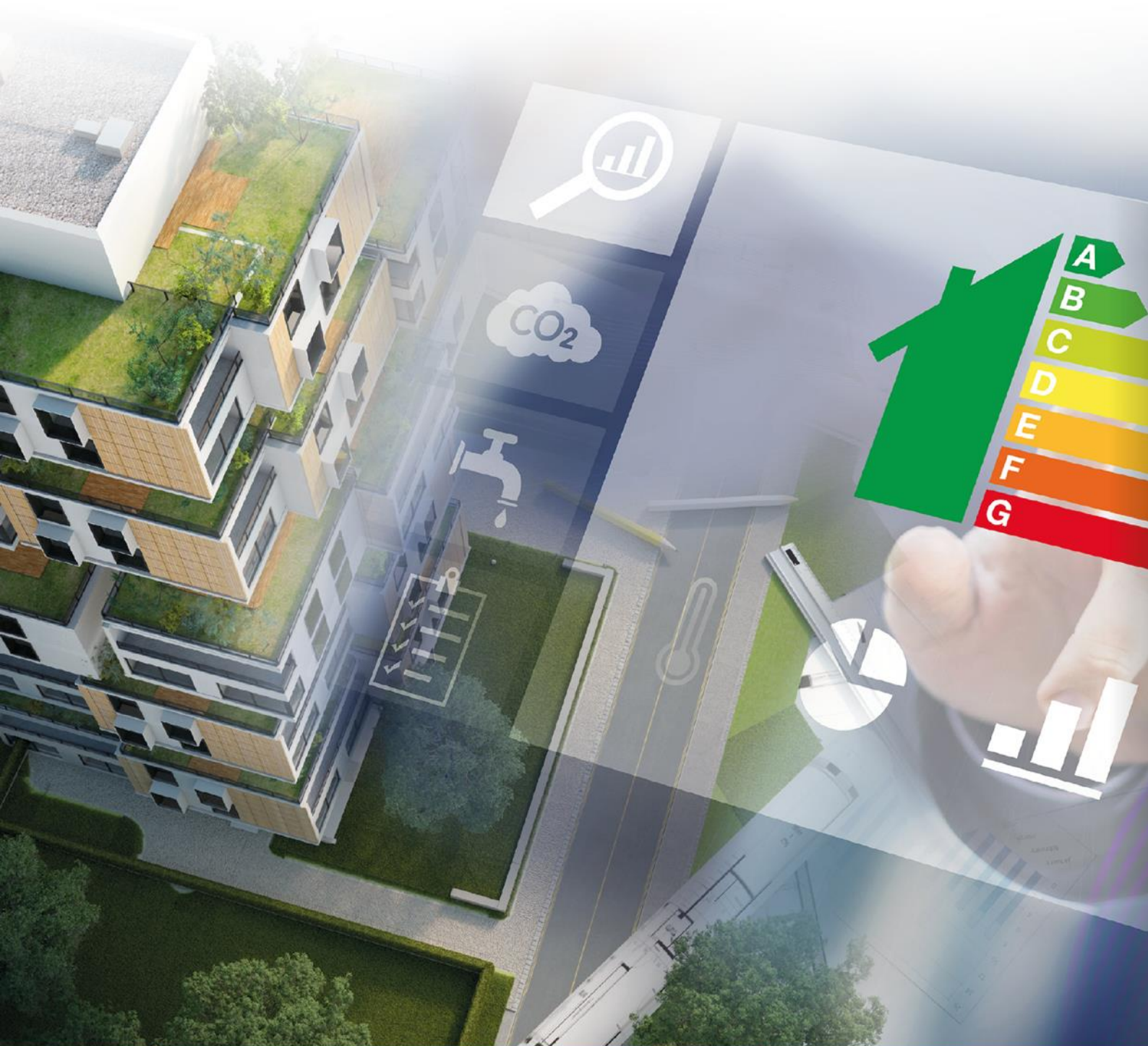




DISSEMINATION, EXPLOITATION AND COMMUNICATION PLAN V2



Project Acronym: SmartLivingEPC

Project Full Title: Advanced Energy Performance Assessment towards Smart Living in Building and District Level

Grant Agreement: 101069639

Project Duration: 36 months (01/07/2022 – 30/06/2025)

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v	Author	Date	Brief Description
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0.2	Sofia Bazzano, REHVA	30/11/2023	Draft Version with REHVA internal review and additional REHVA inputs
0.3	Sofia Bazzano, REHVA	06/12/2023	Updated version including peer reviewers' comments
1.0	Sofia Bazzano, REHVA	13/12/2023	Final version ready for submission

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Executive Summary

The 2nd release of the Communication, Exploitation & Dissemination Plan outlines the main activities that occurred from M6 to M18 for the SmartLivingEPC communication and dissemination strategy. Below is a summary of the key components covered in this deliverable:

1. Introduction:

- **Scope and Objectives:** the introduction provides a clear understanding of the scope and objectives of the deliverable, emphasizing its importance in driving effective communication and dissemination activities for the SmartLivingEPC project.
- **Structure:** the structure of the deliverable is outlined, providing a roadmap for readers to navigate through the document.
- **Relation to Other Tasks and Deliverables:** the document establishes its relationship with other project tasks and deliverables, ensuring alignment with overarching project goals.

2. **Communication and Dissemination Objectives:** the communication and dissemination objectives for the project's Phase II are delineated. The focus is on demonstrating the tangible benefits of Key Exploitable Results (KERs) and supporting their seamless transition into practical applications.

3. **Stakeholder Management Plan (SMP)- Identification of Target Groups:** a detailed Stakeholder Management Plan identifies and outlines engagement strategies for target groups such as building end-users, renewable energy communities, policy-making bodies, technology providers, and the scientific community.

4. **Communication, Dissemination, and Exploitation Strategy:** the strategy emphasizes clear articulation of project benefits and creates a framework for future exploitation. It encompasses a multi-channel approach, including online platforms, traditional media, and participatory activities.

5. **Communication & Dissemination Tools, Material & Channels:** various tools and channels are detailed, including newsletters, websites, social media, and promotional materials. Emphasis is placed on the role of each in disseminating information and engaging stakeholders effectively.

6. **Communication & Dissemination Events:** the plan for communication and dissemination events, such as conferences and workshops, is presented. These events are essential for showcasing project achievements and fostering knowledge exchange.

7. **Policy, Standardization, and Best Practices:** recommendations for standardization and policy are provided, ensuring SmartLivingEPC aligns with industry standards and contributes to policy discussions and best practices.

8. **Exploitation Activities, Business Models, and IPR Management:** this section identifies exploitable results, characterizes them, maps their impact, and provides a comprehensive view of key exploitable results. Conclusions are drawn to guide future exploitation activities and manage intellectual property rights effectively.

9. **Liaising with Sister Projects and Other Initiatives:** the document outlines strategies for collaboration with sister projects and initiatives, promoting knowledge exchange and fostering a collaborative environment.

10. **Reporting of Activities Methodology:** the methodology for reporting project activities is explained, ensuring transparent communication and accountability.

11. **Planned Activities:** a detailed overview of planned activities provides a roadmap for the successful execution of the communication, dissemination, and exploitation strategy.

This deliverable is written by REHVA with the collaboration of the task leaders of the WP7: DEMO, ASI, R2M, and ANEC.

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List of Acronyms and Abbreviations

Term	Description
EPC	Energy Performance Certificate
ER	Exploitable Results
KER	Key Exploitable Results

NDA	Non-Disclosure Agreement
SMP	Stakeholder Management Plan
SRI	Smart Readiness Indicator
WP	Work Package

1 Introduction

1.1 Scope and objectives of the deliverable

This deliverable aims to outline the planned activities and define the communication, dissemination, and exploitation strategy of the project as well as identify the main stakeholders and target groups and set a guide for all partners on how to reach them. The timeline described in this document is to be considered from M1 until M18. This deliverable will be updated in M30 with the *D7.6 Dissemination, Exploitation and Communication Plan v3*.

1.2 Structure of the deliverable

In this document, we have set the communication and Dissemination objectives (Chapter 2) followed by the Stakeholder Management Plan and Communication and Dissemination Strategy (Chapter 3 and 4). With the support and contribution of the WP7 partners, we have described Communication & Dissemination tools, material & channels (Chapter 5), the Communication and Dissemination events and planning (Chapter 6), the Policy, standardization and best practices (Chapter 7), the Exploitation activities, Business models and IPR management (Chapter 8), the strategy to liaise with sister projects and other initiatives (Chapter 9), the methodology on how partners will report the communication, exploitation and dissemination activities (Chapter 10) and to conclude an overview of the planned activities of the project from M6 to M18.

1.3 Relation to Other Tasks and Deliverables

The Deliverable *D7.6 Dissemination, Exploitation and Communication Plan v2* is part of the WP7 – Communication, Dissemination & Exploitation, and part of the task T7.1 Dissemination & Communication planning and reporting. This Deliverable is linked to all WPs, all partners are responsible for the Communication and Dissemination reporting for the overall duration of the project.

2 Communication and Dissemination Objectives

This deliverable addresses the Phase II of the Communication and Dissemination and dissemination strategy outlined in the previous version of this deliverable:

Phase II – Enhance acceptance of KERs (Y2-Y3): SmartLivingEPC will focus on disseminating its KERs with a view to clearly demonstrate the benefits of the proposed novel solutions, supporting future exploitation of results. Key activities to be conducted during Phase II include publications about project results, the organization of conferences, events, workshops, and participatory activities (e.g., labs) promoting knowledge exchange.

The Communication and Dissemination Objectives for SmartLivingEPC during Phase II are designed to strategically enhance the acceptance of Key Exploitable Results (KERs). This phase is crucial for showcasing the project's innovative solutions and laying the foundation for future exploitation of the achieved results.

The primary communication and dissemination objectives for Phase II of SmartLivingEPC are as follows:

Demonstrate Benefits:

- Clearly articulate and demonstrate the tangible benefits of the proposed novel solutions developed within SmartLivingEPC: in this phase, the strategy aims to go beyond technical jargon and communicate the benefits of SmartLivingEPC's innovations in a clear and accessible manner. This involves distilling complex technical information into layman's terms, ensuring that stakeholders, including non-experts, can easily understand the practical advantages of the developed solutions. Clear articulation will involve the creation of user-friendly materials such as infographics, explainer videos, and plain-language summaries of project achievements.
- Illustrate how these Key Exploitable Results contribute to advancing the state-of-the-art in the field and address real-world challenges: the communication strategy will emphasize positioning SmartLivingEPC as a trailblazer in the field by highlighting how its Key Exploitable Results contribute to advancing the state-of-the-art. This involves showcasing not only the immediate benefits but also the broader impact on industry standards, best practices, and technological advancements. Engaging narratives, success stories, and case studies will be used to illustrate how the project is at the forefront of addressing real-world challenges and pushing the boundaries of innovation.

Support Future Exploitation:

- Create a communication framework that supports the seamless transition of project outcomes into practical applications: to support the seamless transition of project outcomes into practical applications, the strategy involves creating a robust communication framework. This includes developing a detailed roadmap for disseminating information about the project's results at critical junctures. The framework will outline key milestones, target audiences, and the channels through which information will be shared. It will also consider the timing of communications to coincide with industry events, policy discussions, or other relevant opportunities.
- Identify and engage potential stakeholders, partners, and end-users who can play a pivotal role in the future exploitation of SmartLivingEPC results (already identified in the previous version of this deliverable): identifying and engaging potential stakeholders, partners, and end-users is crucial for ensuring the sustained success of SmartLivingEPC beyond the project's lifespan. The strategy involves conducting thorough stakeholder mapping to identify key players who can contribute to and benefit from the project's outcomes. Tailored communication approaches will be developed to actively involve these stakeholders, fostering collaboration, and ensuring that their needs and expectations are considered in the project's future exploitation plans.

The communication and dissemination strategy for Phase II of SmartLivingEPC is designed to not only communicate the immediate benefits of the project's innovations but also to strategically lay the groundwork for their seamless integration into practical applications, ensuring sustained impact and future.

3 Stakeholder Management Plan (SMP): identification of the target groups

In the first version of this deliverable we have identified the different target groups that we re-propose here in Table 1.

In this section, we additionally propose a Stakeholder Management Plan (SMP) that is articulated on Phase II of the communication and dissemination strategy based on the previously identified target groups.

The target groups

The following table presents the target groups.

Table 1 SmartLivingEPC target groups

Target group	Description
<p>Building End-users</p>	<p>This group is referring to building users/owners/managers, and relevant stakeholders at the Pilot Sites.</p> <p>The energy performance certificate will raise awareness of owners/users on energy consumption and may trigger energy-saving improvements. Building users are the main beneficiaries of SmartLivingEPC solutions and a targeted communication about the results and action of the demonstration and replication, as well as the benefits of the additional AI services of the SmartLivingEPC platform will be key for a successful communication & dissemination of the project.</p> <p>It is essential to reach out to them and raise awareness on the potential of improved EPCs to increase the market uptake.</p>
<p>Renewable Energy Communities</p>	<p>This group is referring to groups of citizens, social entrepreneurs, public authorities and community organizations, participating directly in the energy transition by jointly investing in, producing, selling and distributing renewable energy.</p> <p>A special aspect of SmartLivingEPC will be its application in building complexes that tackles Districts/Communities. Pilots' communities would need to raise better awareness among citizens on energy efficiency and also improve energy savings at district-level renewables. Through communication and dissemination activities targeting Renewable Energy Communities we aim to reach this objective.</p>
<p>Policy-Making Bodies and Governance</p>	<p>This group is referring to Regional, National, and International policy makers and public authorities (i.e. industrial committees, ministry and regional councils), EU Commission, Regulators, Standardization bodies.</p>

	<p>This group can act as collaborators and catalysts for delivering SmartLivingEPCs and can help improve the proposed framework and services.</p>
<p>Technology providers and Suppliers</p>	<p>This Group is referring to Software tool Developers, Designers, Building systems manufacturers, Suppliers, Building Material Industry.</p> <p>In connection with the T1.2 Elicitation of stakeholders' requirements & market needs, SmartLivingEPC will open new markets to relevant technology providers, as well as foster innovative approaches on their technologies. Technology providers and Suppliers, especially Software tool Developers develop and sell software for the implementation of EPCs based on the respective standards adopted by the National legislation. Building technology and product developers are affected by the legislation on energy efficiency of buildings for their future product development pathways. Stakeholders/Target groups: Software tool Developers, Designers, Building systems manufacturers, Suppliers, Building Material Industry.</p>
<p>Scientific Community (e.g. Technical experts, researchers and scientific community)</p>	<p>This group is referring to research and academic organisations, scientific journals, committees, internet fora, and other working groups in research fields related to the SmartLivingEPC work.</p> <p>Researchers/Academia/R&D sector could support the development of the methodology and perform further research upon request from competent Authorities.</p>

The engagement strategy

The following table presents the Stakeholder's Management Plan.

Table 2 Stakeholder's Management Plan for SmartLivingEPC

Target group	Engagement Strategy	Communication Channels
<p>Building End-users</p>	<p>Conduct surveys and focus groups to understand the needs and preferences of building end-users.</p> <p>Develop user-friendly materials and conduct workshops to demonstrate the tangible benefits of SmartLivingEPC solutions.</p> <p>Establish a user feedback mechanism to continuously gather insights and address concerns.</p>	<p>Utilize social media platforms, newsletters, and project websites to share project updates in an accessible manner.</p> <p>Collaborate with community organizations to organize local events and engage directly with building end-users.</p>
<p>Renewable Energy Communities</p>	<p>Identify key renewable energy community leaders and influencers for targeted outreach.</p>	<p>Leverage community forums, online platforms, and newsletters to disseminate information.</p>

	<p>Collaborate with community organizations to integrate SmartLivingEPC solutions into community initiatives.</p> <p>Organize webinars and workshops to educate and involve community members in the project.</p>	<p>Showcase success stories and case studies through community-specific channels.</p> <p>Establish a community liaison to maintain ongoing communication and address concerns.</p>
<p>Policy-Making Bodies and Governance</p>	<p>Establish direct communication channels with relevant policymakers and government representatives.</p> <p>Provide regular updates on project progress, emphasizing the alignment with policy goals.</p> <p>Engage in policy discussions and contribute expertise to shape regulatory frameworks.</p>	<p>Develop policy briefs and whitepapers highlighting the project's impact on sustainable policies.</p> <p>Attend and contribute to relevant policy conferences and forums.</p>
<p>Technology providers and Suppliers</p>	<p>Foster partnerships with technology providers for mutual collaboration and knowledge exchange.</p> <p>Establish a feedback loop to address technical challenges and refine technology integration.</p>	<p>Host industry-specific webinars and forums for technology providers.</p> <p>Maintain an open line of communication through regular newsletters and updates.</p>
<p>Scientific Community (e.g. Technical experts, researchers and scientific community)</p>	<p>Facilitate knowledge exchange through participation in scientific conferences and seminars.</p> <p>Collaborate on joint research projects to enhance the scientific community's understanding of SmartLivingEPC innovations.</p> <p>Establish partnerships with academic institutions to promote ongoing collaboration.</p>	<p>Publish research papers, articles, and technical documentation in reputable scientific journals.</p> <p>Organize specialized workshops and webinars for scientific communities.</p> <p>Engage with online scientific platforms to share findings and insights.</p>

4 Communication, Dissemination, and exploitation Strategy

To achieve the above objectives outlined in Section 2, the project will undertake the following key activities during Phase II:

✓ **Publications:**

- Regularly publish comprehensive and accessible materials about the project's results, innovations, and impact (communication materials, brochures, flyers).
- Target both academic and industry publications to reach a diverse audience and emphasize the project's relevance across various sectors (scientific papers and publications, REHVA journal articles).

✓ **Conferences, Events, and Workshops:**

- Organize conferences and events dedicated to showcasing SmartLivingEPC's achievements and engaging with relevant communities.
- Conduct workshops to facilitate in-depth discussions, knowledge exchange, and collaboration with key stakeholders.

✓ **Participatory Activities:**

- Establish participatory activities where stakeholders can experience and interact with SmartLivingEPC solutions firsthand.
- Encourage active involvement of end-users, industry representatives, and decision-makers in shaping the narrative and outcomes of the project.

The successful execution of the communication and dissemination objectives during Phase II is anticipated to result in the following:

- Increased awareness and understanding of SmartLivingEPC's contributions among target audiences.
- Strengthened relationships with potential collaborators, investors, and end-users.
- Enhanced acceptance of Key Exploitable Results, paving the way for successful exploitation in subsequent phases.

In addition, SmartLivingEPC applies a multi-channel communication approach to reach a diverse audience. This approach implies the use of online platforms: utilize project websites, social media, and blogs for regular updates, announcements, and interactive content as well as traditional media: engage with industry publications, news outlets, and relevant magazines for broader coverage.

By implementing this comprehensive communication strategy for Phase II, SmartLivingEPC aims to not only enhance the acceptance of its Key Exploitable Results but also to establish a strong foundation for future collaborations, partnerships, and successful exploitation of project outcomes.

5 Communication & dissemination tools, material & channels

In the initial months of the project, the visual identity of SmartLivingEPC was defined and the website, social media and SharePoint were established to convey the findings and work of the project to the interested audience. In M6 and M12 a newsletter was sent to the project's network and a flyer was developed as a communication material that can be used by partners when attending conferences, workshops, and other events. The website and social media accounts are being maintained and regular posts can be found on all channels. An overview of the progress is presented in the chapters below.

5.1 Newsletters

From the beginning of the project until M18, two newsletters were prepared and sent to the SmartLivingEPC network. The first one was in M6, December 2022 and can be accessed through the project's website under Project Results – Dissemination – Newsletters. In this edition the project is presented, together with the first five deliverables that were already submitted at that time and the events that took place in that period.

Link: <https://www.smartlivingepc.eu/en/Project%20Results%20%20Documents/Newsletter1.pdf>

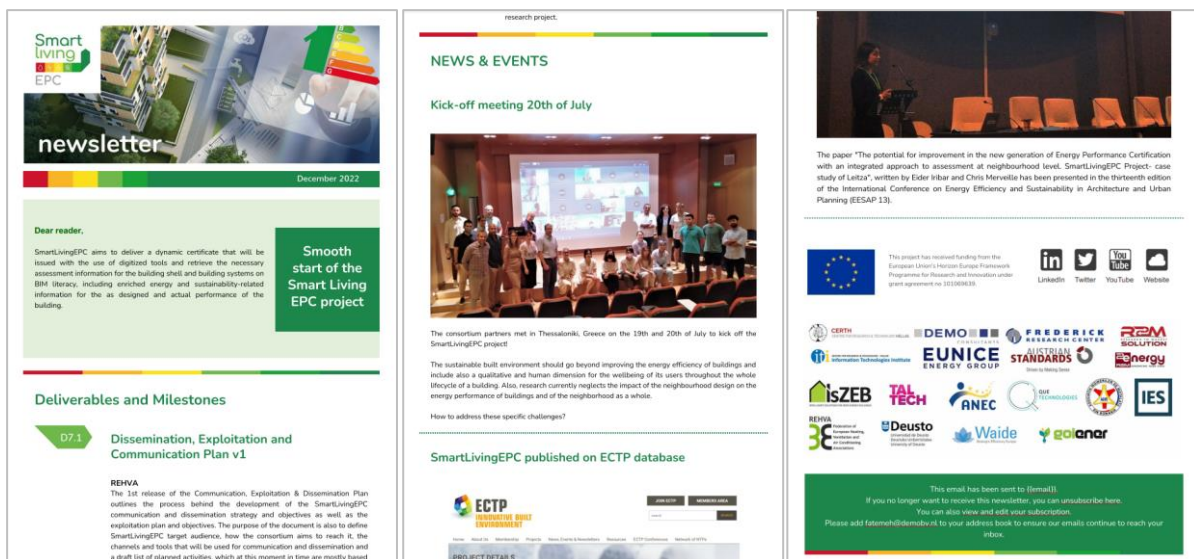


Figure 1 Newsletter December 2022

The second newsletter was sent out on M12, June 2023 and it celebrated the one year of the project. In this newsletter, two deliverables, submitted between M6 and M12 were presented, followed by five events that took place in this period and a link to the project's flyer which was developed in this period was shown.

Link: <https://www.smartlivingepc.eu/en/Project%20Results%20%20Documents/newsletter2.pdf>



Figure 2 Newsletter June 2023

5.2 Website

The website as the project’s main channel is being constantly updated to reflect the activity in work within the project. The main updates can be seen in the section Project Results, where submitted deliverables can be found, together with the dissemination material, developed for promotional purposes. At M18, there are ten deliverables available, of which six can be downloaded and four are confidential, so only a short description can be found.

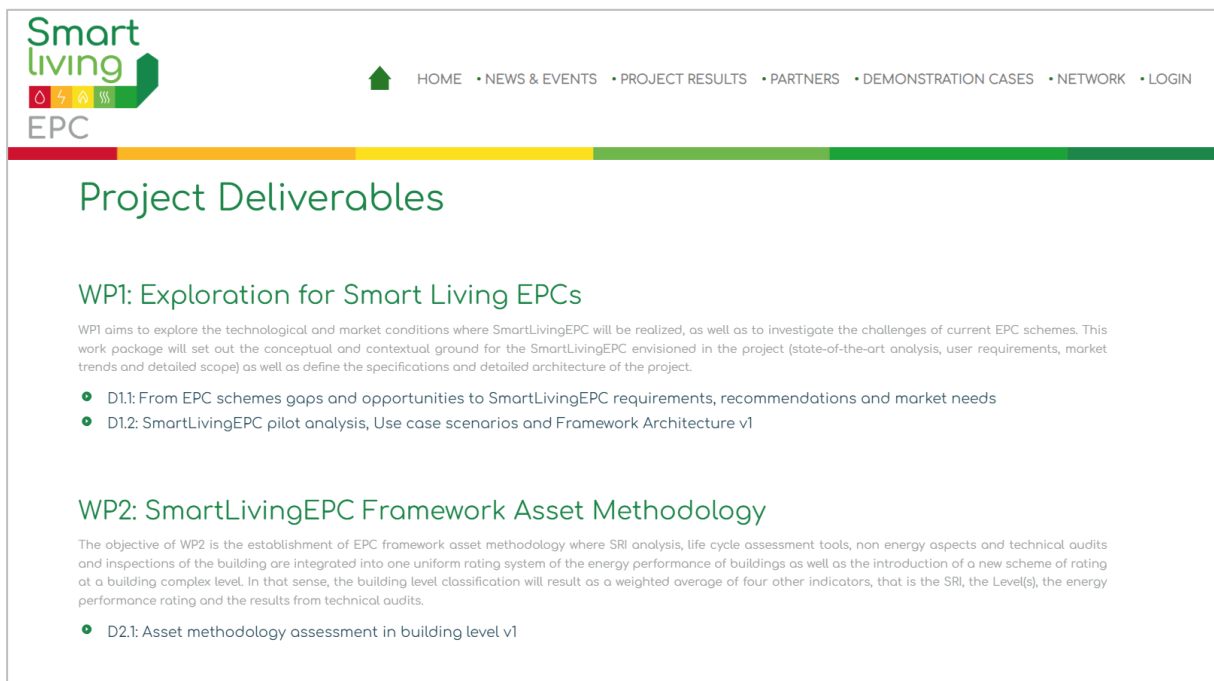


Figure 3 Uploaded deliverables

WP2: SmartLivingEPC Framework Asset Methodology

The objective of WP2 is the establishment of EPC framework asset methodology where SRI analysis, life cycle assessment tools, non energy aspects and technical audits and inspections of the building are integrated into one uniform rating system of the energy performance of buildings as well as the introduction of a new scheme of rating at a building complex level. In that sense, the building level classification will result as a weighted average of four other indicators, that is the SRI, the Level(s), the energy performance rating and the results from technical audits.

• D2.1: Asset methodology assessment in building level v1

Due date: 31/08/2023 - Task leader: FRC

Within WP2, "SmartLivingEPC Framework Asset Methodology", the actions for the establishment of the smart EPC asset methodology will be performed. In short, smartness, sustainability, and audit and technical inspection aspects are integrated into one uniform rating system of the energy performance of buildings as well as the introduction of a new rating scheme at a building complex level. In that sense, the building level classification will result in a weighted average of four other indicators: the SRI, the Level(s), the energy performance rating, and the results from technical audits.

Download 

Figure 4 Publicly accessible deliverable

WP8: Project Management & Coordination

To coordinate the technological and scientific orientation of the project, fostering the flow of information between participants and between WPs and provide the communication with the EC; To ensure the delivery of the project on time and within the budget and that the project maintains its relevance towards the objectives; To guarantee high-quality standards at all levels and the accomplishment of the objectives; To manage resources, monitor the overall project performance and manage risks, ethics, and contingencies; To establish appropriate relationships and communication channels with the funding actors as well as between consortium partners; To effectively monitor & coordinate the issues related to Ethics stemming from the technologies to be employed in the project.

• D8.1: Project Management, Quality & Risk Assessment Plan v1

• D8.2: Report on Management and Technical Progress v1

• D8.3: Data Management Plan v1

• D8.4: Report on Management and Technical Progress v2

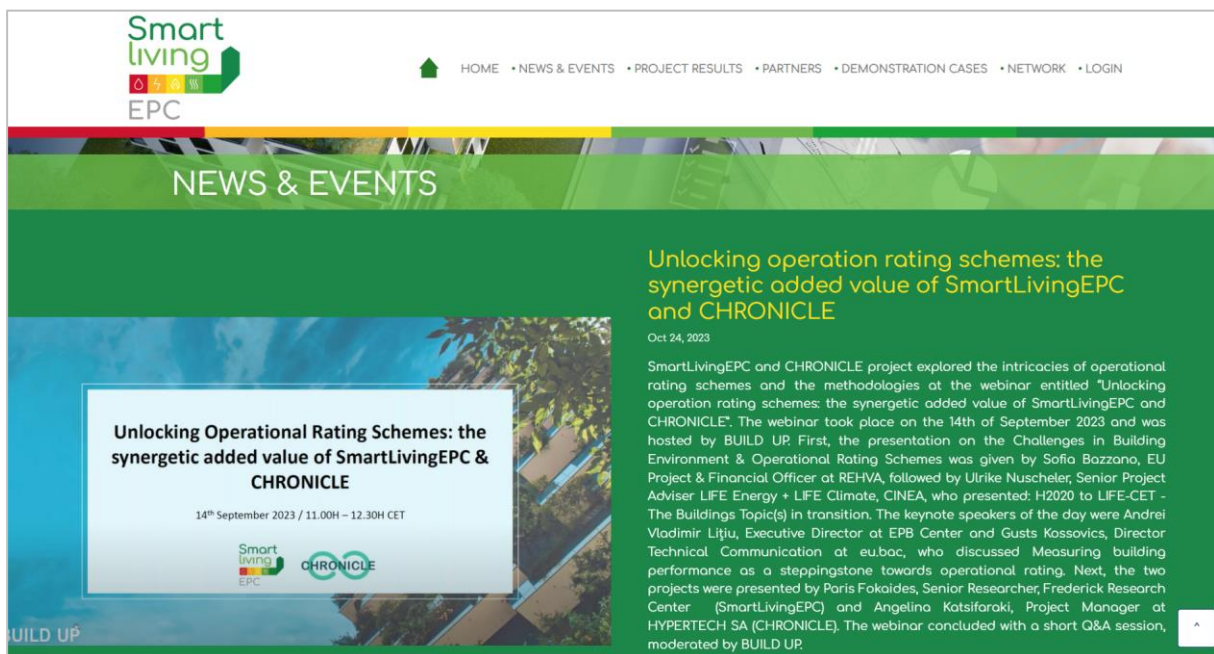
Due date: 31/07/2023 - Task leader: CERTH

Project progress report until M12

Not publicly available

Figure 5 Confidential deliverable

Besides, the "News & events" section is a very active page as well, as it reflects all the activities that partners do, such as attending conferences, organizing workshops, posting papers etc. As of now, the time that this deliverable is being drafted, there are 15 news items posted on the website.



The screenshot shows the 'NEWS & EVENTS' section of the Smart Living EPC website. At the top, there is a navigation menu with links for HOME, NEWS & EVENTS, PROJECT RESULTS, PARTNERS, DEMONSTRATION CASES, NETWORK, and LOGIN. The main content area features a large green banner with the text 'NEWS & EVENTS'. Below this, there is a featured article titled 'Unlocking Operational Rating Schemes: the synergetic added value of SmartLivingEPC & CHRONICLE' dated Oct 24, 2023. The article text describes a webinar held on September 14th, 2023, where the SmartLivingEPC and CHRONICLE projects explored operational rating schemes. Key speakers mentioned include Andrei Vladimír Lițiu, Gusts Kossovičs, Paris Fokaidēs, and Angelino Katsiforaki. The article concludes with a Q&A session moderated by BUILD UP.

Figure 6 News & Events

5.2.1 Website analytics

Website analytics allows better understanding of users and their engagement. Using available tools, the number of users, sessions and engaged sessions can be tracked to monitor the progress and development of the website and its audience. Below, an explanation of each examined metrics can be found:

- Users: The total number of active users.
- New users: The number of users who interacted with the site or launched your app for the first time.
- Sessions: The number of sessions that began on the site or app.
- Engaged sessions: The number of sessions that lasted longer than 10 seconds, or had a conversion event, or had 2 or more screen or page views.

Table 3 Website analytics

Metric	M1 – M18*
Users	1047
New users	1027
Sessions	1794
Engaged sessions	962

* Data acquired on the 14th of November 2023

5.3 Social Media

Social media channels are of great importance for the dissemination purposes, as they allow interaction with followers, connection with other projects or companies and other interested parties. The activity analysis of all the channels is presented in the following sections and the overview at M18 (data obtained on 09-11-2023) is shown in the table below.

Table 4 Social media analytics

LinkedIn	Followers	179
	Posts	42
X	Followers	94
	Posts	33
YouTube	Subscribers	13
	Videos	1

Combined number of social media followers is 286.

Since the establishment of social media profiles, SmartLivingEPC has made 42 posts and gained 179 followers on LinkedIn, 33 posts and 94 followers on X and 1 video and 13 subscribers on YouTube. The frequency of posting on LinkedIn and X channels is presented in graphs below, showing the period from the beginning of the project until end of October 2023. It can be observed that throughout the project the frequency of posts was high, maintaining constant interaction with the network.

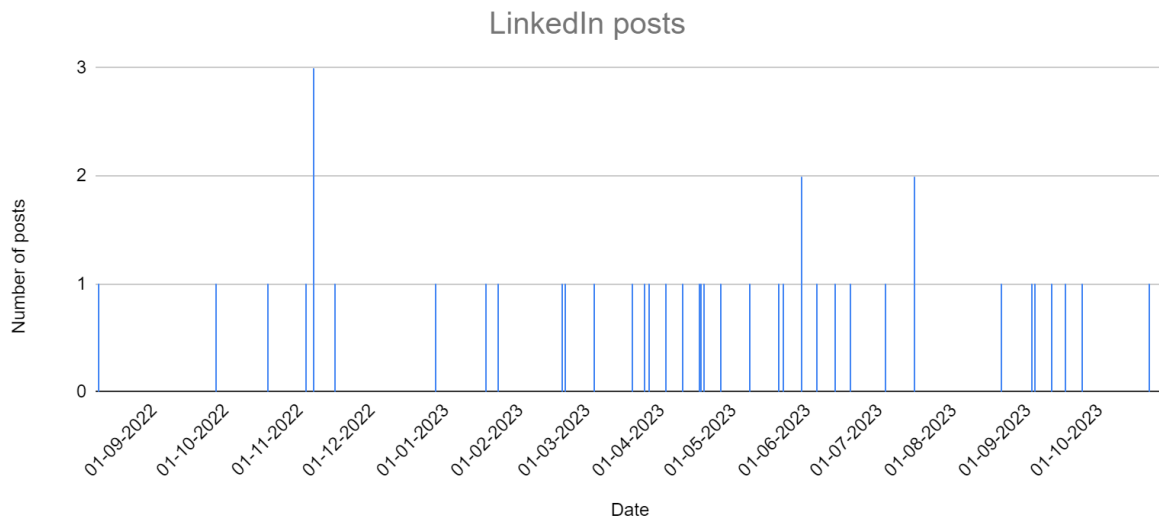


Figure 7 Frequency of posting on LinkedIn

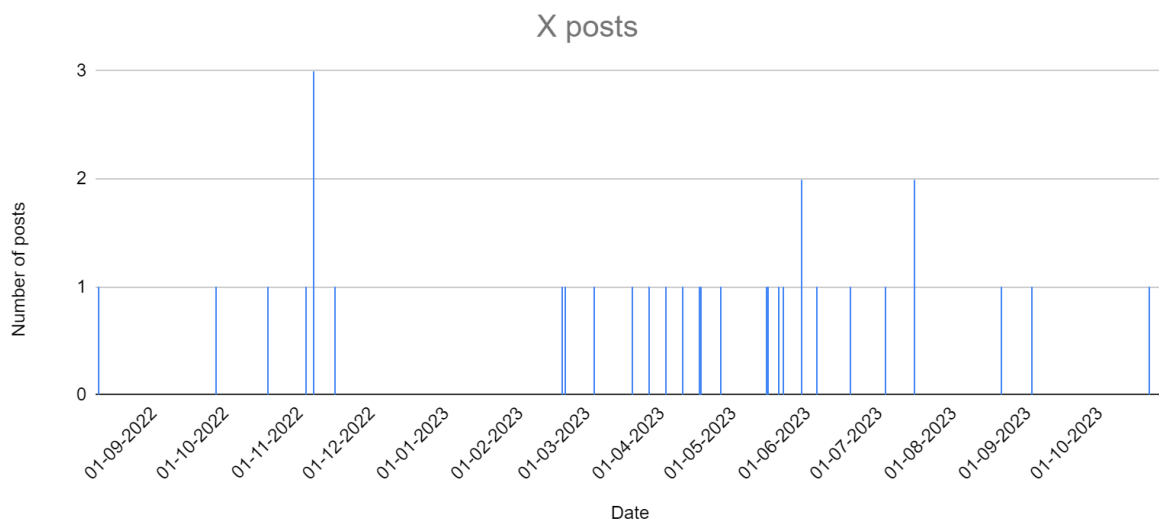


Figure 8 Frequency of posting on X

5.4 Promotional material

For promotional purposes a flyer has been produced so that consortium members can use it when attending events such as conferences or workshops and thus promote our project. The flyer can be found on project’s website under Project results – Dissemination – Promotional materials or using the following link: <https://www.smartlivingepc.eu/en/Project%20Results%20%20Documents/SmartLivingEPC%20flyer.pdf>. The flyer describes the “about”, the “who” and the “how” of the project and lists available ways to get in contact with the project.

- Operational behaviour of the building
- Life cycle performance aspects & building smartness assessment
- Compatible with digital logbooks and building renovation passports
- EPC application in building complexes

Get in touch!

<https://www.smartlivingepc.eu/en>

SmartLivingEPC
 SmartLivingEPC
 SmartLivingEPC

Advanced Energy Performance Assessment towards Smart Living in Building and District Level

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This project has received funding from the European Union's Horizon Europe Framework Programme for Research and Innovation under grant agreement no 101069639.

About

SmartLivingEPC project aims to deliver a certificate which will be issued with the use of digitized tools and retrieve the necessary assessment information for the building from BIM literacy, including enriched energy and sustainability related information for the as designed and the actual performance of the building.

A special aspect of SmartLivingEPC will be its application in building complexes, with the aim of energy certification at the neighbourhood scale.

Who

SmartLivingEPC consortium consists of fifteen partners and two affiliated entities from twelve EU countries.

How

SmartLivingEPC concept is structured on three individual development layers, which complement each other towards achieving the project targets.

1. the development of an enhanced methodology, which will consider energy, sustainability, smartness and technical audits aspects, to deliver an enriched, enhanced rating scheme
2. the integration of digital design tools for the issuance of EPC
3. the development of the Digital Platform and AI services, which will support the user friendliness and the exploitation potentials of the SmartLivingEPC

Figure 9 Project's flyer

6 Communication & dissemination events

The project's events play a pivotal role in the success of the SmartLivingEPC, serving as key catalysts for knowledge exchange, stakeholder engagement, and the dissemination of project achievements. These events, ranging from workshops and conferences to demonstrations and seminars, provide a platform for the project team to showcase advancements, share insights, and gather valuable feedback from national as well as European stakeholders.

Collaborations with external projects (sister projects, projects from the Cluster) and initiatives are equally crucial, fostering a synergistic environment where shared knowledge, resources, and expertise amplify the impact of individual efforts. By actively engaging with external entities, the SmartLivingEPC can tap into a broader pool of ideas, technologies, and perspectives, accelerating progress and enhancing the project's overall effectiveness.

A detailed report of planned and occurred events has been provided in *D7.4 - Project events & Liaising with other projects & initiatives v1*. In this section, we report the main events that occurred from the beginning of the project. The future targeted events are available in *D7.4 - Project events & Liaising with other projects & initiatives v1*.

SmartLivingEPC events occurred (M1-M18)

- Sustainable Places 2023 - Joint Workshop of InCUBE, REHOUSE, D²EPC, SmartLivingEPC, CHRONICLE, and EPC RECAST projects- June 2023
- SmartLivingEPC participation at BIOTERRA- June 2023
- SmartLivingEPC at ACRES India- March 2023
- SmartLivingEPC webinar *Unlocking operation rating schemes: the synergetic added value of SmartLivingEPC and CHRONICLE*- September 2023
- SmartLivingEPC participation at TIMEPAC conference- November 2023
- "NEXT GENERATION EPC" Webinar, 23rd January 2023
- NDA workshop with sister projects- 7th December 2022

7 Policy, standardization, and best practices

Task 7.4 of the SmartLivingEPC project started in M7 and will be active until the end of the project (M36). To ensure a good workflow, bi-monthly task meetings are organized. Overall, the task is responsible for the elaboration of deliverable D7.3 – *Policy Recommendations*, which is due for submission in M36.

7.1 Standardization recommendations

As a first step, the work within T7.4 focused on the identification of relevant standards published or under development on European (CEN/CENELEC) or international (ISO/IEC) level. A first list of relevant standardization deliverables including additional information such as their scope and the individual standardization committees responsible for their development was elaborated and shared with the project partners.

Building on this, a standardization questionnaire was drafted focusing on the identification of technical gaps or barriers in existing relevant standards as well as on the identification of technical fields for which a substantial need for a new standard exists. The standardization questionnaire is planned to be finalized in the upcoming meeting of task 7.4 and is scheduled to be circulated to the SmartLivingEPC consortium at the end of 2023. After analysing the results from this initial questionnaire, the next steps, and options for T7.4 will be explored together with the project partners. Recommendations derived from this analysis are planned to be communicated to the relevant standardization communities, to be used as input for standardization activities.

In addition to the abovementioned, the option to initiate an official liaison between the SmartLivingEPC project and CEN/TC 371/WG5, *Operational rating of energy performance in buildings* will be further explored in order to strengthen cooperation and exchange. CEN/TC 371/WG5 is currently working on a new standard on *Energy Performance of Buildings – Operational rating – Requirements for assessing Operational rating*.

ANEC will also participate with an ANEC expert to the work of the CEN/TC 371/WG5 to contribute the consumer perspective, as well as to facilitate exchange of input between experts from the WG5 and experts from the NextGenEPC cluster (in relation to T7.6).

It has to be noted, that current EPCs are based on European Standards elaborated under the Mandate M/480¹ of the European Commission to the European Standardisation Organizations for the elaboration and adoption of standards for a methodology calculating the integrated energy performance of buildings and promoting the energy efficiency of buildings, in accordance with the terms set in the recast of the Directive on the energy performance buildings (2010/31/EU)². In this context future standardization requests from the European Commission (previously known as Mandate) might take into account the above-mentioned standardization recommendations.

7.2 Policy recommendations

The SmartLivingEPC project already leveraged opportunities to share early results, with a first set of recommendations to support the revision of the Energy Performance of Buildings Directive. This was organised in cooperation with the task 7.6, as a joint NextGenEPC cluster activity. Policy recommendations from all the

¹ See https://energy.ec.europa.eu/publications/2010-european-commission-mandate-cen-m480_en

² See <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=celex%3A32010L0031>

projects were collected and a summary of common policy recommendations was drafted. The publication of these recommendations is planned for the last quarter of 2023, in coordination with the NextGenEPC cluster.

Until the submission of the final deliverable D7.3 – *Policy Recommendations*, the SmartLivingEPC project will continue sharing results when opportunities arise.

8 Exploitation activities, Business models and IPR management

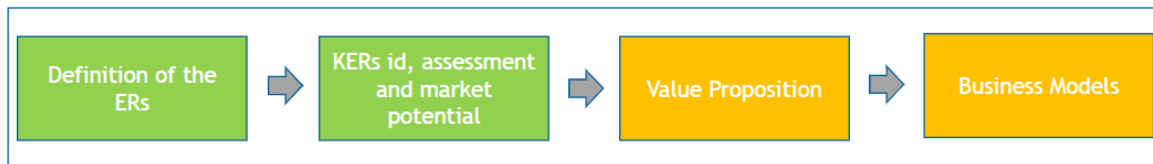
This part includes a first step on the exploitation activities that was already presented in D7.1. In the previous deliverable a first overview of the Exploitation activities, business models and IPR management activities planned to be developed during the SmartLivingEPC project was proposed, while within this deliverable the definition of the Exploitable Results (ERs) and the KERs identification will be presented as shown in green in Figure 10.

As already mentioned, the scope of the activities to be carried out within this task are focused on accompanying the consortium and the SmartLivingEPC project outcomes towards an institutional and commercial strategy to maximise the impact.

The Exploitation plan is a continuous process that will be carried out during the whole project duration, in fact this plan starts at M1, but it will be updated and finalised during the future updated version of this deliverable (D7.1, D7.6, D7.7)

In fact, as shown in Figure 10, the work carried out in this task is strictly related to the work to be done in Task 7.5 (that will be presented in D7.5 and the updated version D7.9).

D7.1 - D7.6 -D7.7 (REHVA)



D7.5 - D7.9 (R2M)

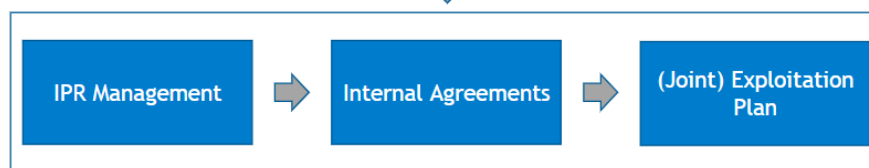


Figure 10 Exploitation path and IPR Management

8.1 Identification of the Exploitable results

The Exploitable Results are the results achieved and/or expected deriving from the SmartLivingEPC Project that has measurable and valuable impact on the market. This kind of results have commercial or social importance and can be exploited as a stand-alone product, process, service, etc. These exploitable results will be needed after the project ends further R&D, prototyping, engineering, validation, etc., before they become commercially exploitable. Among all the ERs there might be “softer” results, for example the publication of a journal article, a methodology or piece of knowledge that can be leveraged to create networks, contacts, first adopters or other opportunities. In line with the objectives of H2020 to drive economic growth and create jobs, it is encouraged that exploitable results are more tangible and with concrete economic benefits for its developers/owners.

The final list of the identified ERs starting from the ones already defined in the Grant Agreement was discussed and fine-tuned with the contribution of all partners of the consortium and is presented in Table 5. The table shows a compact view of the 10 ERs identified and their respective Exploitation Manager, the type of results that is expected from that ER, the owners of the ER and the expected exploitation way of the output. While a more expanded characterization table for each ER is presented in the next section.

Table 5 - ER compact table

Exploitable Results		Exploitation Manager	Type of results (product, service, process, methodology, technology transfer, other)	Owner(s)	Exploitation way of the output (Consultancy service, direct sales, open distribution, licensing, specify other)
ER1	SmartLivingEPC Digital platform	CERTH	S/W, SaaS	All	Copyright, Direct selling to relevant stakeholders, spin off
ER2	SmartLivingEPC Asset rating methodology- Building Unit	AIRFV	Methodology Process	All	Copyright
ER3	SmartLivingEPC Asset rating methodology - Building Complex	UDEUSTO	Methodology Process	All	Copyright
ER4	SmartLivingEPC Operational Rating Methodology - Building Unit	FRC	Methodology Process	All	Copyright
ER5	SmartLivingEPC Operational Rating Methodology - Building Complex	UDEUSTO	Methodology Process	All	Copyright
ER6	Building Dynamic Behavior Monitoring System	CERTH	S/W	CERTH	Copyright, Direct selling to relevant stakeholders, licensed for stand-alone solution
ER7	SmartLiving Building Digital Twin (SBDT)	IES RD	S/W, SaaS	IESRD	Copyright, Direct selling to relevant stakeholders, licensed for stand-alone solution, re-use, re purpose in other research
ER8	Added Value AI tools	IES RD	S/W	IESRD	Copyright, Direct selling to relevant stakeholders, licensed for stand-alone solution, re-use, re purpose in other research

ER9	Nudge-ready performance benchmarking & evaluation tool	DEMO	S/W	DEMO	Copyright, Direct selling to relevant stakeholders, licensed for stand-alone solution, re-use, re purpose in other research
ER10	Common Information Exchange Model (CIEM)	QUE	S/W	QUE	Copyright, Direct selling to relevant stakeholders, licensed for stand-alone solution

8.2 Characterization table for each ER

Once the ERs were identified, it was asked to each Exploitation Manager to fill the characterization table for each exploitable result. This process was guided by several questions given within the template, furthermore one to one calls have been conducted for those who have doubts on their ER.

Table 6 - ER1 - SmartLivingEPC Digital platform

ER1	SLE ER Type, Name & Short Description	Exploitation Information
	<p>Type: S/W, SaaS</p> <p>Name: SmartLivingEPC Digital platform</p> <p>Ownership: Individual OR Joint (All)</p> <p>Description: SmartLivingEPC visualization platform connects real-time performance data from buildings with BIM context data. It provides actionable advice to building owners and occupants by visualizing heterogeneous information, such as energy consumption, building performance, and visual analytics, allowing users to make informed decisions for optimal building operation.</p>	<p>ER Manager: Aggeliki Veliskaki</p> <p>Innovation Level: level 2</p> <p><i>For ICT/technological solutions only:</i></p> <p>TRL Before SmartLivingEPC: 5</p> <p>TRL After SmartLivingEPC: 7</p> <p>Tested at Pilot/Planned Validation: It will be tested and validated in the SmartLivingEPC pilots.</p> <hr/> <p>Which previous knowledge/expertise/technology/IP etc. has been leveraged for this ER?</p> <p>CERTH will introduce and further develop the solution implemented in H2020-D²EPC.</p> <p>Why Innovative /Exploitable?</p> <p>SmartLivingEPC Digital platform could be considered both innovative and potentially exploitable due to its novel approach, user-centric design, potential for market adoption, and contributions to sustainability and efficiency. It is a powerful tool for making informed decisions and optimizing building operations, aligning with current European Standards and future growth opportunities.</p> <p>Which are the input data/information? Which are the output data/information?</p> <ul style="list-style-type: none"> • Input data: BIM context data and real-time performance data, user input • Output data: energy and non-energy consumption, building operational status, building performance, SRIs, LCAs, LCCs, visual analytics, etc. <p>Mainly for ICT/technological solutions: any relevant aspects re. interoperability to be mentioned?</p>

		<p>The Web Platform’s interoperability will be ensured by employing a Common Information Model (that will be developed in terms of T4.1) across all the modules and sub-modules within the SmartLiving EPC framework.</p> <p>Exploitation Vision: Copyright, Direct selling to relevant stakeholders; Spin-off.</p> <p>Practical steps that can be put in place to reach that Exploitation Vision:</p> <ol style="list-style-type: none"> 1. Identifying key market opportunities and trends 2. Create a detailed timeline with specific milestones and deadlines. 3. Product development 4. Intellectual Property Protection 5. Engage in sustainable practices and corporate social responsibility initiatives. 6. Foster a culture of continuous learning and adaptability within the organization 7. Regularly communicate the vision and progress to stakeholders for alignment and support. <p>Actions: Describe here the ER's progress done, until today, from the beginning of the project</p> <p>IP Protection Strategy <i>Individual and joint IP</i>, which belongs to individual partners or is jointly owned by partners working in a particular task and is restricted to those partners. Provisions for use of IP background will be determined during the commercialization strategy.</p> <p>Dissemination Information</p> <p>Which dissemination actions do you plan to promote this ER? (<i>presentations at events, scientific publications...</i>) Presentation at events and scientific publications.</p> <p>What is the audience that can make use of this ER and that should be targeted by dissemination actions? Building Industry, Professional consultants, State/Governmental Departments – Public Bodies. Owners/Users of the buildings, Facility managers</p> <p>Market Analysis & Market Landscape: Who is the target market (categories of stakeholders, geographic scope, etc.)? Smart building market (related to audience mentioned above) at EU level. Who is acting in the space (any competitors offering the same ER)? Smart Building Market IoT solutions (i.e. DesignBuilder, easykenak)</p>
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Table 7 - ER2 Asset assessment methodology for buildings and communities

ER2	SLE ER Type, Name & Short Description	Exploitation Information
	<p>Type: Process, methodology</p> <p>Name: SMARTLIVINGEPC (SLE) Asset assessment methodology for buildings and communities (group of buildings or building complex)</p> <p>Ownership: Individual or joint (all)</p> <p>Description: The SLE asset rating methodology describes the calculation and the assessment procedure of the asset (energy & nonenergy) building performance rating or of a " building complex" under investigation.</p>	<p>ER Manager: Cătălin Lungu, AIIRFV</p> <p>Innovation Level: 3</p> <p>For ICT/technological solutions only:</p> <p>TRL Before SmartLivingEPC: 2</p> <p>TRL After SmartLivingEPC: 7</p> <p>Tested at Pilot/Planned Validation: The SLE calculation procedure will be tested and validated in the SmartLivingEPC pilots.</p> <hr/> <p>Which previous knowledge/expertise/technology/IP etc. has been leveraged for this ER? AIIRFV is using results from the development of a national calculation software tool for the energy performance of buildings, based on EPB set of CEN standards, series 52000</p> <p>Why Innovative /Exploitable? The SLE asset assessment procedure incorporates not only the energy but also the non-energy indicators, the smart readiness and the sustainability level of a building or building complex. The technical audit results are also integrated in the asset evaluation procedure. It can provide a holistic approach for all building categories under the EPBD.</p> <p>Which are the input data/information? Which are the output data/information? Input data: geometrical data of the buildings, thermodynamic data of the building components etc. (please check deliverable D2.1) Output data: SLE asset rating (mark, class) for a building or a complex of buildings</p> <p>Mainly for ICT/technological solutions: any relevant aspects re. interoperability to be mentioned? NA</p> <p>Exploitation Vision: knowledge transfer, software licensing and commercialisation</p> <p>Practical steps that can be put in place to reach that Exploitation Vision:</p> <ol style="list-style-type: none"> 1) References research and analysis 3) Methodology development 2) Peer review 4) Implementation of the methodology under excel files

		<p>5) Beta version and testing 6) Training and support 7) Feedback loop</p> <p>Actions:</p> <p>1) References research and analysis 3) Methodology development 2) Peer review (partially) 4) Implementation of the methodology under excel files (partially)</p> <p>IP Protection Strategy</p> <p>Individual and joint IP, which belongs to individual partners or is jointly owned by partners working in a particular task and is restricted to those partners.</p> <p>Dissemination Information</p> <p>Which dissemination actions do you plan to promote this ER? presentations at events, scientific publications</p> <p>What is the audience that can make use of this ER and that should be targeted by dissemination actions? energy assessors, architects, engineers, university teachers, university students, real estate developers, public institutions etc.</p>
<p>Market Analysis & Market Landscape:</p> <p>Who is the target market (categories of stakeholders, geographic scope, etc.), energy assessors, architects, engineers, university teachers, university students, real estate developers, public institutions etc.</p> <p>Who is acting in the space (any competitors offering the same ER)? Professional associations, BRE, LEED, SRI authors, LEVEL(s) authors</p>		

Table 8 - ER3 Operational Rating Methodology

ER3	SLE ER Type, Name & Short Description	Exploitation Information
	<p>Type: Knowledge</p> <p>Name: Operational Rating Methodology Asset Rating Methodology</p> <p>Ownership: Joint NESOI: partners involved in WP2 and WP3</p> <p>Description: Set of indicators to build an operational rating methodology encompassing both energy and non-energy aspects. Set of indicators to build an asset rating methodology encompassing both energy and non-energy aspects.</p>	<p>ER Manager: Cruz Borges, UDEUSTO Innovation Level: Level 4 For ICT/technological solutions only: TRL Before SmartLivingEPC: TRL 1 TRL After SmartLivingEPC: TRL 7 Tested at Pilot/Planned Validation: YES, it will be tested at Lietza Pilot Will this be tested at pilot? If not is there an alternative plan for validation</p> <hr/> <p>Which previous knowledge/expertise/technology/IP etc. has been leveraged for this ER? Desk research of urban sustainability frameworks, analysis of neighbourhood Sustainability Assessment tools, and methodology of focused partners discussion.</p> <p>Why Innovative /Exploitable? The ER linked to asset and operational rating methodologies proposed by SLEPC constitute an innovation due to its comprehensive approach that incorporates energy and non-energy aspects of performance on a scale that exceeds the physical limits of efficiency. This is a proposal that existing systems do not contemplate, as they mainly focus on energy-related assessments at the building level.</p> <p>Which are the input data/information? Which are the output data/information? Input data: Sum of asset consumption and operational data for buildings, and sum of asset consumption and urban operational data. Output data: asset rating methodology, operational rating methodology, EPC levelling</p> <p>Mainly for ICT/technological solutions: any relevant aspects re. interoperability to be mentioned? Does not apply</p> <p>Exploitation Vision: Describe here the expected potential of exploitation and the exploitation vision for the ER. e.g., knowledge transfer, technology licensing, direct production and commercialisation, joint venture, etc.</p> <p>Practical steps that can be put in place to reach that Exploitation Vision: Incorporation into tools and models for evaluating energy performance and urban sustainability. Practical Steps: validation of results in pilots, publication of the methodology in scientific journals.</p>

		<p><u>Actions:</u> Describe here the ER's progress done, until today, from the beginning of the project</p> <p>In-progress work</p> <p><u>IP Protection Strategy</u> Indicate the potential form of protection of the IP generated from this ER. Has it been already protected? Please specify how. The usual forms of protection are listed below</p> <p>has not been protected.</p> <p>Dissemination Information</p> <p><u>Which dissemination actions do you plan to promote this ER?</u> <i>(presentations at events, scientific publications...)</i></p> <p>Scientific Publications</p> <p>Presentations at conferences</p> <p>Reports to the EU</p> <p><u>What is the audience that can make use of this ER and that should be targeted by dissemination actions?</u></p> <p>Policymakers, Urbanists, Architects, Engineers, Energy communities' managers, Energy companies, Building contractors</p>
<p><u>Market Analysis & Market Landscape:</u></p> <p>Who is the target market (categories of stakeholders, geographic scope, etc.)? Governments of the Member Countries, calculation and modelling software development companies, technical auditors</p> <p>Who is acting in the space (any competitors offering the same ER)? Neighbourhood Sustainability Assessment and operational tools (LEED-ND, BREEAM Communities, etc.)</p>		

Table 9 - ER4 Operational Rating Methodology - Building Unit

ER4	SLE ER Type, Name & Short Description	Exploitation Information
	<p>Type: Service</p> <p>Name: SmartLivingEPC Operational Rating Methodology - Building Unit</p> <p>Ownership:</p> <p>Description: This service aims to develop the operational rating methodology for SmartLivingEPC under the scope of a dedicated CEN Standard (CEN TC 371/WG5), in coordination with D2EPC and Chronicle projects.</p>	<p>ER Manager: Paris Fokaides, FRC</p> <p>Innovation Level: Level 2</p> <p><i>For ICT/technological solutions only:</i></p> <p>TRL Before SmartLivingEPC: 5</p> <p>TRL After SmartLivingEPC: 7</p> <p>Tested at Pilot/Planned Validation: Will be tested at pilot.</p> <p>Will this be tested at pilot? If not is there an alternative plan for validation</p> <hr/> <p>Which previous knowledge/expertise/technology/IP etc. has been leveraged for this ER?</p> <p>Leveraged expertise and knowledge in energy performance and building rating methodologies.</p> <p>Why Innovative /Exploitable?</p> <p>The ER is considered innovative because it addresses the need for a standardized operational rating methodology for SmartLivingEPC in coordination with relevant CEN standards and projects. It fills a crucial gap in the market and offers a standardized approach to evaluate building unit performance, which is currently lacking.</p> <p>Which are the input data/information? Which are the output data/information?</p> <p>Input data: Data related to building performance, energy consumption, and environmental factors. Output data: Operational rating scores, which can be used for benchmarking and improvement.</p> <p>Mainly for ICT/technological solutions: any relevant aspects re. interoperability to be mentioned?</p> <p>The methodology is designed to be compatible with existing building management systems and data collection tools.</p> <p>Exploitation Vision:</p> <p>The ER's exploitation vision includes knowledge transfer, technology licensing, and direct production and commercialization. It aims to establish partnerships and collaborations to ensure widespread adoption of the rating methodology.</p> <p>Practical steps that can be put in place to reach that Exploitation Vision:</p> <p>Collaborate with CEN TC 371/WG5, D2EPC, and Chronicle projects for standard development.</p> <p>Conduct pilot testing and gather feedback from stakeholders.</p> <p>Explore opportunities for licensing the methodology to third-party organizations.</p>

		<p><u>Actions:</u> The ER is in the development stage, with collaborations initiated with CEN TC 371/WG5, D2EPC, and Chronicle projects.</p> <p><u>IP Protection Strategy</u> The potential form of IP protection is patenting the methodology. It is in the process of being protected.</p> <p>Dissemination Information</p> <p><u>Which dissemination actions do you plan to promote this ER?</u> Dissemination actions will include presentations at relevant events and scientific publications.</p> <p><u>What is the audience that can make use of this ER and that should be targeted by dissemination actions?</u> Building owners, operators, energy consultants, and standards development organizations.</p>
<p><u>Market Analysis & Market Landscape:</u> Who is the target market (categories of stakeholders, geographic scope, etc.)? The target market includes building owners, operators, and stakeholders in the energy efficiency sector. The geographic scope is initially within the EU but with potential for global adoption. Who is acting in the space (any competitors offering the same ER)? Currently, there are no standardized operational rating methodologies specifically designed for SmartLivingEPC, making this ER a unique offering.</p>		

Table 10 – ER5 Asset Rating Methodology

ER5	SLE ER Type, Name & Short Description	Exploitation Information
	<p>Type: Knowledge</p> <p>Name: Asset Rating Methodology</p> <p>Ownership: Joint NESOI: partners involved in WP2 and WP3</p> <p>Description: Set of indicators to build an operational rating methodology encompassing both energy and non-energy aspects. Set of indicators to build an asset rating methodology encompassing both energy and non-energy aspects.</p>	<p>ER Manager: Cruz Borges, UDEUSTO</p> <p>Innovation Level: Level 4</p> <p>For ICT/technological solutions only:</p> <p>TRL Before SmartLivingEPC: TRL 1</p> <p>TRL After SmartLivingEPC: TRL 7</p> <p>Tested at Pilot/Planned Validation: YES, it will be tested at Lietza Pilot</p> <p>Will this be tested at pilot? If not is there an alternative plan for validation</p> <hr/> <p>Which previous knowledge/expertise/technology/IP etc. has been leveraged for this ER?</p> <p>Desk research of urban sustainability frameworks, analysis of neighbourhood Sustainability Assessment tools, and methodology of focused partners discussion.</p> <p>Why Innovative /Exploitable?</p> <p>The ER linked to asset and operational rating methodologies proposed by SLEPC constitute an innovation due to its comprehensive approach that incorporates energy and non-energy aspects of performance on a scale that exceeds the physical limits of efficiency. This is a proposal that existing systems do not contemplate, as they mainly focus on energy-related assessments at the building level.</p> <p>Which are the input data/information? Which are the output data/information?</p> <p>Input data: Sum of asset consumption and operational data for buildings and sum of asset consumption and urban operational data.</p> <p>Output data: asset rating methodology, operational rating methodology, EPC levelling</p> <p>Mainly for ICT/technological solutions: any relevant aspects re. interoperability to be mentioned?</p> <p>Does not apply</p> <p>Exploitation Vision:</p> <p>Describe here the expected potential of exploitation and the exploitation vision for the ER. e.g., knowledge transfer, technology licensing, direct production and commercialisation, joint venture, etc.</p> <p>Practical steps that can be put in place to reach that Exploitation Vision:</p> <p>Incorporation into tools and models for evaluating energy performance and urban sustainability.</p> <p>Practical Steps: validation of results in pilots, publication of the methodology in scientific journals.</p>


	<p><u>Actions:</u> Describe here the ER's progress done, until today, from the beginning of the project</p> <p>In-progress work</p> <p><u>IP Protection Strategy</u> Indicate the potential form of protection of the IP generated from this ER. Has it been already protected? Please specify how. The usual forms of protection are listed below</p> <p>has not been protected.</p> <p>Dissemination Information</p> <p><u>Which dissemination actions do you plan to promote this ER?</u> <i>(presentations at events, scientific publications...)</i></p> <p>Scientific Publications</p> <p>Presentations at conferences</p> <p>Reports to the EU</p> <p><u>What is the audience that can make use of this ER and that should be targeted by dissemination actions?</u></p> <p>Policymakers, Urbanists, Architects, Engineers, Energy communities managers, Energy companies, Building contractors</p>
<p><u>Market Analysis & Market Landscape:</u></p> <p>Who is the target market (categories of stakeholders, geographic scope, etc.)? Governments of the Member Countries, calculation and modelling software development companies, technical auditors</p> <p>Who is acting in the space (any competitors offering the same ER)? Neighbourhood Sustainability Assessment and operational tools (LEED-ND, BREEAM Communities, etc.)</p>	

Table 11 - ER6 Building Dynamic Behavior Monitoring System

ER6	SLE ER Type, Name & Short Description	Exploitation Information
	<p>Type: S/W.</p> <p>Name: Building Dynamic Behavior Monitoring System</p> <p>Ownership: Joint: CERTH, QUE, IES, EUNICE, TalTech</p> <p>Description: Building Dynamic Behaviour Monitoring System considers various factors such as energy consumption, indoor environmental conditions, and occupancy to extract an optimal model for the building's behaviour. The modelling approach is user-centric, taking into account occupant parameters as they significantly influence the building's overall behaviour.</p>	<p>ER Manager: Aggeliki Veliskaki</p> <p>Innovation Level: level 2</p> <p>For ICT/technological solutions only:</p> <p>TRL Before SmartLivingEPC: 5</p> <p>TRL After SmartLivingEPC: 7</p> <p>Tested at Pilot/Planned Validation: It will be tested and validated in the SmartLivingEPC pilots.</p> <hr/> <p>Which previous knowledge/expertise/technology/IP etc. has been leveraged for this ER?</p> <p>CERTH will introduce and further develop the solution implemented in H2020-D²EPC.</p> <p>Why Innovative /Exploitable?</p> <p>The ER stands out for its advanced use of real-time data to improve energy efficiency and comfort in buildings. Its innovation comes from predicting occupancy and adjusting systems before users even notice changes, saving energy more effectively than traditional systems. The technology is market-ready, with potential integration into existing energy systems or as an independent product, appealing to the growing demand for smart and sustainable building solutions.</p> <p>Which are the input data/information? Which are the output data/information?</p> <p>Input data:</p> <ul style="list-style-type: none"> Energy consumption Presence Temperature Humidity Luminance CO2 Lighting status (dimming) HVAC status (on/off, temp, flow) HVAC set Temperature Fan speed <p>Output data:</p> <ul style="list-style-type: none"> • Occupancy detection • Estimate the Number of Occupants in the building

		<ul style="list-style-type: none"> charts, graphs, and reports of the building profile <p>Mainly for ICT/technological solutions: any relevant aspects re. interoperability to be mentioned?</p> <p>Interoperability is a key feature, with the ER designed to work with different sensors and management systems, making it easy to adopt and integrate without replacing current equipment. It supports standard data protocols, which is essential for smart buildings and fits the smart city vision.</p> <p>Exploitation Vision:</p> <p>Copyright, Direct selling to relevant stakeholders; Licenced for stand- alone solution.</p> <p>Practical steps that can be put in place to reach that Exploitation Vision:</p> <ol style="list-style-type: none"> Identifying key market opportunities and trends Create a detailed timeline with specific milestones and deadlines. Product development Intellectual Property Protection Engage in sustainable practices and corporate social responsibility initiatives. Foster a culture of continuous learning and adaptability within the organization. Regularly communicate the vision and progress to stakeholders for alignment and support. <p>Actions:</p> <p>Describe here the ER's progress done, until today, from the beginning of the project</p> <p>IP Protection Strategy</p> <p><i>Individual and joint IP</i>, which belongs to individual partners or is jointly owned by partners working in a particular task and is restricted to those partners. Provisions for use of IP background will be determined during the commercialization strategy.</p> <p>Dissemination Information</p> <p>Which dissemination actions do you plan to promote this ER? (<i>presentations at events, scientific publications...</i>)</p> <p>Presentation at events and scientific publications.</p> <p>What is the audience that can make use of this ER and that should be targeted by dissemination actions?</p> <p>Building Industry, Professional consultants, State/Governmental Departments – Public Bodies. Owners/Users of the buildings, Facility managers</p> <p>Market Analysis & Market Landscape:</p> <p>Who is the target market (categories of stakeholders, geographic scope, etc.)? Smart building market at EU level. Who is acting in the space (any competitors offering the same ER)? Smart building market IoT solutions</p>
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Table 12 - ER7 SmartLiving Building Digital Twin (SBDT)

ER7	SLE ER Type, Name & Short Description	Exploitation Information
	<p>Type: Product</p> <p>Name: SmartLiving Building Digital Twin (SBDT)</p> <p>Ownership: Individual</p> <p>Description: The SLBDT will be capable to import IFC files and simulate scenarios with ICL engine which combines physics-based dynamic simulation with real time operational data</p> 	<p>ER Manager: Beatriz Fraga De Cal, IES RD</p> <p>Innovation Level: 3</p> <p><i>For ICT/technological solutions only:</i></p> <p>TRL Before SmartLivingEPC: 5</p> <p>TRL After SmartLivingEPC: 7</p> <p>Tested at Pilot/Planned Validation: Energy Community of Leitza, Frederick University Campus, NZEB Complex Building, nZEB Smart House</p> <p>Will this be tested at pilot? Yes</p> <p>Which previous knowledge/expertise/technology/IP etc. has been leveraged for this ER?</p> <p>IES engine has built a solid reputation for integrated building analysis at global scale for more than 27 years. I In projects like AMBER, IES has investigates the performance gap looking into the difference between energy estimated and actual building energy. Also, the integration with BIM models has been part of previous research projects like BIM4REN.</p> <p>Why Innovative /Exploitable?</p> <p>Digital Twins help users to gain insights, make informed decisions, and optimize processes throughout the entire lifecycle of a physical asset. On the other hand, BIM models are becoming a key technology to in the construction sectors as enables collaboration across the project team. Therefore, integrating Digital Twin software with existing BIM protocols can transform construction sector</p> <p>Which are the input data/information? Which are the output data/information?</p> <p>Input data: BIM files and operational data Output data: energy, sustainability and comfort metrics</p> <p>Mainly for ICT/technological solutions: any relevant aspects re. interoperability to be mentioned?</p> <p>Copyright protection, closed source software code</p> <p>Exploitation Vision:</p> <p>As the BIM industry continues to grow, there is an increasing demand for standardized 3D models design within the industry. The challenge lies in establishing standardized processes to ensure interoperability across diverse technologies, crucial for unlocking the full potential of Digital Twins in optimizing built environment management.</p> <p>Practical steps that can be put in place to reach that Exploitation Vision:</p>

		<ul style="list-style-type: none"> • Standardization Framework: Develop a comprehensive standardization framework that aligns ICL Digital Twin software with existing BIM protocols. • Collaborative Ecosystem: Foster collaboration within the industry by encouraging the adoption of the established standardization framework. • Continuous Monitoring and Iteration: Regular evaluations and updates ensure that the exploitation vision remains dynamic and responsive to the evolving landscape of Digital Twins and BIM technologies. <p>Actions:</p> <p>IES has tested existing IFC files from the pilots and provided the company's requirements. The IFC file have to be designed to be compatible to our engine. In conclusion, one model has been successfully implemented and we are exploring Speckle open source APIS</p> <p>IP Protection Strategy</p> <p>Copyright protection, closed source software code</p> <p>Dissemination Information</p> <p>Which dissemination actions do you plan to promote this ER?</p> <p>Case Studies in IES website, scientific publications and dissemination events.</p> <p>What is the audience that can make use of this ER and that should be targeted by dissemination actions?</p> <p>Real estate assessors, energy assessors, public institution, engineers/designers</p>
<p>Market Analysis & Market Landscape:</p> <p>Who is the target market (categories of stakeholders, geographic scope, etc.)? AEC, Commercial state, education, healthcare, local government, manufacturing and Industrial at global scale</p> <p>Who is acting in the space (any competitors offering the same ER)? There is existing energy simulation software. However, ICL tool suite covers building and district and enables the combination of physic-based model with real time data.</p>		

Table 13 - ER 8 Added Value AI tools

ER8	SLE ER Type, Name & Short Description	Exploitation Information
	<p>Type: Service</p>	<p>ER Manager: Beatriz Fraga De Cal, IES RD</p> <p>Innovation Level: 3</p>

<p>Name: Added Value AI tools</p> <p>Ownership: Individual</p> <p>Description:</p> <p>AI tools bring extra value by showing users how their actions impact a building's energy performance. Through Machine Learning, the system generates suggestions that will be displayed on the web platform</p>	<p>For ICT/technological solutions only:</p> <p>TRL Before SmartLivingEPC: 5</p> <p>TRL After SmartLivingEPC: 6.</p> <p>Tested at Pilot/Planned Validation: Choose an item. Frederick University Campus, NZEB Complex Building, nZEB Smart House</p> <hr/> <p>Which previous knowledge/expertise/technology/IP etc. has been leveraged for this ER?</p> <p>IES time series data platform allows you to centralise data from different sources like building systems and sensors in one place. One can use advanced anal analyse this data to get smart insights and improve how buildings operate through Integrate Artificial Intelligence and Machine Learning. For example, in previous projects like Auto-DAN, IES has developed ML models to advise users on the best time to use their appliances based on existing tariffs.</p> <p>Why Innovative /Exploitable?</p> <p>AI services tool is exceptionally innovative, meeting the growing demand for AI-driven solutions in building management. They offer cutting-edge algorithms that will personalise user experience and optimise building performance.</p> <p>Which are the input data/information? Which are the output data/information?</p> <p>Input data: Energy consumption timeseries, hvac operational data, weather data, indoor temperature, humidity Output data: Suggestions to users</p> <p>Mainly for ICT/technological solutions: any relevant aspects re. interoperability to be mentioned?</p> <p>Data Exchange protocols to be defined.</p> <p>Exploitation Vision:</p> <p>In particular; through the integration of advanced comfort analysis, activity engine and anomaly detection we can have new market opportunities. In the future, buildings are not just smart, but intuitive and adaptive to the unique needs of their occupants.</p> <p>Practical steps that can be put in place to reach that Exploitation Vision:</p> <ul style="list-style-type: none"> - Access to live data streams - Prioritize a user-centric design approach by actively seeking feedback from building occupants, facility managers, and other stakeholders. <p>Actions:</p>
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		<p>IEs has been working on ML models (comfort and activity) and progressing with the use cases per service</p> <p>IP Protection Strategy</p> <p>Copyright protection</p>
		<p>Dissemination Information</p>
		<p>Which dissemination actions do you plan to promote this ER? (<i>presentations at events, scientific publications...</i>)</p> <p>Case Studies in IES website, scientific publications and dissemination events.</p> <p>What is the audience that can make use of this ER and that should be targeted by dissemination actions?</p> <p>Occupants and home owners</p>
<p>Market Analysis & Market Landscape:</p> <p>Who is the target market (categories of stakeholders, geographic scope, etc.)? Building owners, facility managers and technology integrators Who is acting in the space (any competitors offering the same ER)? it's reasonable to assume that in the rapidly evolving field of artificial intelligence and smart building technologies, there could be several companies developing or offering similar AI services</p>		

Table 14 - ER9 Nudge-ready performance benchmarking & evaluation tool

ER9	SLE ER Type, Name & Short Description	Exploitation Information
	<p>Type: Software product</p> <p>Name: Nudge-ready performance benchmarking & evaluation tool</p> <p>Ownership: Individual or Joint</p> <p>Description:</p>	<p>ER Manager: Fatemeh Asgharzadeh – DEMO</p> <p>Innovation Level: Level 2</p> <p>For ICT/technological solutions only:</p> <p>TRL Before SmartLivingEPC: 5</p> <p>TRL After SmartLivingEPC: 7</p> <p>Tested at Pilot/Planned Validation: The tool will be tested and validated by the pilots of the project.</p> <p>Will this be tested at pilot? If not is there an alternative plan for validation</p>

<p>The tool provides three subcomponents for benchmarking, evaluation, and recommendation for the building performance by collecting and analysing data from the asset rating and operational rating engines.</p>	<p><u>Which previous knowledge/expertise/technology/IP etc. has been leveraged for this ER?</u></p> <p>DEMO provides RE Suite functionalities that can support the development of SmartLivingEPC benchmarking and evaluation practises as it provides the possibility to create multiple strategic scenarios and facilitates the process of substantiated decision making based on multiple indicators.</p> <p><u>Why Innovative /Exploitable?</u></p> <ul style="list-style-type: none"> - Using the state-of-the-art asset and operational rating methodology. - Providing easy-to-use KPIs and recommendations based on the performance of the building. <p><u>Which are the input data/information? Which are the output data/information?</u></p> <p>Input data: Asset and operational data of the building Output data: KPIs and metrics of performance of the building</p> <p><u>Mainly for ICT/technological solutions: any relevant aspects re. interoperability to be mentioned?</u></p> <p>Not specified yet.</p> <p><u>Exploitation Vision:</u></p> <p>Knowledge transfer, technology licensing, direct production, and commercialisation.</p> <p><u>Practical steps that can be put in place to reach that Exploitation Vision:</u></p> <ol style="list-style-type: none"> 1) Market Research and Analysis: 2) Stakeholder Engagement 3) Product Development 4) User-Friendly Design of UX and UI 5) Beta version and testing 6) Marketing and promotion 7) Training and support 8) Feedback loop 9) Sustainability and ROI <p><u>Actions:</u></p> <p>Planning and defining objectives.</p> <p><u>IP Protection Strategy</u></p> <p>Individual and joint IP (belonging to partners)</p> <p>Dissemination Information</p>
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		<p>Which dissemination actions do you plan to promote this ER? (<i>presentations at events, scientific publications...</i>)</p> <p>presentations at events, scientific publications</p> <p>What is the audience that can make use of this ER and that should be targeted by dissemination actions?</p> <p>Real estate managers, developers, architecture and engineering companies</p>
<p>Market Analysis & Market Landscape:</p> <p>Who is the target market (categories of stakeholders, geographic scope, etc.)? Real Estate companies, housing associations, architecture and engineering companies at EU level. Who is acting in the space (any competitors offering the same ER)? Software companies in real estate information management and construction fields.</p>		

Table 15 - ER10 Common Information Exchange Model (CIEM)

ER10	SLE ER Type, Name & Short Description	Exploitation Information
	<p>Type: Software product</p> <p>Name: Common Information Exchange Model (CIEM)</p> <p>Ownership: Individual OR Joint</p> <p>Description: CIEM is a cloud-based repository for data collection from buildings all over Europe, which serves requests from multiple applications. Other features include security features (authentication, authorization, encryption), API management, intelligent data pre-processing and configurable event detection processes.</p>	<p>ER Manager: Samy lousef, QUE</p> <p>Innovation Level: Level 2</p> <p>For ICT/technological solutions only:</p> <p>TRL Before SmartLivingEPC: 5</p> <p>TRL After SmartLivingEPC: 7</p> <p>Tested at Pilot/Planned Validation: CIEM will be tested and validated in the SmartLivingEPC pilots</p> <p>Which previous knowledge/expertise/technology/IP etc. has been leveraged for this ER?</p> <p>QUE will introduce and further develop the data acquisition solution implemented in H2020-COGITO.</p> <p>Why Innovative /Exploitable?</p> <p>CIEM serves as a centralized system where all project stakeholders can collaboratively manage and exchange information throughout the project's lifecycle enabling thus semantic interoperability. Furthermore, users can experience enhanced data management based on the fusion of BIM and innovative IoT technologies, that to date remains a rather challenging task³.</p> <p>Which are the input data/information? Which are the output data/information?</p> <p>Input data: Building Information Modelling (BIM) files, Internet of Things (IoT) data, audits and relevant input from the various SmartLivingEPC components/tools.</p>

³ X. Huang, Y. Liu, L. Huang, E. Onstein, C. Merschbrock. BIM and IoT data fusion: The data process model perspective. Autom. Constr. 149 (2023) 104792.

		<p>Output data: BIM files, IoT data, audits and input received from the various SmartLivingEPC components/tools.</p> <p><u>Mainly for ICT/technological solutions: any relevant aspects re. interoperability to be mentioned?</u></p> <p>CIEM is built upon a rigorous standards-based (e.g., openBIM) data model that enables semantic interoperability between the various SmartLivingEPC components.</p> <p><u>Exploitation Vision:</u></p> <p>Knowledge transfer, technology licensing, direct production and commercialisation.</p> <p><u>Practical steps that can be put in place to reach that Exploitation Vision:</u></p> <p>i) Market research and analysis considering sustainability and ethical aspects; ii) product development; iii) quality assurance; iv) scalability and performance; v) Intellectual Property Protection; vi) marketing and promotion; vii) customer support and engagement; and viii) data analytics and insights.</p> <p><u>Actions:</u></p> <p>The necessary elicitation of data requirements has been completed.</p> <p><u>IP Protection Strategy</u></p> <p><i>Individual and joint IP</i>, which belongs to individual partners or is jointly owned by partners working in a particular task and is restricted to those partners. Provisions for use of IP background will be determined during the commercialization strategy.</p> <p><u>Dissemination Information</u></p> <p><u>Which dissemination actions do you plan to promote this ER?</u></p> <p>Presentation at events and scientific publications.</p> <p><u>What is the audience that can make use of this ER and that should be targeted by dissemination actions?</u></p> <p>Smart Building Tech providers, ICT/IoT engineers and developers.</p>
<p><u>Market Analysis & Market Landscape:</u></p> <p>Who is the target market (categories of stakeholders, geographic scope, etc.)? Smart building market (related to audience mentioned above) at EU level. Who is acting in the space (any competitors offering the same ER)? Companies offering IoT solutions for the construction industry (e.g., A1 Digital)</p>		

8.3 Exploitable results impact mapping

After the definition of the ER with the characterization table, the second step was to identify the Key Exploitable Results amongst the ER (Figure 11). KERs identification was performed by applying a specific methodology developed by R2M because of a long experience in guiding the exploitation activities of EU projects. The methodology is inspired by the Business Model Portfolio as developed by Strategyzer (Business Canvas - Business models, n.d.). In order to select the KERs an ER mapping was performed where the main outcome is to identify the ERs with lowest innovation risk and highest impact and it can be represented with graph in Figure 12

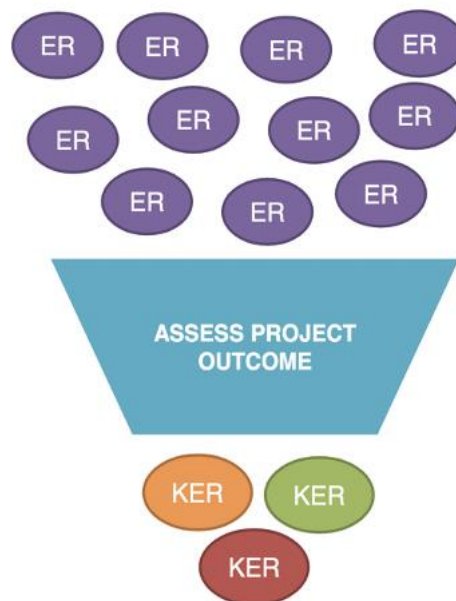


Figure 11 - Defining KERs from ERs

The process that leads to produce the graphical output to be inserted in Figure 12 is made through a classification of the potential risk and the expected impact and the most promising ERs are then included in the top left quadrant of the graph and that might eventually transfer to the exploitation square.

The classification of the two dimensions (expected impact/innovation risk) is based on several indicators that were asked to be compiled by the ER Manager through an excel file. The file is divided in two sections, **Expected impact and Innovation risk**. Each sections have the same structure, comprehend three elements: Indicator, Value and Evidence examples of this structure can be found in Table 18 and Table 19. For each indicator, the ER Manager needs to rank its value and evidence:

- **Indicator:** The indicators are the variables used for measuring the expected impact and innovation risk. For each project a set of indicators needs to be defined to do justice to the specifics of the business domain and developed foreground.
- **Value:** Describes the score of the value of the indicator. The way indicators are scored, differs per indicator but in general indicators score in a spectrum with two extremes, e.g., small-large, weak-strong, low-high etc.

- **Evidence:** Evidence is used to support the underlying hypothesis of the ER indicator. The strength of a piece of evidence determines how reliably the evidence helps to support or to refute a hypothesis. Example of the evidence are ⁴ showed in Table 16 and Table 17.

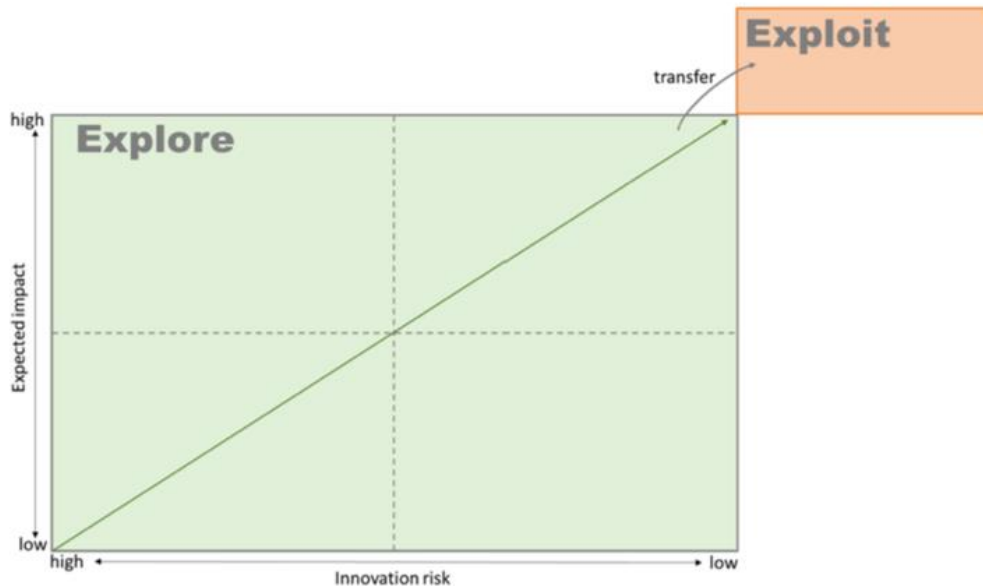


Figure 12 - Two-dimension assessment of ERs

Table 16 - Example of indicators assessment

Weak evidence	Strong(er) evidence
<i>Opinions (beliefs)</i>	<i>Facts (events)</i>
<i>What people say</i>	<i>What people do</i>
<i>Lab setting</i>	<i>Real world setting</i>
<i>Small investments: signing up by emails to show interest in an upcoming product or service is a small investment</i>	<i>Large investments: Pre-purchasing a product or a service or putting one's professional reputation on the line is an important investment</i>

Table 17 - Example of evidence scoring

Score	Evidence
<i>Weak (1)</i>	<i>One man's opinion</i>
<i>Poor (2)</i>	<i>What people say</i>
<i>Moderate (3)</i>	<i>Lab setting, small investments: signing up by emails to show interest in an upcoming product or service is a small investment</i>
<i>Fair (4)</i>	<i>Facts, market report, what people do</i>
<i>Strong (5)</i>	<i>Large investments: Pre-purchasing a product or a service or putting one's professional reputation on the line is an important investment</i>

Table 18 - Expected impact (economic, societal and environmental) of the ER

Indicator	Value	Evidence (Strength)
Economic impact		

⁴ Bland D. and Osterwalder A., (2020) Testing Business Ideas

<i>Size of the untapped market</i>	<i>Small - Large</i>	1 – 2 – 3 – 4 – 5
<i>Type of addressable market</i>	<i>Existing - New</i>	1 – 2 – 3 – 4 – 5
<i>Market need</i>	<i>Not clear - Clear</i>	1 – 2 – 3 – 4 – 5
<i>Market growth</i>	<i>Low - High</i>	1 – 2 – 3 – 4 – 5
<i>Scalability of the business model</i>	<i>Poor - Very good</i>	1 – 2 – 3 – 4 – 5
Environmental impact		
<i>Carbon footprint reduction</i>	<i>Small - Large</i>	1 – 2 – 3 – 4 – 5
<i>Reduction of local pollution</i>	<i>Small - Large</i>	1 – 2 – 3 – 4 – 5
<i>Impact on circular economy</i>	<i>Low - High</i>	1 – 2 – 3 – 4 – 5
Societal impact		
<i>Social exclusion</i>	<i>None - Reduced</i>	1 – 2 – 3 – 4 – 5
<i>Energy poverty</i>	<i>None - Reduce</i>	1 – 2 – 3 – 4 – 5
<i>Stimulation of citizens' involvement in policy making</i>	<i>Low - High</i>	1 – 2 – 3 – 4 – 5

Table 19 - Innovation risk of the ER

Indicator	Value	Evidence (Strength)
<i>IP protection</i>	<i>Weak - Strong</i>	1 – 2 – 3 – 4 – 5
<i>Type of innovation</i>	<i>Incremental - Adjacent - Transformational</i>	1 – 2 – 3 – 4 – 5
<i>Alternative solutions</i>	<i>Better alternatives - No alternatives</i>	1 – 2 – 3 – 4 – 5
<i>Completeness of technology</i>	<i>TRL1 - TRL9</i>	1 – 2 – 3 – 4 – 5
<i>Regulatory hurdles</i>	<i>Yes - No</i>	1 – 2 – 3 – 4 – 5
<i>Additional development needed</i>	<i>Major - None</i>	1 – 2 – 3 – 4 – 5
<i>Management support</i>	<i>None - Committed</i>	1 – 2 – 3 – 4 – 5
<i>ER ownership</i>	<i>None - Clear</i>	1 – 2 – 3 – 4 – 5

8.4 SmartLivingEPC ERs mapping on exploitation board

After carried out the impact mapping for the ERs that was presented in section 8.3, the SmartLivingEPC ER mapping was created considering all ERs category (software and methodology process), the results are presented in Figure 13. In the graph three groups of ERs were identified with green, yellow and red zones.

The **Red Zone** is characterized by a low possibility for exploitation success and in the most of times it contains ERs which will not be considered as KERs. In this case only ER9 “Nudge-ready performance benchmarking & evaluation tool” falls under this zone as it characterized by low expected impact and middle level of innovation risks.

The **Yellow Zone** include ERs near the centre of the graph, with medium level of innovation impact, and from middle/high innovation risk level, in this case most of the ERs are methodology process that have no exploitation readiness such as ER2 “SmartLivingEPC Asset rating methodology- Building Unit”, ER3 “SmartLivingEPC Asset rating methodology- Building Unit”, ER5 “SmartLivingEPC Operational Rating Methodology - Building Complex”, while for ER7 and ER8 “SmartLiving Building Digital Twin (SBDT)” and “Added Value AI tools”, have two

possibilities to increase the exploitation success: reduce the innovation risk and/or increase the impact. Those two ERs will be analysed more in detail in the future to solve any issues with mitigation actions.

The **Green Zone** include the ERs that have more expectation of success due to the high level of impact and the exploitation risks are limited, even though this area is not so close to the top-right of the graph, as showed in Figure 13, it contains the ERs that have high probability to considered as the KERs. This zone includes ER1 “SmartLivingEPC Digital Platform”, ER4 “SmartLivingEPC Operational Rating Methodology - Building Unit”, ER6 “Building Dynamic Behavior Monitoring System” and ER10 “Common Information Exchange Model (CIEM)”.

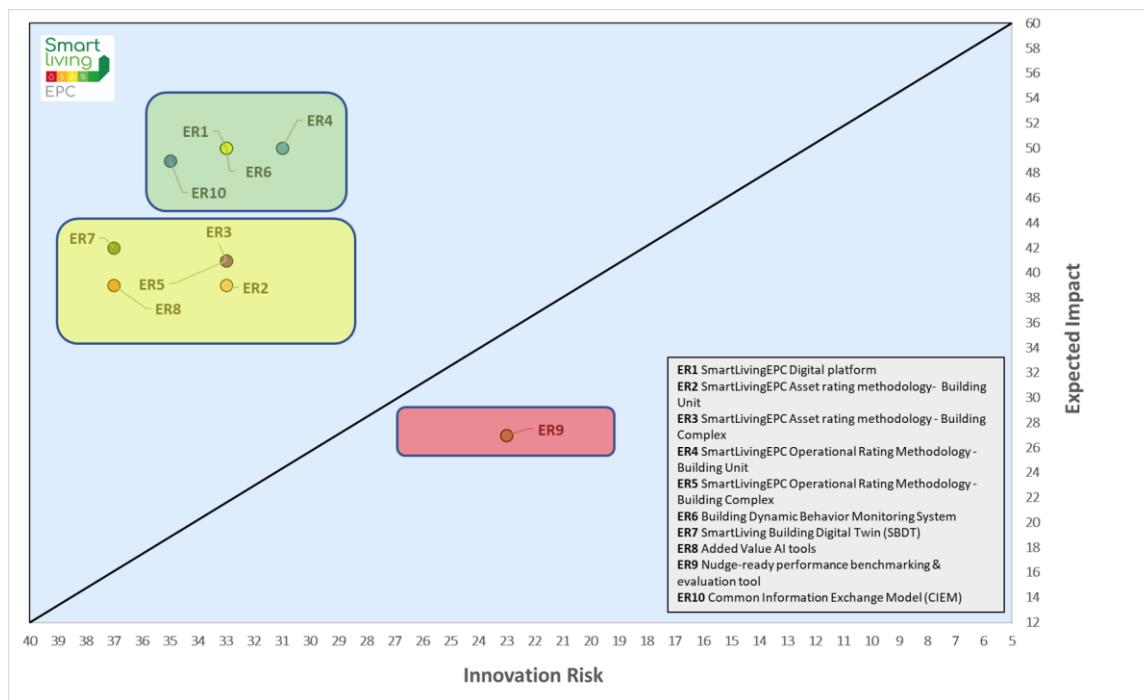


Figure 13 - SmartLivingEPC ER mapping

8.5 Identification of the Key Exploitable Results

KER is considered as a commercial-ready ER which has been selected and prioritised due to its high potential to be “exploited” – meaning to make use and derive benefits downstream the value chain of a product, process or solution, or act as an important input to policy, further research, or education.

The KER selection is a process that include all the considerations presented in the previous sections but also take into consideration some quantitative and qualitative criteria defined during the project:

The quantitative criteria:

1. High TRL by the end of the project (TRL higher than 7 is considered commercially ready; threshold: 7)
2. Related Intellectual Property Right (IPR) should be protectable (e.g., if the ER is software, the methodology can be considered as IP)
3. Should be able to prove a significant and measurable positive socio-economic impact (threshold: Yes)

The qualitative criteria aim to create replicable different business models are:

4. Different applicability at pilot level (i.e., SME or LE threshold: Yes)
5. Applicability in different geographical areas (countries; threshold: Yes)

So, considering these criteria, the KERs for SmartLivingEPC are shown in Table 20.

Table 20 - KER identification

Selection criteria (1-5)											
#[SR1]	Exploitable Result	WP	ER Manager	Type	1. Expected TRL	2. Innovation level	3. Protection level	4. Potential adopters	5. Applicable at EU level	ER risks Mapping	KER
ER1	SmartLivingEPC Digital platform	WP4	CERTH	S/W, SaaS	7	2	Yes	assessors, Energy	Yes		KER1
ER2	SmartLivingEPC Asset rating methodology- Building Unit	WP2	AIRFV	Methodology Process	7	3	N/A	assessors, researchers,	Yes		
ER3	SmartLivingEPC Asset rating methodology - Building Complex	WP2	UDEUSTO	Methodology Process	7	4	N/A	Energy assessors,	Yes		
ER4	SmartLivingEPC Operational Rating Methodology - Building Unit	WP3	FRC	Methodology Process	7	2	Yes	owners, energy	Yes		KER2
ER5	SmartLivingEPC Operational Rating Methodology - Building Complex	WP3	UDEUSTO	Methodology Process	7	4	N/A	assessors, researchers,	Yes		
ER6	Building Dynamic Behavior Monitoring System	WP4	CERTH	S/W	7	2	Yes	Energy assessors,	Yes		KER3
ER7	SmartLiving Building Digital Twin (SBDT)	WP4	IES RD	S/W, SaaS	7	3	Yes	assessors, energy	Yes		
ER8	Added Value AI tools	WP4	IES RD	S/W	6	3	Yes	owners, real	Yes		
ER9	Nudge-ready performance benchmarking & evaluation tool	WP5	DEMO	S/W	7	2	Yes	assessors, researchers,	Yes		
ER10	Common Information Exchange Model (CIEM)	WP4	QUE	S/W	7	2	Yes	engineers, energy assessors,	Yes		KER4

8.6 Conclusions

The work carried out in this deliverable present the situation at M18, the exploitation work will continue through all the project duration and more steps will be conducted in the future. At M18 the Exploitable results for the SLE project have been identified, a methodology to select the KERs have been implemented and after several meeting that involved all the partners especially ER manager, Key Exploitable Results for SLE project have been identified.

In the next version of this deliverable the Business model and Value proposition canvas will be defined for each of the identified KERs.

9 Liaising with sister projects and other initiatives

The scope of the activities to be carried out within this task is to support the bridge-building with the most relevant EU communities involved in the field of EPC, and in particular with the recently closed and ongoing sister projects under the same topic (Next Gen EPC cluster).

The activities in this area have started in M7 and will continue throughout the project until M36. It consists in (a) networking activities to support the (b) co-organisation of events, hosted or co-hosted by SmartLivingEPC team, and the (c) coordination of common activities.

- (a) Throughout the project's duration, SmartLivingEPC members will continue to identify and link up with relevant stakeholders and partners in order to create or maintain dialogue between projects. This implies monitoring and participating in relevant events providing networking opportunities. For illustration, several partners of the SmartLivingEPC project (REHVA, FRC, ANEC, CERTH, DEMO) attended the D²EPC, ePANACEA and E-DYCE [final conference](#) on 24 May 2023 .
- (b) After a first liaison workshop in December 2022, further liaison events have been organized throughout 2023, such as the webinar on synergetic added value of SmartLivingEPC and CHRONICLE regarding operational rating schemes (14.09.23), or the standardization handover workshop between D²EPC, SmartLivingEPC and CHRONICLE. Additional liaison events have been planned, such as a 4th NDA workshop, which will take place in December 2023. It will take the form of an online Non-Disclosure Agreement (NDA) workshop for members of the NextGen cluster, in continuation of the previous NDA workshops organized in April 2021, July 2021 and December 2022. Six projects (X-tendo, U-Cert, QualDeEPC, D2EPC, E-DYCE, ePANACEA) from the first generation and second generation of the Next Generation EPC cluster have closed since August 2022, and three new ones have joined the cluster in 2023 (SmarterEPC, tunES, iEPB) providing timely opportunities to share results and recommendations and discuss future cooperation. The aim of this workshop (and the following ones) is also to plan further joint activities targeting specialized or broader audiences, especially concerning communication and dissemination, while at the same time fostering technical cooperation as most appropriate on prioritized thematic fields.
- (c) Joint activities have already been organized, with the collection of policy recommendations from all the projects, to support the EPBD revision, and the drafting of a summary of common policy recommendations. The next step will consist in publishing these recommendations in a coordinated way. Additionally, contact lists from all the cluster's project have been collected to create a Teams communication platform. This should improve the exchange of information between projects, facilitate the coordination of common actions and allow to better leverage key exploitable results.

The results and outcomes of these activities will feed into deliverables D7.4 "Project events & Liaising with other projects & initiatives v1" (M18) and later into the updated version D7.8 "Project events & Liaising with other projects & initiatives v2" due by M36.

10 Reporting of activities methodology

During the project all partners are responsible for reporting their efforts in communication and dissemination activities. As this is a continuous process it's important that the process is both streamlined and comprehensive enough. In cooperation with DEMO a specific section of the SharePoint was dedicated to the Communication and Dissemination activities as well as a Scientific Publication Section. The partner will fill in the Communication and Dissemination reporting section directly on the SharePoint indicatively every half-year, REHVA will publish on the European Commission SyGMA portal on M18 and M36. The reporting section has been built following the input requirements of the SyGMA platform to collect the most accurate information as possible for the implemented SmartLivingEPC activities.

Project Coordination

Dissemination Activities
Scientific Publications

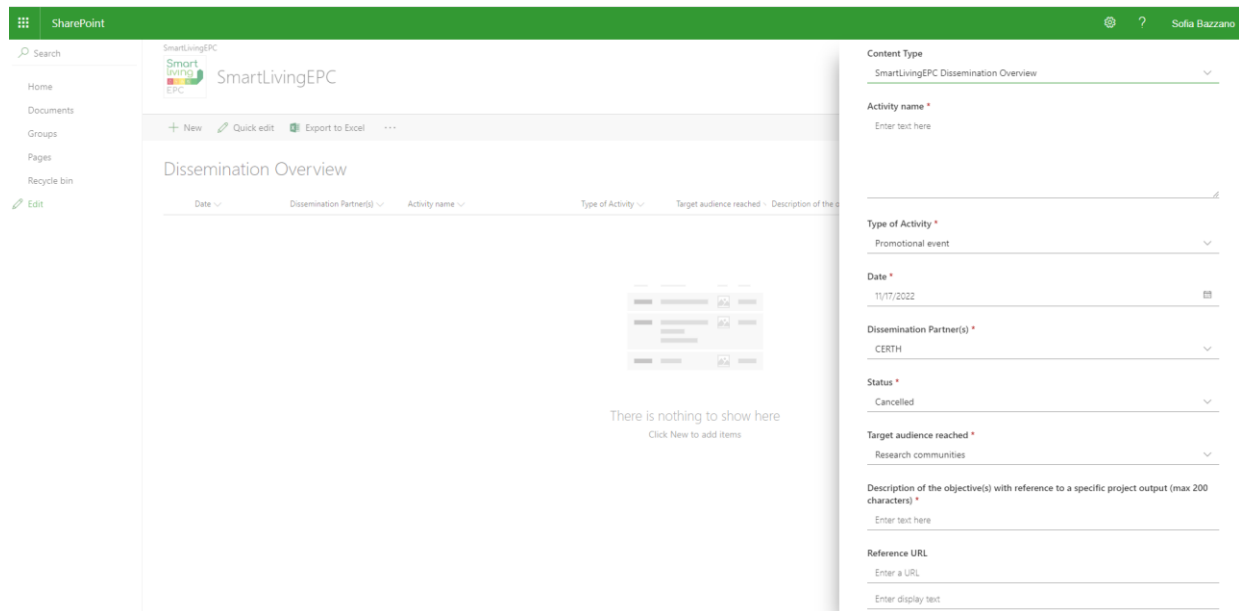


Figure 14 Communication and Dissemination activities section of SmartLivingEPC project

11 Planned activities

Each yearly update of this plan provides a snapshot like overview of the planned communication & dissemination activities for the upcoming year of the project. The activities marked in **bold** are the ones already completed.

The activities which have been (partly) realized and the planned activities until M30 are:

Table 21. SmartLivingEPC planned activities M1–M18

Time period	Partner(s)	Related task	Activity description	Target Groups
M1 – M4	DEMO	T7.2 Communication & dissemination tools, material & channels	Power Point templates, Word templates, Deliverable template	All
M1 – ongoing	DEMO, all	T7.2 Communication & dissemination tools, material & channels	Social Media LinkedIn and Twitter launch and regular update	All
M1 – ongoing	DEMO, all	T7.2 Communication & dissemination tools, material & channels	Website development and regular update	All
M1 – M4	DEMO	T7.2 Communication & dissemination tools, material & channels	SharePoint development	All
M1 – M4	REHVA, all	T7.1 Dissemination & Communication planning and reporting T7.6 Liaising with sister projects and other initiatives	Registration of the SmartLivingEPC project on ECTP projects database and Enlit platform	Research community, Industry, Policymakers
M4	REHVA	T7.6 Liaising with sister projects and other initiatives	SmartLivingEPC publication in the European Energy Innovation magazine	EU Institutions, research community, Industry, Policymakers
M5	REHVA, ANEC, CERTH	T7.3 Communication & dissemination events participation & (co-)organization	Participation to the event <i>Deep Renovation of buildings: what Energy Performance Certificates can do</i> <i>How increasing the quality of Energy Performance Certificate (EPC) schemes can accelerate deep renovation of buildings?</i> Final conference of QualDeEPC to discover the new template, tools developed and policy recommendations	EU Institutions, Research communities, Industry, Innovators

M6 – ongoing	DEMO	T7.2 Communication & dissemination tools, material & channels	Half-yearly newsletter design and publication	All
M6 – M18	DEMO	T7.2 Communication & dissemination tools, material & channels	Project flyers design and dissemination	All
M7	REHVA, ANEC	T7.3 Communication & dissemination events participation & (co-)organization T7.6 Liaising with sister projects and other initiatives	First NDA-workshop organization and participation	Industry, Policymakers, Innovators, Investors
M15	REHVA	T7.3 Communication & dissemination events participation & (co-)organization T7.6 Liaising with sister projects and other initiatives	SmartLivingEPC introductory webinar with sister project CHRONICLE	All
M7	REHVA	Transversal with all tasks	SmartLivingEPC elevator pitch video	All
M7 – M18	REHVA	T7.3 Communication & dissemination events participation & (co-)organization	1 workshop at professional events (e.g. SustainablePlaces,)	Industry, Policymakers, Innovators, Investors
M6 – ongoing	all	Transversal with all tasks	Scientific publications in peer-reviewed journals	Research community, Industry, Policymakers
M18	ANEC	T7.6 Liaising with sister projects and other initiatives	Second NDA-workshop organization and participation	Industry, Policymakers, Innovators, Investors
M21	REHVA	T7.3 Communication & dissemination events participation & (co-)organization	Presentation of SmartLivingEPC at Light and Building in Frankfurt	Industry, Policymakers, Innovators, Investors
M19-M30	REHVA	T7.3 Communication & dissemination events participation & (co-)organization	Public workshop between the SmartLivingEPC's consortium and EPB experts on standardization recommendations based on	Industry, Policymakers, Innovators, Investors

			project developments- During REHVA Brussels Summit 2024	
M19-M30	REHVA	T6.1 - SmartLivingEPC training and guidance for implementation	Organize tailored training sessions and workshops	Industry, Policymakers, Innovators, Investors
M19-M30	REHVA	Transversal with all tasks	Creation of a Project Animated video	All
M19-M30	REHVA, CERTH	Transversal with all tasks	Scientific/technical Journal articles	Scientific community
M19-M30	REHVA	Transversal with all tasks	Article on REHVA Journal	All
M6 – ongoing	DEMO	T7.2 Communication & dissemination tools, material & channels	Half-yearly newsletter design and publication	All
M19-M30	REHVA, ANEC, DEMO	T7.6 Liaising with sister projects and other initiatives T7.2 Communication & dissemination tools, material & channels	Project press release on project policy recommendations	All
M19-M30	REHVA, ANEC, DEMO	T7.6 Liaising with sister projects and other initiatives T7.2 Communication & dissemination tools, material & channels	Publication of SmartLivingEPC policy recommendations	All

Lastly, this Deliverable includes the following overview, covering the entire implementation period, of quantitative outcomes targeted by the various communication and dissemination activities, underlying the exploitation activities (during and after the SmartLivingEPC project’s lifetime).

Table 22. SmartLivingEPC planned outcomes M1–M36

EVENTS
<ul style="list-style-type: none"> • Apply to lead for at least 3 workshops at professional events (e.g. EUSEW, WSED, SustainablePlaces, CLIMA, etc.) • Organize an introduction webinar during the first year • Presentations & workshops are organized (at minimum 2) with REHVA Members & Supporters during REHVA flagship events • Organize a public workshop between the SmartLivingEPC’s consortium and EPB experts on standardization recommendations based on project developments • At least one or two national events will be organized per partner country, one event proposed as a feedback session with regional & national stakeholders on the SmartLivingEPC’s objectives & technical development, while the second would showcase the project outcomes & long-term impact <ul style="list-style-type: none"> ○ Co-creation workshops (T1.3) • (Co-)Organize an in-person event in Brussels, bringing together the whole consortium as well as work together with sister projects (e.g. Next Gen EPC cluster) • NDA-workshops Next Gen EPC cluster (at minimum 2)

- Organize tailored training sessions and workshops (T6.1)
- Organize demo-site showcases to engage and inform relevant stakeholders (WP6 cross-cutting)

COMMUNICATION AND DISSEMINATION MATERIAL

- Project e-publications (T7.2) will be produced in order to collect relevant results in the form of whitepapers/brochures
- 2 project videos: a project video will be developed in the beginning of the project to introduce its objectives, partners and scope and a final video will be developed illustrating the project's results after their assessment in the demonstration cases
- Scientific/technical Journal articles (At least one journal paper per year must be submitted – 3 in total)
 - Project's results will be published in the international scientific/technical literature, such as: Energy and Buildings, Renewable and Sustainable Energy Reviews, Building and Environment, other IEEE, EPRI, ASME and ELSEVIER journals as well as in relevant technical literature at national level
 - Publish articles in specialized press (e.g. REHVA Journal) to ensure optimal outreach of the (technical) solutions to specific target groups like building professionals
- Presentations & conference proceedings (At least one conference paper per year must be submitted – 3 in total)
 - Results will also be presented at relevant conferences, seminars, workshops, and other events
- Half-year e-newsletter will be created (6 in total)
- Press releases and journalistic articles
- Brochure (two releases), posters, and a roll-up banner (translated in national language)

KPIs

- Project whitepaper/ brochure downloads: <25 = poor; 25-75 = good; >75 = excellent
- Views per video: <50 = poor; 50-150 = good; >150 = excellent
- Open Access to peer-reviewed scientific publications will be provided
- Number of papers submitted: <4 = poor, 4-8 = good, >8 = excellent
- Number of articles in specialized press: <3 = poor; 3-7 = good; >7 = excellent
- Number of events/conference presentations: <4 = poor, 4-8 = good, >8 = excellent
- Attendees per workshop at professional events: <35 = poor; 35-60 = good; >60 = excellent
- Attendees per tailored training workshop: <15 = poor; 15-30 = good; >30 = excellent
- Attendees per national event: <15 = poor; 15-30 = good; >30 = excellent
- Attendees at final event: <50 = poor; 50-100 = good; >100 = excellent
- Website visitors per year: <5.000 = poor; 5.000-10.000 = good; >10.000 = excellent
- Minimum frequency of website updates: Bi-weekly
- Downloads per e-newsletter: <50 = poor; 50-100 = good; >100 = excellent
- Number of press releases: <10 = poor, 10-25 = good, >25 = excellent
- Combined Social Media followers: <60 = poor, 600-900 = good, >900 = excellent
- Social Media Activity: Weekly
- Number of brochures distributed: <500 = poor, 500-1.000 = good, >1.000 = excellent
- Number of persons reached with posters & roll-up: <2.000 = poor; 2.000-4.000 = good; >4.000 = excellent

Advanced Energy Performance Assessment towards Smart Living in Building and District Level



<https://www.smartlivingepc.eu/en/>



<https://www.linkedin.com/company/smartlivingepc/>



<https://twitter.com/SmartLivingEPC>



<https://www.youtube.com/channel/UC0SKa-20tiSabuwjtYDqRrQ>

