iCOSHELLs

D2.1 LIVING LAB OPERATIONAL STRUCTURE DOCUMENT

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Executive Summary

The iCOSHELLs project (Innovative Co-creation Soil Health Living Labs) aims to establish and manage Soil Health Living Labs (LLs) to address soil degradation and foster sustainable land management. This report outlines the operational framework necessary for the successful implementation of these LLs, ensuring they function as dynamic, real-world innovation ecosystems.

The operational structure of Soil Health Living Labs is designed to balance decentralized or distributed organization with coordinated oversight, enabling multi-stakeholder collaboration while maintaining strategic alignment with project governance and EU soil health policies. The report highlights key components such as the Living Lab Office (LL Office), which serves as the central hub for coordination, research facilitation, stakeholder engagement, and knowledge dissemination.

Key roles within the LL Office include:

- *Living Lab Manager – Oversees strategic direction and ensures coordination across LLs.*
- *Experimental Site Manager – Leads soil health experiments and ensures scientific rigor.*
- *Sampling Coordinator – Standardizes data collection and quality control.*
- *Co-Creation & Stakeholder Manager – Facilitates collaboration and multi-actor engagement.*
- *Communication Lead – Manages dissemination and visibility of LL activities.*

As a Steering Group, it provides a structure, ensuring alignment with broader project goals while maintaining responsiveness to local soil health challenges. The experimental management structure of LLs integrates real-life settings, fostering co-creation, systematic monitoring, and adaptive decision-making. By implementing agile methodologies, cyclic innovation, and action research, LLs remain flexible and iterative, allowing for continuous improvement based on scientific and stakeholder feedback.

The monitoring and reporting framework ensures transparency and relevant assessment through standardized qualitative data collection, tracking operational excellence, and integrating stakeholder insights. Digital tools and shared knowledge platforms further enhance cross-LL collaboration and scalability of successful interventions.

By embedding these principles, the iCOSHELLs project positions Soil Health Living Labs as sustainable, stakeholder-driven innovation ecosystems, contributing to Europe's Mission Soil objectives. The structured yet adaptable management approach ensures LLs generate impactful, scalable, and data-driven solutions for soil restoration and sustainable land use.

Introduction

Context

Living Labs (LLs) have emerged as an innovative, systemic approach to co-creation and experimentation, integrating multiple stakeholders in real-world environments to develop, test, and refine solutions collaboratively. The concept is rooted in open innovation and user-centred research methodologies (Følstad, 2008), enabling the development of practical, scalable solutions across diverse sectors, including soil health. Effective operational management is critical to ensuring that Soil Health Living Labs function optimally by coordinating stakeholders, structuring governance, facilitating knowledge exchange, and implementing monitoring mechanisms (Ståhlbröst, 2012).

The European Commission defines Soil Health Living Labs as “user-centred, place based and transdisciplinary research and innovation ecosystems, which involve land managers, scientists and other relevant partners in systemic research and co-design, testing, monitoring and evaluation of solutions, in real-life settings, to improve their effectiveness for soil health and accelerate adoption” as seen in Löbmann, 2022.

Content and purpose of this report

This report provides a framework for the establishment and operational management of Soil Health Living Labs (LLs) within the iCOSHELLs project. Recognizing the pressing challenges of soil degradation across Europe, the EU Mission Soil aims to leverage Living Labs as innovation hubs where multiple stakeholders collaborate in real-world environments to co-develop and test solutions for soil restoration. The iCOSHELLs project aligns with this mission by establishing a structured approach to managing these Living Labs, ensuring that governance, stakeholder engagement, and experimental activities contribute to impactful, scalable, and sustainable soil health interventions.

The purpose of this report is to outline the key elements of the operational structure of Soil Health LLs, including the steering structure, coordination mechanisms as a focal point, and methodological frameworks that will guide the implementation of the LLs. By defining the roles and responsibilities of different actors, including researchers, policymakers, farmers, and industry partners, the report aims to establish a structured yet flexible system that balances decentralized decision-making with centralized coordination. Additionally, the document provides insights into the methodologies and tools necessary to achieve that each LL remains adaptive and responsive to soil health challenges. Through this structured but open approach, the report serves as a guide for the successful implementation, replication, and long-term sustainability of Soil Health Living Labs across diverse and particular ecosystem contexts.

Definition and importance of operational management in Soil Health Living Labs

Operational management in Living Labs refers to the structured coordination of activities, resources, and stakeholders within a multi-actor environment. These LLs rely on an iterative, co-creative process where farmers, scientists, policymakers, and businesses interact to generate evidence-based practices that improve soil health (Westerlund & Leminen, 2011). Unlike traditional research methods, LLs emphasize real-world experimentation where users (e.g., land managers, owners or farmers) are active co-creators rather than passive subjects (Leminen et al., 2012).

A well-managed Soil Health Living Lab presents a decentralized yet coordinated structure, allowing local autonomy while maintaining alignment with overarching management structures. This balance is crucial in fostering stakeholder engagement, ensuring active participation from public institutions, private enterprises, academia, and civil society actors. Additionally, efficient resource allocation plays a key role in managing human and technological resources to maximize impact. Another fundamental aspect of operational management is monitoring and reporting of progress, which supports systematic data collection, evaluation of soil health indicators, and integration of feedback loops (Greve et al., 2017). These components collectively contribute to the sustainability and adaptability of LLs, allowing them to function as dynamic and responsive innovation and experimentation ecosystems.

Setting up an operational structure is crucial for the long-term success and adaptability of LLs. A structured yet flexible framework is required, where a centralized coordinating entity, such as a Living Lab Office, provides strategic direction and oversight while, at the same time, local stakeholder groups retain decision-making input, adapting methodologies to regional soil conditions and socio-economic contexts (Leminen et al., 2016). The collaborative nature of LLs is reinforced through co-creation and multi-stakeholder engagement, particularly within the quadruple-helix model, where government, industry, academia, and citizens co-develop solutions (Greve et al., 2017). This operational structure fosters participatory practices, ensuring that innovation processes remain aligned with real-world challenges and opportunities.

A defining characteristic of Soil Health Living Labs is their real-life experimentation approach, which embeds soil health interventions within actual agricultural and environmental settings. Unlike traditional laboratory-based research, this in-situ methodology allows for the observation and validation of soil management strategies under natural conditions, increasing the relevance and scalability of findings (Ståhlbröst, 2012). Furthermore, the LLs will depend on continuous knowledge exchange and capacity building, facilitated through regular stakeholder workshops, digital knowledge-sharing platforms, and participatory training programs (Greve et al., 2016). To ensure systematic evaluation of progress, LLs integrate monitoring frameworks. In the case of iCOSHELLs using soil health indicators such as organic matter content, microbial biodiversity, and erosion rates to track and refine interventions. By implementing data-driven decision-making tools, LLs enhance the transparency, accountability, and overall effectiveness of their experimental frameworks, driving impactful and sustainable innovations in soil health.

The operational structure and its subsequent management form the backbone of effective Soil Health Living Labs, enabling structured yet adaptable frameworks that facilitate experimentation, innovation, collaboration, and knowledge generation. By embedding coordination mechanisms, stakeholder and user-driven decision-making, and systematic monitoring, LLs can generate actionable solutions that contribute to soil sustainability goals within

the broader framework of the EU Mission Soil. The next sections will delve into the establishment of LL operational structures and daily oversight to further elaborate on practical implementation strategies. Building upon these foundational elements of operational management and living labs, the next section explores how a decentralized yet coordinated structure aims towards Soil Health Living Labs functioning effectively within real-world settings.

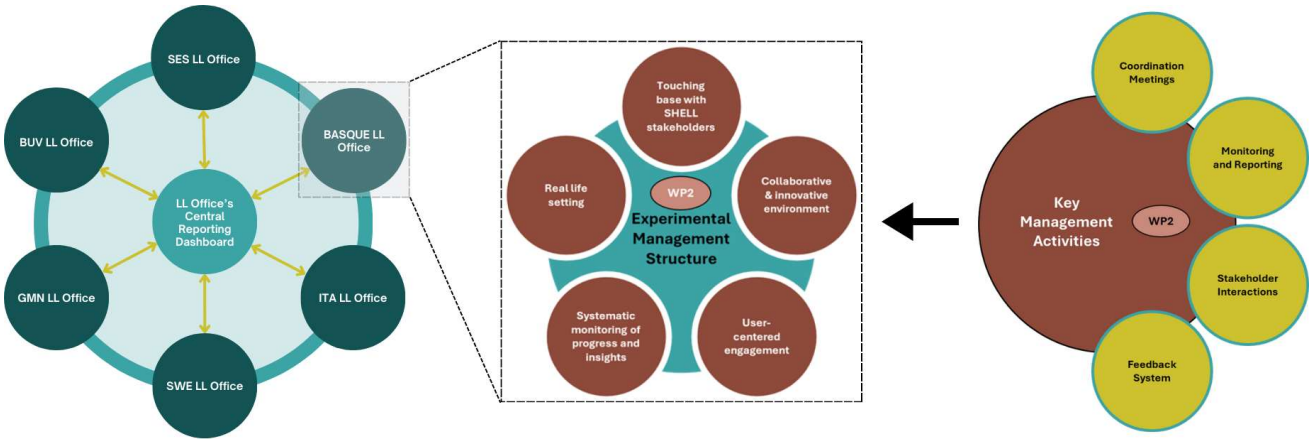

Figure 1: Operational management structure of Soil Health LLs

Establishing the Soil Health LL Operational Structure

This chapter focuses on the operational structure coordination mechanisms necessary for a distributed network such as a LL to function and related processes within the Soil Health Living Labs. It starts by introducing the general concept and principles applicable to the iCOSHELLs Living Labs. Next, it outlines the roles and responsibilities of all involved partners in setting up the LL Office. Additionally, it delves into the management of an innovation ecosystem and discusses decision-making bodies relevant to daily operations, responsible of activities such as organising meetings involving all LLs and reporting requirements, as well as guidelines for managing the Living Labs effectively.

Adopting Living Lab principles for decentralized but coordinated management

The Soil Health Living Lab's operational structure exemplifies a real-life approach to decentralized and distributed (Bodó et al., 2021) yet coordinated management, fostering innovation while ensuring alignment with overarching objectives and policies. This structure is underpinned by key principles that guide its effectiveness. Decentralized yet coordinated management is a core principle of Living Labs which ensures that stakeholders operate with autonomy while aligning with overarching governance structures. In Soil Health Living Labs, this model is essential

to balance local adaptation with shared methodologies, reinforcing co-creation, stakeholder engagement, and real-world experimentation.

Fostering innovation tailored to local conditions while ensuring alignment with broader project objectives and EU soil health policies, the LLs operate as networks of decentralised and distributed roles, tasks, and communication towards a common overarching goal. A key principle in Soil Health Living Labs is multi-actor collaboration, which integrates the quadruple helix into an open innovation framework which favours coordination. These networks enable reciprocity, temporality, and multiplicity, ensuring management structures remain flexible and adaptable to evolving challenges while benefiting from diverse expertise (Nyström et al., 2014). By involving multiple stakeholders in a co-creation model, LLs facilitate participatory decision-making and enhance the practical implementation of soil health innovations and solutions.

Another fundamental principle of LLs is iterative learning and adaptation, ensuring continuous refinement of methodologies through real-world experimentation and stakeholder feedback loops. This approach enables LLs to dynamically adjust operational strategies based on new scientific findings, technological advances, and policy changes (Budweg et al., 2011). As detailed in the corresponding Work Packages, through the integration of soil monitoring data, stakeholder insights, and scientific analysis, LLs create responsive and data-driven frameworks, strengthening their ability to address site-specific and system-wide soil health challenges (Kuhk et al., 2015).

Transparency and knowledge-sharing further reinforce decentralized operations in LLs. By implementing open data practices and a platform to exchange knowledge and progress, LLs facilitate best practice dissemination and collaborative learning across the network of LLs (Leminen et al., 2012; Schaffers et al., 2012). Additionally, aligning LLs with local initiatives ensures their integration into regional development strategies, positioning them as boundary-spanners that connect academic, industrial, and governmental stakeholders (Geenhuizen, 2016). This alignment enhances impact and scalability, ensuring that LLs contribute effectively to national and EU-wide soil health policies. By embodying the principles exhibited above (multi-actor collaboration, iterative learning, transparency, and local integration), Soil Health Living Labs create a resilient, adaptable, and scalable operational model, reinforcing their role as key facilitators in the EU Mission Soil framework.

Soil Health Living Lab Office setup

To ensure that each LL operates with autonomy in the day-to-day implementation of actions and activities while aligning with overarching governance structures and strategy, a structure is proposed to foster said coordination. In the Soil Health Living Labs framework, each lab establishes a dedicated operational office that serves as the central hub for activities related to the LL. This office shall coordinate research efforts, facilitating stakeholder interactions, and managing data collection, as well as communicating with the other Living Labs being set up throughout the iCOSHELLs project. The structure of the LL Office will serve the project by integrating the following components, thus ensuring a holistic approach to managing soil health actions and activities. This structure not only promotes innovation tailored to local conditions but also aligns with broader project objectives and EU soil health policies, thus contributing to the overarching goal. These components are:

The talent in the LL will be responsible for overseeing daily activities, allocating resources, and ensuring timely reporting by creating a steering group. Effective operational management is crucial for maintaining the Living Lab's functionality and achieving its objectives. According to the European Network of Living Labs (ENoLL), defined roles foster efficient operations and successful living labs operate as intermediaries among citizens, research

organizations, companies, and government agencies, orchestrating collaboration and innovation. Thus, the need for a multidisciplinary team to steer day to day activities. The composition of the team and key roles within the scope of iCOSHELLs is discussed in the following section.

Ensuring scientific rigor in experiments and compliance with soil monitoring standards also falls under the purview of the LL Office. Thus, the need for technical support from Research Infrastructures (RIs). This component guarantees that all research activities adhere to established protocols and contribute valuable data to the broader scientific community. The LL Office collaborates with the Research Infrastructures of their convenience to ensure soil experiments are conducted in compliance with sampling standards identified in WP3. RIs provide the essential tools for long-term biodiversity monitoring and data collection (Manrique et al., 2021), fostering integration between local knowledge and broader EU soil health policies.

Furthermore, the LL Office will also oversee the following tasks which fall into one key management activity (see *Key activities to manage operations*) or another. Managing co-creation workshops, fostering community involvement, and addressing conflict resolution are among the responsibilities of this LL Office. Engaging a diverse array of stakeholders, and finding representation among policymakers, researchers, industry representatives, and citizens, ensures that multiple perspectives are considered, leading to more comprehensive and applicable solutions.

Lastly, data and knowledge are at the centre of the objectives for the project. The LL Office is to maintain connection to the central dashboard in the project share-point where reports will be uploaded. This can be used as an internal dissemination tool with the intention of sharing methodologies, assessments, or lessons learned, serving internal purposes. This way each LL can gain insight from the activities of the other LLs in the iCOSHELLs project. Transparent data management will also fall under the supervision of the LL Office to facilitate knowledge sharing and accelerate the adoption of successful strategies across different regions.

Key roles and responsibilities

In order to achieve the characteristics of the LL Office described previously, it will be set up with representatives of stakeholders participating in the Soil Health LLs with specific roles. Consequently, some profiles are proposed (see Figure 2) to be adopted among the Living Lab's stakeholders as defined roles foster efficient operations. This is especially true for a methodology with a varying application between contexts. The following are a brief overview of the profiles identified for the purpose of managing the Living Lab in its daily functions. A more detailed description of each role will be attached in Annex 1 as an adaptable profile. Due to the varying contexts between LLs, there is room for adaptive utilisation of the ideas proposed in this report.

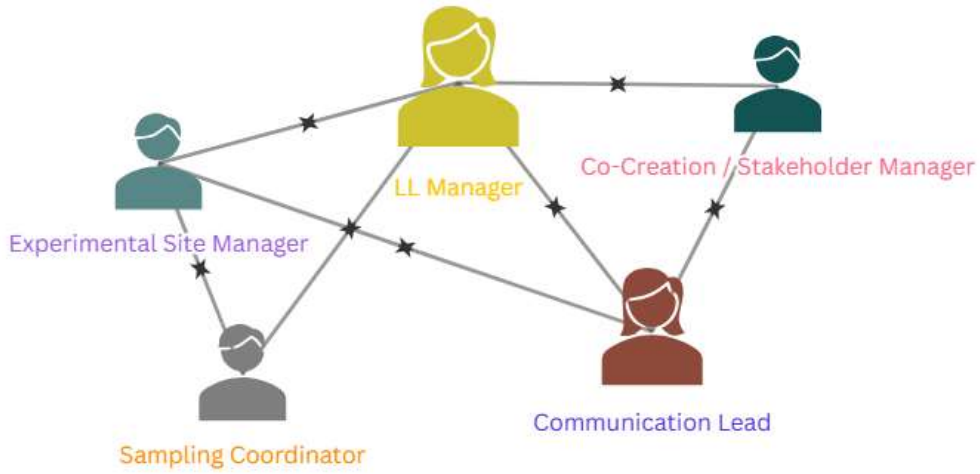

Figure 2: Soil Health Living Lab Roles

The Living Lab Manager is responsible for the strategic direction, inter-Living Lab coordination, and stakeholder collaboration. This role serves as the primary facilitator, ensuring that Soil Health LL operations align with broader EU soil health policies and funding requirements. As an innovation orchestrator, the Living Lab Manager integrates scientific, policy, and practical perspectives, ensuring that experiments remain relevant, impactful, and scalable (Nyström et al., 2014; Leminen et al., 2012).

The Experimental Site Manager leads the planning, execution, and monitoring of LL experiments. Their responsibilities include coordinating with farmers, land users, and researchers, ensuring experimental integrity, stakeholder feedback integration, and milestone tracking. This role plays a key role in balancing scientific rigor with real-world applicability, ensuring that findings contribute to evidence-based soil health interventions (Heikkinen et al., 2007).

The Sampling Coordinator ensures data consistency and methodological standardization across LL sites. This role is instrumental in harmonizing soil sampling protocols, training field teams, and maintaining high-quality analytical outputs. The Sampling Coordinator also facilitates inter-laboratory validation, supporting research infrastructures (RIs) in producing reliable soil health datasets (Nyström et al., 2014; Tercanli et al., 2024a) which in the case of the iCOSHELLs project are to be uploaded to the web application for soil sampling data created by the Universidad Politécnica de Madrid (UPM).

The Co-Creation and Stakeholder Manager leads stakeholder engagement efforts, ensuring inclusive participation of quadruple-helix actors (government, industry, academia, and civil society). Their responsibilities include facilitating participatory innovation, stakeholder mapping, conflict resolution, and knowledge co-creation. This role fosters boundary-spanning activities, enabling efficient communication and iterative problem-solving among LL actors (Schaffers et al., 2012; Tercanli et al., 2024b).

The Communication Lead is responsible for dissemination, networking, and visibility of LL activities. This role manages media outreach, public engagement, and knowledge-sharing platforms, ensuring that project insights reach relevant stakeholders and contribute to EU-level discussions on soil health. Transparent communication strategies help bridge gaps between scientific research and policy implementation, fostering cross-regional collaboration (Leminen & Westerlund, 2012).

Steering group

The Steering Group serves as the operational decision-making body responsible for overseeing the daily operations and strategic activity implementation of the Living Lab Office. Its primary objective is to ensure that all activities align with LLs innovation goals, stakeholder interests, and broader soil health policies (Geenhuizen, 2014; Schuurman et al., 2025). This operational body plays a crucial role in coordinating multi-actor collaboration, fostering an inclusive approach to soil health experimentation, and ensuring transparency in management. By integrating expertise from various sectors, the Steering Group strengthens the Living Lab's ability to develop sustainable solutions for soil health management due to their ability to conduct interventions as well as technical steering which deals with constructing solutions and coordinating between specialties (Nepomuceno et al., 2021).

The Steering Group has a clearly defined scope of responsibilities, including strategic oversight of LL operations to ensure adherence to research objectives and methodological frameworks, as well as being able to offer a rapid response should a problem or challenge arise. Its smaller scale can help avoid bureaucracy in daily actions. It makes key decisions on resource allocation, action setting, and management of activities ensuring that day-to-day actions align with LL's long-term goals. Additionally, it facilitates co-creation and stakeholder engagement by involving diverse actors in experimental activities, aided by the content created by WP1. To uphold scientific integrity and regulatory compliance, the group is also provided with ethical and policy guidance by the project, aligning all initiatives with EU soil health regulations (Bouma et al., 2022) and following established sampling standards such as are derived from the work throughout WP3. This decision body acts as a bridge between research institutions, industry leaders, policymakers, and local communities, reinforcing the quadruple-helix approach to innovation (Zavratnik et al., 2019).

A recommendation to including key representatives from different sectors stems from creating the Steering Group as a well-rounded steering structure. The LL Manager leads the group, deciding and pivoting swiftly between actions and ensuring adherence to governance frameworks. A Secretary is to be appointed to manage internal communications and documentation, maintaining an organized decision-making process. Scientific and technical advisors from academia or industry can provide expertise in soil health experimentation, while other industry representatives contribute insights on innovation scaling and market integration. Public sector officials ensure compliance with local/regional soil and environmental policies, and local community and user representatives, offer essential on-the-ground knowledge from experience (Schaffers et al., 2012). Together, these members create a balanced operational management unit that encourages inclusive decision-making and sustainable soil management strategies.

The Soil Health LL as an Experimental Management Structure

Soil Health LL experimental management structure

The Soil Health Living Lab functions as an experimental management structure, integrating real-life environments with systemic innovation processes. LLs adopt a multi-actor approach to facilitate co-creation, decision-making, and adaptive learning in soil health interventions (Geenhuizen, 2014; Ceseracciu et al., 2023). To ensure efficiency, the LL Office oversees that the experimental and innovative components of the structure, which define this experimental management structure, are being attended to through key management activities. However, an overview of this structure before delving into the activities and actions which inform its correct functioning is in order. These elements (see Figure 3) structure the ecosystem characteristics aimed to experiment, monitor, and scale solutions effectively (Schaffers et al., 2012; Potters et al., 2022).

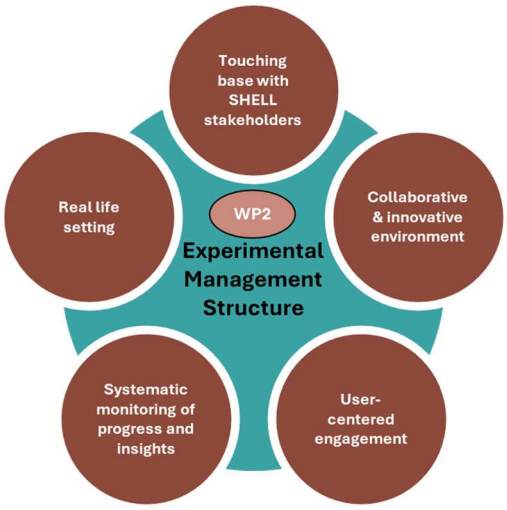

Figure 3: experimental management structure of Soil Health LLs

Real life setting

Soil Health Living Labs are real-world research environments that integrate agricultural and ecological settings, ensuring that innovation remains deeply embedded in practical complexities (McPhee et al., 2021). LLs emphasize in situ testing to account for the full range of environmental, social, and economic factors that influence soil health (Schuurman et al., 2025). These LLs operate within local agricultural landscapes, utilizing working farms, conservation areas, and peri-urban green spaces as experimental sites. Their approach enables continuous adaptation to climatic and regional soil conditions while monitoring interventions in live ecosystems over extended timescales (Potters et al., 2022).

Beyond their local operational scope, LLs also contribute to regional and international objectives, aiming to scale tested solutions and integrate findings into broader policy and scientific frameworks. By generating valuable soil health data, these Living Labs support European Union soil databases, helping to inform sustainable agricultural practices and land management strategies across diverse contexts (Schuurman et al., 2025). This approach ensures that insights gained from LLs not only address immediate community needs but also contribute to larger efforts in improving soil resilience and ecological sustainability at multiple levels.

Touching base with Soil Health LL stakeholders

A successful LL ecosystem requires structured stakeholder engagement across government, academia, industry, and civil society. This multi-actor involvement ensures that research is co-designed, validated, and implemented with end-users (Ceseracciu et al., 2023). To achieve coordination, structured meetings scheduled regularly with stakeholders by the LL Office or working groups, to discuss progress, challenges, and next steps are a big part of fostering this type of environment. Co-creation goes hand in hand with all other characteristics of an innovation ecosystem and informs its processes. Hosting interactive sessions to collaboratively address specific issues or opportunities is another way to touch base while fostering a collaborative and innovative space.

Collaborative & innovative environment

According to the International Organization for Standardization (ISO) 56002 on Innovation Management, collaboration supports innovation operations by enabling the exchange of knowledge, competencies, and expertise, providing access to infrastructure, portfolios, markets, and users essential for acquiring new resources and skills. Furthermore, it fosters diversity by incorporating varied experiences, disciplines, and perspectives, which are crucial for understanding user needs, expectations, and challenges.

This cooperative approach is particularly evident in Living Labs, which serve as dynamic environments for practical innovation projects. Operating within an open innovation framework (Geenhuizen, 2014), Living Labs bring together firms, research institutions, and end-users to co-develop and test new solutions, ensuring that innovation is both accelerated and effectively tailored to the real-world needs of soil health. By involving users early in the process as co-creators, where stakeholders actively contribute to the design, testing, and implementation of solutions through iteration cycles, Living Labs enhance the relevance and impact of emerging technologies and practices. As central orchestrators, they facilitate user-centric experimentation, foster stakeholder engagement, and coordinate systemic innovation activities, ultimately driving more sustainable and impactful outcomes (Fauth et al., 2024).

User-centred engagement

As a type of Living Lab, Soil Health LLs embrace a user-centred approach and an open innovation ecosystem, directly embedding research and development activities into everyday environments. These settings foster collaboration among stakeholders to co-design, test, and refine solutions within their intended use contexts, ensuring practical applicability and local impact. In concrete terms, sampling, experiments, and engagement with end users all occur within a designated operational area, reinforcing the Living Lab's role as a complementary entity in broader local initiatives. This localized focus ensures that LLs align with existing agricultural and environmental efforts with the user at the centre while also allowing for responsive adaptation based on regional conditions (Schuurman et al., 2025).

User-centred approaches are fundamental to driving effective soil health innovation, as they ensure that solutions are practical, context-sensitive, and widely adopted by engaging farmers, land managers, and communities in knowledge co-creation (Ceseracciu et al., 2023). A key component of this engagement is capacity building through training and workshops, which enhance the capacity of local stakeholders by integrating both scientific and traditional knowledge (Löbmann et al., 2022; Soto et al., 2021). These sessions facilitate knowledge exchange and empower participants to implement sustainable soil management practices effectively. Social learning networks play a crucial role in fostering peer-to-peer collaboration, enabling farmers and practitioners to share experiences, lessons learned, and innovative techniques through demonstration farms and online platforms. Furthermore, by incorporating behavioural insights, living labs address local perceptions, motivations, and potential barriers to adoption, ensuring that soil health interventions align with the specific needs and conditions of different communities (Bouma et al., 2022; Logghe & Schuurman, 2017). This holistic, participatory approach strengthens stakeholder ownership, enhances compliance, and promotes long-term resilience in agricultural landscapes (Potters et al., 2022).

Systematic monitoring of progress and insights

Monitoring is the systematic process of collecting, analysing and using information to track a programme's progress towards reaching its objectives and to guide management decisions. Monitoring is able to demonstrate how a project is contributing towards the delivery of the expected impacts and outcomes. It is common within monitoring and reporting processes to survey and integrate things at different levels or using different lenses and combine the findings to create a more complete picture of what is occurring at the Living Lab during reporting periods. Our units of analysis in iCOSHELLs are sampling (WP3), experiments (WP2), stakeholder engagement and co-creation (WP1).

A critical component of Living Labs (LLs) is their commitment to data-driven decision-making, which integrates scientific monitoring with stakeholder feedback to develop and refine sustainable solutions (Potters et al., 2022). By leveraging digital dashboards, LLs provide real-time visualization of soil health data, enabling farmers, researchers, and policymakers to make informed decisions based on up-to-date insights. Additionally, longitudinal monitoring of key soil health indicators allows for the assessment of trends over time, ensuring that interventions are effective and adaptive. A structured stakeholder reporting system further enhances this process by capturing practical experiences, fostering an iterative refinement of soil management strategies (Schaffers et al., 2012). Through systematic data collection and adaptive feedback loops, LLs not only generate robust scientific evidence but also remain highly responsive to the evolving needs of local communities. This approach ensures that soil health strategies are continuously optimized, aligning innovation with real-world agricultural challenges and sustainability goals.

Methodological Approaches to Coordination by the LL Office

Given the complexity of managing Living Labs, selecting appropriate methodologies is essential to balance flexibility with structure. The following section explores key methodological frameworks that align with the experimental and operational needs of Soil Health Living Labs. Effective management methodologies are essential to ensuring that Living Labs function as innovation ecosystems that foster co-creation, stakeholder engagement, and adaptive experimentation. Different management methodologies have been explored to determine their suitability for LLs. This section evaluates key methodologies and selects those most applicable for the key activities which support running the LL structure within Soil Health Living Labs.

Two primary approaches to management in Living Labs are prescriptive (traditional) management and agile (adaptive) management (Tercanli et al., 2024a). Prescriptive management emphasizes fixed project timelines, predefined goals, and structured reporting. This approach ensures stability and accountability, making it suitable for policy-driven soil health interventions that require strict regulatory compliance. However, it is often criticized for limiting adaptability in Living Lab environments that need to respond to emerging challenges such as soil health.

Agile management, on the other hand, supports iterative development, stakeholder co-creation, and real-time adaptation. Agile approaches are well-suited for LLs because they enable continuous stakeholder engagement, feedback loops, and experimental flexibility. The FALL (Framework for Agile Living Lab projects) methodology (Coenen et al., 2016) integrates agile principles in practice into Living Labs by ensuring structured stakeholder collaboration and rapid innovation cycles.

One challenge in LLs is balancing openness with governance or operational control. Boundary management strategies provide a useful framework for handling conflicting stakeholder expectations. These strategies include collaborative boundary work which facilitates open exchanges of knowledge and co-creation activities while ensuring methodological cohesion; competitive boundary work, aiming to define clear responsibilities among LL actors to prevent role overlap and inefficiencies; and configurative boundary work which structures the LL to allow for both local autonomy and centralized coordination, ensuring that experiments remain context-sensitive yet standardized (Tercanli et al., 2024a).

Another widely applied methodology is the cyclic innovation management methodology that is widely recognized as effective in Living Lab contexts. The cyclic development approach emphasizes prototype development and real-world experimentation, stakeholder-driven problem identification and solution co-creation, as well as ongoing iteration based on systematic monitoring and evaluation. Similarly, Action Research methodology aligns well with Soil Health Living Labs by embedding a learning-by-doing philosophy. This approach enables LLs to function as social-technical innovation systems, where research, experimentation, and adaptation occur in real-time interaction with stakeholders. The integration of Action Research principles ensures that LL experiments are not static but evolve based on continuous stakeholder feedback. This cyclic approach enables real-time adaptation of interventions, improving soil management strategies through iterative refinement (Schaffers et al., 2010).

Based on the analysis, a hybrid approach combining elements of agile management, boundary management, cyclic development, and action research is the most suitable for LLs. This ensures that LLs remain flexible yet structured,

open yet governed, and innovative yet policy compliant. By adopting this multi-method approach, LLs can enhance their capacity for impact-driven soil health innovation, stakeholder engagement, and long-term sustainability within the EU Mission Soil framework. These methodologies inform the selection of the processes detailed in the following section, enabling the creation of a structured approach to running the activities of Soil Health Living Labs in the iCOSHELLs network.

Oversight of Daily Operations of Soil Health LLs Experiments

Key activities to manage operations

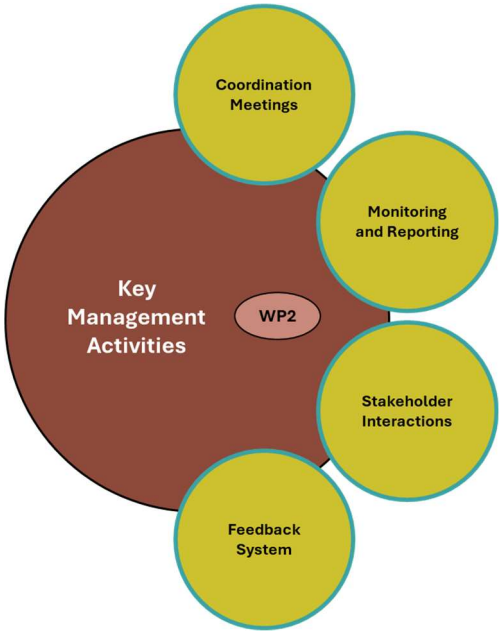

Figure 4: Key management activities of LLs operations

Coordination meetings

Coordination meetings play a critical role in the successful management of living labs by ensuring that objectives, expected outcomes, timelines, and stakeholder needs are clearly defined and aligned with project goals before pilot implementation. As living labs tackle wicked problems (Weber & Khademian, 2008), they rely on collaborative tools and methodologies. These meetings facilitate communication, knowledge exchange, and alignment among diverse partners, making them a key component of living lab operations (Schaffers et al., 2012). Establishing multiple communication channels (i.e. in-person meetings, emails, and online calls) enhances engagement and ensures continuous dialogue.

Regular meetings, conducted monthly at minimum, support discussions, updates, and decision-making, enabling a dynamic and adaptive approach to co-creation and innovation. By bringing together relevant actors, coordination meetings help build a shared language, trust, and a sense of community, which are essential for managing innovation (Leminen et al., 2016) and problem-solving (Geenhuizen, 2014). Ultimately, this structured approach fosters collaborative learning (Geenhuizen, 2016), ensuring that insights are effectively absorbed and integrated into development and design processes, leading to more effective and sustainable solutions.

Intra-LL with the core and necessary members of the LL

Monthly meetings within the living lab for internal coordination to align goals and expectations.

- *Agenda: task alignment, progress updates, identification of challenges, feedback analysis*
- *Outputs: monthly task list, updated progress report, conflict resolution*

Establish a common language and trust among partners.

Define objectives, outcomes, and timeframes before pilot implementation.

Promote knowledge sharing.

Inter-LL meetings with other LL Offices

External Engagement: connecting diverse stakeholders beyond the LL

Sharing best practices and lessons learned.

Ensuring ongoing dialogue and knowledge exchange.

Strengthening peer-to-peer learning networks.

Monitoring and reporting

The organization structure indicators are based on the success factors of the LLs described by ATB in Deliverable 1.2 Determination and parametrization of success factors in Living Labs. Concretely, on the success factors for ‘Operational excellence’.

Operational Excellence	Soil health efforts are ad hoc and reactive without structure.	Basic workflows are identified but remain inconsistent.	Initial processes for soil monitoring and management are introduced.	Standardized workflows allow consistent tracking of soil health indicators.	Processes are refined periodically to enhance efficiency.
	Digital tools are integrated; key performance indicators (KPIs) are actively tracked.	Processes adapt to feedback and challenges; efficiency is benchmarked.	Operations are scalable and promote continuous learning	Fully optimized workflows ensure seamless adaptability to external changes.	

Figure 5: Operational Excellence from D1.2 Success Factors (ATB)

Following ATB's Success Factor 'Operational Excellence' we arrive at information points to be monitored to assess the progress of the LL Office and Experimental Management Structure (see template in annex 2). Based on the theoretical background of the Multi-Level Perspective (MLP), a framework to compile qualitative information regularly from multiple levels of interest was developed. These explain how Living Labs contribute to socio-technical transitions in systems by analysing interactions at three levels: Macro, Meso, and Micro. At the Macro level, Living Labs function as structured organizations that coordinate diverse stakeholders, operating within a broader landscape shaped by societal pressures such as climate change, environmental degradation, and policy shifts. These pressures drive the need for innovation in agricultural practices, particularly in soil health management. At the Meso level, Living Lab projects and methodologies engage in co-creation and active user involvement within real-life settings, interacting with the dominant agricultural regime of existing practices, technologies, and policies. At the Micro level, Living Labs serve as experimental niches where co-creation activities and multi-method research approaches facilitate the development and testing of novel soil health practices, technologies, and governance models (Geels, 2024).

From each level of operational excellence, a definition was derived to be reflexively analysed and recorded at the macro, meso and micro levels:

Soil Health Efforts

Soil health is fundamental to sustainable agriculture and ecosystem services, hence the need for management strategies that consider soil as a living system. Soil Health Efforts refers to overall commitment and actions undertaken to improve and sustain soil quality. This can be any practice that enhances the physical, chemical, and biological properties (plus biodiversity) of soil helping it maintain/regain productive and resilient qualities.

Basic Workflows

Basic Workflows refer to the standardized, day-to-day operational processes that ensure consistency and reliability in managing the soil health living lab's activities. These workflows establishing clear procedures for routine tasks and are the foundation of operational excellence, especially at the beginning of a project. Well-defined workflows are seen as critical for reducing uncertainty/variability, minimizing errors, and following the best practices available, aiming to achieve quality soil management activities.

Processes for Soil Monitoring and Management

This involves the establishment and implementation of systematic procedures for sampling, analysing, and evaluating soil indicators (informed by CETENMA, WP3). It includes protocols for field measurements, laboratory analyses, and data interpretation; ensuring that interventions are based on robust evidence. Following standard guidelines set for the project is crucial for tracking changes and informing management decisions as well as being able to contribute to EU soil monitoring databases.

Consistent Tracking of Soil Health Indicators (Standardised Workflows)

Consistency in tracking soil health indicators means that data collection and analysis follow uniform methods over time, allowing for reliable trend analysis and comparison. Standardized workflows minimize measurement errors and ensure that any changes in soil quality respond to real impacts from experiments/solutions rather than methodological inconsistencies.

Processes Refined Periodically

Focus on the ability of operational processes to evolve in response to feedback collected from interactions within the LL and among LL Offices. Adaptative and flexible management uses feedback and challenges to inform the operations of the LL and adjust them when necessary. Stakeholder input, new research findings, and environmental stresses are elements to bear in mind.

Integration of Digital Tools

Digital tools include sensors, data management systems (as being developed by the UPM), remote sensing technologies, and decision support systems that enhance data collection, analysis, and communication. Their integration into soil management processes can lead to more precise monitoring and faster response times.

Processes Register Feedback and Challenges

Feedback and challenges are important sources of information to integrate into existing processes and improve them. The iterative nature of Living Lab methodology means that recording feedback from interactions and taking heed of emerging challenges improves the effectiveness of operational process. Having systems set up to register both and adjust them to specific interactions.

Scalability of Operations

Scalability refers to the capacity of the living lab's processes and technologies to be expanded or replicated across different geographical areas or operational scales without compromising efficiency or effectiveness. Scalable operations are essential for broad impact and for ensuring that successful soil health interventions can be implemented at regional, national, or even EU levels.

Optimization of Workflows

Following point 2) Basic Workflows, optimization involves continuously improving workflows to improve resource utilization, become more effective and productive. This entails using iterative interactions and feedback to identify bottlenecks and inefficiencies. In the context of soil management, optimized workflows ensure that every step from data collection to intervention is as effective as possible.

Lastly, report templates will have a section detailing who approved the report before being accepted by the LL Office and being uploaded to the centralised online share point to maintain transparency and keep track of whether the information has been surveyed and checked before being shared. Reports will be shared with all stakeholders through centralized set-up (i.e. dedicated share point section). Real-time updates through the centralised digital dashboard (share point), accessible at all times.

Stakeholder interactions

Operating within Soil Health Living Labs, there is a diverse array of interactions occurring at any given moment. Methodological approaches can support in managing these to a satisfactory conclusion following methods that relate to the context of Living Labs. Agile methodology, reflexive monitoring, and cyclic development are used to

create a dynamic and stakeholder-driven experimental and innovative ecosystem. Thus, soil health solutions are continuously refined based on real-world feedback rather than predetermined, rigid plans.

Reflexive monitoring facilitates stakeholder engagement by systematically capturing insights, assessing progress, identifying barriers, and adjusting strategies in real time. The Agile framework specifically strengthens co-creation through iterative learning cycles, where stakeholders engage in rapid feedback loops. This helps adapt soil health interventions in response to evolving environmental and socio-economic conditions. Furthermore, structuring real-world experimentation using cyclic development creates iterations comprised of implementing, testing, evaluating, and refining soil health strategies in practical field conditions which aims towards interventions that are both scientifically validated and scalable across different regions.

These three components are strong examples of methods implemented in living labs with an evidence base of success in creating a responsive yet evidence-driven framework for living lab management. Activities that are designed, co-created and implemented in a Soil Health LL are a source of data. Following a methodology, in conjunction with the templates created by each WP, will work towards keeping a record of information and are to be completed after every LL activity associated to inform the monitoring process, future evaluation and success stories.

Feedback system

Consider the implementation of a feedback mechanism to obtain inputs and insights from the stakeholders in whichever form is more convenient to your LL (e.g. tools, or spreadsheets). This is a tool which conveys information about problems and challenges as they arise. With the added feature of open applicability of methodologies in operations, maintaining flexibility and adaptability in response to changing circumstances or unforeseen challenges is built into the LL structure. Regularly reviewing feedback to ensure the success of LL activities is of great importance. A recommended strategy is to conduct monthly reviews of collected feedback by the LLs Office team, identifying key actionable feedback and then developing and communicating action plans for addressing the elements selected. Share updates with stakeholders on how their input is being used increases transparency and improves collaboration.

Conclusions

The establishment and operational management of Soil Health Living Labs require a systematic yet adaptable approach to effectively address soil degradation in different biomes as well as social, economic and cultural contexts while fostering innovation and collaboration. This report has outlined a structured framework that aims to achieve coordinated actions, stakeholder-driven decision-making, and real-world experimentation, all of which are essential for achieving the long-term goals of the iCOSHELLs project and the broader EU Mission Soil initiative. By defining clear management structures, roles, and operational strategies, the proposed framework strengthens the ability of LLs to function as effective innovation ecosystems that bridge scientific research, policy implementation, and on-the-ground practices.

One of the key takeaways from this report is the importance of decentralized but coordinated management. The proposed operational management model balances local autonomy with overarching strategic alignment, ensuring that LLs remain context-sensitive while benefiting from shared methodologies and knowledge transfer. Furthermore, the emphasis on systematic monitoring and stakeholder engagement enhances the adaptability and replicability of soil health interventions and solutions. Moving forward, the successful implementation of this operational framework will require a context sensitive approach by each LL and continuous refinement, integrating feedback from LL practitioners, stakeholders and users to optimise processes and maximize impact. By embedding these principles into the iCOSHELLs initiative, Soil Health Living Labs can serve as effective models for sustainable land management, ultimately contributing to the resilience of Europe's soils and the broader sustainability agenda.

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Anexes

Anex 1. Living Lab Roles

Role title	**Living Lab Manager**	
Relevant professions	Innovation Manager, Research Coordinator, Stakeholder Engagement Specialist, Sustainability Expert, Public Policy Consultant, Project Manager	
Summary statement	Manages and oversees the implementation of the Living Lab, ensuring the effective execution of co-creation, stakeholder engagement, and experimental testing processes. Leads innovation strategies, fosters collaboration among diverse stakeholders, and ensures alignment with sustainability and soil health management goals as well as overarching objectives of the project.	
Mission	To establish, manage, and sustain a Living Lab framework that integrates stakeholders, fosters collaboration and innovation, and facilitates real-life experimentation for sustainable soil management solutions. The role bridges research, policy, and industry needs, ensuring Living Lab outputs are impactful and scalable.	
Deliverables	**Responsible for**	**Contributor to**
	Establishment of governance structures for the Living Lab. Definition and operational management of Living Lab strategies. Coordination of stakeholders across public, private, and research sectors.	Development of policy recommendations and sustainability strategies. Standardization of co-creation methodologies and best practices.

	Oversight of experimentation processes, ensuring transparency and validity. Integration of ICT tools for data sharing and digital collaboration. Reporting on the progress and impact of Living Lab initiatives.	Cross-sector knowledge exchange and international networking. Capacity-building initiatives for stakeholders and local communities.
Main task/s	Defines the strategic vision for the Living Lab, aligning it with European and regional sustainability objectives. Develops methodologies for co-creation, participatory research, and open innovation. Manages partnerships with research institutions, industry stakeholders, and policymakers. Oversees the design and execution of real-life experiments in collaboration with technical teams. Ensures Living Lab activities align with EU policies on soil health and environmental sustainability. Establishes monitoring and evaluation frameworks to assess impact and refine approaches. Facilitates stakeholder engagement, knowledge transfer, and cross-sector collaboration. Promotes the Living Lab at the European level, ensuring integration into relevant innovation networks.	
Environment	The Living Lab Manager operates in an interdisciplinary and multi-actor setting, engaging with academia, government, industry, and civil society. The role requires strategic thinking, stakeholder coordination, and technical knowledge in sustainability, digital innovation, and policy frameworks.	
KPI's	• Number of stakeholders actively engaged in Living Lab activities.	

	• Number of successful co-creation processes and implemented solutions. • Quality and replicability of experimentation outcomes. • Level of integration with EU soil health and sustainability policies. • Engagement metrics in knowledge-sharing activities (workshops, publications, policy briefs). • Impact of Living Lab findings on policy and industry practices. • Growth and expansion of the Living Lab ecosystem.

Role title	**Co-Creation and Stakeholder Manager**	
Relevant professions	Stakeholder Engagement Specialist, Co-Creation Facilitator, Innovation Manager, Community Engagement Manager, Policy Liaison	
Summary statement	Leads the design and implementation of stakeholder engagement strategies within the Living Lab, ensuring active participation, co-creation, and collaboration among all relevant actors. Facilitates knowledge exchange and innovation processes, integrating diverse perspectives to develop solutions aligned with sustainability and soil health management.	
Mission	Defines, manages, and implements co-creation methodologies and engagement strategies to foster collaboration among stakeholders in the Living Lab. Ensures participatory innovation processes, stakeholder involvement, and sustainable knowledge transfer.	
Deliverables	**Responsible for**	**Contributor to**

	Development and execution of stakeholder engagement strategies. Facilitation of co-creation activities, workshops, and participatory events. Stakeholder mapping and recruitment for Living Lab participation. Integration of scientific, technical, and community knowledge into innovation processes. Conflict resolution strategies to foster collaboration and inclusivity. Performance evaluation of engagement efforts and impact assessment.	Living Lab governance and strategic planning. Policy recommendations and alignment with EU sustainability frameworks. Knowledge dissemination and cross-Living Lab collaboration. Capacity-building initiatives and citizen awareness programs.
Main task/s	Develops and manages stakeholder engagement plans, ensuring diverse participation. Organizes and facilitates co-creation sessions, participatory workshops, and innovation forums. Establishes mechanisms for knowledge transfer between researchers, policymakers, industry, and civil society. Designs and implements tools for conflict mediation and multi-actor collaboration. Ensures transparent and inclusive communication across stakeholder groups. Monitors and evaluates engagement activities, measuring impact on innovation and policy development. Supports the sustainability and scalability of co-created solutions.	
Environment	The Co-Creation and Stakeholder Manager operates in a dynamic and multi-actor ecosystem involving government agencies, academic institutions, industry players, NGOs, and local communities. The role requires navigating complex regulatory, social, and environmental landscapes while fostering partnerships that enhance the Living Lab's impact. This professional should facilitate participatory innovation	

	in both physical and digital environments, leveraging advanced engagement tools and methodologies.
KPI's	• Number of stakeholders actively engaged in the co-creation process. • Diversity of stakeholder representation (academia, industry, policymakers, civil society). • Number of co-created solutions tested and implemented. • Level of stakeholder satisfaction and continued participation. • Impact of engagement strategies on policy and decision-making. • Number of knowledge-sharing events and cross-Living Lab collaborations. • Effectiveness of conflict resolution measures and trust-building efforts. • Long-term sustainability and scalability of co-created solutions.

Role title	**Experimental/Solution Site Manager**
Relevant professions	Field Research Manager, Environmental Engineer, Agricultural Scientist, Project Coordinator for Sustainability, Laboratory Technician, Soil Health Specialist
Summary statement	Manages real-life experimentation environments within the Living Lab, ensuring that soil health solutions are effectively tested, validated, and optimized. Leads the implementation of field experiments, coordinates technical teams, and integrates stakeholder input into practical, scalable innovations.
Mission	Defines, manages, and implements strategies for the operational execution of Living Lab experiments. Ensures alignment with sustainability goals, testing, data collection, and regulatory requirements while fostering an environment of

	innovation and collaboration. The role bridges research, technology, and fieldwork to create scalable and impactful solutions for soil management.	
Deliverables	**Responsible for**	**Contributor to**
	Setup and operational oversight of experimental sites. Coordination and execution of soil health interventions. Stakeholder and research team collaboration in field trials. Compliance with environmental and safety standards. Data collection and analysis for iterative refinement of solutions. Risk assessment and mitigation planning.	Policy development for sustainable soil management. Best practices in environmental and experimental site management. Knowledge exchange and standardization efforts within the EU Soil Monitoring Framework. Development of predictive models for soil health analysis.
Main task/s	Plans and supervises experimental activities, including site selection and trial setup. Defines and implements field testing methodologies, ensuring consistency across sites. Collaborates with researchers and policymakers to ensure experiment relevance. Organizes logistics for field trials, including site preparation, equipment deployment, and personnel scheduling. Engages with local stakeholders and integrates citizen science contributions. Evaluates the effectiveness of experimental solutions and oversees iteration cycles. Ensures that Living Lab experiments align with EU sustainability policies and regulations.	

Environment	The Experimental/Solution Site Manager operates in dynamic field environments and interdisciplinary research settings. The role involves interacting with scientists, field technicians, policymakers, and local stakeholders. Aiming to ensure seamless execution of experiments in both urban and rural landscapes. Adaptability to varying field conditions and knowledge of soil health indicators, and expertise in managing large-scale field experiments is important.
KPI's	• Number of successful experimental trials conducted and validated. • Quality and replicability of collected data and analysis. • Number of stakeholders engaged in field trials and knowledge-sharing events. • Number of research publications, reports, or policy contributions generated. • Integration of findings into broader EU soil health strategies. • Reduction in environmental impact from tested solutions. • Measurable improvements in soil health indicators due to implemented solutions.

Role title	**Sampling Coordinator**
Relevant professions	Environmental Scientist, Soil Health Specialist, Research Technician, Laboratory Technician, Field Sampling Manager, Data Quality Officer
Summary statement	Leads the coordination, standardization, and execution of soil sampling methodologies across Living Lab sites, ensuring data harmonization and high-quality analysis. Provides training for field teams, oversees sampling logistics, and ensures compliance with research protocols to enable consistent and reliable soil health monitoring.

Mission	To implement and harmonize soil sampling methodologies across different experimental sites, ensuring consistency, reproducibility, and alignment with EU soil health monitoring standards. The role integrates training, coordination, and quality assurance to support the scientific validity of collected data.	
Deliverables	**Responsible for**	**Contributor to**
	Development and implementation of standardized soil sampling protocols. Coordination and training of field teams for sampling activities. Ensuring compliance with EU soil monitoring guidelines and project standards. Oversight of data collection, storage, and quality control. Harmonization of sampling methodologies across Living Lab locations. Implementation of inter-laboratory calibration and validation tests.	Knowledge transfer and methodological refinement for soil health monitoring. Development of predictive models based on collected soil data. Stakeholder engagement and collaboration with research institutions. Standardization efforts within the broader EU soil health monitoring framework.
Main task/s	Designs, reviews, and implements field sampling protocols based on WP3 guidelines. Conducts training sessions and workshops for field teams to ensure uniform sampling techniques. Oversees sampling logistics, including site selection, equipment preparation, and data recording. Ensures data consistency through inter-laboratory validation and control measures. Develops and maintains a database for tracking soil samples and analytical results.	

	Coordinates with research teams to integrate sampling data into broader analysis models. Monitors compliance with safety and environmental regulations in all sampling activities.
Environment	The Sampling Coordinator operates in an interdisciplinary research setting, interacting with soil scientists, field technicians, policy stakeholders, and local community representatives. The role requires a mix of fieldwork, laboratory coordination, and methodological oversight, ensuring the seamless collection and processing of soil health data across diverse European Living Lab locations.
KPI's	• Number of field teams trained and certified in standardized sampling techniques. • Consistency and replicability of soil sample data across multiple sites. • Accuracy and quality of collected data, measured by inter-laboratory validation. • Timeliness of data reporting and integration into monitoring frameworks. • Reduction in the variability of data across different Living Lab sites. • Successful implementation of sampling guidelines aligned with EU policies. • Effectiveness of knowledge transfer initiatives (workshops, reports, publications).

Role title	**Communications Lead**
Relevant professions	Public Relations Specialist, Science Communicator, Digital Marketing Manager, Community Engagement Officer, Media Relations Expert, Content Strategist

Summary statement	Leads the communication, dissemination, and networking strategies of the Living Lab, ensuring the project's visibility, stakeholder engagement, and public outreach. Oversees media relations, digital platforms, knowledge transfer, and European collaboration efforts to maximize the impact of the Living Lab's activities and results.	
Mission	To design and implement an effective communication strategy that ensures project results reach relevant stakeholders, facilitates knowledge sharing, and enhances awareness about soil health and Living Lab initiatives at local, regional, and European levels.	
Deliverables	**Responsible for**	**Contributor to**
	Development and execution of the Communication, Dissemination, and Exploitation Plan (CDEP). Stakeholder engagement via communication tools and platforms. Management of project branding, website, and social media presence. Media relations, press releases, and outreach campaigns. Coordination of knowledge transfer and capacity-building initiatives. Monitoring and evaluation of communication and dissemination efforts.	European networking and clustering activities with other soil health initiatives. Development of policy recommendations and strategic reports. Citizen awareness campaigns and community engagement. Science and industry dissemination through articles and conferences. Internal project coordination and stakeholder reporting.
Main task/s	Develops and implements strategic communication plans, ensuring alignment with project goals. Manages media content, including press releases, interviews, and journalistic articles.	

	Establishes and maintains relationships with stakeholders, policymakers, and media outlets. Oversees the creation of visual identity guidelines, branding materials, and digital assets. Leads the development and maintenance of the Living Lab's website and social media channels. Coordinates the production of outreach materials, including brochures, posters, and videos. Organizes events, webinars, and networking opportunities for cross-sector engagement. Monitors communication activities, evaluates their impact, and ensures continuous improvement.
Environment	The Communications Lead operates in a dynamic and collaborative environment, working closely with scientists, policymakers, industry partners, and civil society to promote the Living Lab's findings and initiatives. The role requires adaptability to various communication channels and audiences, with a strong emphasis on digital platforms, stakeholder engagement, and public outreach.
KPI's	• Number of stakeholders reached through communication efforts. • Engagement metrics on digital platforms (website visits, social media interactions). • Volume of press releases, media articles, and interviews published. • Participation rates in events, webinars, and knowledge-sharing activities. • Number of European collaborations and networking initiatives established. • Effectiveness of public awareness campaigns (measured through surveys, feedback). • Impact assessment of communication activities on policy uptake and project scalability.

Anex 2. Reporting Template

LL Name	Filled in by	Contact Information	Report Period/Date of Submission
[Name]	[Name and role]	[Email/Phone]	[DD/MM/YY]

Operational Excellence drivers	Multilevel Perspective		
	Micro	Meso	Macro
Soil health efforts			
Basic workflows			
Processes for soil monitoring and management			
Consistent tracking of soil health indicators (Standardised workflows)			
Processes refined periodically			
Integration of digital tools			
Processes register feedback and challenges			
Scalability of operations			
Optimization of workflows			

Approval

Name	Role	Date	Signature
[Your Name]	LL Manager	[Insert Date]	

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