SEEDS

Cost-effective and replicable RES-integrated electrified heating and cooling systems for improved energy efficiency and demand response.

D8.4 – PDER (plan for dissemination and exploitation of results)

WP8, Task 8.1

June 2024 (Month 6 of 48)

AUTHOR: Zia Lennard, R2M Solution

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SEEDS

DELIVERABLE INFORMATION

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Contributing partner(s)	Reviewed by all partners
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REVISION AND HISTORY CHART

Version	Date	Editors	Description
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V0.1	1-15 June 2024	All partners	First round of peer-review
V0.2	17-25 June 2024	Ann Vandycke (MINTUS), Mária Szentesi (Saint-Gobain)	Second round of peer-review
V0.3	26 June 2024	R2M (Zia Lennard)	Integration of comments received from all reviewers
V1.0	26-28 June 2024	DTU	Final peer-review for validation, EU portal submission

EXECUTIVE SUMMARY

SEEDS is the acronym of a four-year (January 2024–December 2027), European-funded project which stands for “Cost-effective and replicable RES-integrated electrified heating and cooling systems for improved energy efficiency and demand response”.

SEEDS is demonstrated in six pilot sites across different climate zones and five European countries, showcasing practical implementation and replicability of the innovative renewable-integrated heat pumps to improve sustainability and reduce carbon dioxide emissions in the built environment.

SEEDS comprises a multidisciplinary team of 27 partners representing the value chain of energy efficient buildings and thermal demand electrification, who will design a cost-efficient, safe, adaptable, and scalable solution that facilitates increased adoption and profitability. DTU (Technical University of Denmark) is the SEEDS project coordinator, and the other partners are:

Demo site partners: Center Denmark (CDK), Sweco Belgium (SWECO), ÉMI Nonprofit Kft. (EMI), PETROL, and Dimokritio Panepistimio Thrakis (DUTH), Budapest’s 16th district (BP16).

Technology providing partners: AI-nergy (AInergy), Builtwins (BWS), Daikin Europe (DAIKIN), Elektro Celje (ELCE), Enfor AS (ENFOR), HOR-BER (HOR), Psyctotherm (Ptherm), Renel I.K.E (Renel), RINA Consulting (RINA), Saint-Gobain Hungary Kft. (SaintGB), and Siemens (SMENS).

Knowledge centered partners: FairCity (FairC), Innovatio Private Company (INNO), MINTUS, Katholieke Universiteit Leuven (KUL), and R2M Solution (R2M).

Partners focused on replication activities: Centre for Research & Technology Hellas (CERTH), Jožef Stefan Institute (JSI), State Higher Educational Institution Prydniprovska State Academy of Civil Engineering & Architecture (PSACEA).

This public report is the Plan for Dissemination and Exploitation of Results (PDER). It defines the SEEDS dissemination, exploitation, and communication (DEC) strategy according to a three-stage process, moving from awareness (i) to understanding (ii) and ultimately to a point where stakeholders are exploiting SEEDS foreground (iii). The SEEDS stakeholder landscape is presented in Chapter 2, project communication channels and dissemination actions are addressed in Chapter 3, and the SEEDS process to manage results is detailed in Chapter 4.

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ABBREVIATIONS AND ACRONYMS

AI	Artificial Intelligence
AIP	American Institute of Physics
B4P	Built4People
DEM	Demonstrator
DMP	Data Management Plan
DR	Demand Response
EE	Energy Efficiency
ER	Exploitable Result
ETIP	European Technology and Innovation Platform
EDIH	European Digital Innovation Hubs
GA	Grant Agreement
HP	Heat Pump
IEA	International Energy Agency
IPR	Intellectual Property Rights
KER	Key Exploitable Result
KPI	Key Performance Indicator
M	Month
MPC	Model Predictive Controller
MDPI	Multidisciplinary Digital Publishing Institute
OA	Open Access
PDER	Plan for Dissemination and Exploitation of Results
R&I	Research and Innovation

RES	Renewable Energy Source(s)
ROI	Return on Investment
SDGs	Sustainable Development Goals
UTS	University of Technology Sydney
WP	Work Package

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1. INTRODUCTION

SEEDS will dedicate significant effort to promote and exploit the project activities and results. This report (D8.1) serves as a foundational blueprint for SEEDS dissemination, exploitation, and communication (DEC). Chapters 2 and 3 relate to communication and dissemination (C&D), led by R2M. Chapter 4 details the exploitation management process to be led by RINA. Together, DEC effort aims to both raise awareness about, and valorise SEEDS foreground. All consortium members have reviewed this important deliverable, and will be responsible for implementing, or in some cases supporting the implementation of the actions detailed herein.

SEEDS adopts Lasswell's model of communication to address fundamental components of the communicative process: the sender, the message, the channel, the receiver, and the effect.

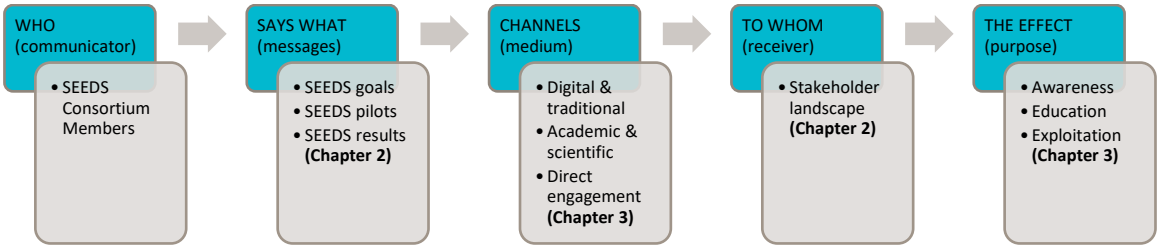


Figure 1. Lasswell's model of communication in the context of SEEDS

The overarching messages to be communicated by SEEDS partners include the benefits of renewable-integrated electrified heating and cooling (H/C) systems, the impact on energy efficiency (EE) and demand response (DR), and most importantly the success stories from pilot sites. These messages are tailored to different stages of the project. Stage 1 (awareness) communicates, from project onset, general information about SEEDS' goals and expected outcomes. Stage 2 (understanding), at the middle of the project, provides detailed insights into the technological advancements and pilot site results. Finally, Stage 3 (exploitation), towards the conclusion of the project lifecycle, clearly offers practical applications, success stories, and technology adoption guidelines. This three-stage approach is elaborated in Section 3.1.

SEEDS utilizes a variety of communication channels to reach its target audiences effectively, including digital channels (e.g., project website, social media, newsletters, videos, webinars, etc.); traditional media (e.g., press releases, articles in local and international media, interviews, etc.); academic and professional channels (e.g., scientific journals, conference presentations, workshops, etc.); and direct engagement (e.g., stakeholder meetings, training sessions, pilot demonstrations, etc.). Details can be found in Sections 3.2 through 3.8.

2. STAKEHOLDER LANDSCAPE

Chapter 2 describes the SEEDS stakeholders in terms of their roles, needs, and key messaging (Section 2.1), and their interest or influence in exploiting the project's results (Section 2.2). By segmenting these target audiences, SEEDS dissemination will become deliberate and precise.

2.1. ROLES AND NEEDS

Section 2.1 describes the roles, needs, and key messages towards the target stakeholders. Each of these groups play a crucial role in the ecosystem of the SEEDS project, contributing to and benefiting from the project's success in unique ways. Their collaboration ensures the project's objectives are met and that the benefits of the project reach the final beneficiaries.

2.1.1. Facility owners and residential or tertiary building managers

Roles: Responsible for the operation and maintenance of residential and tertiary buildings. They aim for their facilities to be energy-efficient and comply with sustainability standards.

Needs: Reliable, cost-effective solutions for optimal control of heating and cooling systems.

Key messages: The SEEDS innovative heat pump (HP) technologies and integration with renewable energy sources (RES) have the intention of reducing operational costs and enhancing EE, regardless of unique building characteristics. SEEDS develops scalable design and operational optimisation methodologies for buildings, ensuring cost-efficiency and EE.

2.1.2 Occupants and citizens including local communities

Roles: End-users of energy systems. Their comfort and satisfaction are paramount.

Needs: Building's climate control systems to be effective, affordable, and user-friendly. They also need assurance that these systems contribute to environmental sustainability.

Key messages: SEEDS develops efficient thermal management solutions, integrating advanced control platforms and RES, providing building occupants with comfort and lower energy bills, while promoting a just transition and full energy market participation.

2.1.3 Policymakers and public authorities including municipalities

Roles: Governance of energy use, sustainability, environmental and building regulations.

Needs: Data and proven case studies to formulate policies that promote EE and RES.

Key messages: SEEDS results can serve as benchmarks for regulatory frameworks, policies, and incentivisation design. The project provides valuable data for creating integrated solutions promoting both EE and RES utilisation. The SEEDS pilots align with climate neutrality goals, offering a scalable and replicable model for municipalities and public authorities to implement. The project results also provide them with an example of a best practice, and a case study.

2.1.4 Industry and businesses including energy and technology providers

Roles: This group includes energy and technology providers such as HP manufacturers and RES providers. They design, manufacture, and supply energy-related technologies.

Needs: They need innovative research and development (R&D) insights to create more efficient, futire-proof and cost-effective products.

Key messages: SEEDS explores advanced RES-integrated HP solutions, enhancing technology development and energy market competitiveness. Stakeholder-oriented business models (e.g., energy flexibility services), generate new revenue streams and business opportunities.

2.1.5 Grid operators and energy flexibility aggregators

Roles: Manage the energy networks and ensure that energy supply meets demand efficiently.

Needs: Require technologies that can enhance grid stability and manage loads effectively.

Key messages: SEEDS enables access to new tools for grid operators to better manage energy supply and demand via forecasting and optimisation modules, unlocking cutting-edge DR strategies that will undoubtedly enhance grid stability, reliability, and efficiency.

2.1.6 Academia and researchers including the educational sector

Roles: Study new technologies in EE and sustainability, including system integration methods.

Needs: Access to cutting-edge research, data, field tests, and collaboration opportunities.

Key messages: SEEDS conducts applied research and develops systems for energy efficiency, incorporates state-of-the-art methodologies for energy flexibility activation, and offers a rich source of data, models, algorithms, and insights for academic research in energy systems and end-user behaviours. Results will be disseminated through scientific, academic, and technical publications. Furthermore, capacity building is a significant part of SEEDS effort.

2.1.7 Financiers including public and private funding bodies

Roles: Investing in promising innovation with potential for significant impact.

Needs: Assurance that their investments are viable and yield measurable benefits.

Key messages: SEEDS develops scalable and replicable energy solutions, offering a clear pathway for financiers to see a return on investment (ROI) if facilitating technology adoption to align their portfolios with sustainable development goals (SDGs), supporting the transition to decarbonisation, electrification, climate neutrality, and affordability.

2.2 INTEREST AND INFLUENCE

Section 2.2 maps SEEDS stakeholders using an Interest-Influence Matrix (i.e., based on their level of interest in the project outcomes and their influence over the project's success). This Stakeholder Matrix provides SEEDS with a strategic overview of how each target audience group relates to the SEEDS project in terms of their potential impact and concern for the project's outcomes. It helps in prioritizing stakeholder engagement and tailoring communication strategies to effectively address the needs and expectations of each group.

2.2.1 Matrix

Subsection 2.2.1 visualises the SEEDS Stakeholder Matrix.

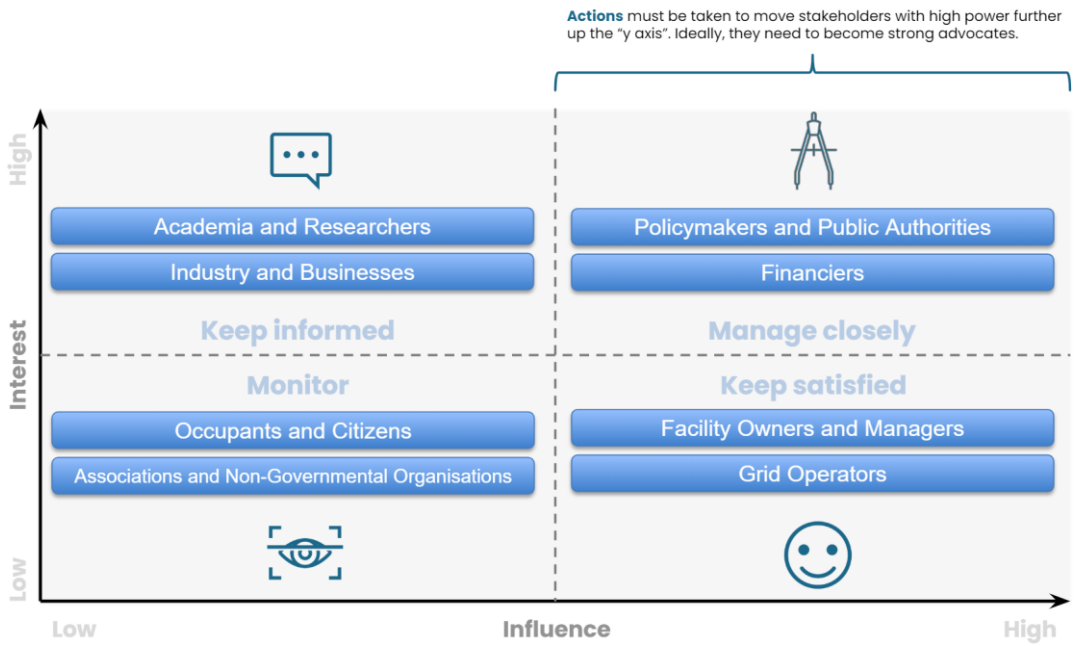


Figure 2. SEEDS Stakeholder Matrix

The results of this stakeholder analysis will be utilised according to the three-phase dissemination strategy detailed in Section 3.1. For example, as written in Figure 2, deliberate

dissemination actions will be taken to move stakeholders with high power further up the “y axis”. Ideally, they need to become strong advocates of the SEEDS project.

2.2.2 Explanations

Subsection 2.2.2 explains the rationale behind the SEEDS Stakeholder Matrix.

High Influence, High Interest (Manage closely)

- Policymakers and public authorities, including municipalities, have high influence over regulatory frameworks and interest in SEEDS’ ability to achieve sustainability and EE.
- Financiers, including public and private funding bodies, can influence SEEDS through post-project funding and thus have an interest in the project's technical specificities.

High Influence, Low Interest (Keep satisfied)

- Grid Operators, including DSOs and energy flexibility aggregators, possess the influence over energy distribution and management but might have a lower interest in the project's broader goals beyond grid stability and efficiency.
- Facility owners and managers of residential or tertiary buildings, have high influence as potential early adopters, but low interest unless SEEDS can produce viable automated energy management solutions. This group could thus move up the Y-axis.

Low Influence, High Interest (Keep informed)

- Academia and researchers, including the educational sector, are highly interested in the SEEDS outcomes and innovations to educate, create awareness, and transfer knowledge to the next generation. However, they have less influence over the project's implementation and market adoption.
- Industry and businesses, including energy and technology providers like RES solution and HP manufacturers, as well as control companies and system integrators, have a high interest in SEEDS’ technological advancements and market opportunities but low influence when it comes to adopting innovative solutions.

Low Influence, Low Interest (Monitor)

- Occupants and citizens, including local communities, are somewhat interested in the project's impact on their living conditions and energy costs but have limited desire to follow R&D activity, nor do they have influence on the project's direction and outcomes.
- Assosications and non-governmental organisations, have relatively low interest in the project’s outcomes, and relatively low influence in bringing them to market.

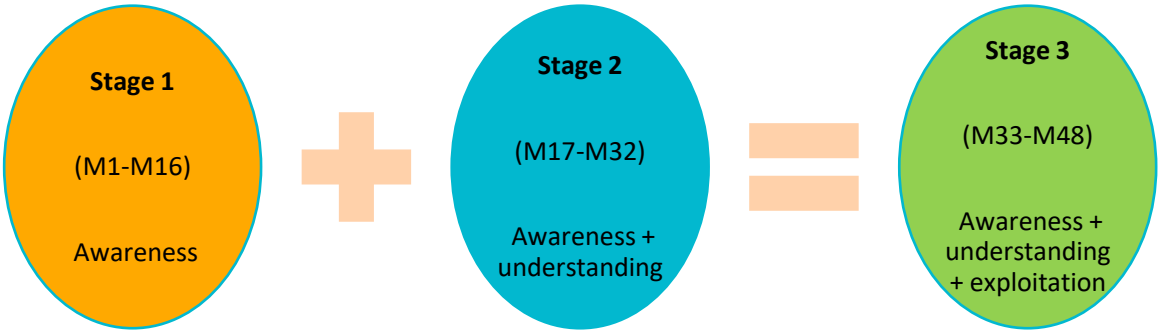
3 COMMUNICATION & DISSEMINATION PLAN

Chapter 3 details the SEEDS communication and dissemination (C&D) plan.

3.1 OVERALL DISSEMINATION STRATEGY

The three-stage SEEDS dissemination strategy, presented below in Table 1, targets external stakeholders first to raise awareness (Stage 1), followed by increasing understanding (Stage 2), and reaching a point where they're applying and exploiting the SEEDS results (Stage 3).

Table 1. SEEDS three-stage D&C process from awareness to action



In the first 16 months of SEEDS (i.e., Stage 1), the purpose of dissemination actions is to raise awareness and communicate broadly about SEEDS aims and objectives to a wide audience.

During the next 16 months of the project (i.e., Stage 2), it is anticipated that project partners continue raising awareness, but as concrete results emerge and milestones are achieved, dissemination aims to select a subset of the "Stage 1" target audience who will potentially be able to directly benefit from the project in significant ways. For this group, an important function of SEEDS dissemination is to teach for a deeper understanding of SEEDS innovations.

In the final 16 months of the project (i.e., Stage 3), awareness raising and teaching persists, but focus will now be placed on stakeholders who can potentially adopt SEEDS foreground.

3.2 PUBLIC DELIVERABLES

Public deliverables materialise important inputs for DEC activity content creation. The three-stage C&D plan will therefore be aligned as much as possible, but only when appropriate, with the planned delivery dates of the SEEDS project's 20 public deliverables (see Table 2 below).

Table 2. SEEDS Public Deliverables

Stage	N°	Public Deliverable Title	Date	Type
Stage 1	D1.1	Project Management Plan - draft	M2	Report
	D1.5	Data Management Plan	M6	DMP
	D2.1	Pilot site assessment report	M9	Report
	D2.2	Guidelines for electrification solutions	M16	Report
	D3.1	Automation and monitoring specifications	M9	Report
	D3.2	Holistic SEEDS Evaluation Framework	M16	Report
	D8.1	PDER (current report)	M6	Report
	D8.2	Project Identity	M6	Report
Stage 2	D2.3	Installation report	M22	Report
	D3.3	Streamlining automation & monitoring systems deployment	M21	Report
	D4.1	Multi-source HP & smart reflector control policies libraries	M21	Report
	D4.2	Smart Predictive Maintenance tool	M21	Report
Stage 3	D1.2	Project Management Plan - final	M35	Report
	D2.4	Performance evaluation report of electrification systems	M42	Report
	D3.4	Automation and monitoring systems performance	M44	Report
	D4.3	Extended white-box MPC	M46	DEM
	D4.4	MPC performance assessment	M46	DEM
	D5.4	Evaluation of systems providing flexibility services	M46	Report
	D7.2	Digital Support Framework Toolbox - final version	M42	Report
	D7.3	Storymaps for the pilot projects	M48	Other

In SEEDS, most deliverables have a public dissemination level, which will significantly support the widespread distribution of the project outcomes to a large audience. For the few remaining deliverables with a sensitive dissemination level, the lead beneficiaries responsible for these deliverables should prepare a non-confidential executive summary when possible and useful, which can be published on the SEEDS website and shared through other relevant channels.

3.3 PERFORMANCE MONITORING

C&D performance monitoring is critical to the success of SEEDS. Communication channels and dissemination actions are summarised in Table 3 below, along with Key Performance Indicators (KPIs). A confidential, internal C&D tracker has been implemented by R2M and will be used throughout the project lifecycle to stay ahead of the ambitious 48-month workplan.

All project partners have duly reviewed the below list of SEEDS D&C KPIs, so to be quite sure that the interpretation of expectations aligns to those described in the Grant Agreement. Moreover, all partners will engage support from their organisation's communication teams to help the project achieve its ambitious D&C objectives (e.g., existing newsletters, etc.).

Table 3. SEEDS D&C KPIs

Key Performance Indicator (KPI)	Stage 1 Target (M1-M16)	Stage 2 Target (M17-M32)	Stage 3 Target (M33-M48)	Cumulative target
COMMUNICATION CHANNELS				
Communication Toolkit	1	0	0	**1**
KPI: Visual identity, key messages (M3) **RESPONSIBLE:** R2M proposes the toolkit (D8.2) and key messages (Chapter 2), all partners utilise. **TARGET AUDIENCE:** all target audiences **STRATEGY:** All partners adopt a unified brand image and voice for external communications.				
Short video clips	0	6	0	**6**
KPI: 6 in total, 1 per pilot, 1-2 minutes each, in national languages with English subtitles (M6-M48) **RESPONSIBLE:** Pilot leaders, R2M for support **TARGET AUDIENCE:** all audiences, especially local pilot end-users and early adopters **STRATEGY:** All pilot leaders will each create 1 short video in national languages showcasing their planned or achieved demonstrations. R2M will be fully available to support the pilot leaders (e.g., facilitating recordings during consortium meetings, contributing with editing and subtitle additions).				
Infographics	0	6	0	**6**
KPI: 6 in total, 1 per pilot (M6-M48) **RESPONSIBLE:** R2M, pilot leaders **TARGET AUDIENCE:** all target audiences, especially local pilot end-users and early adopters **STRATEGY:** R2M collects data from pilot leaders to propose draft infographics for approval.				
Factsheets	0	6	6	**12**
KPI: 12 in total, 2 per pilot (M6-M48) **RESPONSIBLE:** R2M, pilot leaders **TARGET AUDIENCE:** all target audiences, especially local pilot end-users and early adopters **STRATEGY:** R2M collects data from pilot leaders to propose draft factsheets for approval.				
Project videos	0	1	1	**2**
KPI: M24 – Technical innovations, partners, pilot introductions (100 views) **KPI:** M42 – Project results, lessons, recommendations, replication activities (100 views) **RESPONSIBLE:** R2M, all partners **TARGET AUDIENCE:** all target audiences **STRATEGY:** R2M works bilaterally with selected partners to develop video concepts, drafting scripts and storyboards (**step 1**). R2M then compiles the visuals and voiceovers for partner review (**step 2**) and publishes the final videos to the SEEDS social media channels and project website (**step 3**). It is possible that visual content from the short video clips and/or online interviews gets repurposed here.				
Online interviews	6	0	0	**6**
KPI: 6 Short video interviews by M12 (180 views in total, 30 views per interview, M1-M12) **RESPONSIBLE:** R2M, Work Package leaders **TARGET AUDIENCE:** all target audiences **STRATEGY:** R2M drafts questions and conducts and publishes online video interviews (or they record themselves) with technical Work Package leaders, specifically WPs 2-7.				
Project website	500	500	1000	**2000**
KPI: 2000 unique visits (with pilot pages in local languages, M1-M48) **RESPONSIBLE:** R2M, all partners especially pilot leaders **TARGET AUDIENCE:** all target audiences and wider public **STRATEGY:** R2M creates and publishes the website without pilot-specific pages (**step 1**), R2M distributes a data collection survey to pilot leaders (**step 2**), pilot leaders provide the requested data				

in local languages including one key image (**step 3**), R2M adds the content to pilot-specific pages of the project website, human-translating the text to English to be published alongside the local languages (**step 4**). To accomplish the 2000 unique visits, the strategy will include the execution of search engine optimisation and the systematic linking of social media posts to the website newsroll.				
Social media posts	25	25	50	**100**
KPI: 25 annually (with 2 active social media campaigns, 20 total posts per pilot, M3-M48) **RESPONSIBLE:** R2M, pilot leaders **TARGET AUDIENCE:** all target audiences and wider public **STRATEGY:** Posts will derive from SEEDS social media profiles (X and LinkedIn). Professional targets will mainly be engaged through LinkedIn, and wider outreach will be obtained with communication campaigns on X (Facebook coverage is not planned). Four boosts are foreseen at topical stages of SEEDS elaboration and synchronised with EU events and partner participation in conferences.				
Local media / magazines	6	6	12	**24**
KPI: 24 in total, 4 articles per pilot (M3-M48) **RESPONSIBLE:** R2M, pilot leaders **TARGET AUDIENCE:** Local pilot end-users and decision-makers, early adopters, academics. **STRATEGY:** Starting with the SEEDS press release in Stage 1 (M1-M16), each pilot leader will publish translated versions locally (e.g., on their websites, newsletters, or sending to local press using their communication departments, etc.). In Stages 2 and 3, pilot leaders (with R2M's support) will generate new articles or shorter social media posts from their profiles with latest info, event invitations, etc.				
Existing newsletters	25	75	68	**168**
KPI: 4 monthly contributions to existing newsletters, not restricted only to pilot activities (M6-M48) **RESPONSIBLE:** R2M, all partners **TARGET AUDIENCE:** Early adopters, decision makers, academics and R&D professionals. **STRATEGY:** Leverage existing newsletters of SEEDS partners, describing key outcomes and activities of the project. The newsletter contributions are adapted to the target audience of the specific newsletter. English content shall be proposed by R2M, with local language translations (if applicable e.g., SWECO's newsletter is already published in English) to be validated by the relevant partners.				
DISSEMINATION ACTIONS				
Technical webinars / hybrid events	0	1	1	**2**
KPI: 2 in total (250 professionals reached, M18-M46) **RESPONSIBLE:** R2M, all partners **TARGET AUDIENCE:** Early adopters, investors, academics, built environment and R&D professionals **STRATEGY:** Collaboration with sister projects and relevant sector organisations/associations, to deliver dedicated presentations in the Sustainable Places, ECTP, and IEA-HP conferences.				
Technical EHPA presentations	0	1	1	**2**
KPI: 2 EHPA Innovation Committee presentations (250 professionals reached, M18-M46) **RESPONSIBLE:** Heat pump innovation partners **TARGET AUDIENCE:** HP manufacturers, early adopters, investors, academics, R&D professionals. **STRATEGY:** EHPA Innovation Committee / HP Forum presentations catered to HP manufacturers.				
Policy workshops / webinars	0	1	1	**2**
KPI: 2 in total (half-day durations, 90 investors / decision-makers reached in total, M24-M42) **RESPONSIBLE:** R2M, SWECO in the context of WP7, all partners **TARGET AUDIENCE:** Decision-makers, investors, cities and local communities **STRATEGY:** Addressing the potential of thermal demand electrification and DR in building sector.				
Final hybrid event	0	0	1	**1**
KPI: 1 in total (Brussels location, 50 participants, M24-M42) **RESPONSIBLE:** R2M, DTU, all partners **TARGET AUDIENCE:** EU level policymakers				

STRATEGY: Showcasing the results achieved in SEEDS relevant to EU policy. Content will be prepared by DTU and R2M, with the SEEDS Project Officer called upon to validate the proposed event agenda.				
Local technical workshops	0	1	1	**2**
KPI: 2 workshops / webinars in total, each in one of the pilot languages (M12-M48) **RESPONSIBLE:** R2M, SWECO in the context of WP7 (e.g., Dutch in Belgium), and pilot leaders **TARGET AUDIENCE:** Early adopters, decision makers and investors. **STRATEGY:** For capacity building and local engagement, including technology and service providers. R2M will support pilot leaders to contact the parties, organise, and moderate the workshops locally.				
Local engagement / closing events	0	0	5	**5**
KPI: Several pilot interactions, 5 pilot-level final events (reaching 40 people each, M3-M48) **RESPONSIBLE:** R2M, pilot leaders **TARGET AUDIENCE:** Local end users, local decision makers, academics and R&D professionals. **STRATEGY:** Focusing on the local pilot communities, building effective knowledge and encouraging co-creation. Each pilot will have a final closing event where local and national policy makers, built environment clusters, SMEs and others will be invited. However, the two pilots in Bruges will be merged into one final online closing event, so for six pilots there will be five closing events in total.				
Academic workshops / webinars	0	0	2	**2**
KPI: 2 in total (reaching 20 students each, M36-M42) **RESPONSIBLE:** R2M, all partners **TARGET AUDIENCE:** Academics and R&D professionals (mainly young researchers). **STRATEGY:** Actively sharing SEEDS scientific results in an interactive manner, supporting dialogue among participants and ensuring effective knowledge transfer.				
Publications	0	4	4	**8**
KPI: 8 OA proceedings/peer-reviewed journal publications (100 reads, each 20 citations, M18-M42) **RESPONSIBLE:** R2M, all partners but mainly academic partners (i.e., universities) **TARGET AUDIENCE:** Academics and R&D professionals. **STRATEGY:** SEEDS will publish in Gold Open Access (OA) peer reviewed scientific journals (e.g., IEEE, Elsevier, Springer) and professional magazines (e.g., IEA Heat Pumping Technologies).				
Presentations	0	5	5	**10**
KPI: 10 presentations in large national / international conferences (M18-M42) **RESPONSIBLE:** R2M, all partners with dissemination budget **TARGET AUDIENCE:** Academics and R&D professionals. **STRATEGY:** Project partners will attend relevant international conferences (if project budget allows).				
Student capacity building	0	1	1	**2**
KPI: 2 summer school editions (20-30 students per edition, with digital training material, M30-M48) **RESPONSIBLE:** R2M, all partners but primarily academic partners (i.e., universities) **TARGET AUDIENCE:** Academics and R&D professionals (mainly students). **STRATEGY:** Teaching students about integrated system design and operation optimization, and the control of energy assets in smart buildings and grids for providing energy flexibility. Both editions will have similar content, and the digital training materials provided will become an online educational kit.				
Final online closing events	0	0	2	**2**
KPI: 2 in total (30 active participants for each event, M44-M48) **RESPONSIBLE:** R2M, DTU, all partners **TARGET AUDIENCE:** 1) new projects and academics, 2) policy makers, investors, impact assessors. **STRATEGY:** The first final online event will discuss recommendations from an R&D background and the impact of market developments based on SEEDS innovations, it will include contributions from sister projects. The second final online event will focus on the policy recommendations and market developments in both Europe and in the pilot countries. It will target target policy makers, investors and those engaged in impact assessments predeceasing or following policy implementation. It could be very possible that this second event becomes merged with the final hybrid event in Brussels.				

3.4 IMPACT MULTIPLIERS

When implementing C&D activities, SEEDS partners will leverage impact multipliers to achieve a wider reach. Examples are clusters or associations where SEEDS partners are active.

The way SEEDS will engage multipliers is by: (i) tagging the relevant multipliers in our social media posts; (ii) asking relevant multipliers to include information about our achievements in their own newsletter circulated to their members; and (iii) asking relevant multipliers to endorse and/or further promote some of our C&D activities to attract a larger audience, etc.

A preliminary list of SEEDS Impact Multipliers is below in Table 4. All partners were asked to consider their potential multipliers, and some were extracted from the Grant Agreement. Partners will be periodically encouraged to revisit this list, aiming to add additional multipliers.

Table 4. SEEDS Impact Multipliers

Impact multiplier	Scale	Partner(s) involved	Relevance for SEEDS
SWECO Group	EU+	SWECO	Sweco Belgium, part of Sweco Group is active in 13 European countries, 4 of which are close to Russia and Belarus. The easy internal dissemination in this group can favour a fast deployment and replication of project solutions.
Existing client bases	EU+	SaintGB, DAIKIN, SMENS	SaintGB, Daikin and SMENS are large enterprises with robust existing client bases. These partners will consider leveraging internal resources (e.g., company newsletters or websites, etc.) to spread awareness of SEEDS objectives and foreground.
BRIDGE	EU	DTU, CDK	Contributions to the Data management Working Group with insights on data exchange and interoperability, maximising grids, and market related impacts of DR solutions in buildings.
European Construction & sustainable built environment Technology Platform (ECTP)	EU	DTU, EMI, R2M	Definition of technology R&I guidelines and policy papers at the European level, especially in aspects of digitalisation of the built environment, cultural heritage conservation, and renovation.
People-centric Sustainable Built	EU	DTU	DTU provides significant contributions to B4P as a board member and leading/participating in B4P activities.

Environment partnership (Built4People, B4P)			SEEDS will contribute to B4P impacts and deliver key project messages.
European Heat Pump Association (EHPA)	EU	KUL, DAIKIN, SWECO	KUL, Daikin, and Sweco are members supporting advising on new research and market needs in the HP sector.
EERA - The European Energy Research Alliance Joint Programme Smart Cities (EERA JPSC)	EU	DTU	DTU contributing to research and innovation in smart cities and co-creation with industry and civic partners, to address urgent challenges and accelerating R&I implementation.
New European Bauhaus	EU	EMI, R2M	Contributing to create metaclusters for SME's (NEBULA project).
International Energy Agency Heat Pumping Technologies (IEA-HPT)	Global	SWECO, KUL, DAIKIN	Members of the HPT Implementing Agreement and active in Annexes such as: "Heat Pumps in Positive Energy Districts" (DAIKIN) and "Flexibility from large heat pumps in district energy systems and industrial hubs" (KUL).
International Building Performance Simulation Association (IBPSA) Modelling Working Group	Global	KUL, BWS	Develops an open-source library of Modelica models for design and operation of building and community energy and control systems with associated documentation.
Building Digital Twin Association (BDTA)	EU	R2M	Develops and publishes research, certifications, and assets to drive the development of building digital twins.
International Energy Agency Energy in Buildings and Communities Programme (IEA-EBC)	Global	DTU	DTU is the operating agent of Annex 82 "Energy Flexible Buildings Towards Resilient Low Carbon Energy Systems" and actively contributes to Annex 81 "Data-Driven Smart Buildings" and Annex 83 "Positive Energy Districts".
European Digital Innovation Hubs (EDIH)	EU	CDK, KUL, SWECO, DTU	EDIH is the access point or 'one-stop-hub' for start-ups, SMEs and public sector organizations that are working on energy applications in the built environment.
Sectorial Associations	Global	All	Other relevant associations will be engaged by and informed to share outcomes and seize synergetic opportunities.

3.5 JOURNALS AND EVENTS OF INTEREST

SEEDS will publish in "Gold" open access (OA) peer-reviewed scientific journals, non-peer reviewed professional magazines, and conference proceedings. Partners will seek the most appropriate channel for their outputs. Channel examples for partners to start their search are:

- Open Research Europe
- Heat Pumping Technologies, IEA
- Energy Reports, Elsevier
- International Journal of Thermal Sciences, Elsevier
- Developments in the Built Environment, Elsevier
- Energy and Buildings, Elsevier
- Journal of Building Engineering, Elsevier
- Building and Environment, Elsevier
- Renewable Energy, Elsevier
- Case Studies in Thermal Engineering, Elsevier
- International Journal of Thermofluids, Elsevier
- International Journal of Air-Conditioning and Refrigeration, Springer
- Energy Efficiency, Springer
- Journal of Thermal Science, Springer
- Journal of Building Appraisal, Springer
- Building Simulation, Springer
- Journal of Housing and the Built Environment, Springer
- Journal of Building Pathology and Rehabilitation, Springer
- Architecture, Structures and Construction, Springer
- City and Built Environment, Springer
- Construction Economics and Building, UTS ePress
- Buildings and Cities
- Building Services Engineering Research & Technology, Sage
- Open Construction & Building Technology Journal, Bentham Open
- Journal of Renewable and Sustainable Energy, AIP

A preliminary list of conferences and/or event organisers of interest to SEEDS is as follows:

- REHVA (Federation of European Heating, Ventilation & Air Conditioning Associations)
- EERA JP e3s (Joint Programme on clean Energy tranSition for Sustainable Society)
- ETIP RHC (European Technology & Innovation Platform Renewable Heating / Cooling)
- Global Alliance for Buildings and Construction (GlobalABC)
- Smart Building Alliance (SBA)
- EHPA HP Forum
- Electrification Alliance General Assemblies

- ECTP Conferences
- WBCSD (World Business Council for Sustainable Development) events
- Council on Tall Buildings and Urban Habitat
- Building Digital Twin International Congress (BDTIC)
- European Heat Pump Summit
- European Heat Pump Conference, IEA
- Euroheat & Power Summit
- European Conference on Machine Learning
- European Sustainable Energy Week (EUSEW)
- Enlit Europe
- InterSolar Europe
- ISH Frankfurt
- World Sustainable Energy Days (WSED)
- Mostra Convegno Expocomfort (MCE)
- EUROSTRUCT Conference
- Built4People (B4P) Stakeholders Forum
- UK Construction Week
- ASHRAE conferences
- ECTP Annual Conference
- Tall Buildings Conference

3.6 SOCIAL MEDIA STRATEGY

Social media (specifically X & Linkedin) will be utilised throughout SEEDS, in line with the three-stage dissemination strategy. Data has already been collected from the partners to feed the first wave of social media content (exemplified in Figure 3 and Figure 4 below).

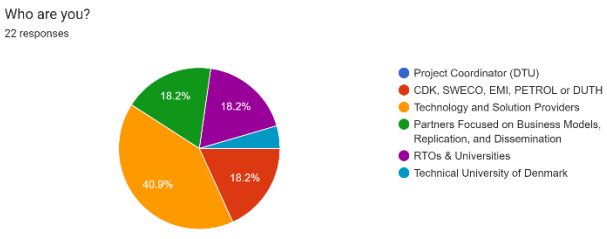


Figure 3. Data collection survey analysis extract

Figure 4. Example of social media post

Social media content will be tailored to the publishing platform, and when relevant it will be mirrored on the News page of the project website (e.g., the DTU presentation on X, LinkedIn, and the project website). Content will include educational, action inspiring, visual, and

storytelling formats. Engagement measures will involve responding to comments, hosting live sessions, and partnering with influencers and organizations. This content strategy aims to enhance visibility, engage with the target audiences, and promote the ongoing SEEDS activity A hashtag assessment was conducted to select the highest impact hashtags (Figure 5 below).

# name	Number in Linkedin	Number in X	Worth it?
#EnergyEfficiency	22 posts in 10 minutes	39 posts for 3H	High risk of post getting drowned
#BuildingRenovation	13 posts per day	1 post every 2/3 days	Yes LinkedIn / No X
#HeatPumps	12 posts per hour	12 posts per day	No LinkedIn / Yes X
#RenewableEnergy	21 posts in 5 minutes	66 posts for 1 hour	High risk of post getting drowned
#Decarbonization	23 posts in 20 minutes	56 posts per day	Risk of it getting drowned
#SmartBuildings	15 posts per hour	12 posts per day	No LinkedIn / Yes X
#GridFlexibility	5 posts per day	2 post per month	No
#EUClimateAction	5 posts per day	Approx 1 post per day	Okayish?
#GreenBuildings	46 post per day / 2 posts per hour	Approx 1 post per day	Yes LinkedIn / Okayish X?
#NetZeroBuildings	5 posts per day	irregular posting, approx 1 post per day with huge gap	Yes LinkedIn / too irregular X
#HeatPumpTechnology	4 posts per day	At least one post per day	Yes LK / ok X
#RenewableEnergyIntegration	4 posts per day	too long	Yes Linkedin / no X
#DecarbonizationSolutions	2 posts per months	too long	No
#SmartBuildingTechnologies	2 posts per week	too long	I don't know.
#EnergyFlexibility	5 posts per day	too irregular	Yes Linkedin / no X
#GridStability	15 posts per day	At least 2 posts per day	Yes to both?
#GreenConstruction	40 posts per day	At least one post per day	Mostly no
#SustainableBuildings	30 posts per day	irregular	Yes LinkedIn / No X
Best # For X : #HeatPumps #costeffective #SmartBuildings #EUClimateAction #GreenBuildings #GridStability Best # For LinkedIn : #BuildingRenovation #HeatPumpTechnology #RenewableEnergyIntegration #EnergyFlexibility #GridStability #SustainableBuildings #EUClimateAction #GreenBuildings #NetZeroBuildings			

Figure 5. Hashtag assessment results

Additional hashtags shall also be considered, for example: #CleanHybridCollectiveSystem, #ThermalNetwork, #CollectiveBorefield, #HydraulicOptimisation, and #Heritage.

3.7 DISSEMINATION STRATEGY ROADMAP

To achieve the SEEDS dissemination goals, a detailed strategic roadmap is essential. This roadmap (Figure 6) follows the described three stages and outlines the necessary steps to ensure effective communication and engagement with stakeholders throughout the project.

Figure 6. SEEDS Dissemination Roadmap

Operationally, all SEEDS partners will be participating in periodic C&D meetings led by R2M. This will ensure that KPIs are properly planned, supported, and ultimately reached.

3.8 CLUSTERING AND COMMISSION SERVICES

Clustering with 'sister' and 'cousin' projects will strengthen SEEDS' dissemination capacity. One example of an important clustering opportunity is that of the Sustainable Places annual international conference organised by R2M (the SEEDS C&D leader). Other examples of clustering activities include joint webinars, joint publications, and reciprocal hyperlinking which improves search engine optimization and drives traffic between the two websites.

SEEDS will undoubtedly take full advantage of the European Commission's services to the benefit of maximising dissemination efforts to achieve both wide and targeted outreach. For example, Module A or B of Horizon Results Booster's "Portfolio Dissemination & Exploitation Strategy" service. Module A would be if SEEDS applies alone, in which case the service will find relevant projects to cluster and perform joint dissemination. Module B would be if SEEDS finds relevant projects to create a Project Group, and in that case the service supports this group to design a joint dissemination plan for the portfolio and to carry out the actual dissemination of the portfolio's results (e.g., with visual identity and a short video). The intent behind this action is like using impact multipliers, to join forces with existing initiatives for better outcomes. Two additional goals of SEEDS will be to publish its key exploitable results in the Horizon Results Platform, and to submit at least one scientific research paper to Open Research Europe.

3.9 PUBLICATION VALIDATION PROCESS

Social media content shall be validated by the concerned partner prior to publication. Scientific content shall be validated according to the following Grant Agreement extract: *During the Action and for the period of one (1) year after the end of the Action, the Dissemination of a Party's own (including joint owned) Results including but not restricted to publications of whatever form (excluding patent applications(s) and other registrations of IPRs), shall be governed by the procedure of Article 17 with reference to Annex 5 of the Grant Agreement subject to the following provisions: Prior written notice of the draft version of any planned Dissemination shall be given to the other Parties at least forty-five (45) calendar days before the planned Dissemination submission date. Any objection to the planned publication shall be made in writing to all Parties within thirty (30) calendar days after receipt of the written notice. If no objection is made within the time limit stated above, the Dissemination is permitted. SEEDS partners are invited to refer to the SEEDS Consortium Agreement Article 8.4.*

4 PLAN FOR EXPLOITING RESULTS

Chapter 4 describes the methodology to be used by RINA within Task 6.1 for the management of SEEDS' five exploitable results (ERs) and ten individual results (IRs). The methodology was written by R2M and validated by RINA. It clarifies the different steps that will lead to the definition, management, and valorisation of exploitable results. In doing so it explains how SEEDS foreground will drive post-project activities and contribute to the impact of the project. Moreover, the chapter describes the content of the questionnaire that will be sent at the end of M6 to the project partners, with the aim of obtaining useful information regarding the exploitation of the project results. The two workshops that will be carried out during the project and the methodology that will be used for IPR management are also anticipated.

4.1 EXPLOITABLE AND INDIVIDUAL RESULTS

As a base definition, exploitable results (ER) are the achieved and/or expected results coming from the project that will have an impact on economy, environment and/or society. In the case of SEEDS, there are 5 joint ERs and 10 individual results (IRs).

These results have commercial or social significance and can be exploited as stand-alone products, processes, services, etc. In principle, these exploitable results might need further R&D, prototyping, engineering, validation after the project ends and before they become commercially exploitable. ERs / IRs can be categorized into several areas. They are not rigid but, for here, the following areas are considered:

- **Products & applications** – items for sale (e.g., hardware or software)
- **Processes** – ways to make or do something
- **Know-how** – valuation of "how to"
- **Services** – by offering the above products, processes, equipment, or knowledge
- **Other** – Platform, publications, patent….

According to the Horizon 2020 text, Key Exploitable Result is defined as:

"Any tangible or intangible output of the action, such as data, knowledge and information whatever their form or nature, whether or not they can be protected, which are generated in the action as well as any attached rights, including intellectual property rights".

A Key Exploitable Result (KER) is an identified main interesting result (as defined above) which has been selected and prioritized 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 following two criteria have been used to select and prioritise results:

1. **Innovation risk:** Degree of innovation and exploitability
2. **Impact:** Economic, scientific, environmental and/or societal impact

4.2 STRATEGY FOR SEEDS RESULTS MANAGEMENT

The exploitation of project's results means to make use of the results produced in further activities (other than those covered by the project, e.g. in other research activities; in developing, creating and marketing a product, process or service; in standardisation activities). The overall strategy for the management of exploitable results can be broadly divided in the three phases as shown in Figure 7.

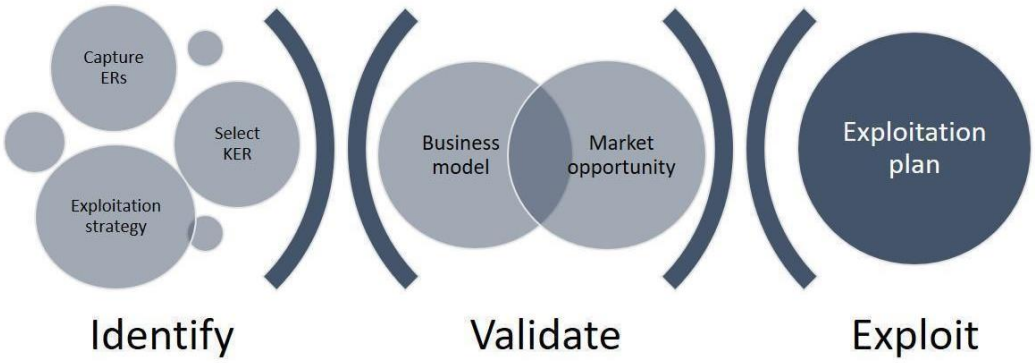


Figure 7. Overall strategy for exploitation management

The phases consist of a range of activities and are supported by a set of tools. Each phase is explained briefly below.

Identify: In this phase, exploitable results are being identified, collected, and analysed. Starting point is the list of project results as defined in the Grant Agreement. For each identified result key information is being collected like the manager of the ER, type of ER, the used background, the co-developers, the current and expected TRL, development status and initial exploitation vision. For the collection of this information, an ER-questionnaire has been distributed to the ER managers (Annex 1). An impact assessment is done to identify the Key exploitable results from the project. This assessment is described in more detail in the following paragraph.

Validate: In the Validation phase, it is being explored what kind of value propositions are being enabled by the ER. The focus shifts from the technical capabilities of the ER to the customer value and accompanying business model. A quick market analysis is being conducted and by engaging with target customers, end-users and other stakeholders, a check is done if the ER

addresses a real need or problem. Goal is to come to a validated viable, feasible and desirable business model supported by the ER owner(s). Tools typically used in this phase are the business model canvas, value network model or value proposition canvas.

Exploit: In the Exploit-phase the exploitation plan is being detailed out. After having developed the business model in the previous phase, arrangements need to be made to secure post-project exploitation of the ER. This involves setting up partner agreements, IPR agreements and secure funding for further commercialisation or development of the ER. This phase ends with the kick-off of the exploitation plan.

This three-phase strategy is a continuous process where during any time in the project, new project results can be identified as an exploitable result. To ensure timely identification of exploitable results, meetings with all project partners will be organised on a regular basis to discuss and review the list of (key) exploitable results.

4.3 PRIORITISATION AND IDENTIFICATION OF ERS

For the prioritisation of ERs, an ER assessment has been developed. The goal of the ER assessment is to identify the exploitable results with the highest expected return and the lowest innovation risk. This enables the project to define targeted and focused exploitation activities and spend their resources in the most efficient way.

The assessment comes in the form of a questionnaire. The questionnaire contains two sets of questions, one covering the set of indicators for the expected impact of the ER, the other covering the set of indicators for the innovation risk of the ER. The indicators have been selected based on the impact requirements of the call. Both sets of questions have the same structure, consisting of three elements: Indicator, Value and Evidence.

The indicators are the variables used for measuring the expected impact and innovation risk. For each project a set of indicators need to be defined to do justice to the specifics of the business domain and developed foreground.

The 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. Where possible, indicators can be quantified, e.g., 15% reduction, 2 million households etc.

Evidence needs to be provided and is used to support the underlying hypothesis of the ER indicator. The strength of a piece of evidence determines how reliably the evidence helps support or refute a hypothesis. Table 5 shows examples of weak and strong evidence.

Table 5. Examples of weak and strong evidence used in ER assessment

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

For each indicator, the ER manager is requested to rank the value for each indicator and provide supporting evidence. Each completed questionnaire will be discussed with the Innovation Manager and the ER manager together to ensure the result of the assessment is unambiguous. The Innovation Manager assesses the completed questionnaire and ranks the expected impact and innovation risk. Scores can be "low' or "high", reflecting the scores on the exploration board which is explained in the next paragraph. The result of this assessment has been submitted to the ER manager for approval.

4.4 MANAGING AND TRACKING SEEDS RESULTS

Based on the results of the ER assessment, each ER is positioned on the Exploration Board (Figure 8). The Exploration Board is used to track the status of each ER and have one dashboard-like overview of the status of all ERs of the project. The Exploration Board is adapted from the Portfolio Map as developed by Osterwalder[1]. The two axes of the board represent the expected impact and the innovation risk of the ER and are both ranged from low to high. This results in four quadrants on the board, being:

1. **Rising Star** (high impact, low risk): ERs with significant impact, either economic, societal, or otherwise and with low innovation risk, e.g., because the evidence shows

[1] Osterwalder A. et al., 2020, The Invincible Company, John Wiley & Sons, ISBN 978-1119523963

clear market demand, are placed here. In general, his quadrant will contain most of the key exploitable results.

2. **Safe Play** (low impact, low risk): ERs with low innovation risk but also low impact because of limited marketability or serving a niche market are placed in this quadrant.
3. **Niche Opportunity** (low impact, high risk): ERs with low impact and high risk are in general not very attractive for exploitation and to invest resources in but sometimes they can be input for follow-up research.
4. **Promising concept** (high impact, high risk): ERs with high impact and high innovation risk are often more disruptive innovations or innovations opening new markets. Key exploitable results are also likely to be found here.

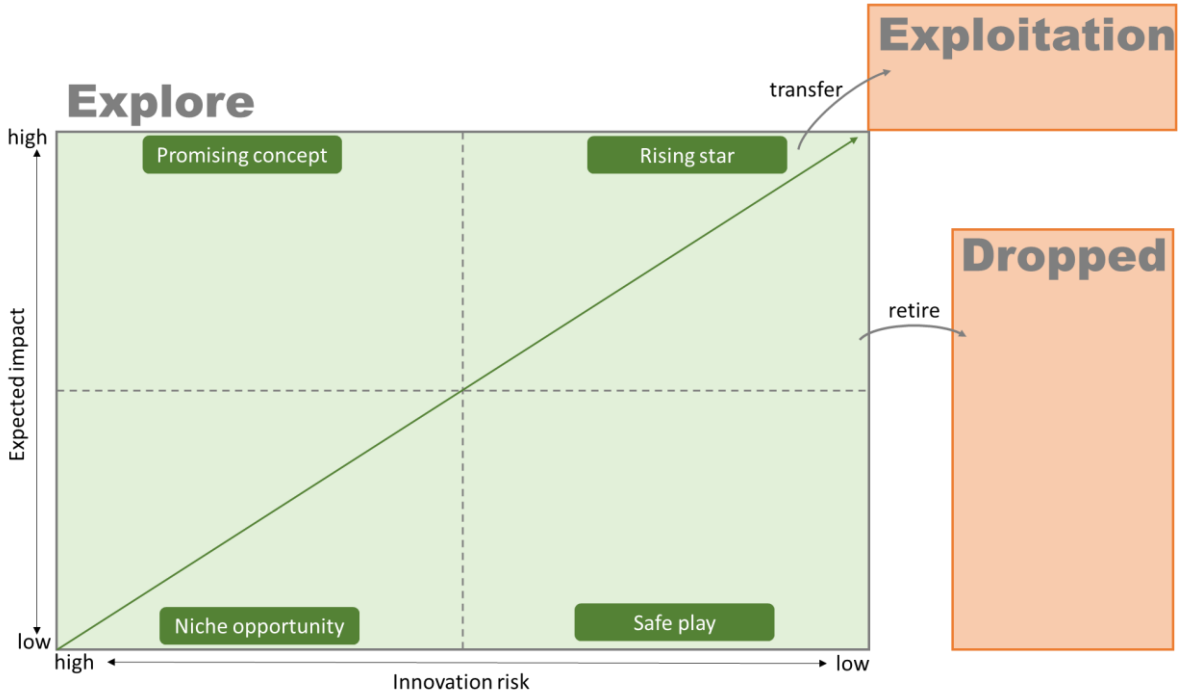


Figure 8. Exploration board

During the project, the board is used for tracking the ERs. Each ER is plotted on the board with the results of the ER assessment determining in which quadrant the ER will be positioned. Throughout the project, actions are defined for increasing the expected impact, reducing the innovation risk or both, and moving the ER towards the “Rising Star” quadrant, ensuring maximum impact of the project. When an ER is successfully being exploited, it will be removed from the Exploration Board and transferred to the Exploitation Board. When it is concluded that an ER cannot be exploited in any viable manner, the ER will be dropped and will also be removed from the Exploration Board. The aim is to have the Exploration Board cleared when the project is finished.

4.5 PROJECT RESULTS QUESTIONNAIRE

To make effective the exploitation model with appropriate and adequate exploitation strategy it is necessary to identify relevant characteristics of the project results. Through the "Project Results Questionnaire" it will be possible to identify the crucial aspects, which will ensure successful implementation and the market entry of the identified project results. This questionnaire is going to be sent to project results owners by the end of M6.

To this aim, lead partners of the PRs will be asked to address each specific question regarding the KER considered and its developments.

The questions will mainly regard four key areas:

- General description of Project Result focusing on its innovativeness and competitive advantages
- Market context in which the product will be introduced
- IPR management detailing the role of partners involved
- Exploitation Strategy.

The questionnaire will be a table (Key Exploitable Results Table) composed of approximately 20 sections to be completed, including the description of the result, the market characteristics, implementation costs, time to market, the status of IPR and more. It is not certain that project results owners will immediately be able to correctly answer all sections of the questionnaire. Therefore, the questionnaire is an open document that can be modified at any time during the course of the project by the project results owner.

4.6 EXPLOITATION WORKSHOPS

Two workshops are planned to be held during the project. In fact, once all the project results have been identified and all the necessary information has been obtained, the first workshop (M24) is carried out with the aim of discuss and select with the project partners, the most promising KERs under a business perspective. The second workshop (M36) will have the aim of identifying the correct business model for the most promising project results identified in the first workshop.

The tool used to describe the business model of the project results will be the Business Models Lean Canvas (Figure 9). The Lean Canvas model is derived from BM Canvas from which some modifications have been made in order to make it more adaptable to an early stage of a business idea. This model summarizes important aspects of the business under consideration in one single scheme, allowing an immediate understanding of the key features of the business. Therefore, the Lean Canvas is concise, and efficient.

Figure 9. Business Model Lean Canvas

4.7 IPR MANAGEMENT

To achieve effective exploitation of SEEDS project results, proper management of the intellectual property of the results must be established. IPR management involves carrying out several activities, the main ones being the assessment of the pre-existing knowledge of the project partners, their potential contribution to the intellectual property of the project results, and the potential overlap of IP to develop and prepare the formulation of the IP strategy of the consortium. This activity will be carried out through the BFMULO Matrix, presented below in this chapter.

In addition, in order to constantly monitor the IPR intentions of the partners responsible for one or more exploitable results, every 12 months the partners will be asked to update their IPR intentions through a specific questionnaire. The partners responsible for each project result will be asked if they intend to adopt one of the following formal IPR measures (if not already planned before the start of the project):

- Patents
- Utility Models
- Industrial Design

- Copyrights
- Trademarks

If they're intention is not to protect the result through a formal IPR measure, it will be asked if they intend to protect their results through informal methods (such as trade secret, confidentiality, restricted access to information, etc.).

The partners will be provided with a detailed explanation of each type of intellectual property and, if requested, RINA will be available to discuss the most suitable type of intellectual property to protect the results of SEEDs project.

Particular attention will be given to the patent application issue, in particular an overview of the various entities that govern this area will be provided during the several General Assembly/Review Meeting/Workshops.

According to the procedure for knowledge and management protection, each partner must notify the Exploitation Manager as soon as possible about the technical content it intends to protect and the related ownership rights (including joint ownership). In this scenario, it is considered best practice to consult with other parties involved before choosing whether and how to protect a specific result. If any patent is developed during the SEEDs project, RINA is available to perform, upon request, a Preliminary Patent Analysis by using the Patsnap tool. Such an analysis could be useful in determining a preliminary operational freedom for project partners, but also in assessing the current patent scenario in the specific topic of the chosen project results.

4.8 BFMULO MATRIX

The BFMULO analysis will be used as one of the methods to characterize the exploitation intentions of the Consortium partners and to evaluate the involvement of each of them within the project and Key Exploitable Results. Each letter of the acronyms refers to a specific intention:

- (B) Background
- (F) Foreground
- (M) Making
- (U) Using
- (L) Licensing
- (O) Other

Background (B) mean, in the context of Horizon 2020 and Horizon Europe, "any data, know-how or information whatever its form or nature, tangible or intangible, including any rights such as intellectual property rights, which is: held by the beneficiaries before they acceded to the

Agreement; needed to implement the action or exploit the results". Background includes the pre-existing IP, know how, knowledge and any additional data that is needed for the project and that each partner is going to bring to the project itself. It also stated in the GA that If background is subject to rights of a third party, the beneficiary concerned must ensure that it is able to comply with its obligations under the Agreement.

Foreground (F) (or Results) mean "any tangible or intangible effect of the action, such as data, know-how or information, whatever its form or nature, whether or not it can be protected, as well as any rights attached to it, including intellectual property rights". The granting authority does not obtain ownership of the results produced under the action. The exploitation methods are resumed in the following four cases, reflecting the partner's intention to exploit the results by:

- Making (M) the products, manufacturing and selling or directly implementing through own facilities and skills.
- Using (U) the result, implemented with own knowledge to develop new ranges of products or newer processing. Furthermore, the direct or indirect use of foreground in further research activities other than those covered by the project, or for developing, creating and marketing a product or process, or for creating and providing a service.
- Licensing (L) the result, therefore earning from a negotiation towards third parties outside the Consortium.
- Other (O) any other exploitation means (e.g.: consultancy, services, etc.).

The BFMULO matrix is included in the Characterization Table tool, that will be shared with all the partners developing a result within SEEDS project. In the related section, partners responsible for a Key Exploitable Result will be asked to claim their background, foreground, and result's exploitation intention. Moreover, all participants in the Consortium have been asked to declare their intentions in reference to each Key Exploitable Results of the project, by completing a specific BFMULO matrix.

RINA-C will ask soon, and constantly update, the above-mentioned BFMULO Matrixes to all the partners involved in the SEEDS project.

5 CONCLUSION

This report presented the strategic plan for DEC activities of the SEEDS project, which will be implemented by all partners during the whole project lifetime. The two distinct aspects of DEC are led in conjunction with one another, namely C&D is led by R2M, and exploitation by RINA. It's considered a process document, the contents of which to be updated in periodic reporting.

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