Boosting DR through increased communIty-level consumer engaGement by combining Data-driven and blockcHain technology Tools with social science approaches and multi-value service design

# Deliverable D9.1 Report on collaboration with other projects – first version

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# Imprint

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## Consortium - List of partners

*Table 1 Consortium partner list*

| Partner no. | Short name | Name | Country |
|---|---|---|---|
| 1 | ENG | ENGINEERING - INGEGNERIA INFORMATICA SPA | Italy |
| 2 | TUC | UNIVERSITATEA TEHNICA CLUJ-NAPOCA | Romania |
| 3 | IMEC | INTERUNIVERSITAIR MICRO-ELECTRONICA CENTRUM | Belgium |
| 4 | COM | COMSENSUS, KOMUNIKACIJE IN SENZORIKA, DOO | Slovenia |
| 5 | SONCE | SONCE energija d. o. o. | Slovenia |
| 6 | ISKRA | ISKRAEMECO, MERJENJE IN UPRAVLJANJE ENERGIJE, D.D. | Slovenia |
| 7 | EMOT | EMOTION SRL | Italy |
| 8 | TNO | NEDERLANDSE ORGANISATIE VOOR TOEGEPAST NATUURWETENSCHAPPELIJK ONDERZOEK | Netherlands |
| 9 | CENTRICA | CENTRICA BUSINESS SOLUTIONS BELGIUM | Belgium |
| 10 | ASM | ASM TERNI SPA | Italy |
| 11 | DuCoop | DUCOOP | Belgium |
| 12 | CEL | CYBERETHICS LAB SRLS | Italy |
| 13 | DOMX | DOMX IDIOTIKI KEFALAIOUCHIKI ETAIREIA | Greece |
| 14 | APC | Asociatia Pro Consumatori | Romania |
| 15 | WVT | WATT AND VOLT ANONIMI ETAIRIA EKMETALLEYSIS ENALLAKTIKON MORFON ENERGEIAS | Greece |
| 16 | SUN | SunContract OÜ | Estonia |

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# List of Acronyms and Abbreviations

*Table 2 List of Acronyms and Abbreviations*

| | |
|---|---|
| BRIGHT | Boosting DR through increased communIty-level consumer engaGement by combining Data-driven and blockcHain technology Tools with social science approaches and multi-value service design. |
| DER | Distributed Energy Resources |
| DSO | Distribution System Operator |
| DR | Demand Response |
| EPES | Electrical Power Energy Systems |
| IoT | Internet of Things |
| LSP | Large Scale Pilots |
| R&D | Research & Development |
| SAREF | Smart Applications REFerence |
| TSO | Transmission System Operator |
| WG | Working Group |
| WP | Work Package |

## Executive Summary

This deliverable D9.1 (“Report on collaboration with other projects – first version”) reports on the collaboration between the Consortium members with other ongoing H2020 related projects and other initiatives active at EU level. This deliverable should be considered as a live document, it will be updated during the course of the project. The main outcome provided by this document is the definition of a strategy plan that should be followed by BRIGHT members to activate the collaboration actions with other projects. During the first phase of the project (M1-M12), initial collaboration with BRIDGE initiative has been started and a list of H2020 projects relevant for BRIGHT activities has been defined.

# 1 Introduction

## 1.1 Purpose

Deliverable D9.1 aims to provide BRIGHT initial planning of collaboration actions with different projects and initiatives at EU level. As initial steps of collaboration activities, a strategy plan is defined. The collaboration plan will be followed by BRIGHT Consortium in order to create contacts with relevant European projects in a similar field to the BRIGHT project and to organise joint events and activities for sharing knowledge and experiences. Regarding initiatives at EU level, cooperation with BRIDGE activities are fundamental for BRIGHT to enhance cross initiatives collaboration and fertilization. Initial collaboration activities with BRIDGE are reported. With regard to the collaboration of other EU funded projects, a list of targeted projects relevant for BRIGHT is defined and documented.

## 1.2 Relation to Other Activities

D9.1 is housed under Task 9.1 "Collaboration with other EU funded projects on topic LC-SC3-ES-5" and Task 9.2 "Collaboration with other relevant EU funded projects". Tasks 9.1 and 9.2 are ongoing activities that span the project's lifetime from start (M1) to end (M36). The outcomes of these tasks are relevant for all project activities, however they strengthen the dissemination and exploitation activities of WP8 since they increase visibility and synergies between H2020 actions.

## 1.3 Structure of the Document

*Chapter 2 – Collaboration plan*

Chapter 2 describes the strategy plan that will be followed by BRIGHT for the collaboration actions with other projects and EU initiatives. The plan is divided into three phases and it is related to the three years of the project. Moreover, possible approaches for collaboration that BRIGHT project partners can take in consideration when interacting with other projects have been reported.

*Chapter 3 – BRIDGE initiative*

Chapter 3 introduces to the BRIDGE initiative. BRIGHT has been presented in the BRIDGE General Assemby event, the list of partners directly involved in BRIDGE activities is identified, and the meetings attended are reported.

*Chapter 4 – Identification of collaboration possibilities with related EU funded projects*

Chapter 4 reports the list of potential projects relevent for future collaborations with BRIGHT. For each project a description is reported and relevance to BRIGHT activities is documented.

*Chapter 5 – Conclusions*

Chapter 5 reports the summary of the document and explains the steps for the next deliverables related to T9.1 and T9.2.

# 2 Collaboration plan

Collaboration involves a series of activities to create contacts with relevant European projects and events operating in a similar field to the BRIGHT project and to organise joint events and activities with the different research projects. Coordination and communication efforts allows the BRIGHT project to find synergies with other innovation and research actions and to share experience and knowledge in the relevant Research & Development (R&D) fields.

## 2.1 Phases

All collaboration activities have to be planned in order to maximise the effectivity and alignment of the actions. In relation to the project milestones and the expected outcome, the strategy will be based on a three-phase model as shown in Figure 1. The figure shows the initial planning for the collaboration activities to be carried out during the three project years.

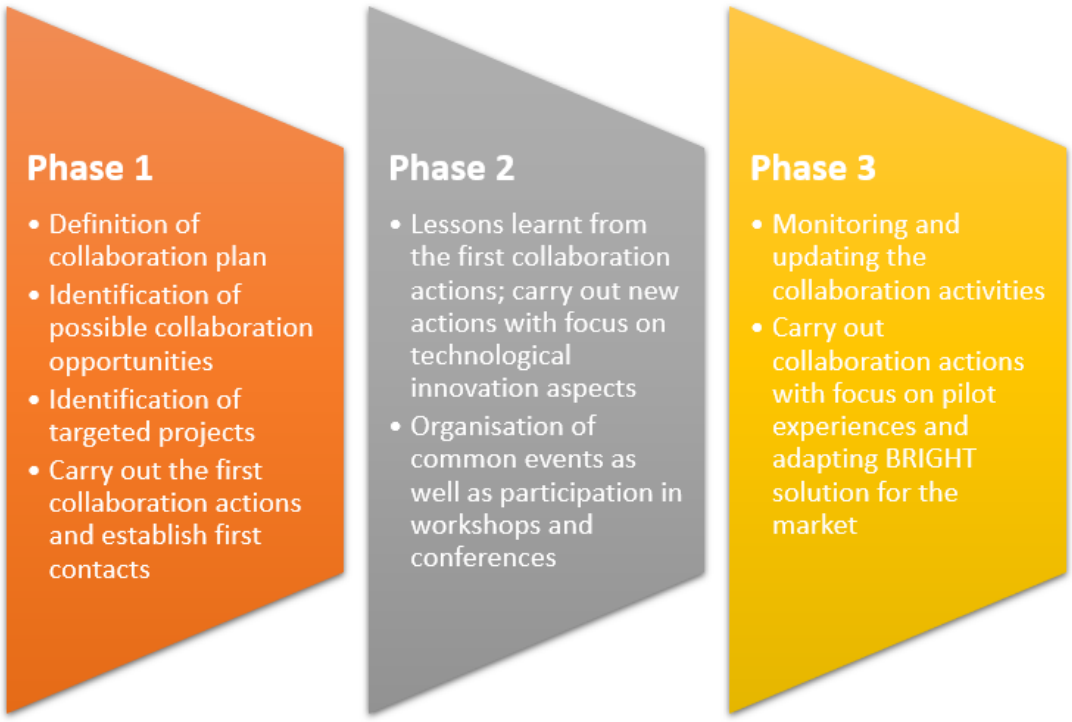


*Figure 1 Collaboration plan during the three project years*

Phase 1

During the first year of the project the specific goal of collaboration activities was to get a deeper understing on other EU initiatives and other EU funded projects related to BRIGHT on topic LC-SC3-ES-5-2018-2020: TSO – DSO – Consumer: Large-scale demonstrations of innovative grid services through demand response, storage and small-scale (RES) generation. As first steps the targeted projects have been identified and initial collaboration with BRIDGE initiative [1] activities has been started. All the collaboration opportunities identified during the first project year will be updated and monitored throughout the entire project.

Phase 2

As the second project year is the most intense period of the technical development of the BRIGHT solution, the goal for collaboration during this second year will be to find activities with focus on the technological aspects. Technical workshops and conferences will be organized in order to present the BRIGHT outcomes. To determine the right time of performing these activities, the milestones for this second period should be taken in consideration (See table xx).

*Table 3 Milestones related to the second phase of the project*

| Milestone N. | Milestone Title | Due date (in months) | Means of verification |
|---|---|---|---|
| MS4 | First wave of BRIGHT technology enablers available, including 1st version of B-DT models and 1st version of B-DLT | 15 | Availability of 1st version of BRIGHT DT models |
| MS5 | Start of first pilot validation round and early initial in lab validation results | 16 | Availability of initial in lab validation results |
| MS6 | First revision of Quality Plan, 1st periodic report; Second wave of BRIGHT technology enablers delivered validation of first wave of technologies completed. 1st version of business planning and market analysis | 18 | Availability of 1st periodic report and 2nd version of Data Management Plan; CODEC model and refined citizen engagement strategies; DT enabled services; blockchain based energy and flexibility trading platforms and initial version of the interoperable gateway; 1st version of dissemination activities, projects collaboration report, exploitation, business planning and market analysis; projects cooperation plans. |
| MS7 | Start of second wave of technologies validation within the first pilot validation round; data for platform interoperability complete. | 19 | BRIGHT pilot validation plan, validation of first wave of technologies is completed. |
| MS8 | Final BRIGHT technology specification, initial multi value-service design; Third wave of BRIGHT technology enablers delivered. Validation of second wave of enablers completed in the first validation round. Updated report on collaboration with other projects | 24 | Availability of cross sector energy services; final version of smart contracts and interoperable gateway |

Phase 3

The third phase will be based on the continuation of the work carried out during the two previous years of the project with some important additions. Contacts that have been taken during the two first years of the projects have to be maintained and updated. Moreover, since most of the final versions of BRIGHT technology specification will be available in this period, the collaboration activities will be focused on pilot experiences and adapting BRIGHT solution for the market.

## 2.2 Possible approaches for collaboration

There are several interesting approaches that the BRIGHT project partners can take in consideration when interacting with the identified European funded projects. The approaches can be classified in the following areas:

- **Organisation of a common workshop**
  The projects could define together a common topic that is related to their project activities. The collaboration workshop could offer different perspectives for the same topic and enable the exchange of valuable knowledge. Furthermore, the partners from several projects could activate their different network contacts to invite speakers and participants, which would increase the workshop impact.
- **Organisation of a face-to-face meeting with another project**
  This kind of more private setting could allow the exchange of good practice between projects. Representatives of the collaborating projects could discuss very specific topics and exchange experiences on specific project activities, such as the organisation of the pilot or user testing. As the methods of research projects develop continuously, it is necessary to monitor these developments and adapt them in the project whenever possible. Consequently, exchanges with other projects can be very useful and stimulating.
- **Publication of a common paper or other pubblication**
  Notably, partners of academic projects could take advantage of their networks in academic research projects and consider publishing an academic paper in collaborative research with another research project. This type of publication could be very valuable for collaborative projects as they could respectively present their scientific results and promote their project activities within the academic community.

The BRIGHT Consortium members will be active in all three fields. Their different networks are important in order to get in contact with the different collaboration points. The collaboration approaches will be adapted on a project-by-project basis according to the interests of the involved stakeholders.

# 3 BRIDGE initiative

## 3.1 Introduction to BRIDGE Working Groups

One of the main objectives of task 9.2 is to activate synergies between BRIGHT and BRIDGE initiative. BRIDGE [1] is a European Commission initiative involving 90 projects (58 ongoing) in the areas of Smart Grid, Energy Storage, Islands, and Digitalisation funded under the Horizon 2020 program over the last 6 years (2014-2020). It aims at fostering the exchange of information, experience, knowledge, and best practices among its members. BRIDGE wants to provide field experience, feedback and lessons learned from the participating projects to help overcome the barriers to effective innovation. It aims at gathering coordinated, balanced and coherent recommendations to strengthen the messages and maximize their impacts towards policy makers in view of removing barriers to innovation deployment.

The BRIDGE process fosters continuous knowledge sharing amongst projects thus allowing them to deliver conclusions and recommendations about the future exploitation of the project results, with a single voice, through four different Working Groups (WG) representing the main areas of interest.

**Data Management WG**

The Data Management WG aims to cover a wide range of aspects ranging from the technical means for exchanging and processing data between interested stakeholders to the definition of rules for exchange, including security issues and responsibility distribution in data handling. Accordingly, the WG has identified 3 areas of collaboration around which mutual exchange of views and discussions have been set:

- *Communication Infrastructure*, embracing the technical and non-technical aspects of the communication infrastructure needed to exchange data and the related requirements.
- *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.

**Business Models WG**

The WG on Business Models aims at:

- Defining common language and frameworks around business model description and valuation
- Identifying and evaluating existing and new or innovative business models from the project demonstrations or use cases

The Business Models WG has been inactive since mid-2019, as the main activities were completed. Some of the outstanding topics were addressed by specific newly established Task Forces. However, business model definition and investigation are posed as a requirement in H2020 calls. With the growing number of new BRIDGE projects addressing the business-, economic- and general value-oriented aspects of the services and activities pursued, virtually all BRIDGE projects work on these issues. Reactivation of the BM WG could leverage on work already done in BRIDGE

projects and focus on common business models challenges and synergies among BRIDGE projects. A strong Business Model WG could efficiently support their efforts and serve to create additional value to the decision makers on all levels.

**Regulation WG**

The BRIDGE Regulation WG was established at the origin of the BRIDGE initiative with the objective of fostering knowledge sharing among H2020 projects affected or addressing by different Regulation aspects in the Energy domain.

The Regulation WG, as the entire BRIDGE initiative, structures its activities on a yearly basis. In the last years, different topics have been addressed, resulting in most cases on specific reports that can be shared not only within the BRIDGE community, but with a larger audience. Past year, the Regulation working group has focused its efforts on topics related to market design, more in particular on Products and Services, Coordination Models and Market Integration. In order to continue the work, four tracks are defined for 2021 that will focus on several integration and harmonization aspects of market design [2]:

- Harmonization at the level of products and services, including the role of energy communities as service provider.
- Cross-border and regional cooperation.
- Integration of market -based and non-market-based flexibility mechanisms.
- Coordinated flexibility markets for system services.

**Consumer and Citizen Engagement WG**

The BRIDGE working group on consumer and citizen engagement (WG4) has been established at the origin of the BRIDGE group with the following objectives:

- Segmenting, analysis of cultural, geographical and social dimensions,
- Value systems - Understanding Consumers
- Drivers for Engagement
- Effectiveness of Engagement Activities
- Identification of what triggers behavioural changes (e.g., via incentives)
- The Regulatory Innovation to Empower Consumers

The workplan for 2021-2022 will focus mainly on two objectives [3]:

- Promote knowledge exchange and best practice sharing around consumer engagement throughout the BRIDGE initiative.
- Analyse barriers and propose solutions for BRIDGE projects to build community-based engagement strategies and processes.

## 3.2 Role of BRIGHT within the BRIDGE initiative

BRIGHT project has been registered as a partcipant of BRIDGE initiative and is active in all WGs. Figure 2 shows the project fact sheet reported in the BRIDGE brochure of this year.


BRIDGE BROCHURE 2021

H2020 call: LC-SC3-EC-3-2020 – Consumer Engagement and Demand Response

Back to projects' list

BRIGHT

Boosting DR through increased community-level consumer engaGement by combining Data-driven and blockChain technology Tools with social science approaches and multi- value service design

A participatory process to bring individual consumers center stage to deliver community-centered DR, combining social-science-driven user experience design with innovative technologies

| From 2020 To 2025 | Project total cost | EU contribution | Website |
|---|---|---|---|
| | 5.88 M€ | 4.66 M€ | https://www.brightproject.eu/ |

Technologies and services deployed

- Technologies for consumers: ✓ DR ✓ Smart Appliance ✓ Microgrid ✓ Network mgmt. tools
- Grid technologies
- Large-scale storage technologies
- Distributed storage technologies: ✓ Batteries ✓ EVs ✓ Power to heat
- Generation technologies: ✓ PV
- Market: ✓ Electricity market ✓ Ancillary Services

Project partners' countries

Coordinator: ENGINEERING INGEGNERIA INFORMATICA (ITALY)

Other partners:

- UNIVERSITATEA TEHNICA CLUJ-NAPOCA (Romania)
- INTERUNIVERSITAIR MICROELECTRONICA CENTRUM (Belgium)
- COMSENSUS, KOMUNIKACIJE IN SENZORIKA (Slovenia)
- SONCE ENERGIJA (Slovenia)
- ISKRAEMECO, MERJENJE IN UPRAVLJANJEENERGIJE (Slovenia)
- EMOTION SRL (Italy)
- NEDERLANDSE ORGANISATIE VOOR TOEGEPAST NATUURWETENSCHAPPELIJK ONDERZOEK (Netherlands)
- CENTRICA BUSINESS SOLUTIONS BELGIUM (Belgium)
- ASM TERNI SPA (Italy)
- DUCOOP (Belgium)
- CYBERETHICS LAB SRLS (Italy)
- DOMX (DIOTIKI KEFALAIOUCHIKI ETAIREIA (Greece)
- ASOCIATIA PRO CONSUMATORI (Romania)
- WATT AND VOLT ANONIMI ETAIRIA EKMETALLEYSIS ENALLAKTIKON MORFON ENERGEIAS (Greece)
- SUNCONTRACT OU (Estonia)

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bridge

*Figure 2 BRIGHT project fact sheet reported in the BRIDGE brochure 2021*

Table 4 shows the list of identified key persons in the project who are directly involved to follow the BRIDGE activities for the different working groups.

*Table 4 BRIGHT contacts list involved in BRIDGE activities*

| Last name | First name | Mail contact | Organisation | Working Group/Task force |
|---|---|---|---|---|
| Croce | Vincenzo | vincenzo.croce@eng.it | ENG | Coordinator |
| Ziu | Denisa | denisa.ziu@eng.it | ENG | Coordination team |
| Bojin | Emil | emil.bojin@apc-romania.ro | APC | Communications |
| Croce | Vincenzo | vincenzo.croce@eng.it | ENG | Communications |
| Strobbe | Mathias | mathias.strobbe@imec.be | IMEC | Data Management |
| Croce | Vincenzo | vincenzo.croce@eng.it | ENG | Data Management |

| | | | | |
|---|---|---|---|---|
| Bertoncini | Massimo | massimo.bertoncini@eng.it | ENG | Business Models |
| Croce | Vincenzo | vincenzo.croce@eng.it | ENG | Business Models |
| Croce | Vincenzo | vincenzo.croce@eng.it | ENG | Regulation |
| Ziu | Denisa | denisa.ziu@eng.it | ENG | Regulation |
| De Mulder | Chaim | cdemulde@openmotics.com | DUCOOP | Consumer and Citizen Engagement |
| Kort | Joke | joke.kort@tno.nl | TNO | Consumer and Citizen Engagement |

## 3.3 BRIDGE meetings attended

### 3.3.1 BRIDGE General Assembly March 2021

On 2-4 March 2021, the BRIDGE General Assembly 2021 took place online, organised by the European Commission. The objective of the BRIDGE annual meetings is to create a better understanding of the BRIDGE projects, learn more about projects results and help to establish closer cooperation for European best practice standards. By bringing together different actors with their different experiences, the final scope of the BRIDGE General Assembly is to identify concrete actions to be implemented by strengthening the collaboration between projects.
BRIGHT project has been presented during the BRIDGE General Assembly. The presentation introduced the main objectives of the project and the areas of interest that coincide with the current work in BRIDGE, with particular reference to the different WGs.


*Figure 3 General Assembly event launched in the social media channels*

### 3.3.2 BRIDGE Working Groups meetings

Table 5 lists all the WGs meetings attended from persons who represented BRIGHT during this year of BRIDGE activities.

*Table 5 BRIDGE meetings attended by BRIGHT members*

| Meetings | Attendees | Date |
|---|---|---|
| Consumer and citizen engagement working group \| 2021 kick-off meeting | Chaïm De Mulder | April 15th, 2021 |
| BRIDGE joint communication | Vincenzo Croce | June 29th, 2021 |
| Data Exchange Reference Architecture – Data Management | Vincenzo Croce | July 9th, 2021 |
| WG Data Management | Vincenzo Croce | July 21st, 2021 |
| WG Data Management | Vincenzo Croce | September 3rd, 2021 |
| Consumer and citizen engagement working group meeting \| period 2 | Chaïm De Mulder | September 21st, 2021 |
| WG Data Management | Vincenzo Croce | September 27th, 2021 |
| WG Data Management, Reference Architecture | Vincenzo Croce | October 1st, 2021 |
| WG Data Management | Vincenzo Croce | October 7th, 2021 |

# 4 Identification of collaboration possibilities with related EU funded projects

In this chapter it is reported an initial list of H2020 funded projects that are part of BRIDGE initiative. This set of projects will be exploited by BRIGHT in order to find synergies and share experiences on similar topics. The list is not exhaustive, it will be updated during the project as required. For each project it is provided an overview of main goals and it is explained the relevance of the project for BRIGHT.

### 4.1.1 CoordiNet

The CoordiNet project [4] is a response to the call LC-SC3-ES-5-2018-2020, entitled "TSO – DSO – Consumer: Large-scale demonstrations of innovative grid services through demand response, storage and small-scale generation" of the Horizon 2020 programme. The project aims at demonstrating how Distribution System Operators (DSO) and Transmission System Operators (TSO) shall act in a coordinated manner to procure and activate system services in the most reliable and efficient way through the implementation of three large-scale demonstration campaigns or demonstrators. The CoordiNet project is centred on three key objectives:

- To demonstrate to which extent coordination between TSO/DSO will lead to a cheaper, more reliable, and more environmentally friendly electricity supply to the consumers through the implementation of three demonstrators at large scale, in cooperation with market participants.
- To define and test a set of standardized products and the related key parameters for system services, including the reservation and activation process for the use of the assets and finally the settlement process.
- To specify and develop a TSO-DSO-Consumer cooperation platform starting with the necessary building blocks for the demonstration sites. These components will pave the way for the interoperable development of a pan-European market that will allow all market participants to provide energy services and open up new revenue streams for consumers providing grid services.

In total, ten demonstration activities will be carried out in three different countries, namely Spain, Sweden, and Greece. In each demonstration activity, different products will be tested, in different time frames and relying on the provision of flexibility by different types of Distributed Energy Resources (DER). *Figure 4 Overall CoordiNet approach*: Services, timeframes, coordination schemes and products that will be demonstrated in different countries (Spain in pink, Sweden in yellow and Greece in grey) presents an approach to identify (standardized) products, system services, and coordination schemes to incorporate them into the future CoordiNet platform for the realization of the planned demonstration activities. More details about the process to define the business use cases to be tested in CoordiNet can be found in D1.5 [5].

Relevance to BRIGHT

COORDINET project has been demonstrating innovative cooperation models and underlying infrastructural developments for the standardize seamless coordination and interaction among TSOs, DSOs and consumers for the flexibility management. ENG as common partner will be the natural bridge aimed to link the ongoing work on the TSO-DSO coordination model and make

available such work to the BRIGHT project. The underlying interface developed within COORDINET will be taken in consideration for the necessary adaptation to the BRIGHT context.

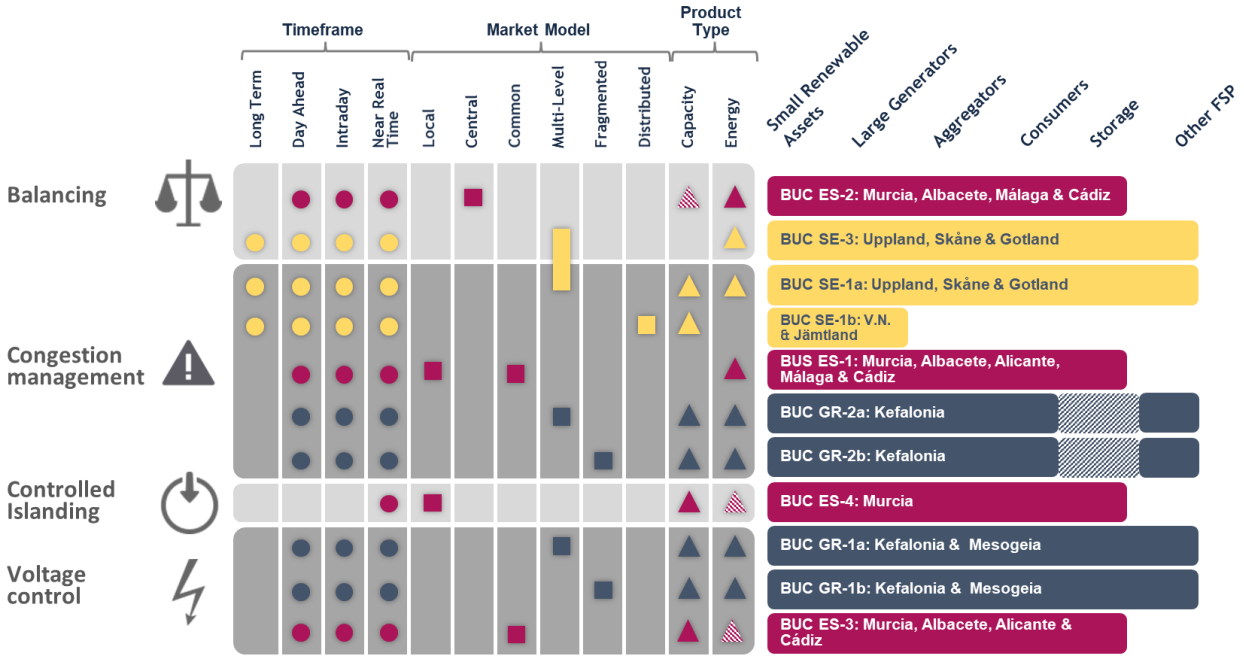


*Figure 4 Overall CoordiNet approach: Services, timeframes, coordination schemes and products that will be demonstrated in different countries (Spain in pink, Sweden in yellow and Greece in grey)*

### 4.1.2 OneNet

OneNet [6] will provide a seamless integration of all the actors in the electricity network across Europe to create the conditions for a synergistic operation that optimizes the overall energy system while creating an open and fair market structure.

The project OneNet (One Network for Europe) is funded through the EU's eighth Framework Programme Horizon 2020. It is titled "TSO – DSO Consumer: Large-scale demonstrations of innovative grid services through demand response, storage and small-scale (RES) generation" and responds to the call "Building a low-carbon, climate resilient future (LC)".

While the electrical grid is moving from being a fully centralized to a highly decentralized system, grid operators have to adapt to this changing environment and adjust their current business model to accommodate faster reactions and adaptive flexibility. This is an unprecedented challenge requiring an unprecedented solution. For this reason, the two major associations of grid operators in Europe, ENTSO-E and EDSO, have activated their members to put together a unique consortium.

OneNet will see the participation of a consortium of over 70 partners. Key partners in the consortium include: already mentioned ENTSO-E and EDSO, Elering, EDP Distribution, RWTH Aachen University, University of Comillas, VITO, European Dynamics, Ubitech, Engineering, and the EUI's Florence School of Regulation (Energy).

The key elements of the project are:

1. Definition of a common market design for Europe: this means standardized products and key parameters for grid services which aim at the coordination of all actors, from grid operators to customers;
2. Definition of a Common IT Architecture and Common IT Interfaces: this means not trying to create a single IT platform for all the products but enabling an open architecture of interactions among several platforms so that anybody can join any market across Europe;
3. Large-scale demonstrators to implement and showcase the scalable solutions developed throughout the project. These demonstrators are organized in four clusters coming to include countries in every region of Europe and testing innovative use cases never validated before.

Relevance to BRIGHT

Building on the significant progress made in CoordiNet, OneNet aims to consolidate results and knowledge into a comprehensive framework for European network flexibility. ENG as common partner will be the natural bridge aimed to link the ongoing work on the TSO-DSO coordination model and make available such work to the BRIGHT project.

### 4.1.3 Platone

The Platone project [7] aims to develop an architecture for testing and implementing a data acquisitions system based on a two-layer approach (an access layer for customers and distribution system operator (DSO) observability layer) that will allow greater stakeholder involvement and will enable an efficient and smart network management.

The tools used for this purpose will be based on platforms able to receive data from different sources, such as weather forecasting systems or distributed smart devices spread all over the urban area. These platforms, by talking to each other and exchanging data, will allow collecting and elaborating information useful for DSOs, transmission system operators (TSOs), customers and aggregators. In particular, the DSO will invest in a standard, open, non-discriminating, economic dispute settlement blockchain-based infrastructure, to give to both the customers and to the aggregator the possibility to more easily become flexibility market players. This solution will see the DSO evolve into a new form: a market enabler for end users and a smarter observer of the distribution network. By defining this innovative two-layer architecture, Platone removes technical barriers to the achievement of a carbon-free society by 2050, creating the ecosystem for new market mechanisms for a rapid roll out among DSOs and for a large involvement of customers in the active management of grids and in the flexibility markets.

The Platone platform will be tested in 3 European trials (Greek, Germany and Italy) and the consortium aims to go for a commercial exploitation of the results after the project is finished.

Relevance to BRIGHT

PlatOne aims to provide a multilevel platform based on blockchain technology linking the local system with the DSO and TSO domains to enhance the overall system cost efficiency and integrity maintenance. The platform has two main goal: handle the data access layer, collecting and certify data; create an innovative energy marketplace platform, providing innovative features to both DSOs and energy market players. Within BRIGHT ENG will evolve PlatOne Market Platform adapting and enhancing the asset to support the management of Decentralized VPP and assets trading monetization, including P2P trading sovereignty preserving data management, P2P flexibility trading and community self-governance.

### 4.1.4 InterConnect

InterConnect [8] is the H2020 project that gathers 51 European entities from 13 different European countries, aiming at the development and demonstration of advanced solutions that empower the relation between smart homes, smart buildings and smart distribution grids.

The project vision is to produce a digital marketplace, using an interoperable marketplace toolbox and SAREF compliant IoT reference architecture as main backbone, through which all SAREF-ized services, compliant devices, platform enablers and applications can be downloaded onto IoT and smart grid digital platforms.

The project, which was approved by the European Commission under the Horizon 2020 programme with a 4 years duration, will induce that energy users in buildings, either residential or non-residential, manufacturers, distribution grid operators and the energy retailers will work together towards the demonstration of the smart energy management solutions in seven connected large-scale test-sites in Portugal, Belgium, Germany, the Netherlands, Italy, Greece and France.

Relevance to BRIGHT

InterConnect is led by BRIGHT partner TNO. The project creates a flexible and interoperable ecosystem – SAREF based – where demand side flexibility can be soundly integrated with effective benefits for end users. BRIGHT will actively align with InterConnect and will leverage on the developed domain interoperable IoT reference architecture to efficiently integrate and communicate with diverse flexible assets. Lessons learnt from the Interconnect pilots in seven EU countries on user acceptance and engagement will guide the setup of the pilot communities in BRIGHT.

### 4.1.5 PLATOON

The EU-funded H2020 project PLATOON [9] aims to digitalise the energy sector, enabling thus higher levels of operational excellence with the adoption of disrupting technologies.

PLATOON will deploy distributed edge processing and data analytics technologies for optimized real-time energy system management in a simple way for the energy domain expert. The data governance among the different stakeholders for multi-party data exchange, coordination and cooperation in the energy value chain will be guaranteed via IDS based connectors. The project will develop and use the PLATOON reference architecture, which is COSMAG-compliant [10], for

building and deploying scalable and replicable energy management solutions, contributing thus to increased renewable energy consumption, smart grids management, increased energy efficiency and optimised energy asset management, addressing the needs of various stakeholders along the value chain of the energy sector.

The project will be validated in 7 pilots in 5 countries that provide real Energy Big Data cases. PLATOON will facilitate the technology transfer into the market by a well-established tendering process via Open Calls.

Relevance to BRIGHT

BRIGHT partner COM participates to the PLATOON project. The project aims to develop COSMAG-compliant reference architecture for building and deploying scalable and replicable energy management solutions that contribute to increased renewable energy consumption, smart grids management, increased energy efficiency and optimized energy asset management. Within BRIGHT, COM will exploit the services management framework in the context of USG and thereby allow for the instantiation of local observability and autonomous edge services. To support continuous delivery, deployment, integration, and testing, a containerization and orchestration frameworks will be used that consider dependencies among DR services.

### 4.1.6 PHOENIX

The PHOENIX project [12] is a European Union funded collaborative project improving the cyber security of the European Electrical Power Energy Systems (EPES), i.e. the so called Smart Grid. PHOENIX aims to offer a cyber-shield armour to European EPES infrastructure enabling cooperative detection of large scale, cyber-human security and privacy incidents and attacks, guarantee the continuity of operations and minimize cascading effects in the infrastructure itself, the environment, the citizens and the end-users at reasonable cost.
PHOENIX focuses on the protection of the European EPES via: (i) Cybersecurity & Data Privacy by design and by innovation, (ii) cross-country Cybersecurity Information Sharing, realising NIS Directive (iii) realistic exploitation, penetration testing and verification/certification methodologies and procedures and (iv) validation in 5 real-life Large Scale Pilots (LSP) across Europe.

Relevance to BRIGHT

COM, ASM and Emotion articipate to the PHOENIX project, which aims at offering a cyber-shield armour to the EU power and energy infrastructure by enabling a cooperative detection of large scale, cyber-human security and privacy incidents and attacks, guaranteeing the continuity of operations, and minimize cascading effects in the infrastructure itself, the environment, the citizens and the end-users at reasonable cost. Within BRIGHT, COM and ENG will exploit and enhance the USG for integration with next generation smart meters and behind-the-meter assets participating to the DR. This will allow to bring grid control and energy market closer together as well as incentivize end users to participate in different energy management schemes.

# 5 Conclusions

In this deliverable we reported the initial steps for cooperation between BRIGHT Consortium and other projects and initiatives across Europe. First of all, a strategy plan for collaboration activities has been defined. The collaboration plan is divided into three phases and refers to all three project years. Moreover, as initial step of collaboration activities the connection with BRIDGE initiative has been reported. BRIGHT is registered to BRIDGE and a list of key persons for the different WGs has been identified. Meetings attended have been collected through a questionnaire sent to the IANOS representatives directly involved in the activities. Finally, a list of targeted projects relevant for future collaboration with BRIGHT has been identified. For each project an overview of main objectives of the project and the relevance for BRIGHT have been documented.

This deliverable should be considered as a live document, it will be updated during the course of the project. Two additional official versions are already planned for M24 and M36. In the next versions of the document, additional collaboration with identified projects and initiatives will be reported.

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