D9.3 SYNERGY Living Lab Activities Plan and Evaluation Report (v3)

Digitising and transforming European industry and services: digital innovation hubs and platforms

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Table of contents

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Abbreviations and Acronyms

Acronym	Description
TL	Task Leader
WP	Work Package
WPL	Work Package Leader
LL	Living Labs
PC	Project Coordinator
TC	Technical Coordinator
DS	Demonstration Site
DP	Demonstration Partners
AI	Artificial Intelligence
UC	Use Case
DSO	Distribution System Operator
TSO	Transmission System Operator
BR	Business Requirements
SSC	SYNERGY Stakeholder Community
BM	Business Model

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Executive summary

The Living Lab (LL) process is essential for planning and executing engagements aimed at gathering feedback on project developments such as the SYNERGY platform, user APPs and potential business models (BMs). In the previous Living Lab deliverable (D9.2: Living Lab Activities Plan and Evaluation Report v2) the LL process was evaluated and two main factors to be improved were identified, (1) implementing a combined top-down and bottom-up (hybrid) approach to planning engagements and (2) building a database of potential external contacts. In the 12 months following the submission of D9.2, the hybrid approach has been successfully implemented and updated. The top-down timeline was created in M12 by the technical and project coordinators and WP9. This timeline was combined with the bottom-up perspective with information gathered from work package (WP) and demonstration site (DS) leaders to create a broad plan encompassing all future required engagements. This approach has since been updated through the development of a second version of the top-down timeline which was then used as a reference and modified based on the bottom-up perspective. This new approach was more efficient as a single source of information (the top-down timeline) was used for engagement planning, as opposed to combining two separate information sources (top-down + bottom-up).

The engagement planning was also streamlined by categorising engagements into three main channels, Business Models, SYNERGY Big Data Platform & AI Analytics Marketplace, and Energy Apps development. This new timeline has been created and a plan for gathering internal and external feedback within these engagement channels during the upcoming period (M25-36) is in place.

With regards to building a database of external contacts, four strategies were implemented; (1) increasing the visibility of SYNERGY, (2) collaborating with other EU projects (3) encouraging a snowball effect and (4) developing a SYNERGY Stakeholder Community (SSC). The success of strategies 1-3 resides in the communication and dissemination efforts. With regards to increasing visibility, SYNERGY was presented at 14 events (e.g. India Smart Utility Week and Enlit Europe) to approximately 900 participants, including many relevant end-users. In addition, 68 social media posts were published across platforms such as Twitter, LinkedIn and Facebook. Collaborating with other EU projects was achieved through initiatives and events related BDVA/DAIRO, BRIDGE and OPEN DEI which facilitated knowledge exchange with other projects related to big data and data analytics such as Platoon and

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BD4OPEM. Creating a snowball effect was achieved by ensuring communication and engagement events were accompanied by sign-up opportunities for stakeholders to receive further information on SYNERGY through newsletters and invites to future SYNERGY events. The SYNERGY stakeholder community (SSC) was built via the networks of consortium partners and consists of a variety of stakeholders that includes network operators, aggregators and other relevant SYNERGY end-users, amongst many others. Currently, the SSC consists of 93 potential stakeholder contacts.

Within WP2, a second iteration of the investigation into the barriers to innovation associated with the SYNERGY developments was also carried out with internal stakeholders. Insights were utilised in the development of the SYNERGY services and to plan and mitigate potential socioeconomic, organisational and regulatory obstacles to innovation. Questionnaires and interviews were used to measure the impact of barriers and gather in-depth information which can be used to avoid obstacles in the development and deployment of SYNERGY solutions. Related to WP8 and WP9, interviews and workshops were carried out to gather the perspective of the demo site representatives. These engagement activities allowed for the gathering of feedback from the demonstration site perspective on potential barriers for the implementation of the SYNERGY services, such as concerns on technical developments and contextual needs.

Between M13-24, several engagements have been carried out in WP3 and 4 following the beta release of the SYNERGY integrated platform. Engagements under the hood of the two WPs aimed at familiarising the consortium with the features and functionality of the integrated SYNERGY platform, while gathering feedback from relevant experts (data management professionals and data scientists) within the consortium. The internal validation activities included a dedicated technical workshop which provided a demonstration of the platfrom. In addition, bi-weekly technical sessions were organized to further increase partners understanding of the platform and gather feedback from end-users. Furthermore, weekly data landscaping sessions were conducted to address more specific issues with regards to semantic interoperability and data governance. These activities, which will continue and further extend (towards external stakeholders) into the third year of the project, have served to further refine the SYNERGY platform and increase acceptance of the featured services.

Following the work done through the updated hybrid approach, a plan has been devised for future engagements aimed at gathering feedback in the three main channels; business models, SYNERGY integrated platform and energy applications. According to this plan,

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internal validation of business modelling results will be intensified for gathering of feedback from external stakeholders early during the 3rd year of project implementation. For the SYNERGY platform, internal validation has been carried out through various interactions since M19 and is currently ongoing. External validation is planned for M26-27. Finally with regards to the energy applications developed under WP5, 6 and 7, internal validation activities have been planned for M25-26 and external stakeholders will be engaged in M27-30.

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1 Objectives of the report

1.1 Purpose of the document

The primary purpose of this document is to provide an evaluation of the LL process and produce a plan of upcoming activities. The evaluation in this document will assess the updates to the living process identified in D9.2 (i.e. hybrid approach and SSC). The activities will also be evaluated by comparing the planned activities to those completed, as well as details on the impact of the engagements. A plan of activities to be undertaken in the period of M25-36 will also be provided.

1.2 Scope of the document

This document will describe the approach and methodologies utilised in the LL process. This will include updates on the process from those described in the previous version of the Living Lab deliverable (D9.2). This document will also define the planned and completed activities in the period of M13-24. The completed activities cover efforts in WP2, WP3, WP4, WP8 and WP9. The planned activities span the same WPs, and also include WP5, WP6, WP7 and WP10.

1.3 Structure of the document

Chapter two will highlight the goals of the LL process and the roles and responsibilities of SYNERGY partners.

Chapter three will evaluate the LL process and strategies over the previous 12 months (M13-24) and provide details of the outcomes of these processes and strategies.

Chapter four will evaluate the progress of the engagement activities by comparing the planned engagements described in the previous LL deliverable (D9.2) against the completed activities in M13-24. The goals and impact of the engagements carried out will also be described.

Chapter five will provide a detailed plan of upcoming engagement activities in M25-36.

Chapter six will provide a general evaluation of the LL activities conducted through WP9 and the next steps in the LL process.

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2 Introduction: Living Labs and SYNERGY

2.1 Goals of Living Lab activities in SYNERGY

The primary function of the Living Lab process is the integration of the end-user perspective in the solutions offered by SYNERGY through engagement activities. These engagement activities include interactions with internal (consortium partners) and external stakeholders to gather feedback on SYNERGY's developments, especially focusing on the Integrated Big Data Platform and AI Analytics Marketplace, the Energy Applications and the data sharing-driven business models. The goals of the LL process can be summarised by the following:

- Promote knowledge, awareness, and acceptance amongst stakeholders.
- Provide an opportunity to generate end-user feedback in the design phase of the project.
- Gather expert feedback on services and business models offered by SYNERGY
- Train users and facilitate the adoption of the SYNERGY concept and operation in the pilot sites.
- Include stakeholders in the evaluation of SYNERGY results.

The quantified goals associated with the LL activities in SYNERGY are summarised in Table 1 (the progress towards these goals are referred to in the final chapter of this document).

Table 1. Living Lab target KPIs

KPI	Target
Engaging internal stakeholder	12
Engaging external stakeholders	40
Conducting workshops	10 (2 per pilot)

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2.2 Project partner responsibilities in Living Lab activities

Table 2 summarises the roles and responsibilities of the consortium in the LL process. The success of the LL process is highly dependent on the contributions and active involvement from all consortium partners.

Table 2. Living Lab Roles and Responsibilities

LL Leader	
Role	Implement LL methodology and guide the planning and execution of the engagement activities.
Responsibilities	• Creating and regularly updating the engagement strategy based on the ongoing evolution of the community • Evaluation of LL and engagement activities • Guiding selection of the target audience • Guiding communication material development • Supporting with workshop facilitation • Assist in building stakeholder community • Running LL forum • Communicate LL engagement needs between project leaders and WP/demo site leaders
Project and Technical Coordinator	
Role	Provide an overview of project goals concerning stakeholder engagement needs.
Responsibilities	• Provide an engagement timeline • Engage with external/ non-local stakeholders that are of importance to the overall project activities. • Representatives of the project in BRIDGE, BDVA and other initiatives (T9.4) • Organize relevant activities and facilitate such activities
Demo partners	
Role	The primary facilitator of the engagement initiatives at demonstration sites.
Responsibilities	• Being the primary point of contact for stakeholders in the local region. • Collaborate with GECO to determine appropriate engagement activities.

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	• Organizing meetings and events (emails, invitations, arranging meeting space and materials, etc.) • Providing communication content • Facilitating workshops (or arranging for a facilitator) • Recruiting stakeholders
WP Leaders	
Role	Facilitating engagement initiatives at all stages. Information provider on SYNERGY WPs and tasks concerning stakeholder engagement
Responsibilities	• Inform LL leader about tasks and targeted stakeholders • Being the primary point of contact for stakeholders • Collaborate with GECO to determine appropriate engagement activities within WP or tasks. • Organizing meetings and events (emails, invitations, arranging meeting space and materials, etc.) • Providing communication content • Facilitating workshops (or arranging for a facilitator) • Recruiting stakeholders

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3 Evaluating the LL process

In the previous version of the Living Lab deliverable (D9.2), two main areas were identified to improve the LL process:

- Switching from a bottom-up approach and introducing a **hybrid approach** with a focus on top-down assessment for identifying required engagements.
- Due to a lack of available external stakeholders available for interactions, new strategies were identified to develop a SYNERGY '**external stakeholder community**'

3.1 Hybrid approach

As described in D9.2, the hybrid approach (Figure 1) for planning stakeholder engagements involves determining the required engagements from both a top-down and bottom-up perspective. The Hybrid approach ensures all necessary engagements take place and an alignment exists between the project and technical coordinators and all pilot partners.

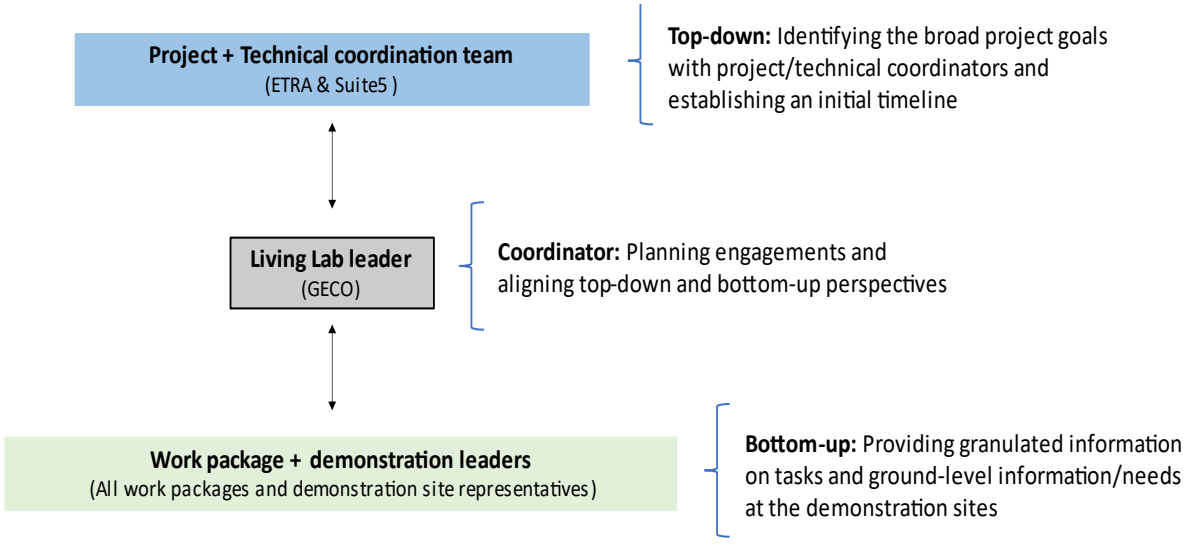

Figure 1. Hybrid approach

Initially, combining the top-down and bottom-up perspective consisted of developing a timeline with the technical and project coordinators (top-down) with details on individual tasks from WP

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and DS leaders (bottom-up). However, combining two separate sources of information led to issues with alignment of understanding and confusion over different descriptions of the same task from a coordination perspective (GECOs role in the Hybrid approach). Therefore, the Hybrid approach was altered into a two-stage sequential process, in which the top-down timeline was created with the technical and project coordinators which included details on WPs and partners involved for each identified engagement. This timeline was then evaluated with the WP and demo leaders (bottom-up) through multiple bi-lateral discussions. This iterative process with a single document was easier to understand from a coordination perspective. In addition, the timeline was modified to a segmented structure. Specifically, instead of only listing all engagements chronologically, the engagements were described and clustered into three key areas; SYNERGY platform, energy applications and business model development. The second version of the top-down timeline is presented in Table 3.

Table 3. Top-down timeline V2

Timeline	Stakeholder	Description	Potential Activity	Related WP
SYNERGY Platform development				
M19 (ongoing)	Internal	Internal feedback on SYNERGY Platform - stage 1	Presentation/ workshop	WP3, 4
M26-27	External	External feedback on SYNERGY Platform - stage 1	Presentation/ workshop	WP3, 4
M36	Internal	Internal feedback on SYNERGY Platform - stage 2	Presentation/ workshop	WP3, 4
M26-27	External	External feedback on SYNERGY Platform - stage 2	Presentation/ workshop	WP3, 4
Energy Applications development				
M25	Internal	Internal feedback on SYNERGY Applications - stage 1	Presentation/ workshop	WP5

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M25	Internal	Internal feedback on SYNERGY Applications - stage 1	Presentation/ workshop	WP6
M25	Internal	Internal feedback on SYNERGY Applications - stage 1	Presentation/ workshop	WP7
M27-30	External	External feedback on SYNERGY Applications - stage 1	Presentation/ workshop	WP5
M27-30	External	External feedback on SYNERGY Applications - stage 1	Presentation/ workshop	WP6
M27-30	External	External feedback on SYNERGY Applications - stage 1	Presentation/ workshop	WP7
TBD	Internal & External	Feedback on SYNERGY APP - Applications 2	TBD	WP5, 6, 7
Business models development				
M10-18	Internal	Internal feedback on potential business models	Interviews	WP10
M24-25	External	External feedback on potential business models	Interviews	WP10
M36	External	Engage potential future customers (exploitation)	TBD	WP10

3.2 External stakeholder community

Due to the lack of available external stakeholders for recruitment in the living lab activities, strategies were proposed in D9.2 to develop an external stakeholder community. This community can then be utilised as a resource when interactions are needed with external stakeholders to gather feedback on the solutions and services being developed in SYNERGY.

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The strategies and details of how they were implemented are described in the following subsections.

3.2.1 Increasing the visibility of SYNERGY

This was done through participation at public events and activities on social media. SYNERGY was presented by various partners at 14 different events in the period of M13-24. This included events such as India Smart Utility Week and Enlit Europe. Attendees at these events total approximately 900 participants, including many relevant end-users.

With regards to social media, 68 posts were published across platforms such as Twitter, LinkedIn and Facebook. From these 68 posts, 1770 interactions from the public (e.g. 'likes', comments and shares) were recorded. For more information on the events and communication activities in SYNERGY, see D9.7 and D9.15.

3.2.2 Collaborating with other EU projects

Collaboration refers to the process of identifying other EU projects that could benefit from an exchange of ideas/expertise and opening communication channels to facilitate future information exchange. Collaboration was undertaken through initiatives and events related to BDVA, BRIDGE and OPEN DEI. These channels facilitated knowledge exchange with other EU H2020 projects related to big data and data analytics such as Platoon, BD4NRG, BD4OPEM, CordiNet, InterConnect, Interface, Platone, DAEKIN, Digital Energy and Trinity.

3.2.3 Snowball effect

The snowball effect refers to exploiting any communication or engagement activities that take place as part of the LL process as an opportunity to promote SYNERGY and reach external stakeholders. This is done somewhat automatically through engagement activities. However, to further increase the connections, efforts are made to direct any stakeholders engaged towards SYNERGY's events, social media or informing them of how to keep up to date with project developments. For example, when visiting the website, visitors are prompted to join the SYNERGY community (see Figure 2).

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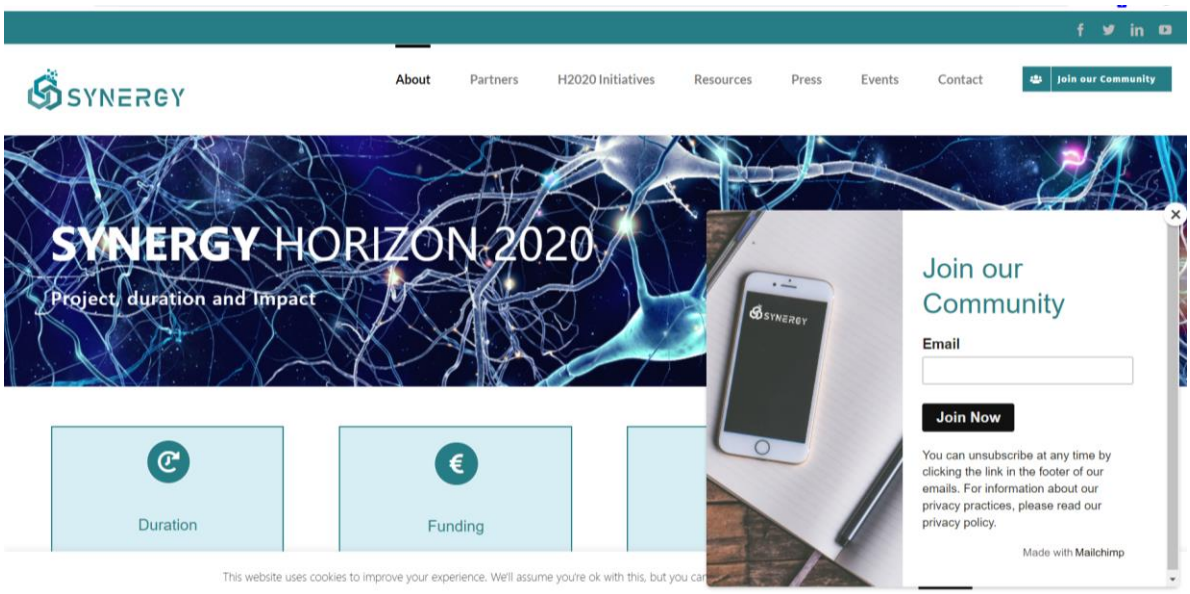

Figure 2. Website and pop-up window (bottom right) inviting viewers to join the SYNERGY community.

3.2.4 SYNERGY Stakeholder community (SSC)

The strategies outlined thus far were implemented primarily through the communication tasks of WP9 (T9.2 and T9.3). These dissemination-based strategies are important for the broad exposure of SYNERGY to potential new stakeholders. However, these strategies may not provide access to the key stakeholders required for the co-creation activities, such as the end-users of the APPs or experts needed for feedback on the business models.

Therefore, developing the SSC was done through tasking current consortium members to identify and list contacts within their networks that would be relevant and/or interested in the SYNERGY project. These contacts can then be used as a resource when planning engagement activities aimed at specific types of external stakeholders. A template for gathering potential external contacts (Appendix A) was issued to all consortium partners. To comply with GDPR, no names were collected, just profiles of potential stakeholders from consortium partners networks.

This strategy allowed for the identification of specific external stakeholders and ensure the right people could be approached for engagement activities. The process for contacting stakeholders identified through the SSC consisted of contacting the SYNERGY liaison first so the external stakeholder could be approached by a familiar person. This list has already been used for the engagement activities in WP10. Several stakeholders were identified to discuss specific business models with relevant external stakeholders.

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Figure 3 summarises the type of stakeholder currently available through the SSC. Figure 4 shows the geographical spread of stakeholders in the SSC (The full current list of stakeholders is available in Appendix B).

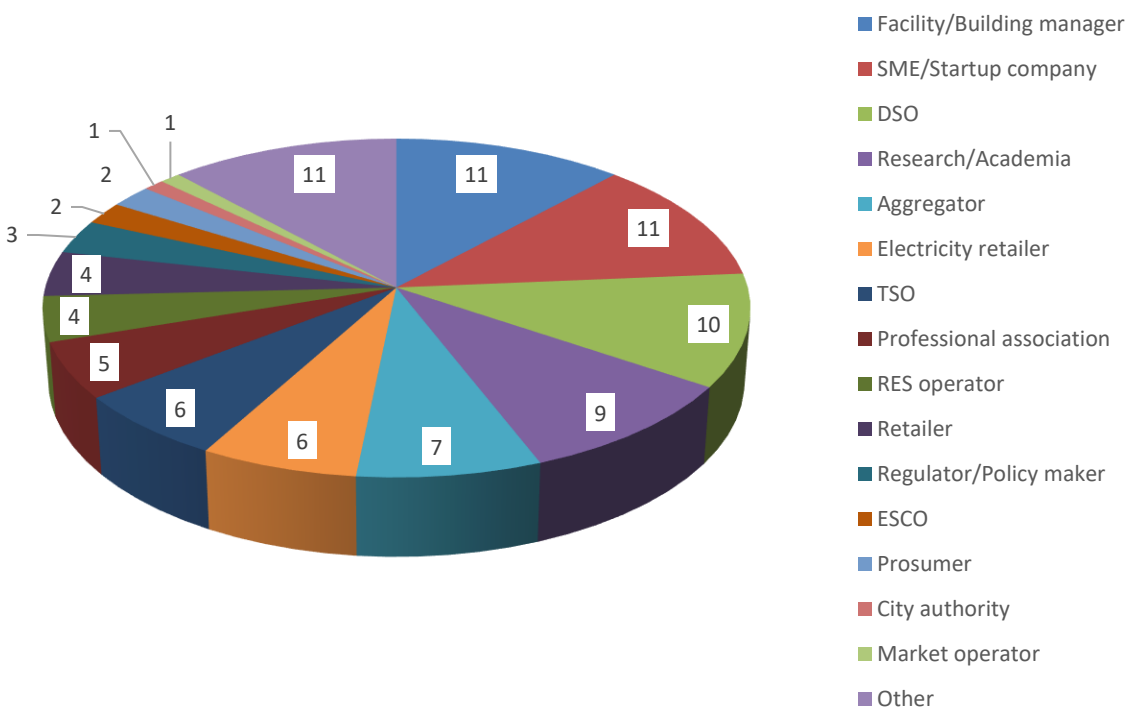

Figure 3. Distribution of stakeholder types in the SSC

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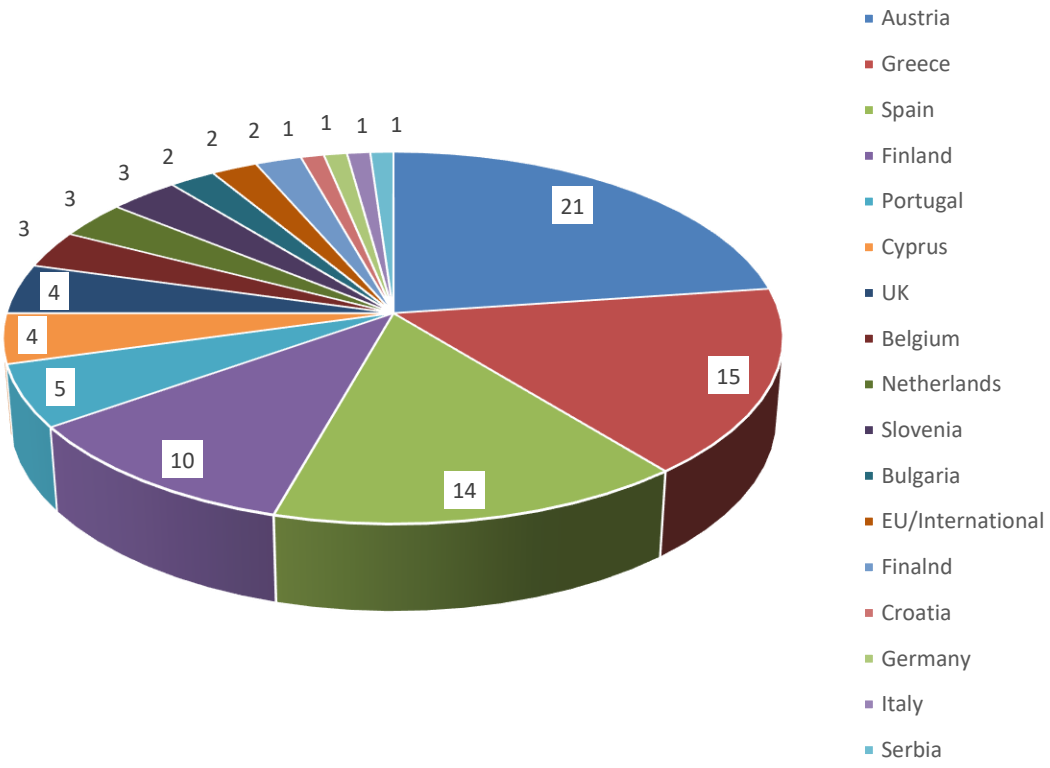

Figure 4. Geographical spread of stakeholders in the SSC

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4 Evaluating the engagement activities in M12-M24

This section will first provide an evaluation of the progress of the engagements by assessing the status of the activities that were planned for M13-24. Following this evaluative overview, details will be provided on the activities undertaken and their impact on the SYNERGY project.

4.1 Living Lab Activities M13-24 overview

Table 4 provides an overview of the status of the planned engagements in the period of M13-24. The engagements presented in Table 4 have been extracted from the hybrid planning approach first described in D9.2. The engagements have been summarised in Table 4, more details on the activities are provided in section 4.2 of this chapter.

Table 4. Planned activities for M13-24

WP/Task	Planned engagement	Engagement status	Internal Validation	External Validation
WP2/T2.2	M19-23	Completed	Completed	n/a
WP3 & WP4	M15-22	Ongoing	Ongoing	Planned
WP5-7	M15-18	Delayed	Planned	Planned
WP10/T10.1	M9-M18	Ongoing	Completed	Ongoing

As can be seen in Table 4, good progress has been made with the engagement activities completed in WP2 and ongoing activities in WPs 3, 4 and 10. Some delays have been experienced, the original plan was for all engagements listed in Table 4 to be completed by M22. These delays are due to focus being placed on the technical developments in the SYNERGY project. Delaying engagements allows for better results and materials which can be presented to external stakeholders for generating feedback. Despite some minor delays, it is expected that the engagements can be carried out in the third year of the project and planning has already begun for the execution of engagements related to BM, platform and APP development (see chapter 5 for more details).

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4.2 Details of completed activities: M13-24

4.2.1 WP2 activities

T2.2 (second iteration)

Following the first assessment of the socioeconomic, organisational and regulatory barriers to innovation (see D2.3 for details), a second iteration was carried out to assess any changes in the impact of potential barriers to innovation. The barriers from the first iteration (with some additional barriers in the regulatory domain, see D2.4) were presented to consortium members via questionnaires who indicated any change in the impact of barriers. These consortium members represented the full electricity data value chain and could provide expert opinions on the regulatory and organisational barriers, as well as a national context for their respective country and region.

The engagement activity had the following objectives:

- Clarify the feedback from some of the partners on the updated questionnaires and evaluate comprehensively their responses engagement;
- Discuss in more detail the reasons why partners significantly changed their perspective on the impact of barriers in the second iteration
- Engage with internal stakeholders we weren't able to reach during the first round of interactions

Following the assessment of the questionnaire, consortium members were identified for follow-up interviews. The interviewees who were engaged comprised of internal experts from the SYNERGY partner organisations VERD, IPTO, EEE and CAV with business roles related to market functions, business development and international projects. From the interviews, 16 insightful outcomes on barriers to innovation were identified (these outcomes were related to issues such as inability to recognise data value, lack of adequately trained staff for big data analytics and GDPR, see D2.3 for a full discussion on the outcomes). These barriers can now be considered and addressed when it comes to the development and implementation of SYNERGY solutions.

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4.2.2 WP3 and 4 activities

During the second year of the project (M13-M24), significant progress was made with regards to the implementation of WP3 and WP4 activities that resulted in the beta release of the SYNERGY Integrated Platform (consolidating and integrating the outcomes of both Work Packages) in M18 of the project. Following the beta release of the platform, a series of internal validation activities was carried out (as planned and documented in D9.2 of SYNERGY) with the aim of presenting an integrated platform to the consortium, familiarize the SYNERGY partners with the wealth of functionalities provided and receive feedback both in technical and usability terms.

The internal validation process for the SYNERGY Big Data Platform and AI Analytics Marketplace was implemented in the following way:

- Following the official beta release of the platform, a dedicated (day-long) technical workshop was organized on July 7th, 2021, during which the main technical partners leading the implementation of the various components and their integration (Suite5, Ubitech, Maggioli) performed a thorough overview and demonstration of the integrated platform to the SYNERGY consortium (both technical and demo partners). A bundle of use cases and scenarios were designed and demonstrated during the workshop which presented the different features and functionalities of the platform and offered a 360 view regarding their use by the consortium partners, starting from data collection and ingestion to the execution of analytics, pipelines and workfows, along with the extraction of the respective results and derivative data assets. Moreover, a thorough overview of the Data and AI marketplace was performed which aimed to familiarise partners with functionalities related to search, retrieval and acquisition of data assets, following the distint steps of the data contract establishment process for safeguarding transparency and trust across data sharing services offered by SYNERGY.
- Subsequently, starting from September 2021 and under the coordination of the Technical Coordinator of the project, regular bi-weekly technical sessions were organized and executed in order to increase understanding among consortium partners with regards to the platform functionalities and use, while enabling the provision of feedback from the actual internal users of the SYNERGY Big Data Platform and AI Analytics Marketplace on technical and usability issues they observed and need to be addressed in future re-deployments of the integrated platform.

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- Finally, starting from the end of October 2021, additional working sessions were organized on a weekly basis (in the form of Data Landscaping sessions) in order to deep dive in specific issues that focused on (i) updates and enrichments of the SYNERGY Common Information Model to address the data asset specificities involved in the demonstrators of the project, (ii) updating the consortium on improvements and updates performed over the Integrated SYNERGY platform and AI Analytics Marketplace, as per the requests communicated by the internal users of the project and (iii) further guiding the consortium on the workflows they need to follow for exploiting to the maximum extent the functionalities offered by the platform.

All internal validation activities performed during this period, which will continue beyond M24, involved specialized personnel from the consortium who have a business role related to Data Management and Data Analytics (data engineers, data scientists and data analysts). Consulting with these experts allowed for constructive hands-on experience to gain valuable feedback utilised drive improvements and developments essential to the SYNERGY Integrated Platform Release 1.00 (see D3.6).

Table 5 gives a summary of the implemented internal validation activities conducted in WP3 and WP4 (performed in a combined manner given the integrated nature of the respective results of these WPs):

Table 5: Oveview of WP3-WP4 Internal Validation Activities

Type of Activity	**Date of Engagement**	**Stakeholders and Roles Engaged**
Internal Technical Workshop (day-long)	7th July 2021	All consortium partners representing all stakeholders of the electricity value chain – Main involvement of Data Management Personnel and Data Scientists/ Analysts
Bi-weekly Technical Sessions	M21-M24 (to be continued in the next period)	All consortium partners representing all stakeholders of the electricity value chain – Main involvement of

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		Data Management Personnel and Data Scientists/ Analysts
Weekly Data Landscaping sessions	M22-M24	All consortium partners representing all stakeholders of the electricity value chain – Main involvement of Data Management Personnel and Data Scientists/ Analysts

4.2.3 WP8 and 9 activities

Interviews and a workshop were conducted as a preliminary planning step before the deployment of SYNERGY solution in the demo sites. The goal of this engagement activity was to gather a bottom-up perspective from the demo site representatives. Information gathered included contextual and technical barriers, stakeholder recruitment and regional engagement opportunities. Information was gathered individually from each demo site (via interviews) then collectively (via a workshop) to share knowledge and align consortium members. Another purpose was for GECO as WP9 leaders to open communication channels and understanding with the pilot partners to facilitate coordination of demonstration activities.

Interviews (see Appendix C for discussion guide), – a semi-structured approach was utilised with questions including:

- What is the number 1 issue/challenge you foresee prior to the pilot testing stage?
- Are you aware of which stakeholders need to be recruited and how to recruit them for testing?
- Are you clear on the responsibilities and roles when conducting testing?
- Are you clear on the process/procedure for the testing of the platform at your site?

A summary of the key points raised by DS representatives is provided in Table 6.

Table 6. Key points from demonstration site interviews

Pilot site	Key points

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Finland	• A key stakeholder is the building owner, others are related to the transmission system. • Engaging with external stakeholders is not yet required – Only internal processes at the moment for connecting BMS portal to SYNERGY. Other internal stakeholders are predominantly facility managers who are not actively involved. • The pilot buildings include a vocational school with office users. These users are already aware of the project and Finnish pilot partners they have access to systems so they are already involved and no additional recruitment efforts are needed. • An office building will also be used as a demo site, the users there are part of a climate team - energy renaissance. This consist of 20 people aware of SYNERGY and only the transfer of data is required – no need for recruitment efforts. Permits are required, but occupants are familiar with VTT and FVH. • Expect passive involvement from stakeholders – they need SYNERGY to work, but do not need to know 'how' • End-users are considered as B2B, so minimal assistance is required for engagement activities.
Spain	• Stakeholder engagement is B2B and a good relationship exists between pilot partners and the distributor
Croatia	• Renown eco-activist possibly available to collaborate/communicate with in the region • Don't foresee any issues and do not require assistance for the recruitment of stakeholders

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	• The region has an enthusiastic community towards renewable energy – a community that is also keen on controlling their data • Connected to several municipalities who are key stakeholders– may experience some difficulties explaining the SYNERGY concept to several different stakeholder perspectives. They also need to be informed on a non-technical level, However, municipalities are motivated to participate • Local mayors are important stakeholders and are interested in the value of SYNERGY • Data providers for the region have already been engaged and are aware of SYNERGY
Austria	• Stakeholders are already involved and equipment has been installed • The municipality is a key stakeholder and acts as a gatekeeper to end-users. End-users trust in the municipality can be utilised • Assistance may be required for communicating SYNERGY in a non-technical way to stakeholders • Pilot representatives would be interested in market research to gather opinions and inform local stakeholders at the B2C level • Additional workshops may be required to install equipment and measurement devices

Note: due to scheduling issues, representatives from the Greek pilot were unable to be interviewed. However, they did participate in the joint workshop.

A workshop with all DS representatives as well as the technical coordination team took place in May during the monthly WP9 meeting. The key points from the interviews (see Table 6)

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were discussed between all attendees. The key findings from the workshop can be summarised by the following:

- The demonstration sites are very different with unique needs
- Technical requirements are a key concern for all demonstration sites
- The stakeholders to be engaged at pilot sites are predominantly internal (within demonstration partners networks), B2B level and already familiar with SYNERGY
- No demonstration site has issues with recruiting end-user stakeholders
- Municipalities are key stakeholders for demonstration sites
- The technical and demonstration site partners have good relationships within the SYNERGY community

To summarise the demonstration site interviews and workshop, key information related to barriers, stakeholders and local context was gathered. This information is key for planning and preparing for the demonstration activities that will take place in the period of M25-36. The workshop allowed for discussion of the demonstration site related issues between the five pilot sites as well as the technical and project coordinators. This alignment is key for coordinating activities and avoiding potential barriers, such as the technical issues raised by some demo partners.

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5 Planned activities M25-36

This chapter will present more specific details of the plans for each major engagement channel; BM, platform and APP development. Note, although planning has begun, perspectives are still being gathered, therefore, some details are still to be concretely defined and plans in place are subject to change based on developments at the technical level and changes at the demo sites such as local developments/changes and other considerations, such as covid.

5.1 Business Model development (WP10)

Table 7 displays an overview of the engagement plan related to the business model development in WP10.

Table 7. Engagement plan for WP10

M24 (completed)	M24 (completed)	M25-26
Identification of SHs to be engaged	Engagement material preparation	Interviews with stakeholders

Potential contacts to be interviewed have been identified from the SSC. These contacts are relevant for each potential BM being developed (e.g. Network operators for BM1 on advanced asset management and predictive maintenance) and also have a role/expertise that would provide valuable insights on SYNERGY BMs.

Materials have been created including a discussion guide, presentations of SYNERGY (high-level) and specific BMs as well as templates for contacting external stakeholders.

Interviews will be carried out in M25-26, invitations are currently being sent out and coordination activities have been initiated.

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5.2 Platform development (WP3 and 4)

Table 8 displays an overview of the engagement plan related to the platform development in WPs 3 and 4.

Table 8. Engagement plan for WP 3 and 4

M19 (ongoing)	M25	M25-26	M26-27
Internal validation activities	Identify external contacts	Coordinating engagement sessions	External feedback sessions

Internal validation activities which began M19 are currently ongoing (see chapter 4).

External contacts that can provide required expert feedback on the platform will be identified utilising the SSC. The current SSC list will be sent by WP9 leaders to technical partners in WP3 and WP4 to identify relevant stakeholders. If stakeholders are unavailable further strategies to identify required stakeholders will be implemented (e.g. reaching out to partners and utilising their networks). Following the identification step, external stakeholders will be contacted and invited for an interview/demonstration of the platform to gather feedback.

Once the relevant external stakeholders have been identified and contacted, the coordination of the engagements will take place. This includes ensuring the relevant materials have been prepared and facilitating the interviews/presentations/workshops.

The external feedback sessions will take place to gather feedback on the SYNERGY platform in M26-27

5.3 Energy Applications development (WP5-7)

The engagement plan for the Energy Applicatons development in WPs 5-7 for internal and external stakeholders, is displayed in Table 9 and 10, respectively.

Table 9. Engagement plan for WP 5-7 (internal stakeholders)

M25	M26

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Coordinating internal feedback sessions	Internal feedback sessions

Agenda preparation and scheduling of feedback sessions, ensuring WP leaders have materials such as a discussion guide and right attendees/stakeholders for each Energy Application presentation will occur in M25.

The presentation and feedback sessions with internal stakeholders will take place in M25-26.

Table 10. Engagement plan for WP 5-7 (external stakeholders)

M25	**M27**	**M28-30**
Identifying external stakeholders	Coordinating external feedback sessions	External feedback sessions

Identification of relevant external end-users for WP5 (Network and RES operators), WP6 (Retailers and Aggregators) and WP7 (Building owners) will take place in M25.

The scheduling and planning of external feedback sessions will take place in M27. This will include contacting and inviting external stakeholders and the preparation of materials (e.g. discussion guides, presentations explaining SYNERGY, etc.).

The external feedback session will take place between M28-30 (Note these are provisional dates to be confirmed following results of platform testing)

- WP5 – M28
- WP6 – M29
- WP7 – M30

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6 Conclusion

Two main areas to improve the LL process were the introduction of the hybrid approach and implementing strategies to gather external stakeholder contacts.

The updated hybrid approach allowed for a more efficient planning process and alignment between project and technical coordinators with the WP and DS leaders. Utilising the top-down timeline, which provided a broad overview of the SYNERGY goals, as a foundation for planning with WP and DS leaders provided a holistic plan of required engagements.

With regards to gathering external contacts, the 4 strategies listed in section 3.2 assisted in growing the SSC. The strategies around communication reached many various stakeholders and the development of the SSC has built a network of external contacts that consists of relevant end-users and experts that covers 15 stakeholder groups and 16 countries. The stakeholders in the list have already been utilised in the engagement activities of WP10.

Activities completed between M13-24 focussed on the technical developments in WP3 and WP4. Testing of the Energy Applications was originally planned to take place in this period, however, due to focus being placed on the technical development of the platform, engagements related to gathering feedback for the Energy Applications will take place in the period of M25-36. The delay in some engagements is not expected to hinder the gathering of feedback and engagement activities are expected to intensify in the upcoming period of M25-36. The delay was necessary to ensure that the platform and Applications are at an optimal stage when sharing results with potential external contacts.

The LL process has been evaluated and continually updated. A simplification of the overall plan from a top-down perspective to separate the activities into streams of business model, platform and energy applications development combined with bottom-up planning maximises the efficiency of the planning and execution of the engagement activities. Building the SSC has rectified the issue of a lack of available external stakeholders identified in the previous LL deliverable (D9.2). Nevertheless, engagement activities need to intensify in the next period of M25-36 to ensure continued feedback is gathered with regards to the BM, platform and energy applications development, particularly with regards to gathering feedback from external stakeholders. The quantified KPIs and the status of their progress are displayed in Table 11. The engagement for internal stakeholders has surpassed the initial target of 12. Engaging with external stakeholders has begun (currently 25% progress to the target of 40), with

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engagements expected to intensify in M25-36, it is expected this target will be achieved prior to M36 of the project. Workshops have also taken place, however, once demonstration activities begin the initial target of pilot specific workshops will be achieved and it is expected that more than 10 workshops will take place.

Table 11. Summary of KPIs

KPI	Target	Status
Engaging internal stakeholder	12	>20
Engaging external stakeholders	40	5
Conducting workshops	10 (2 per pilot)	0

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7 Appendices

7.1 Appendix A: Template for gathering external contacts

SYNERGY PARTNER:
LIASON NAME:
LIASON EMAIL:

External SH to add

	Organisation	Expertise	SH category	SH region	SYNERGY contact
example	*companyXYZ*	*Head of operations*	*DSO*	*Austria*	*Name name@email.com*
1					
2					
3					
4					
5					
6					
7					
8					
9					
10					

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7.2 Appendix B: SYNERGY Stakeholder Community

SH category	Expertise	Organisation	SH region	SYNERGY contact
Aggregator	Energy Market Analyst	Axpo Solutions	EU/International	IPTO - d.skipis@admie.gr
Aggregator	CEO	Endona Cooperative	Netherlands	ETRA
Aggregator	CEO	Escozon Cooperative	Netherlands	ETRA
Aggregator	Project manager	Kiwi Power	UK	ETRA
Aggregator		ODE Decentraal	Netherlands	ETRA
Aggregator	Officer	Som Energia	Spain	ETRA
Aggregator		TERNA ENERGY S.A.	Greece	HEDNO - ai.dimitriou@deddie.gr
City authority	Project Manager	Helsinki City	Finland	VTT - francesco.reda@vtt.fi
DSO	C level executive	APYDE	Spain	CIRCE - aelias@fcirce.es
DSO	Operations, planning and strategy	ASM Terni	Italy	ETRA
DSO	System Engineer	EAC	Cyprus	UCY - cpapad11@ucy.ac.cy
DSO	Project Manager	EDP	Portugal	KBZ - ruben.costa@knowledgebiz.pt
DSO	DSO association	EDSO	Belgium	ICCS
DSO		ELEKTRO CELJE (EL CELJE)	Slovenia	ETRA
DSO	CEO of provincial DSO	Energy Burgenland - Grid	Austria	EEE - Joachim Hacker - j.hacker@eee-info.net
DSO	Electricity Distribution	Petrol	Slovenia	Suite5
DSO	Business Development	UFD	Spain	CIRCE - aelias@fcirce.es
DSO	C level executive	Viesgo	Spain	CIRCE - aelias@fcirce.es
Electricity retailer	CEO of provincial energy service provider	Energy Burgenland	Austria	EEE - Joachim Hacker - j.hacker@eee-info.net
Electricity retailer	CEO	E-Werk Franz	Austria	ENES - martin.brunner@energy-services.at

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Electricity retailer	CEO	Florian Lugitsch KG	Austria	ENES - martin.brunner@energy-services.at
Electricity retailer	CEO	Kiendler GmbH	Austria	ENES - martin.brunner@energy-services.at
Electricity retailer	CEO	Stadtwerke Mürzzschlag GmbH	Austria	ENES - martin.brunner@energy-services.at
Electricity retailer	CEO	Stadtwerke Voitsberg GmbH	Austria	ENES - martin.brunner@energy-services.at
Facility/Building manager	Deputy Director Business Development	Albena	Bulgaria	Suite5
Facility/Building manager	Technical Manager for Varma	Caverion	Finland	CAV - ida.johansson@caverion.com
Facility/Building manager	Technical Manager for Varma	Caverion	Finland	CAV - ida.johansson@caverion.com
Facility/Building manager	Energy Specialist	Caverion	Finland	CAV - ida.johansson@caverion.com
Facility/Building manager	Energy specialist	Caverion	Finland	CAV - ida.johansson@caverion.com
Facility/Building manager	Facility manager	Caverion	Finland	CAV - ida.johansson@caverion.com
Facility/Building manager	Facility manager	Caverion	Finland	CAV - ida.johansson@caverion.com
Facility/Building manager	Service manager	Caverion	Finland	CAV - ida.johansson@caverion.com
Facility/Building manager	CEO	IGM	Greece/ UK	Suite5
Facility/Building manager	Team Leader/ Energy Services	WSL	Germany	Suite5
Facility/Building manager			Greece	EPA - p.kontogiorgos@fysikoaerioellados.gr
Market operator			Greece	EPA - p.kontogiorgos@fysikoaerioellados.gr

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Other	Market Development executive	Acciona Energía	Spain	CIRCE - aelias@fcirce.es
Other	Agency for business operators	Business Agency of Burgenland	Austria	EEE - Joachim Hacker - j.hacker@eee-info.net
Other	Researcher	DEH	Greece	IPTO - d.skipis@admie.gr
Other	Inverter manufacturer, Storage provider	Fronius	Austria	EEE - Joachim Hacker - j.hacker@eee-info.net
Other	Platform for coordinated exchange between international projects at regional level	Internationalization platform Burgenland	Austria	EEE - Joachim Hacker - j.hacker@eee-info.net
Other	Head of Deal Advisory	KPMG Cyprus	Cyprus	UCY - cpapad11@ucy.ac.cy
Other	Big data platforms, Large scale distributed and database management systems	LeanXcale		UBITECH
Other	C level executive	Meatze	Spain	CIRCE - aelias@fcirce.es
Other	Regional Consultancy Company	RMB - Regional Management Burgenland	Austria	EEE - Andrea Moser - a.moser@eee-info.net
Other	Project Manager	TERNA Energy	Greece	IPTO - d.skipis@admie.gr
Other			Greece	EPA - p.kontogiorgos@fysikoaerioellados.gr
Professional association	head of R&I	Enercoutim	Portugal	KBZ - ruben.costa@knowledgebiz.pt
Professional association	Executive Director	ENTRA	Spain	CUE - jruedaq@grupocuerva.com
Professional association	Secretary General	GEODE	Belgium	CUE - jruedaq@grupocuerva.com
Professional association	Industrial Bar Assocation Representative	OEB	Cyprus	UCY - cpapad11@ucy.ac.cy
Professional association	Director	RIL	Finalnd	VTT - francesco.reda@vtt.fi

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Prosumer	Energy Manager	City of Jyväskylä	Finland	CAV - ida.johansson@caverion.com
Prosumer	Property Manager	Varma	Finland	CAV - ida.johansson@caverion.com
Regulator/Policy maker	Chairman of the association ecoEnergyland	Association "ecoEnergyland"	Austria	EEE - Andrea Moser - a.moser@eee-info.net
Regulator/Policy maker	Head of Department for Climate and Energy	Land Government Burgenland	Austria	EEE - Andrea Moser - a.moser@eee-info.net
Regulator/Policy maker			Greece	EPA - p.kontogiorgos@fysikoaerioellados.gr
RES operator	Head of regulatory affairs	ENEL	Greece	IPTO - d.skipis@admie.gr
RES operator	Senior Manager, International Business Development	Lightsource BP	EU/International	IPTO - d.skipis@admie.gr
RES operator	Private large scale RES plant operator	RES plant operator	Austria	EEE - Andrea Moser - a.moser@eee-info.net
RES operator	CEO	RES plant operator	Austria	EEE - Joachim Hacker - j.hacker@eee-info.net
Research/Academia	Applications Unit	CNH2	Spain	CUE - jruedaq@grupocuerva.com
Research/Academia	Professor/Reaserch	FCT-UNL	Portugal	KBZ - ruben.costa@knowledgebiz.pt
Research/Academia	Head of Storage and Grid Management	IKERLAN	Spain	CUE - jruedaq@grupocuerva.com
Research/Academia	Research Institute	Research Burgenland GmbH	Austria	EEE - Joachim Hacker - j.hacker@eee-info.net
Research/Academia	head of department	UNINOVA	Portugal	KBZ - ruben.costa@knowledgebiz.pt
Research/Academia	Department of Digital Systems	University of Piraeus	Greece	VERD st@elinverd.gr
Research/Academia	Associate professor		Greece	Dimitris Miltiadou - UBITECH - synergy@ubitech.eu

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Research/Academia			UK	EPA - p.kontogiorgos@fysikoaerioellados.gr
Research/Academia			UK	EPA - p.kontogiorgos@fysikoaerioellados.gr
Retailer		Ecopower	Belgium	ETRA
Retailer		EREN Hellas S.A.	Greece	HEDNO - ai.dimitriou@deddie.gr
Retailer	CEO	MiwEnergia	Spain	Suite5
Retailer	Head of Energy Trading	Mytilineos	Greece	Suite5
SME/Startup company	CEO	Barbara	Spain	CUE - jruedaq@grupocuerva.com
SME/Startup company	CEO	Building Services Güssing	Austria	EEE - Andrea Moser - a.moser@eee-info.net
SME/Startup company	Software Development	EOS Power Solutions	Austria	EEE - Joachim Hacker - j.hacker@eee-info.net
SME/Startup company	IT company	IT & Digitalization	Austria	EEE - Joachim Hacker - j.hacker@eee-info.net
SME/Startup company	Weather Data Provider	MetGIS GmbH	Austria	EEE - Joachim Hacker - j.hacker@eee-info.net
SME/Startup company	PV company	S&H Connect	Austria	EEE - Joachim Hacker - j.hacker@eee-info.net
SME/Startup company	Living Lab and Innovation Ecosystem Manager	Turning Tables	Spain	CUE - jruedaq@grupocuerva.com
SME/Startup company	Project Manager	Turning Tables	Spain	CUE - jruedaq@grupocuerva.com
SME/Startup company	Director of Research and Innovation		Greece	Dimitris Miltiadou - UBITECH - synergy@ubitech.eu
SME/Startup company	Director of Technology		Greece	Dimitris Miltiadou - UBITECH - synergy@ubitech.eu
SME/Startup company			Greece	EPA - p.kontogiorgos@fysikoaerioellados.gr
TSO	Head of department for international and regulatory affairs portfolio	AD EMS	Serbia	Dimitris Miltiadou - UBITECH - synergy@ubitech.eu

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TSO	Power Market Operator	Borzen, d.o.o	Slovenia	Dimitris Miltiadou - UBITECH - synergy@ubitech.eu
TSO	Head of operations dpt	EAC	Cyprus	UCY - cpapad11@ucy.ac.cy
TSO		ELEKTROENERGIEN SISTEMEN OPERATOR EAD (ESO)	Bulgaria	ETRA
TSO	Flexibility Market specialist	Fingrid	Finalnd	VTT - francesco.reda@vtt.fi
TSO		HEP - Operator prijenosnog sustava d.o.o. (HOPS)	Croatia	ETRA
ESCO	Project Manager	COMSA	Spain	Suite5 - tasos@suite5.eu
ESCO	Head of Research	ISQ	Portugal	Suite5 - tasos@suite5.eu

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7.3 Appendix C: Discussion guide for demonstration site interviews

Purpose of the call

- SYNERGY will be implemented this July, you will need to engage stakeholders at your pilot sites –
- so the purpose here is to get your perspective and see if there are any challenges you foresee or steps that need to be taken to make sure it happens,
- im not asking for a technical perspective, but more to do with how you will engage stakeholders and the strategy for that

So I'll basically just let you give me your thoughts, and I'll be doing the same with the other pilots

Then in the WP9 meeting next week I can share everyone's view point across pilots and with the technical and coordination team

Also want to just open a dialogue with each pilot, start to get aligned on roles and needs etc.

Questions

- What is the number 1 issue/challenge you foresee prior to the pilot testing stage?
- Are you aware of which stakeholders need to be recruited and how to recruit them for testing?
- Are you clear on the responsibilities and roles when conducting testing?
- Are you clear on the process/procedure for the testing of the platform at your site?

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