D8.10 – Report and Evaluation of Collaborative Activities with Relevant Projects and Contractors - a

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Project Coordinator	UBITECH
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Authors	Eleni TSIRONI [UBITECH]
Reviewers	Tasos Tsitsanis [SUITE5], Sotiris Koussouris [SUITE5], Spiros Koussouris [SUITE5]

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Executive Summary

The strategy to maximize the added value and impact of the project consists of identifying and building synergies.

Specific dissemination activities and means have been designed to effectively reach them and foster awareness and acceptance of these activities.

Specific activities will be designed by the BEYOND consortium towards the effective identification of potential synergies with other relevant European and national projects and the establishment of a common understanding though knowledge transfer and experience sharing.

The establishment of synergies and coordination with BRIDGE, BDVA and similar projects for policy, market and technology-relevant issues is a key activity within the dissemination strategy in BEYOND. Relevant initiatives, activities and working groups have already been identified, which has allowed BEYOND to join them since the very beginning of the project.

This will be a continuous task throughout the duration of the project and the BEYOND consortium is committed to adapt to the identified activities and roadmaps, while taking tangible, specific steps to align and contribute with sharing the knowledge generated during the project's implementation.

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Introduction

The BEYOND project aims at establishing synergies with similar EU projects and Initiatives. The purpose of this deliverable is to present the approach proposed in BEYOND to identify relevant projects and initiatives, as well as to establish synergies that will allow knowledge exchange and help in spreading the BEYOND project's results to a broader audience.

This document is structured as follows:

- In section 1, the objective, the approach, the roles within the consortium and the proposed activities for the establishment of synergies and collaborations
- In section 2, initiatives of interest for BEYOND are included
- In section 3, targeted EU projects and synergies focusing on EU-wide communities are presented.
- In section 4, mapping of other relevant projects and initiative for potential synergies are presented
- In section 5, the activities from M1 to M3 of the project, which have taken place are reported,
- In section 6, next steps for approaching and starting the establishment of synergies are presented.

1. Establishment of synergies and collaborations

1.1 Objective

BEYOND will adopt and establish a User-Driven Innovation inspired environment, to accelerate collaborative knowledge generation and integration, technology customization, and validation against real market and end-user needs, as well as end-product definition and go-to-market strategy creation. Within the BEYOND User-Driven Innovation environment, a collaborative problem solving process will be established, through the deployment of a variety of networking and collaboration instruments, involving relevant stakeholders but also associated communities, in integrated collaboration activities for co-creation of shared value, cultivation of innovative ecosystems, unleash of exponential technologies and their extraordinarily rapid adoption, promotion of multidisciplinary experimentation, exploitation of shared social capital and creation of added value solutions directly addressing emerging societal needs.

Cooperation and coordination are key of adequately transferring knowledge, technology, policy lessons, identification of mitigation and adaptation actions, through the fusion of several diverse disciplines and domains.

The project will actively seek to create synergies and establish ties with relevant initiatives and research projects in this domain. Synergies can come in many forms and have multiple aims, but given the objectives, scope and framework of the BEYOND project, both establishing synergies and coordination activities will occur.

The overall objective of the establishment of the aforementioned synergies is to effectively collaborate, share common vision, align activities to help achieve the vision of European Commission on the topic “LC-SC3-B4E-6-2020 - Big data for buildings” and in addition to increase synergies, and the visibility of H2020 and EC supported actions.

1.2 Approach

BEYOND’s concept on the adoption of a user-driven approach, will be encased with the identification of synergies and establishment of coordination with BRIDGE, DAIRO/BDVA, similar projects funded by EASME in the area of energy efficiency, buildings and ICT and external contractors of the EC for technology, market, policy and research-relevant issues. Special attention will be paid in establishing synergies with projects selected under the B4E-7 and B4E-6 topics aiming at creating EU-wide communities around building data collection.

Numerous projects and initiatives have already been identified, as they are presented later in the document. An initial assessment of the potential for synergies will be performed once the lists of projects and initiatives is ready. This will reveal which of the listed projects and initiatives are relevant to be contacted directly for further investigation of the potential and above all of the willingness to establish a synergy and/or to coordinate their efforts with BEYOND.

Consortium partners participating in relevant projects will be recruited to establish synergies and links, enabling smooth knowledge transfer and experience sharing. This direct contact is necessary for building trust between projects. Once trust and common understanding have been established, the interested projects are expected to share the timeframe of their key tasks, deliverables, and milestones to enable BEYOND to identify the space for synergies and coordination.

Special attention will be given to the identified barriers in the context of regulatory and legislative framework and business models, towards co-defining resolution strategies, as well as, to the promotion of new data-driven models and the BEYOND big data reference architecture, considered as the most significant technological advancements of BEYOND.

1.3 Roles

All interactions and synergies with EU-wide initiatives will be supported and performed by the Project Coordinator and Technical Coordinator, being the main partners of the project holding a complete view of the different activities and advancements of the project and can effectively contribute in any relevant discussion and interaction. The approach will be initiated by the relevant partner who is member of the specific initiative. On the other hand, interactions and synergies with individual projects will be performed by common partners involved both in BEYOND and in the external projects, with the support of the Project Coordinator and Technical Coordinator (especially when it comes to implementation and technical issues).

Suite5 and UBITECH are actively involved in Working Groups of BRIDGE and is expected to facilitate synergies between the BRIDGE initiative and BEYOND.

CIRCE, Artelys, Cuerva, Urbener and KONCAR are also involved in BRIDGE activities and similar projects thus, guaranteeing the establishment of successful synergies.

On the side of DAIRO/BDVA, Ubitech, Suite5 and VTT are already active contributors to the activities of the association and are expected to further contribute to the establishment of synergies between BEYOND and BDVA, along with big data-relevant projects.

Finally, Ubitech, Suite5, CIRCE, Koncar, BELIT, BEOELEK and Mytilineos will facilitate synergies with relevant EASME projects where they are actively involved.

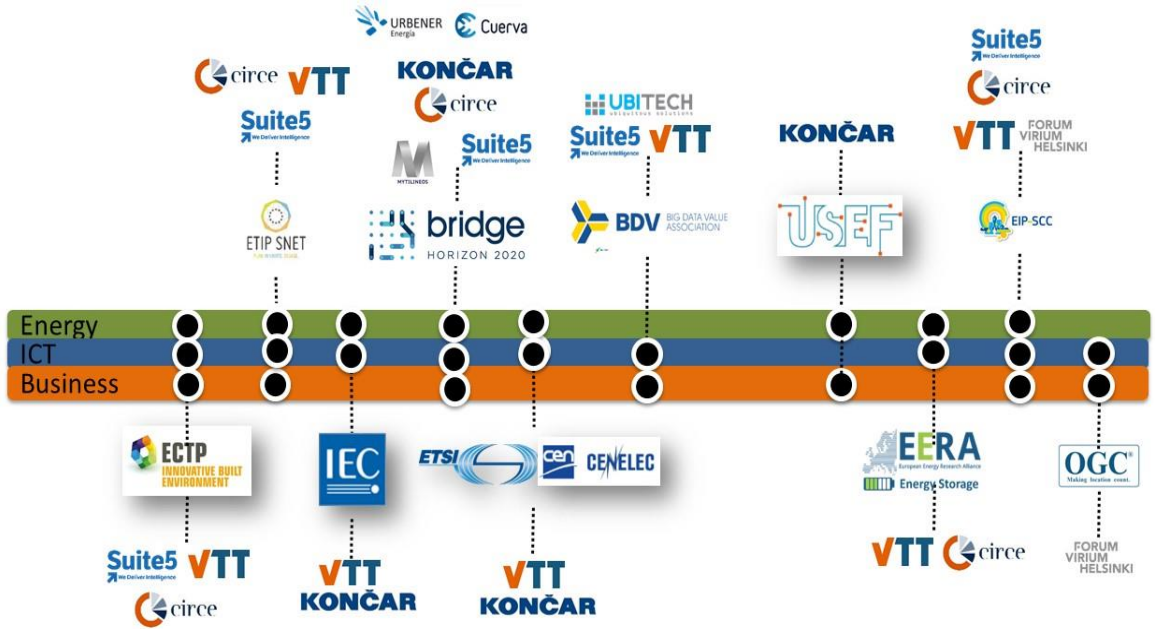


FIGURE 1: PARTICIPATION OF BEYOND PARTNERS IN RELEVANT PROFESSIONAL COMMUNITIES AND STANDARDIZATION BODIES

1.4 Activities

The activities for coordination and synergies are outlined here:

- organization of dedicated sessions with the BuiltHub consortium towards establishing a common collaboration framework and creating a common working group that will deep dive in integration and data exchange issues (including also selection of the appropriate datasets to be uploaded in BuiltHub and the methods for transparently sharing them in an interoperable manner) between BEYOND and the Building Stock Observatory that is under development by BuiltHub.
- setting up a dedicated space in the project's web portal to be used as a common reference and information point for the Big Data Analytics for Smart Buildings research and innovation community, where results from relevant projects, will be presented and benchmarked;
- organization of living lab joint workshops for the elaboration of research methods and the communication of achieved results;

- organization of Common Dissemination Activities, as a means for attracting wide audiences and broadening the scope of such activities, thus attracting multi-diverse stakeholders and opening new opportunities for the commercialization of the project results;
- Following the other projects' social media accounts and inviting other projects to follow the BEYOND social media accounts;
- examining the possibility for joint press releases and articles;
- examining the possibility for specific joint social media campaigns to improve the visibility of the results of the projects;
- examine the possibility for joint participation in other project's meetings and events, possibly upon suggestion of the Project Officer, to promote the visibility and outputs of the projects;
- dedicated webinars will be organized in order of BEYOND outcomes to be shared with relevant projects (at least 2 webinars will be organized to share the objectives of the project in the early phase and disseminate the outcomes of the project after the demonstration phase).

2. Targeted EU-wide Initiatives, Interactions and Synergies

BEYOND will pay special attention in establishing key synergies with Technological Platforms, Industrial Associations and Initiatives targeting the advancement in Energy Efficiency, Interoperability and Big Data, along with Smart Energy Systems.

Targeted synergies and interactions will be set up, capitalizing the strong links between the consortium partners and such entities, including (among others):

2.1 BRIDGE Initiative

UBITECH and Suite5 are members of Working Groups of BRIDGE, and will facilitate synergies between the BRIDGE initiative and BEYOND.

BRIDGE[1] 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.

BRIDGE is structured with four permanent Working Groups: Data Management, Business Models, Regulation and Customer Engagement. They are charged with preparing reports and formulating recommendations for the European Commission on various themes linked to the future of the energy sector. Moreover, three Task Forces were launched after the 2019 BRIDGE General Assembly, to work on specific topics: Energy Communities, Replicability / Scalability Analysis, Joint Communication and R&I Priorities.

2.2 DAIRO (former Big Data Value Association, BDVA)

BEYOND will follow the activities of the DAIRO/BDVA to develop a Big Data Value ecosystem that will enable the data and AI driven digital transformation in Europe. Ubitech, Suite5 and VTT are already active members and contributors to the activities of the DAIRO/BDVA and are expected to further contribute to the establishment of synergies between BEYOND and DAIRO/BDVA.

DAIRO[2] stands for Data, AI and Robotics, is the former Big Data Value Association (**BDVA**) is an industry-driven international not–for-profit organisation with 200 members all over Europe and a well-balanced composition of large, small, and medium-sized industries, as well as research and user organizations. DARIO/BDVA is the private counterpart to the EU Commission to implement the Big Data Value PPP 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 Big Data Value Public-Private Partnership program aims at creating a functional Data Market and Data Economy in Europe, in order to allow Europe to play a leading

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

role in Big Data in the global market. The BDV PPP is developing an interoperable data-driven ecosystem as a source for new businesses and innovations using Big Data.

In 2020 and taking into account the end of the 2014-2020 Multi Annual Financial Framework and the advent of the post 2020 European Commission's programmes (i.e. Horizon Europe and Digital Europe), BDVA members decided to strengthen the Association by giving it a new mandate, a new name and by expanding its scope and breadth of activities. In 2021, BDVA thus becomes DAIRO. The new name testifies the ambition of the Association to closely collaborate with other communities in order to jointly engage at the intersection of the key disciplines of Data, AI and Robotics.

2.3 AIOTI Alliance

AIOTI
Alliance for Internet of Things Innovation

Partner VTT is member of the AIOTI and will contribute to the creation of a dynamic European IoT ecosystem will strengthen compliance of BEYOND with industry ready approaches and principles.

Nd will take the lead for the initiate activities towards the established of synergy with the association.

AIOTI[3] (Alliance for Internet of Things Innovation) was initiated in 2016 to contribute to the creation of a dynamic European IoT ecosystem and speed up the take up of IoT. Its members include key European IoT players – large companies, successful SMEs and dynamic startups – as well as research centers, universities, associations and end-user representatives.

AIOTI activities are carried out through Working Groups, which focus on well-defined areas of development. These include horizontal areas: research, innovation eco-systems, policy, standards and distributed ledger technologies, as well as vertical, cross-disciplinary activities focused on key IoT issues.

[3] https://aioti.eu/

2.4 The European Construction Technology Platform ECTP

BEYOND will follow the progress of the activities under the Energy Efficient Buildings Committee and the newly Digital Built Environment (DBE) Committee (in both Suite5 and VTT are active contributors) in order to exchange experiences and knowledge with the main stakeholders of the Building Industry and provide suggestions based on results generated during the validation activities of BEYOND.

The European Construction [4], built environment and energy efficient building Technology Platform (ECTP) is a leading membership organized promoting and influencing the future of the Built Environment. ECTP connects people and organizations across the supply chain, helping them work collectively to improve their position on many societal and industrial issues including energy, climate change, efficiency and infrastructure.

ECTP is today one of the 38 European Technology Platforms (ETPs), which are industry-led stakeholder organized by the European Commission as key actors in driving innovation, knowledge transfer and European competitiveness.

2.5 The European Technology and Innovation Platform for Smart Networks and the Energy Transition (ETIP-SNET)

BEYOND will follow the progress of the activities under WG5: Innovation Implementation in the Business Environment, where Suite5 is an active contributor in to promote the concept of big data analytics and data sharing for the optimization of the energy system, on the basis of data produced by individual buildings. CIRCE as an

[4] http://www.ectp.org/

active member of ETIP SNET will coordinate the activities towards the development an establishment of collaboration.

European Technology & Innovation Platforms (ETIPs[5]) 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.

3. Targeted EU projects

3.1 Synergies with LC-SC3-B4E-6-2020 sister projects

There are 2 sister projects that are funded under the same topic of BEYOND [Topic: LC-SC3-B4E-6-2020 – Big data for buildings (Innovation Actions). This synergy will be made under the auspices of EASME through the activities of T1.6 – Common Information and Dissemination Activities organized by EASME, and UBITECH as the Project Coordinator and Suite5 as the Technical Coordinator will participate in the dissemination activities.

3.1.1 MATRYCS: Modular Big Data Applications for Holistic Energy Services in Buildings

The EU-funded MATRYS[6] project will deliver Big Data applications that provide comprehensive energy efficiency services in buildings and improve building operation and infrastructure design. An open reference architecture for smart energy efficient buildings will be created to align advanced architecture and vocabularies, allowing B2B sovereignty. The methodology will preserve multi-party data exchange and provide full interoperability of Big Data enablers with smart buildings standards.

MATRYS coordinated by ENGINEERING – INGEGNERIA INFORMATICA SPA, started in October 2020, with a duration of 26 months, it aims to:

- deliver an open Reference Architecture for Smart Energy Efficient Buildings, which aligns BDVA SRIA, FIWARE architecture, SAREF, HAYSTACK, and BRICK schema vocabularies (among the many others), and enable B2B sovereignty preserving multi-party data exchange, while providing full interoperability of

[5] https://www.etip-snet.eu/
[6] https://cordis.europa.eu/project/id/101000158

big data enablers with smart buildings standards and addressing privacy and cyber-security constraints
- upscale a number of TRL 5-6 technology enablers, such as sovereignty-preserving DLT/off-chain data governance, big data pipeline orchestration, IoT/edge AI-based federated learning and visual analytics and deploy them within the TRL 7-8 MATRYCS workbench
- deliver a TRL8 open modular big data cloud analytic toolbox as front-end for one-stop-shop analytics services development
- validate such framework through the deployment of analytics services focusing on digital building twins, improved buildings operation, building infrastructure design, EU/national policy assessment for energy efficiency investments on 11 large scale pilots by different stakeholders (facility managers, ESCOs, financial institutions, construction companies, municipalities, electricity grid and DH operators, policy makers)
- setup the BDA Alliance as a vibrant data-driven ecosystem for attracting new data hubs and SME service providers, enabling thus EU-wise take-up and replication.

Through its remarkable consortium of 18 partners, the project brings together expertise from several domains.

3.1.2 BIGG: Building Information aGGregation, harmonization and analytics platform

The EU-funded BIGG[7] project will facilitate the adoption of Member States' Action Plans by applying Big Data technologies and data analysis techniques to the life cycle of more than 4,000 buildings in Spain and Greece. Solutions include the Open Source BIGG Data Reference Architecture 4 Buildings; the BIGG Standard Data Model 4 Buildings to reach full building data interoperability; and the cloud-based BIGG Data Analytics Toolbox to support a wide range of services and new business models as well as reliable and effective policymaking.

BIGG's consortium consists of 12 partners and coordinated by INETUM REALDOLMEN BELGIUM. The project started on December 2020 and has a duration of 36 months, and aims at demonstrating the application of big data technologies and data analytic techniques for the complete buildings life-cycle of more than 4000 buildings in 6 large-scale pilot test-beds, achieved by:

- The Open Source BIGG Data Reference Architecture 4 Buildings for collection/funneling, processing and exchanging data from different sources (smart-meters, sensors, BMS, existing data sets)

[7] https://cordis.europa.eu/project/id/957047

- An interoperable buildings data specification, BIGG Standard Data Model 4 Buildings, based on the combination of elements from existing frameworks and EC directives, such as SAREF, INSPIRE, BIM, EPC Hub that will be enhanced to reach full interoperability of building data
- An extensible, open, cloud-based BIGG Data Analytics Toolbox of service modules for batch and real-time analytics that supports a wide range of services, new business models and support reliable and effective policy-making

These solutions will be deployed and tested cross pilot and country validation of at least two business scenarios in Spain and Greece.

3.2 Synergies focusing on EU-wide communities around building data collection

BEYOND project, with the lead of UBITECH and Suite5, will focus on establishing synergies with projects selected under the Topic: B4E-7-2020 – European building stock data 4.0, aiming at creating EU-wide communities around building data collection. Special attention will be paid in establishing direct links and synergies with the contractor in charge of the development of the EU Building Stock Observatory, towards facilitating communication and enhancing collaboration through dedicated workshops with view to the smooth integration and data exchange between the BEYOND Big data platform and analytics toolkit and the Building Stock Observatory.

Specific activities will be performed under T1.5, with the aim to properly plan and coordinate/ monitor the progress of synergetic activities with external contractors of the European Commission, and more specifically with the contractor in charge of Maintenance and Update of the EU Building Stock Observatory to ensure interoperability between the BEYOND big data platform and external platforms at the level of communication protocols and data models (technical, semantic and syntactic interoperability). In more detail, this task will establish appropriate mechanisms from the very beginning of the project and prior to the finalization of the big data platform design, to ensure that all external stakeholders are involved in the co-creation and codesign activities of BEYOND through the project living labs and dedicated workshops that will be organized with the aim to ensure seamless data exchange (bi-directionally) through appropriate open and well documented APIs. Prioritization will be firstly given to the integration of the BEYOND big data platform with the EU building stock observatory with the aim to enhance the details of data collected in the observatory and thus, improve decision and policy-making on the basis of available data.

3.2.1 BUILTHUB: Dynamic EU building stock knowledge hub

Under topic B4E-7-2020 – European building stock data 4.0 (Coordination and Support Action), the following project was funded. BUILTHUB[8] is a CSA action project, one of their objectives is to coordinate and support joint communication and dissemination activities of related innovation actions.

The BUILTHUB project will actually realize the new version of the EU Building Stock Observatory[9], which was initially established in 2016 as part of the Clean energy for all Europeans package and aims to provide a better understanding of the energy performance of the building sector through reliable, consistent and comparable data.

More transparent information on buildings can support monitoring the implementation of different measures and contribute to future policy making. The data published in the BSO can therefore be very useful to policy-makers, investors, stakeholders, local and national authorities and researchers.

The BSO contains a database, a data mapper and factsheets for monitoring the energy performance of buildings across Europe.

It covers a broad range of energy related topics and provide information on the building stock, energy consumption, building elements and technical building systems installed, energy performance certificates, nearly zero-energy buildings and renovation rates, but also areas like energy poverty and financing aspects.

The EU-funded BUILTHUB project will define a roadmap and vision for a durable data flow to organized the EU building stock. BUILTHUB will develop an organized and inclusive data collection method and an easy-to-access-and-use datahub in the form of a structured web-based platform. The platform will ensure the long-lasting data flow through a benefits-based engagement strategy addressing data and metadata providers and simple users. The strategy will be applied through the development of value information services tailored to platform users.

Given the lack of comprehensive and reliable data on the EU building stock, BuiltHub will develop a structured and inclusive data collection approach, as well as an easy to access & use datahub, in the shape of a structured web-based platform (IT infrastructure, analytics and user-friendly dashboard), which will be fed into thanks to a benefits-based engagement strategy targeted to data and metadata providers, as well as simple users. The benefits-based engagement strategy will be implemented by developing added value information services tailored to lead-users of the platform and other main beneficiaries (end-users). The main premise behind the BuiltHub community building proposal is that data owners will be willing to feed-in

[8] https://cordis.europa.eu/project/id/957026
[9] https://ec.europa.eu/energy/topics/energy-efficiency/energy-efficient-buildings/eu-bso_en

data/information to the BuiltHub platform, in exchange for the added value information/knowledge that will be put out by the platform through its operation. In addition, "multipliers" will disseminate the BuiltHub achievements for enlarging the related community.

The BuiltHub consortium, led by the coordinator EURAC Research (ACCADEMIA EUROPEA DI BOLZANO) will also develop different data processes and service schemes to cover possible users, based on their needs and potential use of data & analytics, as well as the benefits they could enjoy from cooperating with BuiltHub.

BEYOND will prioritize on creating strong links and integrate with the BUILTHUB for the smooth and semantically interoperable exchange of information between the two platforms and specific provisions have been taken for the coordination between the BEYOND team and the contractor team of the observatory. Integration and interoperable data exchange with the BUILTHUB will enable the smooth and seamless pulling of data towards the BEYOND Big Data Platform to realize innovative services for informed and evident decision-making for energy policy planning at urban scale (city authorities) and building-relevant infrastructure sizing and planning (on the side of electricity and district heating network operators). On the other hand, the BEYOND Big Data Platform will ensure pushing of appropriate and required data to the Observatory through appropriately configured APIs on both sides in full respect to the access policies defined by the data producers (as defined in the Policy Manager component of the BEYOND Big Data Platform Architecture) in the frame of the data sharing ecosystem established by the project.

3.2.2 SmartBuilt4EU: The EU Smart Building Innovation Platform

The EU-funded SMARTBUILT4EU [10] project will support projects related to smart buildings to facilitate exchange of information. Moreover, it will coordinate contributions of the European smart buildings innovation community to accelerate the uptake of pioneering solutions in the smart buildings sector.

SmartBuilt4EU will consolidate the Smart Building Innovation Community with, at its core, EU-funded projects, and provide it with a package of supporting activities with two objectives:

[10] https://cordis.europa.eu/project/id/956936

- facilitate the exchange of information between EU-funded projects and national initiatives in the field of smart buildings and the related business, policy and media;
- coordinate contributions of the Smart Buildings Innovation Community to the SRI promotion, experimentation and implementation and the identification of R&I priorities to accelerate the roll out of smart building innovation, in line with the EPBD.

The CSA brings together 5 partners plus 5 linked third parties, with solid complementary expertise and geographical coverage. It is structured in 6 work packages to reach the targeted impacts and unlock the smart building potential, with the Smart Readiness Indicator as key instrument.

The aim of the project is to create a Smart Building Innovation Community in order to bring together as many as possible relevant EU projects. In order to achieve the activities will be followed:

1. Mapping and consolidation of the Smart Building Innovation Community, by identifying innovation leaders and replicators, EU-funded projects & consortia
2. Knowledge sharing supporting activities for the SBIC
3. Contribution to the promotion experimentation and roll-out of the SRI
4. R&I roadmap and policy recommendations.

For the supporting activities, Task forces will be organized to work on specific domains and subdomains that have been identified. Four main Task Forces have been established so far and each of these Task Forces will be divided in 4 Focus Topics.

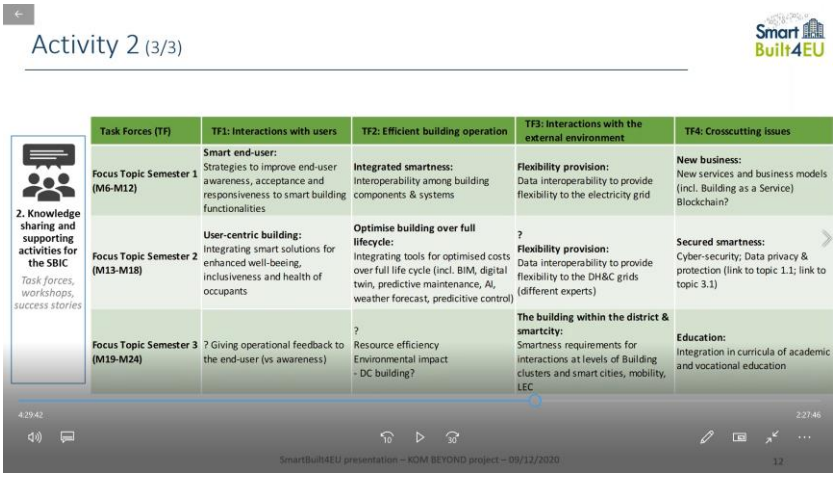


FIGURE 2: SMARTBUILT4EU TASK FORCES

BEYOND will focus on creating strong links with the SmartBuilt4EU project and will contribute in their activities mainly with regards to digitalization and big data management.

4. Mapping of relevant Projects and Initiatives

This section refers to projects and initiatives to be considered for synergies and coordination, outside the spectrum of the LC-SC3-B4E-6-2020 topic. This includes research projects and initiatives that provide the space for joining scientific forces to promote science and project outcomes, whether BEYOND consortium members participate in these efforts or not.

The consortium will leverage on the involvement of several partners in numerous similar projects, focusing mainly on relevant projects funded by EASME and projects under the BRIDGE and BDVA umbrellas, in order to exchange experiences and create strong R&I synergies.

4.1.1 EU projects

Tentative (not exhaustive) list of EU projects to be considered for synergies:

Project	Full Name	Website	Common partners	Responsible Partner for Approach/ Synergy	Areas of collaboration
AmBIENCe	Active managed Buildings with Energy performaNce Contracting	http://ambience-project.eu/	-	UBITECH Suite5	Energy Performane Optimization, Energy Performane Contracting, Performane Measurement and Verification
domOS	Operating System for Smart Services in Buildings	https://www.domos-project.eu/	-	UBITECH Suite5	Energy Services, Smart Readiness, IoT, Data Management
EXCESS	FleXible user-CEntric Energy poSitive houseS	https://positive-energy-buildings.eu/	Suite5 VTT	Suite5	Self-consumption services, Flexibility trading, Data Management

frESCO	New business models for innovative energy service bundles for residential consumers	https://www.fresco-project.eu/	UBITECH Suite5 KONCAR CIRCE	UBITECH Suite5	Performance Measurement and Verification, Big Data Collection, Energy Services
MERLON	Integrated Modular Energy Systems and Local Flexibility Trading for Neural Energy Islands	https://www.merlon-project.eu/	Suite5	Suite5	Flexibility trading and settlement
INSULAE	Maximizing the impact of innovative energy approaches in the EU islands	http://insulae-h2020.eu/	CIRCE, Artelys, Suite5,	Suite5	Simulation-based network assessment and sizing
iBECOME	intelligent Building Energy Assets Control for Comfort, Energy and Flexibility Optimisation	https://ibecome-project.eu/	-	UBITECH Suite5	Smart Readiness, Data Management, IoT, Energy Services
ICARUS	Aviation-driven Data Value Chain for Diversified Global and Local Operations	https://www.icarus2020.aero/	UBITECH Suite5	UBITECH Suite5	Big Data Management, Big Data Analytics
PANTERA	Pan European Technology Energy Research Approach	https://pantera-platform.eu/	Suite5	Suite5	Digitalization,Flexibility-based network planning
PHOENIX	Adapt-&-Play Holistic cOst-Effective and user-frieNdly Innovations with high replicability to upgrade smartness of eXisting buildings with legacy equipment	https://eu-phoenix.eu/	UBITECH Suite5	UBITECH	Smart Readiness, Data Management, IoT, Energy Services

REScoopVPP	Smart Building Ecosystem for Energy Communities	https://www.rescoopvpp.eu/	-	UBITECH Suite5	Business Models, Flexibility trading
SPARCS	Sustainable energy Positive & zero cARbon CommunitieS	https://www.sparcs.info/	Suite5 VTT	Suite5	Smart Cities and Urban Planning, Business Models, Energy Services in Buildings
SENSEI	Smart Energy Services Integrating the Multiple Benefits from Improving the Energy Efficiency of the European Building Stock	https://senseih2020.eu/	-	UBITECH Suite5	Smart Readiness, Data Management, IoT, Energy Services

TABLE 1 : TENTATIVE LIST OF RELEVANT EU PROJECTS

4.1.2 Initiatives

Tentative (not exhaustive) list of other EU and non-EU initiatives to be considered for synergies

Initiative	Full name	Website	Member/ Contributor	Responsible Partner for synergy	Areas of Synergies
IEC (IEC TC 57, WG 17 and WG21)	International Electrotechnical Commission	https://www.iec.ch/	KONCAR	KONCAR	Standardization
EIP-SCC	European Innovation Partnership on Smart Cities and Communities	https://e3p.jrc.ec.europa.eu/articles/european-innovation-partnership-smart-cities-and-communities	VTT FVH	VTT, FVH	Urban Planning for Smart Cities, Performance Measurement and Verification

OGC	Open Geospatial Consortium	https://www.ogc.org/	FVH	FVH	Standardization
EERA	European Energy Research Alliance	https://www.eera-set.eu/	CIRCE	CIRCE	Energy Performance Optimization, Flexibility-based network planning, Flexibility trading
IEA-RCB	International energy agency - Energy in Buildings Community	https://www.iea-ebc.org/	CIRCE	CIRCE	Energy Performance Optimization, Big data from buildings, Big Data Analytics, Comfort analytics, Performance Measurement and Verification
MyData Global	MyData Global	https://mydata.org/	FVH	FVH	Big Data Management architectures, IoT

TABLE 2: TENTATIVE LIST OF OTHER RELEVANT EU AND NON-EU INITIATIVES

5. Activities M1 – M3

5.1 Relevant H2020 projects

During the 1st day of the Kick of Meeting of BEYOND project, which was held online via GoToMeeting platform, a liaison session was dedicated in presentations of projects in the smart building domain, aiming to create synergies. The presentations and the follow up discussion provided valuable input for investigating very targeted synergies in domains of common interests. The projects that participated were:

5.1.1 SmartBuilt4EU: The EU Smart Building Innovation Platform

Project Overview:

The EU-funded SMARTBUILT4EU project will support projects related to smart buildings to facilitate exchange of information. Moreover, it will coordinate contributions of the European smart buildings innovation community to accelerate the uptake of pioneering solutions in the smart buildings sector. More matter of repetition more information for the project you can find in Section 3.2.2

FIGURE 3: SCREENSHOT OF SMARTBUILT4EU PRESENTATION (1/2)

Presentation & Discussion during the KoM:

Th project SMARTBUILT4EU was represented by the coordinator of the project Mr. Alexis David from ECTP - European Construction Technology Platform.

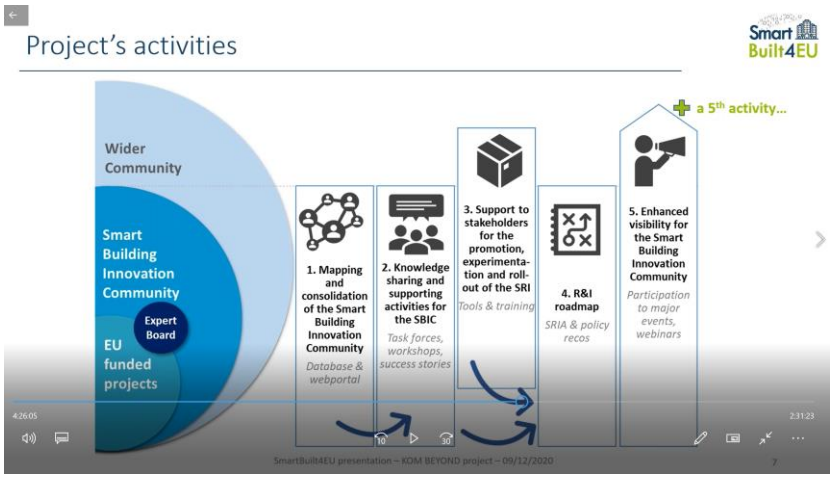


FIGURE 4: SCREENSHOT OF SMARTBUILT4EU ACTIVITIES (2/2)

There was a detailed presentation on the activities of the project and provided a overview of the activiteis of the Task Forces as they been defined so far. BEYOND is trying to create an economy around building data in order to facilitate a more sophisticated business applications, even more business model innovation on the

traditional actors of the energy system side. In that context, proposed, as member of the Smart Building Innovation Community, to be involved in the co-creation, and reformulation of the scope of task force, in order to assist in several aspects that might be missing or needs to be more oriented towards another direction, based on findings on BEYOND project based the approach on smart buildings. Mr. David agreed that will include BEYOND consotrium in discussions to refine and precise those those focus topics, since they have already been defined.

5.1.2 frESCO: New business models for innovative energy service bundles for residential consumers

Project Overview:

The EU-funded frESCO[11] project will deploy innovative business models by engaging with ESCOs and aggregators. The goal is to integrate energy service bundles that properly combine and remunerate local flexibility for optimising local energy performance, both in the form of energy efficiency and in demand-side management.

Energy Performance Contracting (EPC) is a form of 'creative financing' for capital improvement which allows funding energy upgrades from cost reductions. Under an EPC arrangement an external organization (ESCO) implements a project to improve the energy efficiency or renewable energy production and uses the stream of incomes from the cost savings to repay the overall costs of the project, including the initial investment. Essentially, in EPC, ESCO's remuneration is based on the demonstrated performance. In this context, frESCO project will deliver the next generation of EPC under the principle of Pay for Performance.

Such new service and business models will bring under common Pay for Performance Contracts (extended form of current EPCs) two currently differentiated service offerings to enable the realization of next-generation smart energy service packages. The strong presence of the industry in the consortium (2 ESCOs, 2 aggregators, 3 ICT and technology providers and 2 engineering companies) and the end-users (1 Cooperative and 1 Hotel), supported by 3 knowledgable RTOs, will ensure the market uptake of frESCOs new business models. frESCO's new business models will be demonstrated in 4 different pilots (Spain, France, Croatian and Greece) with complementary characteristics in terms of building typology (single-/multi-family), climate, regulation, energy consumption, energy assets, consumer groups, etc., thus facilitating the replicability of frESCO's solutions across Europe.

[11] https://www.fresco-project.eu/

Presentation & Discussion during the KoM:

The project frESCO was represented by the coordinator of the project Mr. Juan Aranda from CIRCE.

FIGURE 5: SCREENSHOT OF FRESCO PRESENTATION

During the meeting has been discussed that some of the parters are involved both in frESCO and BEYOND project, so though this join involvement a strong and tight communication channel should be created, since several synergies could be established between the 2 projects. The core topics in oredr to establish a collaboration in order for both projects to benefit from is collaboration, are highlighted in the discussion:

- From BEYOND perspective, needs to have an extra knowledge an understaning in frESCO's stand out outcome, which is the pay per performane approach which takes everything closer to what the business and market needs.
- From frESCO perspective, BEYOND's work on analytics might be useful, possibly to improve elevate this pay per performance framework with more sophisticated forecast that could facilitate and enhance the practicability and validate this approach, as something that could be easily stand and could be promoted towards different stakeholders in business terms.

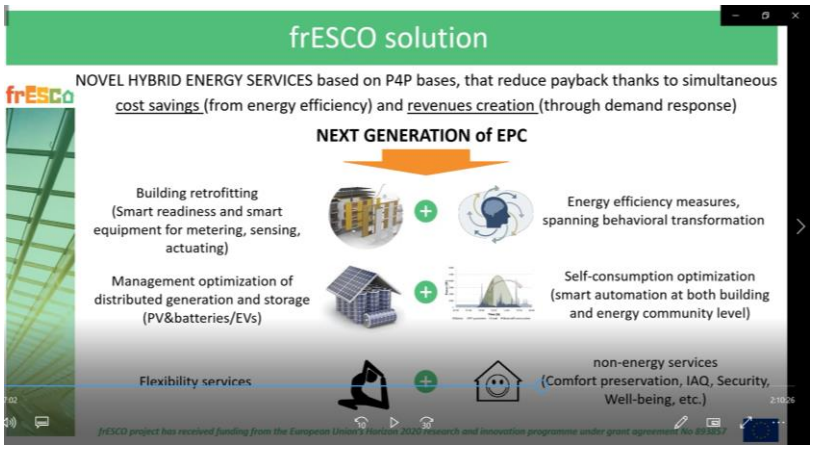


FIGURE 6: SCREENSHOT OF FRESCO SOLUTION

5.1.3 BUILTHUB: Dynamic EU building stock knowledge hub

Project Overview:

The EU-funded BUILTHUB project will define a roadmap and vision for a durable data flow to characterize the EU building stock. BUILTHUB will develop an organized and inclusive data collection method and an easy-to-access-and-use datahub in the form of a structured web-based platform. The platform will ensure the long-lasting data flow through a benefits-based engagement strategy addressing data and metadata providers and simple users. The strategy will be applied through the development of value information services tailored to the platform's users. More matter of repetition more information for the project you can find in Section 3.2.1

FIGURE 7: SCREENSHOT OF BUILTHUB PRESENTATION

Presentation & Discussion during the KoM:

The project BuiltHUB was represented by the deputy coordinator Ulrich Filippi Oberegger from Eurac Research

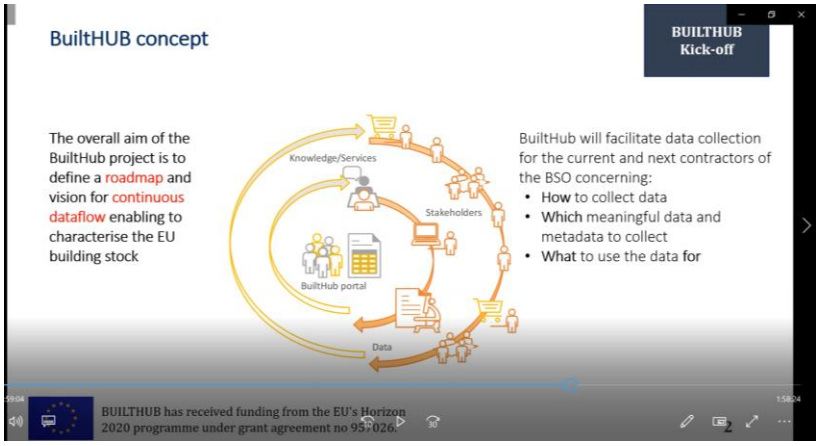


FIGURE 8: SCREENSHOT OF BUILTHUB CONCEPT

The discussion was focused on an initial approach on that way data exchange between the two projects will be performed in the future.

BEYOND project intends to establish a data sharing contract between the occupants, the building owners, and other stakeholders. So, the idea is instead of having a consent form from the end-users, is to have data sharing contract under specific terms, and further having some parameters, provisions regarding the time period for which the data should be shared, the remuneration for the data producers will be zero etc. Since BEYIND project, consider the BUILTHUB platform as another stakeholder, an external stakeholder. Mr. Oberegger responds positive to the proposed idea, as mentioned above, which is to establish a data-sharing contract between the BUILTHUB platform and data producers, instead of settling the agreement of use of data with the consent form.

5.2 Relevant National projects

5.2.1 PERSEPHONE: Improving Energy Efficiency through Personalized Energy Management Services in Small Offices and Homes

The project PERSHEPHONE was presented by Mr. Konstantinos Latanis from Suite5, which acts as the project coordinator.

FIGURE 9: SCREENSHOT OF PERSEPHONE PRESENTATION

PERSEPHONE project is co-funded by the Research Promotion Foundation, RPF Proposal No: ENTERPRISES/0618/0167; SMART GROWTH - RESEARCH IN ENTERPRISES - RESTART 2016 – 2020.

PERSEPHONE project focuses on the improvement of energy efficiency in small houses and offices along with the identified market opportunity for the provision of personalized and intelligent energy management services. The vision of PERSEPHONE is to design and deploy an innovative IT ecosystem for motivating end-users' behavioral changes towards the adoption of energy efficient lifestyles, building upon the evolvements in the Internet of Things, Data Modelling and Analysis and Recommendation and Gamification eras.

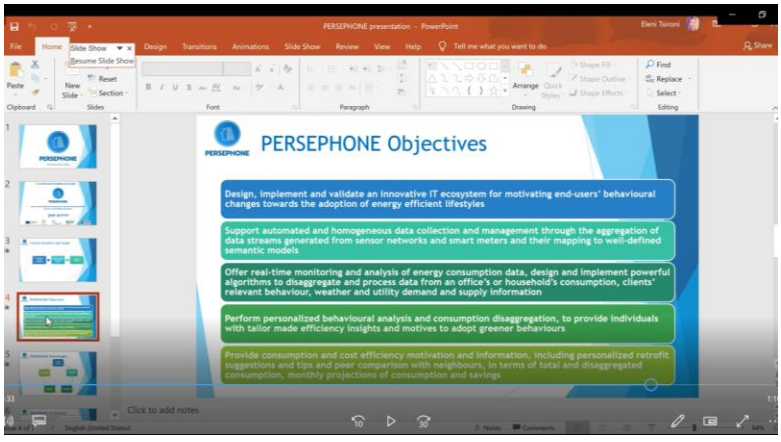


FIGURE 10: SCREENSHOT OF PERSEPHONE OBJECTIVES

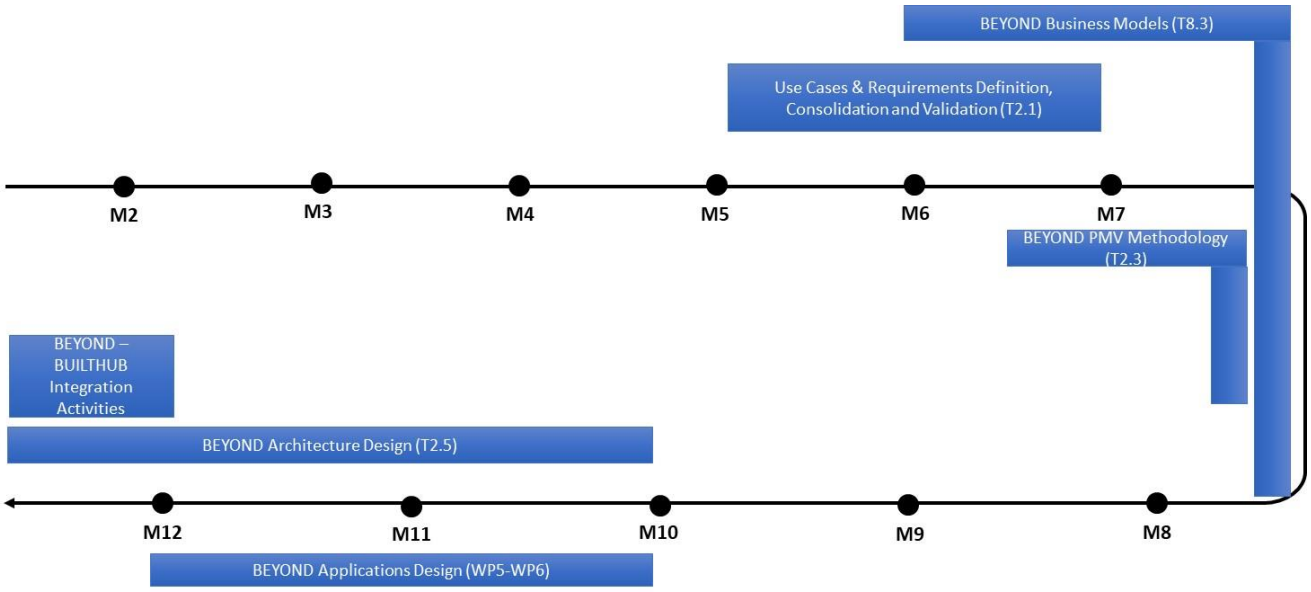
6. Next steps

Several interesting initiatives have been detected and joined during the first 3 months of BEYOND. Nevertheless, there are some other that still need to be investigated and innovative ways should be used, in order to reach our targeted audience. BEYOND considers previous industrial and scientific experiences as a value to be used for the development of the project. In this context, consortium partners participating in relevant projects will be recruited to establish synergies and links, enabling smooth knowledge transfer and experience sharing. Moreover, common dissemination activities will be co-organized to increase outreach of projects' results towards wider audiences and broader stakeholder groups.
The following actions will be performed by BEYOND's consortium to create and establish robust synergies and cooperation.

Task	Description	Responsible(s)	Timing
Mapping relevant projects and initiatives	Numerous projects and initiatives have already been identified. All consortium members will seek other projects and initiatives that their organization participates, in order to assess whether they have common grounds with BEYOND to be considered for synergies. The result of the mapping will be document in Tables 1 and 2, which will be enriched.	UBITECH, Suite5 and all partners	M4-M6
Initiating contact with projects	The potential synergies will be decided once the list of projects is finalized. This will reveal which of the listed project is relevant to be contacted.	UBITECH	M6-M9
Establishing Synergies	Actions such as the ones described in Section 1 will be implemented with the H2020 sister projects as well as other interested projects	UBITECH, Suite5 and all partners	M9-M36
Reporting on Synergies	The progress and extent of implementation of this plan will be reflected in the updated version of this deliverable D8.11,	UBITECH	M12 M24 M36

	D8.12, D8.13 accordingly. ("Report and Evaluation of Collaborative Activities with Relevant Projects and Contractors")		

An initial plan of the envisaged interactions with the projects and initiatives mentioned in the previous sections, referring to the 1st year of the BEYOND implementation, is presented below:



As shown in the preliminary plan in the figure above, the initial focus of the collaborative activities for the upcoming months is mainly concentrated in exchanging knowledge and experience with regards to the End-User and Business Requirements (and more specifically in the Use Cases that need to be satisfied by the technical development of the project), as well as, on the Business Modelling and Performance Measurement & Verification Areas.

As the design activities of BEYOND progress, more interactions are expected to be triggered, on the one hand focusing on the technical specifications of the BEYOND Big Data Platform (and the reference architecture defined with reference to buildings' data management and processing), while on the other hand, specific sessions will be organized with regards to the design aspects and mockups of the applications for end-users. The aim of such sessions will be to receive feedback on the BEYOND designs and secondly exchange knowledge and understand how different projects address similar issues and touch upon services to be provided towards end-users (mainly building occupants and managers, but also external stakeholders belonging in the building data value chain).

Finally, once the first release of the Big Data platform is underway, the most important of the interactions is expected to be launched, referring to the coordination with BuiltHub for the integration and data sharing with the Building Stock Observatory, so as to:

- Define what types of datasets will need to be exchanged
- The format these datasets will be made available through the BEYOND platform
- The exchange methods and interfaces between the 2 platforms
- Interoperability issues and mapping of the Building Stock Observatory to the BEYOND Common Information Model.
- The data access policies and under which conditions specific datasets can be made available to the Building Stock Observatory/ BuiltHub
- The data sharing methods (and possibly contracts) to be established to comply with the requirements imposed by the data producers (building occupants and building managers) of the BEYOND project.

Conclusions

The project will be focusing on projects under the BRIDGE and BDVA umbrella as well as relevant projects under the same or similar topics, with the purpose to establish synergies in order to create awareness and interactions for policy, market, and technology-relevant issues.