGE

PLATOON actively cooperates with other H2020 projects through the BRIDGE cooperation group. BRIDGE is a European Commission initiative which unites Horizon 2020 Smart Grid, Energy Storage, Islands, and Digitalisation Projects to create a structured view of cross-cutting issues which are encountered in the demonstration projects and may constitute an obstacle to innovation[1].

PLATOON actively participates in the BRIDGE General Assemblies and regularly provides feedback on develop questionnaires in order to unite the challenges and developments from the different projects.

In addition, PLATOON is actively involved in the Data Management working group and the Replicability & Scalability Task Force.

[1] https://www.h2020-bridge.eu/

The Data Management working group is focused on the same pillars as PLATOON, namely, Interoperability, Data Governance/Trust and Data Analytics, covering the following aspects:

- Communication Infrastructure, embracing the technical and non-technical aspects of the communication infrastructure needed to exchange data and the related requirements, including issues faced by TSO and DSO.
- Cybersecurity and Data Privacy, entailing data integrity, customer privacy and protection.
- Data Handling, including the framework for data exchange and related roles and responsibilities, together with the technical issues supporting the exchange of data in a secure and interoperable manner, and the data analytics techniques for data processing.

Recently, the BRIDGE Data Management working group has published an architecture for Data Exchange which summarises the different initiatives, associations, processes, etc. covering the main angles defined in the SGAM [2](Smart Grid Reference Architecture Model), namely business, function, information, communication and component. The figure below shows the mapping of the PLATOON project against the reference architecture for Data Exchange of BRIDGE where the red boxes define the aspects of the BRIDGE architecture covered in PLATOON.

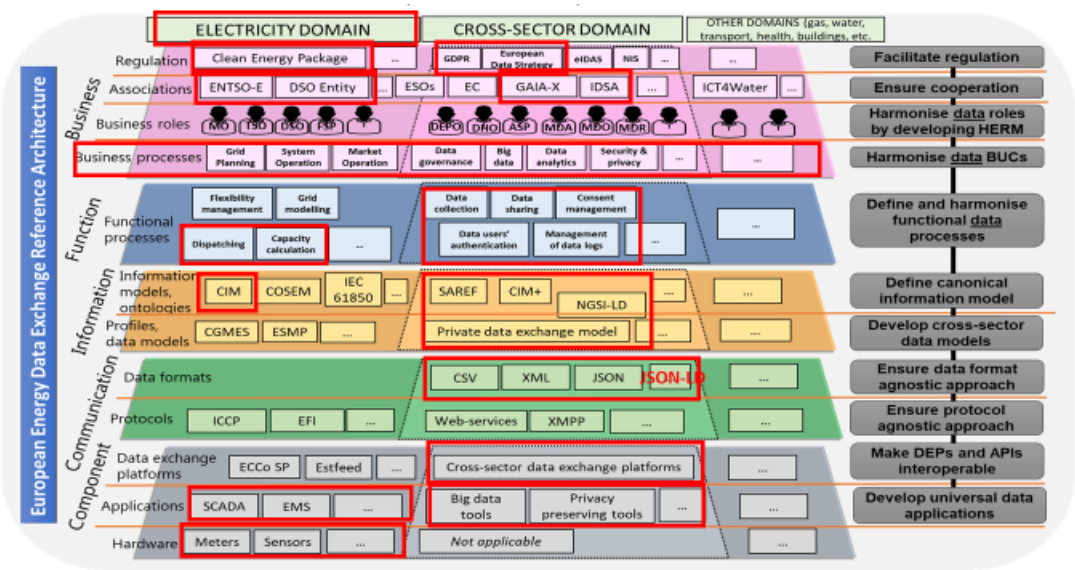

Figure 1: PLATOON mapping architecture for Data Exchange of BRIDGE

PLATOON has also been involved in dissemination activities promoted by the BRIDGE initiative such as the session on "Interoperability and data exchange to support digitalisation", held on Dec 1st 2021 at the EU Projects Zone at Enlit Europe Conference & Exhibition in Milan.

[2] https://ec.europa.eu/energy/sites/ener/files/documents/xpert_group1_reference_architecture.pdf

2.2 ETIP-SNET

PLATOON actively cooperates with other related H2020 through the ETIP SNET [3]cooperation group. European Technology & Innovation Platforms (ETIPs) have been created by the European Commission in the framework of the new Integrated Roadmap Strategic Energy Technology Plan (SET Plan) by bringing together a multitude of stakeholders and experts from the energy sector. The ETIP Smart Networks for Energy Transition (SNET) role is to guide Research, Development & Innovation (RD&I) to support Europe's energy transition.

PLATOON has participated in several workshops organized by ETIP-SNET where different aspects regarding the energy transition and digitalisation have been discussed along with other H2020 projects. For instance, on the 21st April 2021, PLATOON participated in the 11th ETIP SNET Regional Workshop: briefing session 3 as a panellist where the different challenges around digitalisation of smart grids were discussed with an special focus on data security, privacy and sovereignty and its relationship with the so-called data spaces.

Moreover, PLATOON also contributes with ETIP-SNET by regularly providing feedback on questionnaires in order to unite the challenges and developments from the different H2020 projects.

2.3 NGIOT

The Next Generation Internet of Things (NGIoT) initiative is a growing community of projects and related initiatives at work to maximise the power of IoT made in Europe. NGIoT works to lower the barrier for adoption and development of IoT-empowered solutions, by supporting business models, innovation and skills.

In a "network of network" ecosystem, NGIoT consists of ongoing projects and upcoming funding opportunities at work for a human-centric and sustainable digital transition. NGIoT projects are working to achieve H2020 goals while Horizon Europe will bring new opportunities to launch research and innovation projects across Europe and beyond. NGIoT works in close collaboration with related technology networks including cloud, Edge, Artificial Intelligence, 5G telecommunications networks and services, cybersecurity and blockchain.

PLATOON actively collaborates with NGIOT by taking part of events (webinars, workshops…). For instance, on 18th May 2021, PLATOON participated in a dedicated workshop around IoT and Edge Computing for the energy domain where we presented the approach followed in PLATOON and gave some insights on the Edge-Cloud framework that we are building as part of the project. The workshop also served to share views and lessons learnt with the European Commission and relevant associations, networks, and projects.

[3] https://www.etip-snet.eu/

2.4 OPENDEI

PLATOON actively cooperates with other related H2020 through the OPENDEI cooperation group. OPEN DEI focuses on "Platforms and Pilots" to support the implementation of next generation digital platforms in four basic industrial domains: Manufacturing, Agriculture, Energy and Healthcare. PLATOON actively participates in the Energy domain.

In fact, PLATOON is co-leading the Working Group 3 "Linking Ecosystems" where they hold regular meetings with other projects from OPEN DEI to plan, define and promote joint communication and dissemination activities. In this sense, the following joint events have been organized and held in the framework of this WG3:

- **PLATOON-OPEN DEI Conference on "Data sharing and governance for Energy applications"** in Bilbao on Sept 23rd, 2021. In this event, representatives from the European Commission (DG ENER and DG CONNECT), relevant institutions (IDSA, BDVA, GAIA-X), energy and ICT companies and representatives from other projects involved in OPEN DEI gathered together to discuss around the hot topic of data spaces specifically for the energy sector. Different aspects around data security, privacy and sovereignty were discussed.
- **Hub session on "Energy Data Spaces" at Enlit Conference & Exhibition** in Milan, November 30th, 2021. The session was chaired by the European Commission (DG CONNECT) and involved several panellists from IDSA and BRIDGE initiative as well as representatives from H2020 projects INTERCONNECT, INTERRFACE, SYNERGY and PLATOON. The focus was placed on analysing the cutting-edge solutions for data management and the architectures for data exchange deployed in the ongoing European initiatives.
- **Joint Open Call dissemination webinar** on March 17th, 2022, chaired by the EC (DG CONNECT) to share knowledge with European SMEs and start-ups on the ongoing projects from the Open Calls already held and identify opportunities in coming Open Calls. PLATOON 1st Open Calls winners Barbara IoT and MiPU Energy Data were invited to share their experience and the projects progress.
- **Workshop on "Knowledge Sharing on Business models for Digital Platforms in Energy domain: Best Practices by PLATOON project"** on Apr 21st, 2022. Online workshop aimed at sharing the knowledge and lessons learnt by PLATOON in terms of business modelling methodology and marketplace for energy platforms with other companies (mainly SMEs) on their way towards data exploitation. The presentation was made by Indra-Minsait team.

These events have been extensively reported in the corresponding communication and dissemination deliverables D9.4 and D9.5.

Furthermore, PLATOON is also actively involved in the Data Management Task Force (TF1). This Task Force lead by IDSA brings together experts from four domains and various data spaces initiatives to collaborate and define the design principles for data spaces implementation in a unified way. Recently, this working group has published a position

paper on “Design Principles for Data Spaces”[4] where PLATOON has actively contributed together with other H2020 projects.

Moreover, PLATOON regularly participates in events and workshops organized by OPENDEI. For instance, on 19th May 2021 PLATOON participated in the OPEN-DEI - IdeasForum event where it was discussed together with other H2020 projects the different approaches implemented in the different projects for data exchange and the main challenges and lessons learnt were shared.

2.5 One to One Collaboration with Specific projects

Apart from the joint collaboration through the above-mentioned European cooperation groups, PLATOON has also engaged in one to one collaboration with specific projects in the area of digitalisation of smart grids, namely, with InterConnect and PLATONE projects.

2.5.1 InterConnect

InterConnect[5] is H2020 project funded under the call “DT-ICT-10-2018-19 - Interoperable and smart homes and grids”. The project gathers 50 European entities to develop and demonstrate advanced solutions for connecting and converging digital homes and buildings with the electricity sector by including digital technologies (Artificial Intelligence, Blockchain, Cloud and Big Data) based on open standards, such as SAREF. InterConnect guarantees the interoperability between equipment, systems and privacy/cybersecurity of user data. The developed solutions are implemented and validated in large-scale test-sites in Portugal, Belgium, Germany, the Netherlands, Italy, Greece and France.
The main objectives of the project are the following:

- Marketplace of integrated digital platforms bridging the gap between IoT and energy
- Establish interoperability framework validating SAREF and semantic interoperability
- User-centric energy and non-energy services

One of the aspects of the two initiatives – projects, PLATOON / INTERCONNECT, that constitute a convergence zone is of course located at the level of interfaces and interoperability models. These two elements seek in the respective projects to respond to the challenges of their respective cases of use related to the different pilots and to provide means and tools to allow these interoperable flows of data and values that can be manipulated by dedicated services that rely heavily on digital technologies. The stake of this collaboration could be built in two main axes, namely the alignment of different information flows (which would respect the constraints of ownership and privacy) by connecting these flows through the ontological model SAREF, which is strongly mobilized in the INTERCONNECT project, and also considered in the USE CASE of the PLATOON project. The identification of a simple case of use between the two projects could be an empirical transposition of this willingness to collaborate. It could also jointly demonstrate the relevance of the postulates and approaches considered within the framework of the European Commission's strategy and projects aimed at promoting the exchange of data and services in the energy field at the European level between several stakeholders.

[4] https://design-principles-for-data-spaces.org/
[5] https://interconnectproject.eu/

Different meetings have been held between PLATOON and INTERCONNECT to define a collaboration roadmap with clear objectives and milestones.

2.5.2 PLATONE

PLATONE [6](PLATform for Operation of distribution Networks) is a H2020 funded project corresponding to the call LC-SC3-ES-1-2019 - Flexibility and retail market options for the distribution grid. PLATONE aims at defining new approaches to increase the observability of renewable energy resources and of the less predictable loads while exploiting their flexibility. The consortium of 12 partners from Belgium, Germany, Greece and Italy develop advanced management platforms to unlock grid flexibility and to realize an open and non-discriminatory market, linking users, aggregators and operators. The solutions developed in the project will be tested in three European field trials.

PLATONE and PLATOON could collaborate to demonstrate the interoperability between both projects being able to exchange data and services with each other. In order to demonstrate it the use case in the City of Rome could be used that is part of both projects. In this use case, the PLATONE project could provide the necessary data from some stakeholders that are not part of PLATOON (e.g. Aretti) and PLATOON could provide the data analytics tools to extract value from that data. Furthermore, when it comes to data exchange the complementarity of the proposed approaches (PLATONE – DLT and PLATOON –IDS) could be analysed and accordingly integrated. In conclusion, this collaboration could demonstrate a cross-project ecosystem that will set the basis towards a common European Energy Data Space.

Different meetings have been and are being held between PLATOON and PLATONE to define a collaboration roadmap with clear objectives and milestones.

2.5.3 FAIRWINDS

FAIRWINDS is a research and development project funded by the German Government and led by Fraunhofer IWES which aims to enable sovereign data exchange between companies and researchers through the use of what is known as a data trust model. The trust model is implemented on the basis of the decentralized data infrastructure of the International Data Spaces (IDS). Within this distributed data space, the data trust model acts as a “data bridge” between the provider of raw data and the actors to whom the data provider intends to make data available.
ENGIE and TECNALIA on behalf of PLATOON are part of the advisory board.

2.5.4 OMEGA-X

OMEGA-X [7]is EU funded project under the Horizon Europe programme that aims to implement an energy data space at a European level relying on European common

[6] https://www.platone-h2020.eu/
[7] https://omega-x.eu/

standards,. This will include federated infrastructure, data marketplace and service marketplace, involving data sharing between different stakeholders and demonstrating its value for concrete energy use cases while guaranteeing scalability and interoperability with other data space initiatives. OMEGA-X consortium is formed by some partners from PLATOON such as ENGIE, TECN and IMP. OMEGA-X will follow the basis funded by PLATOON and will reuse and extend some of the developed components such as energy semantic data models and IDS components (Metadata Registry) to allow cross pilot and cross project exchange of data and services stablishing the grounds of a common European energy Data Space. OMEGA-X has a specific WP to build an ecosystem with other sister projects funded under the same call and other data spaces initiatives. PLATOON is identified as a pioneer in the energy data spaces area and the project has been presented to OMEGA-X partners to identify potential synergies and aspects that can be reused and improved.

2.5.5 ENERSHARE

ENERSHARE [8]is a EU funded project under the same call as OMEGA-X. Enershare defines a Data-Driven Reference Architecture for the energy domain, which is compliant with FIWARE, IDSA and GAIA-X. It creates a marketplace based on Blockchain and Smart Contracts with the aim of improving mutual trust amongst the actors of the ecosystem and increasing the security of the shared data. It also enables a compensation system (even non-monetary) of assets and resources related to data (e.g., datasets, algorithms, models) with energy assets and services (e.g., maintenance of heating system, surplus transfer of locally self-produced energy). ENERSHARE consortium is formed by some partners from PLATOON such as ENGIE, TECN and CEPV. ENERSHARE will follow the basis funded by PLATOON and will reuse and extend some of the developed components such as energy semantic data models and IDS components (TRUE connector and Vocabulary Provider).

2.5.6 INTNET

INTNET [9]is an EU funded Coordination and Support Action that aims to establish an open and cross-domain Interoperability Network for the Energy Transition (int:net). Within the int:net-interoperability network all stakeholders relevant for the European energy sector are united to jointly work on developing, testing and deploying interoperable energy services. The int:net-interoperability network will be formally established to exist beyond the project life-time. With a comprehensive, FAIR knowledge platform and a series of attractive events, the int:net-community guides those who deal with the heterogeneous interoperability landscape of energy services. As part of this network data spaces take an important position. In this sense, PLATOON has been identified as a pioneer in the energy data spaces area and the project is part of the network to identify aspects that can be reused and improved in other ongoing projects.

[8] https://enershare.eu/
[9] https://intnet-project.eu/

3 Networking Activities through Industrial groups and Clusters

3.1 International Data Spaces Association (IDSA)

The International Data Spaces Association (IDSA) is a coalition of more than 130 member companies that share a vision of a world where all companies self-determine usage rules and realize the full value of their data in secure, trusted, equal partnerships; and we are making that vision a reality. The goal of this association is to define global standard for international data spaces (IDS) and interfaces, as well as fostering the related technologies and business models that will drive the data economy of the future across industries.

PLATOON actively collaborates with IDSA through different workstreams such as Technical Plugfest and Acceleration programme.

In addition, PLATOON actively participates in the events (webinars, workshops, among others) organized by IDSA. For instance, PLATOON has participated in the IDSA SUMMIT - ENERGY STREAM celebrated on 22nd June 2021 where notable Energy data spaces successes were showcased to demonstrate their benefits, and gain insights from insiders and users. Among different projects were Basque Offshore Wind Energy Data Space, BD4ENERGY, German EnDaSpace (Fh IEE), Atos Germany Energy Data Space and Dutch Energy case.

In addition, IDSA has helped to disseminate the PLATOON Open Calls and other projects through their network and specifically through Thorsten Huelsmann CFO of IDSA and PLATOON ambassador.

As part of the PLATOON standardisation strategy, the developments of PLATOON were presented to the wider IDSA community. On the one hand 3 different pilots (1a, 2b and 3c) were presented and incorporated as leading examples into the IDSA Data Space radar. In addition, the contributions from PLATOON regarding the development of open source IDSA building blocks were disseminated and even some uploaded into IDSA Github. As part of these networking events, other initiatives got interested in the developed job such as as IMEC Smart Data Initiative.

Moreover, PLATOON contributed to the IDSA Data Spaces Discovery Day held in Barcelona on Sep 28th, 2022, by organizing and chairing a specific workshop on “How to implement IDS with focus on energy data spaces” focused on the Wind Energy use case with participation from TECN and CEPV.

3.2 BDVA – Energy Task Force

Big Data Value Association (BDVA[10]) is an industry-driven international not-for-profit organisation with more than 200 members all over Europe and a well-balanced composition of large, small, and medium-sized industries as well as research and user organizations. BDVA is the private counterpart to the EU Commission to implement the Big Data Value PPP

[10] https://www.bdva.eu/

program. BDVA and the Big Data Value PPP pursue a common shared vision of positioning Europe as the world leader in the creation of Big Data Value.

The mission of the BDVA is to develop the Innovation Ecosystem that will enable the data and AI-driven digital transformation in Europe delivering maximum economic and societal benefit, and, achieving and sustaining Europe's leadership on Big Data Value creation and Artificial Intelligence.

PLATOON has recently launched a brand new task force for Energy [11]within BDVA. The objective of this task force is to create a common understanding between members of the BDVA interested in Big Data and Artificial Intelligence applications applied to the Energy domain.

Firstly, given the launch of the GREEN DEAL Programme and its strong dimension in the field of energy, in particular with Cluster 5 - Horizon Europe - Cluster 5: Climate, Energy and Mobility, it is imperative to align this Task Force initiative with the important ambitions of this European initiative.

Secondly, an advanced collaboration on Big Data dimensions between existing projects financed by the European Commission and present within OPEN DEI (INTERCONECT, INTERFFACE, SYNERGY, BD4OPEN, PLATONE, PLATOON, Coordinet), BRIDGE and other cooperation groups.

3.3 GAIA-X

GAIA-X is a project initiated by Europe for Europe and beyond. Its aim is to develop common requirements for a European data infrastructure, a secure, federated system that meets the highest standards of digital sovereignty while promoting innovation. This project is the cradle of an open, transparent digital ecosystem, where data and services can be made available, collated and shared in an environment of trust. Therefore, openness, transparency and the ability to connect to other European countries are central to GAIA-X. Representatives from several European countries and further international partners are currently involved in the project.

In this sense, PLATOON very actively collaborates with GAIA-X by embracing the design principles of the GAIA-X reference architecture and participating in relevant networking events to share vision and lessons learn with other similar projects. For instance, PLATOON participated in GAIAX French Hub Presentation in September 2020 and in the DATAWEEK - EUH4D Track Data- 4Energy session on 27th May 2021 where we shared our approach for an End to End Interoperable Ecosystem for Energy Value Chain.

[11] https://www.bdva.eu/task-force-7

3.4 EUROPEAN CLUSTERS

Through the Basque Energy Cluster, PLATOON actively collaborates in the network of European Clusters by sharing the vision, progress and lessons learnt from the project with other Clusters at European level. For instance, the Basque Energy Cluster participated as Keynote speaker in the "Renewable energy" breakout session of the European Cluster Conference 2020, that took place on 10-11th November in a virtual format where presented the PLATOON project and its significant impact in strengthening the competitiveness of the energy value chains.

3.5 IMEC Smart Data Initiative

IMEC is an RTO that has a global innovation hub located in Leuven, Belgium regarding Smart Energy[12]. IMEC has built a multi-tenant, smart-data toolchain. It combines data ingestion, transformation and semantic enrichment, as well as providing an environment where a data scientist can procure machine models on demand and document data provenance. They have also been working around data spaces and have built the so-called "Flemish Smart Data Space"[13]. IMEC's ambition is to evolve the toolchain towards IDSA interoperability and contribute to the community. After the presentation in the IDSA ecosystem building call they we were very interested in Platoon's business motivation and business case, as well as some technical aspects. After the meeting both projects exchanged information to assess maturity and identify potential synergies ways of collaboration.

3.6 FIWARE Smart Data Models

The FIWARE Foundation, TM Forum, IUDX and OASC are leading a joint collaboration initiative to support the adoption of a reference architecture and compatible common data models that underpin a digital market of interoperable and replicable smart solutions in multiple sectors, starting with Smart Cities [14].

A smart data model includes three elements: The schema, or technical representation of the model defining the technical data types and structure, the specification of a written document for human readers, and the examples of the payloads for NGSIv2 and NGSI-LD versions. All data models are public and of royalty-free nature. The licensing mode grants 3 rights to the users: Free use, Free modification and Free sharing of the modifications.

Data models are grouped into subjects. Currently, every subject is a GIT repository. The subjects can belong to one or several domains. The domains represent industrial sectors. PLATOON as part of its standardisation strategy, is in conversation with the Smart Data Models initiative coordinator to incorporate the open-source semantic data models for energy developed in the project into the energy domain repository of Smart Data Models.

[12] https://www.imec-int.com/en/smart-energy
[13] https://www.imec-int.com/en/flemish-smart-data-space
[14] https://www.fiware.org/smart-data-models/

4 PLATOON Community

This section summarises the marketing strategy and activities developed to create the PLATOON Community.

4.1 PLATOON Community Portal

PLATOON COMMUNITY, was built using the FundingBox community platform. This is a **dynamic and interactive** web-based platform that includes communication services fostering collaborative work, aiming at facilitating interaction among stakeholders and providing information on best practices, trends in the market, etc. The FundingBox platform largely evolved over the time, thanks to users' feedback and new features have been implemented in order to offer an ideal tool to **build up communities around projects and initiatives**.

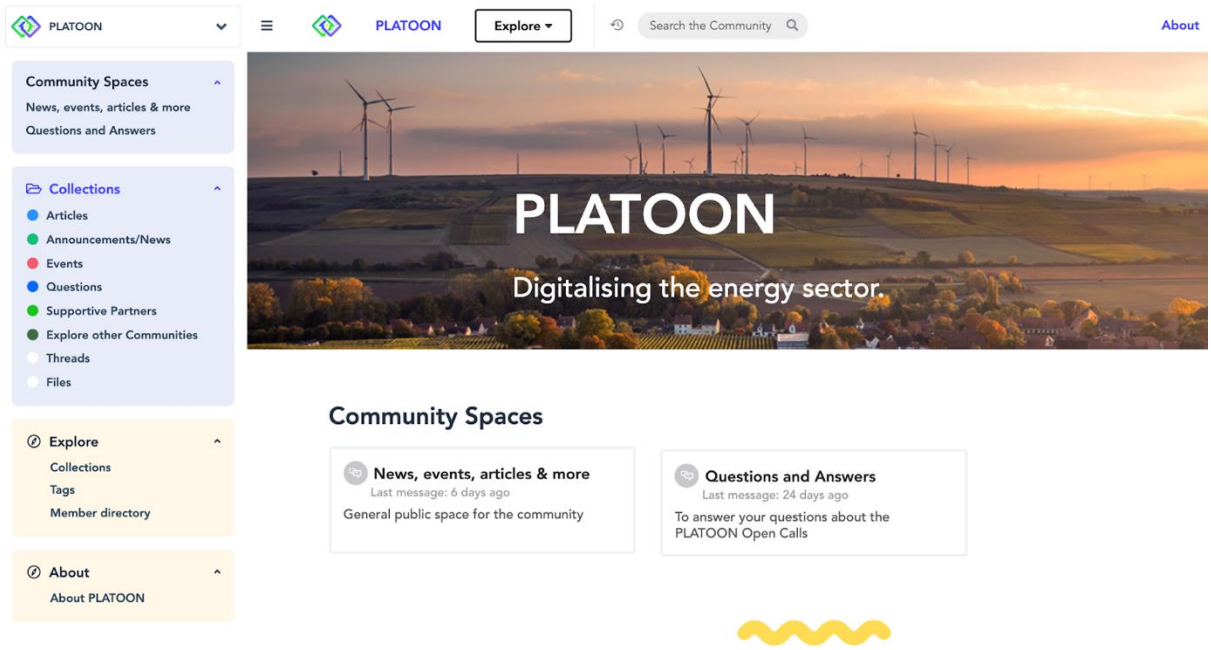

Figure 2: PLATOON Community Portal

The PLATOON Project Consortium designed the PLATOON Community with an inclusive perspective promoting the inclusion not only of the PLATOON related activities and results but acting also as a gathering **for all those stakeholders interested in the digitisation of the energy sector.** Therefore, the PLATOON Community has a wider ambition and perspective than just being the community of the PLATOON project, aiming to become the community of reference in Europe for anyone working or wanting to know more information about the digitisation of the energy sector.

PLATOON Community is benefitting from the FundingBox experience in building communities for several other European projects such as the I-NERGY ,I4MS, INTERCONNECT community and more, with the objective of **transforming** what usually are **static**

unidirectional websites in a dynamic multidirectional community, where connections are made and where conversations and knowledge can be gathered and shared.

This communication channel aims to create a real-time community where its participants will be able to easily access a repository of knowledge and finding long-term business opportunities.

4.2 Community Portal in Numbers

We follow up the impact of communication actions in community building, to watch for the project to reach its Key Performance Indicators in terms of dissemination and also to search for potential improvements and implement corrective actions if needed.

Metrics using platform analytics tools that will contribute to measure the attractiveness and dynamics of the community platform are:

- Number of users (sign-ups, new members)
- Numbers of messages (content) posted in the certain period (posts, announcements, files, articles)
- Number of reactions to the content in the certain period
- Number of comments to the content in the certain period
- Other engagement metrics of the community, like percentage of visits during the last 30 days.

To date we have the following statistics:

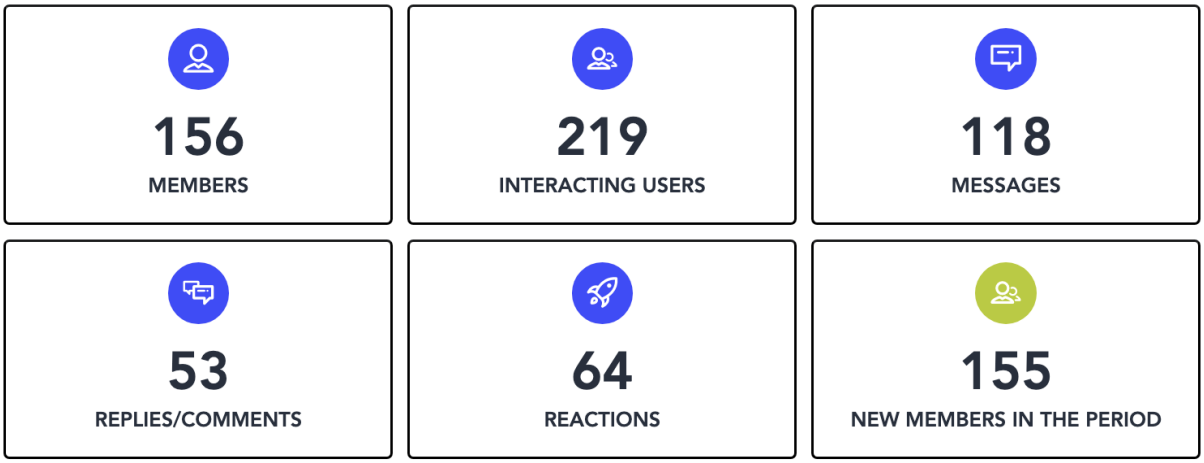

Figure 3 Community in numbers updated to 5 December, 2022

Based on the Figure below, there appears to have been a surge during both open calls (4 Jan – 4 Mar 2021 and 1 Oct – 1 Dec 2021).

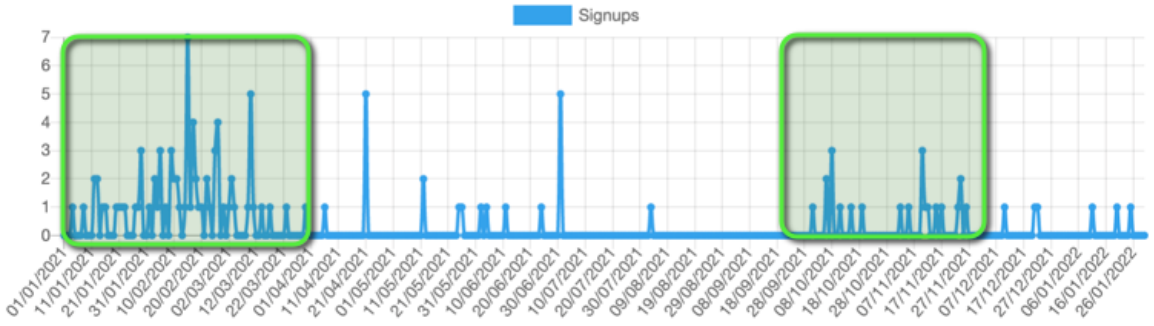

Figure 4: Community in numbers

4.3 Community growth

PLATOON uses a method called Growth Hacking — "a process of rapid experimentation across marketing channels and product development to identify the most efficient ways to grow a business.[15]".

With this technique we make the most of both conventional and unconventional marketing experiments to expand a community. The main goal of growth hacking is rapid growth at an early stage by increasing the conversion rate and lowering the cost per customer acquisition, although the customer retention is a key point of any successful growth hacking strategy.

Tactics that are used in Growth Hacking are: search engine optimization, website analytics, content marketing, email campaigns, viral strategies and A/B testing. But it can also involve online community management and social media outreach, both through organic content and paid ads, and influencer marketing.

In coordination with TIB, FBA has developed a PLATOON Communication toolkit, shared with partners, Supportive Partners and Ambassadors in order to be affective in growing the community as well as attracting potential applicants to PLATOON's Open Calls.

4.4 Growth Hacking Strategy

PLATOON used the following growth hacking strategy which follows a funnel as described below:

- **Acquisition.** The main goal is to lower the acquisition costs of users, and for that a growth hacker has to answer the question 'How does your target find you?', to focus the brand awareness strategy on the platforms the target audience is (which social media networks, blogs and online magazines, which online communities and groups, etc.). To date, we have used multiple avenues to reach out to our audience, from our AdWords campaign to attract applicants to the open calls to regular posts on our social media accounts, offline events such as those described above and blog posts/press releases on our partner's networks and communication tools.

[15] Paramount MD, 2020

- **Activation**. Once the target has been acquired, it has to be activated, which means the key performance indicator of this step of the growth hacking funnel is the conversion rate. For that, it is important to answer the question 'Does your target have a great first experience?', which in the case of the PLATOON online community would mean 'Do they join the community?'. We have namely used call to actions to convert the visitors and increase the possibilities for them to join the community. We have publicised the community in FBA's newsletter that is sent to FBA's wider ecosystem. We also used the PLATOON helpdesk as a call to action to invite members to join the community.

- **Retention.** Retention focuses its efforts on creating active users or members of a community on a daily, weekly or monthly basis by offering some added value to enlighten them. In the case of a customer, the objective would be that they buy again and again, but in this one, that they become active members. The question that summarises the retention would be 'Does your target come back?' We focused on retaining our community members by providing relevant content such as the following:
    - Funding opportunities.
    - Webinars, Q&A sessions.
    - PLATOON success stories for those selected projects via the open calls.
    - Helpdesk.

- **Referral.** Last, but not least, we expect users, members or customers to spread the word and tell others to help the user base grow organically, although there are also some techniques to encourage them to do it.

4.5 Supportive Partners Programme

The Supportive Partners Programme for communities involves entities from across Europe, such as start-up communities, accelerators, governments, programmes and more to help PLATOON to empower innovation and entrepreneurship in the crossroads of ICT and energy and connect the ecosystem. The "supportive partners" are stakeholders interested in disseminating the project in a win-win cooperation mode. These are identified via community mapping, starting from the PLATOON partners' networks.

For this purpose, each partner was asked by FBA to identify these entities and to reach out via an email template provided by FBA to send to their respective contacts. Following a response from the supportive partners expressing interest in the role, FBA reached out to each to on-board the confirmed supportive partners. To date, FBA has contacted 20 supportive partners.

These collaborating entities have been encouraged to share content for dissemination so that the community as a whole would benefit from channelling all information into one place. Content can include, for example:

- Success stories about the implementation of the pilot.
- Recent breakthrough and advances benefiting and business news in this domain,
- Opportunities for SMEs: calls, events, competitions, etc.

For example, BERRIUP is one of the Supportive Partners who published the 1st Open Call in their newsletter as shown in the figure below:

Figure 5: BERRIUP - 1st PLATOON Open Call publication

A post on LinkedIn, Twitter and Facebook was also made by Supportive Partner **Vestbee** (hosts CEE Startup & Scaleup Challenges). The Twitter post is included below.

Figure 6: Vestbee - 1st PLATOON Open Call publication

4.6 Ambassador Programme

Ambassadors are responsible for contributing towards the PLATOON community, the PLATOON website, newsletter and our social media channels, engaging with other members. PLATOON is engaging three Ambassadors to advocate about the project, with a one-year contract from commencing mid-May 2021.

This Ambassador programme will enable us to boost the community growth, focusing on a range of consolidated figures in the domain involved in the project to create awareness through their digital channels, as well as in physical events. They will be participating in PLATOON online Community at FundingBox' Spaces, providing knowledge, expertise and valuable content

The Ambassadors selected for this project are (see also Figure 7 below):

1. Thorsten Huelsmann from **International Data Spaces;**
2. Nathalie Mitton from **Inria;**
3. Jad Nassar from **Yncréa.**

Name	Photo	About the Ambassador
Thorsten Huelsmann		Thorsten Huelsmann is CEO of Digital Hub Logistics and Digital Hub Management GmbH located in Dortmund since 2010. In 2016 he was additionally appointed as Head of Unit Strategic Initiatives at Fraunhofer Institute of Material Flow and Logistics IML and as CFO of International Data Spaces Association IDSA. He holds a Master in Economic Geography, Sociology and Political Sciences from University of Bonn and studied Communication Sciences at University of Bologna. Mr Huelsmann focuses his work on the management and coordination of innovation networks, initiatives and clusters. He uses stakeholder engagement and qualitative research methods as well as strategic foresight tools. In 2019 Digital Hub Logistics was awarded as the winner of the DIHNET.EU award, in 2010 Digital Hub Logistics was awarded as the winner of the leading-edge cluster competition of the German government.
Natalie Mitton		Dr. Nathalie Mitton received her MSc and Ph.D. degrees in Computer Science from INSA Lyon in 2003 and 2006 respectively. She received her Habilitation à diriger des Recherches (HDR) in 2011 from Université Lille 1. Since 2006, Dr. Mitton has been an Inria full researcher and since 2012, she is the Scientific Head of the Inria FUN team which is focused on small computing devices like electronic tags and sensor networks. Her research interests focus on self-organization from PHY to routing for wireless constrained dynamic and mobile networks with a strong focus on energy. Dr. Mitton has been nominated as one of the 10 Women Stars in Computer Science in 2020 by the IEEE Communication Society. She has published her research in more than 40 international revues and more than 120 international conferences. Dr. Mitton is involved in the set-up of the FIT IoT LAB platform, the H2020 CyberSANE projects, and in several program and organization committees such as Infocom (since 2019), PerCom (since 2018), DCOSS (since 2018), Adhocnow (since 2015), ICC (since 2015), Globecom (since 2017), Pe-Wasun 2017, VTC (since 2016), etc. She supervises several Ph.D. students and engineers.
Jad Nassar		Dr Jad Nassar is an Assistant Professor in Computer Science at Junia-HEI. He has a PhD in Computer Science specialized in Internet of Things (IoT) applied to Smart Grids. He teaches in the field of Computer Science and IoT. Dr Nassar's research interests include communication and data acquisition in smart devices and wireless networks for different applications such as Smart Grids, Smart Cities, etc. Dr Nassar is currently working on several European projects in the area of Smart Grids such as EBalance+ and SoMel SoConnected.

Figure 7 PLATOON Ambassadors on https://platoon-project.eu/

The majority of dissemination actions performed by the ambassadors happened during the course of the open calls, however, the ambassadors continued to create awareness for PLATOON through their digital channels, see examples on the figure below.

Figure 8 Re-tweets about PLATOON

5 Discussion and conclusion

As per summarised in the document it can be concluded that so far PLATOON project has actively worked on several networking activities and successfully stablished several synergies and cooperation's with other related H2020 and HEU funded projects and other initiatives related to data spaces, ICT, IoT and smart energy domain.

On the one hand, it has actively collaborated through BRIDGE initiative as well as with other cooperation groups such as ETIP-SNET, NGIOT and OPENDEI. In this sense, it is worth highlighting the leading role of PLATOON in OPENDEI Linking Ecosystems Work Steam and the one to one collaboration with other two similar projects which are part of OPENDEI, namely INTERCONNECT and PLATONE projects. Furthermore PLATOON has been recognised as a pioneer in the area of energy data spaces by the new upcoming HEU projects (OMEGA-X, ENERSHARE and INTNET) and has set the corresponding networks to ensure the continuation and extension of the main exploitable results beyond the project lifetime.

On the other hand, PLATOON has actively collaborated with different industrial groups and clusters such as International Data Spaces Association (IDSA), Big Data Value Association (BDVA), GAIA-X, European Industry Clusters and Smart Data Models. In this sense it is important to say the critical role played by PLATOON on stablishing a brand new Energy Task Force in BDVA. In addition, PLATOON is considering on incorporating the Open Source Semantic Energy Data Models into the well-known Smart Data Models repository to ensure the continuation and extension beyond the project lifetime.

Besides, regarding the PLATOON Community, it can be concluded that the defined growth hacking strategy and 1st and 2nd Open Call Dissemination campaign have proven to be effective as it is reflected in the metrics.

Finally, it is worth saying that the PLATOON networking activities is regarded as a continuous important task for the project and thus PLATOON will keep actively working on these activities until the end of the project and beyond.