



One year into the Mission Soil

Key takeaways and recommendations
for the Living Lab community



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This publication is a collaborative effort by the SOILL-Startup and NATI00NS projects, highlighting key findings and recommendations gathered during two sessions on the Mission “A Soil Deal for Europe.” These sessions were co-organised by the projects at the OpenLivingLab Days 2024 conference in Timișoara, Romania (24-27 September 2024).

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The Mission “A Soil Deal for Europe” and the 100 Living Labs and Lighthouses

Mission Soil

EU Missions, an innovative and pivotal feature of Horizon Europe, represent a people-centric, co-created approach that actively engages citizens, experts, and stakeholders. With ambitious 2030 targets, the five EU Missions aim to produce tangible results in line with the EU’s commitment to a sustainable, healthy, and resilient future.

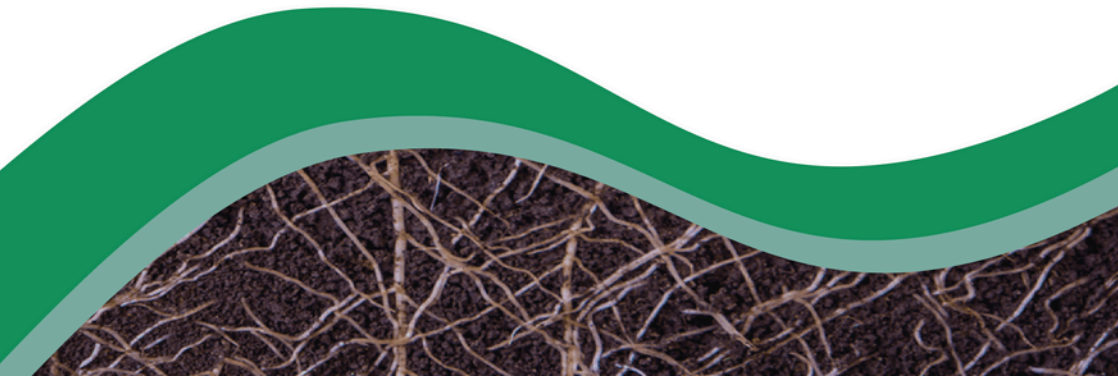
The Mission **[“A Soil Deal for Europe”](#)** (Mission Soil) is dedicated to restoring and preserving soil health as a foundation for sustainable food systems, biodiversity, and climate resilience. By establishing a network of 100 Living Labs and Lighthouses across Europe’s landscapes, the Mission Soil facilitates collaboration among land managers, researchers, and communities to co-create and implement effective solutions for soil health.

Moreover, the Mission Soil seeks to standardise soil monitoring, raising public awareness of soil’s importance, and promoting sustainable practices. By engaging communities in soil restoration efforts, the Mission Soil contributes the EU’s goal of achieving **climate neutrality by 2050**, advancing sustainable soil management for the benefit of current and future generations.

Living Labs and Lighthouses

The Mission Soil is unique in positioning Living Labs at its core, recognising them as drivers of user-centric, co-created innovation crucial for systemic societal change. The Mission Soil aims to establish a network of 100 Living Labs and Lighthouses to lead the transition towards healthy soils by 2030. These Living Labs, which foster partnerships among land managers, scientists, businesses, and citizens, are essential for addressing specific soil health challenges and advancing sustainable soil practices.

Mission Soil Living Labs are user-centred, place-based and transdisciplinary research and innovation ecosystems that involve multiple partners to co-design, test, monitor and evaluate solutions in real-life settings for improving soil health. Living Labs comprise **multiple Experimentation Sites** that vary by land use type – agriculture, (peri-)urban, forestry, (post-)industrial, and natural environments – and can evolve into **Lighthouses** when demonstrating exemplary performances in terms of soil health improvements, serving as models for effective soil management. By working in real settings, Mission Soil Living Labs ensure that solutions are both practical and adoptable.



Key initiatives supporting the Mission Soil Living Labs

A portfolio of support projects

One of the distinctive features of EU Missions is the **portfolio approach**, where projects operate within a coordinated structure to advance shared objectives and deliver impact. Rather than depending on standalone initiatives with limited collaboration, Missions call for multiple, aligned projects to work in close synchrony, ensuring effective use of resources and expertise.

This orchestrated portfolio approach is particularly relevant within the Mission Soil, where **three key projects support a progressive journey** to establish, sustain and enlarge the network of 100 Mission Soil Living Labs and Lighthouses.

Building on preparatory work from projects and programmes of the Horizon 2020 Research Framework Programme such as SMS^[1] and EJP Soil^[2], this journey was launched under the Mission Soil with the **PREPSOIL**^[3] project. As the Mission's first project, PREPSOIL is laying the ground for Mission Soil Living Labs through a defined taxonomy, mapping of key emerging Living Lab initiatives across Europe, and the definition of essential support tools and services for Living Labs. Alongside, the **NATIOONS** project has kicked off the national engagement and support services providing guidance for the first Living Lab waves as they applied to the dedicated funding opportunities in 2023 and 2024. This journey is now continued by the **SOILL Framework Partnership**, which will take over from PREPSOIL and NATIOONS and will accompany the 100 Mission Soil Living Labs and Lighthouses all along the Mission's implementation, supporting the expansion, growth and sustainability of both network and individual Living Labs and Lighthouses.

The coordination across these three projects reflects an **integrated approach** designed to maximise support for the Living Labs. Their collaboration ensures that each project builds on the previous one, avoiding duplication and creating a cohesive support system. In line with the Missions' approach, this orchestration needs to be expanded beyond the projects strictly focusing on support to Living Labs. Alignment with all Mission Soil project and beyond is indeed essential to facilitate access to and alignment with the latest research and innovation results, upholding the Mission's scientific and operational goals.

[1] SMS - Soil Mission Support: Towards a European research and innovation roadmap on soils and land management, Horizon 2020, Grant Agreement (GA): 101000258, <https://cordis.europa.eu/project/id/101000258>

[2] EJP SOIL - Towards climate-smart sustainable management of agricultural soils, Horizon 2020, GA: 862695, <https://cordis.europa.eu/project/id/862695>, <https://ejpsoil.eu/>

[3] PREPSOIL - Preparing for the 'Soil Deal for Europe' Mission, Horizon Europe, GA: 101070045, <https://cordis.europa.eu/project/id/101070045>, <https://prepsoil.eu/>



NATIOONS

The **NATIOONS** project – “National engagement activities to support the launch of the Mission ‘A Soil Deal for Europe’ 100 Living Labs and Lighthouses” (GA 101090738) – was instrumental in launching the EU Soil Mission, supporting the first Living Lab applicants to 2023 and 2024 dedicated funding opportunities. NATIOONS guided stakeholders across EU Member States and Horizon Europe Associated Countries, raising awareness and providing resources for the set-up of regional soil health Living Labs. By fostering collaboration and offering tailored support, the project ensured applicants were ready to address regional soil challenges aligned with the Mission’s goals.

NATIOONS supported quality applications, assisting applicants understand the Mission’s criteria, develop proposals, and connect with regional partners. This has been provided through national events, webinars, a matchmaking platform, and coaching provided by national mentors tailored to each country’s specific challenges and land-use needs. Alongside, the NATIOONS capacity-building materials, factsheets, thematic events, and online helpdesk, equipped stakeholders with knowledge and tools for soil health innovation. By its end, NATIOONS had fostered broad stakeholder participation, preparing Living Labs to advance the EU Soil Mission’s objectives.

SOILL-Startup

SOILL-Startup – “Startup of the SOILL support structure for SOIL Living Labs” (GA 101145592) - is the first project under the SOILL Framework Partnership Agreement, aimed at establishing and operating a support structure for the 100 Mission Soil Living Labs and Lighthouses. Designed to foster and strengthen this network, SOILL-Startup offers tailored support for growth through capacity building, knowledge exchange, promotion, and regular monitoring to ensure the network effective contribution to the Mission Soil goals.

Alongside, taking over from NATIOONS, SOILL-Startup will continue the engagement and support for future waves of applicants to the dedicated Mission Soil topics from 2025 onwards, sustaining momentum and strengthening collaboration among communities, researchers, and policymakers for the steady expansion of the Living Lab network.

In its pivotal role within the Mission, SOILL-Startup facilitates and fosters collaboration among the Living Labs and key EU and international stakeholders. By creating synergies and aligning efforts, the project aims to ensure that the Living Labs effectively contribute to achieving the Mission Soil goals, ultimately advancing the agenda for healthy soils across Europe. Through targeted initiatives and shared resources, SOILL-Startup envisions a collaborative ecosystem where innovative solutions for soil health are developed, co-created, and disseminated widely.





The first Mission Soil Living Lab projects

Five projects have been awarded from the 2023 Mission Soil topics dedicated to the set up of Mission Soil Living Labs and Lighthouses:

- **GOV4ALL** - Governance and business models for living labs: rural regeneration hubs for tackling soil health challenges in the Mediterranean region ^[4]
- **iCOSHELLs** - INNOVATIVE CO-CREATION SOIL HEALTH LIVING LABS ^[5]
- **LILA4SOILS** - Fostering Carbon Farming Practices through LIVING LABS in the Mediterranean and Southern EU for the healthy future of European SOILS ^[6]
- **LivingSoiLL** - Healthy Soil to Permanent Crops Living Labs ^[7]
- **SOILCRATES** - Soil Innovation Labs: Co-Regenerating And Transforming European Soils ^[8]

Together, these five projects contribute to establishing the first wave of 25 Mission Soil Living Labs across 10 European countries.

A full presentation of the 25 Mission Soil Living Labs is available in the dedicated [SOILL catalogue](#):



[4] GA 101157865 - <https://cordis.europa.eu/project/id/101157865> - <https://gov4all.eu/>

[5] GA 101157394 - <https://cordis.europa.eu/project/id/101157394>

[6] GA 101157414 - <https://cordis.europa.eu/project/id/101157414> - <https://www.lilas4soils.eu/>

[7] GA 101157502 - <https://cordis.europa.eu/project/id/101157502> - <https://livingsoil.eu/>

[8] GA 101157354 - <https://cordis.europa.eu/project/id/101157354>





SOILL-Startup & NATI00NS sessions at OpenLivingLab Days 2024

[OpenLivingLab Days](#) (OLLD) is the European Network of Living Labs' (ENoLL) flagship event, uniting Living Lab professionals, changemakers, and innovators from academia, government, industry, and civil society. This global platform fosters the exchange of ideas and best practices to address complex societal challenges through Living Lab methodologies.

The 2024 edition, titled "**Living Labs Frontiers: Driving systemic change through Soci(et)al engagement, for real Impact**" took place in Timișoara, Romania, from September 24 to 27, and was co-organized with the West University of Timișoara, host of the Digital and Green Living Lab. A significant milestone event for the Living Lab community, OLLD24 gathered 340 public officials, corporate leaders, researchers, and practitioners dedicated to sustainable solutions. OLLD24 featured 34 sessions across debates, workshops, and side events, including two key events co-organised by **SOILL-Startup** and **NATI00NS** on the role of Living Labs for soil health.

The session "[One Year into the Mission Soil: Achievements, Lessons Learned, and Future Opportunities for the Living Lab Community](#)" reviewed the Mission Soil's progress, assessing challenges, successes, and expectations, a year after the launch of the first batch of funding opportunities for Living Labs and of SOILL's support actions. European Commission and Mission Soil Board representatives discussed achievements and policy objectives, while NATI00NS and SOILL-Startup presented the 2024 funding opportunities for Living Labs and shared updates on strategies and lessons learned. A debate followed with an ENoLL-certified Living Lab, one of the first 25 Mission Soil Living Labs, and urban and forestry experts, emphasising the significance of resilience and community engagement.

The NATI00NS project also hosted an interactive side event, "[Soil Health Living Labs: Practical Tips and Guidance for Prospective Applicants](#)", offering advice on collaborative proposals for Mission Soil Living Labs. NATI00NS partners shared insights on application preparation process, and SOILL-Startup outlined key actions to include in applications for maximised support from SOILL. A panel debate featured speakers from the first wave of Mission Soil Living Labs, who shared lessons learned and challenges faced in the application phase and in launching Living Labs, providing actionable guidance for future applicants. OLLD24 underscored Mission Soil Living Labs' critical role in Europe's soil health, highlighting successful sustainable practices and the need for a connected, resilient network for boosting the impacts. Discussions laid the groundwork for long-term soil health by emphasising community engagement and cross-border partnerships, establishing a shared learning foundation for future progress.





Key Recommendations & Takeaways:

European Commission and Mission Soil Board

The **Mission Soil Secretariat**, run by the European Commission-DG AGRI, serves as the strategic, administrative, and operational hub for the Mission Soil, coordinating activities, facilitating communication, and supporting the achievement of target goals.

Alongside, the **Mission Soil Board**, composed of key experts in various soil health domains, provides strategic advice, guidance, and recommendations to ensure the successful achievement of the Mission's goals.

Early Engagement and Capacity Building

In the early phases, promoting awareness around Living Labs required extensive efforts to convey their innovative potential. Meaningful Living Labs begin with the active involvement of existing local communities, highlighting the importance of a robust engagement and capacity building from the outset. Effective early outreach and training for stakeholders allow local communities to appreciate how Living Labs can serve as catalysts for innovative, community-based solutions to soil health challenges.

Inclusive, Bottom-Up Participation

Securing meaningful involvement from farmers, foresters, urban gardeners, and other relevant actors in the Living Lab is essential to ensure that solutions reflect regional needs. Stronger local facilitation can enhance this bottom-up approach, tailoring collaborative processes to regional capacities and fostering solutions that are genuinely co-created with the people most affected by soil health issues.

Cross-Sectoral Coordination

Collaboration across sectors such as agriculture, forestry, and urban areas is crucial for comprehensive soil health. Addressing this complexity requires structured, early cross-sectoral dialogue and incentives to support coordinated action on soil health. This approach facilitates the alignment of sector-specific insights and builds a holistic foundation for broader systemic impact.





Boosting Soil Literacy Among Key Stakeholders

Low soil literacy among stakeholders limits adoption of new practices. Targeted education and capacity-building campaigns help farmers, land managers, and planners understand and implement sustainable soil practices, equipping them to support long-term soil health and sustainability.

Balancing Scalability with Context-Specific Solutions

For Living Labs to succeed, solutions must be adaptable to local contexts yet scalable. Tailoring innovations to local conditions addresses immediate challenges while generating scalable knowledge that can support application across regions.

Policy Alignment for Wider Impact

Aligning soil health efforts with EU policies like the Common Agricultural Policy and Green Deal strengthens their impact. Integrating soil health into these frameworks provides political and financial support, facilitating a unified, comprehensive approach to sustainable soil management.

Tackling Soil Degradation Through Data and Indicators

With 60% of European soils degraded, data-driven strategies are essential for monitoring and improving soil health. Reliable indicators and long-term data collection enable regions to adapt soil practices effectively. Living Labs play a key role in applying adaptable, science-based approaches tailored to the diverse and local ecosystem, fostering resilience and adaptive management.

Bridging Knowledge and Policy Gaps

Closing the gap between knowledge and local policy implementation is critical for soil health. Engaging stakeholders, including citizens, turns scientific insights into actionable practices, promoting the adoption of soil health measures. Local involvement ensures policies are well-understood and practicable.

Financial Support for Soil Transition

Ongoing financial support is crucial for soil restoration, with tools like the Common Agricultural Policy providing essential funding. Coordinated finances allow Living Labs to maintain momentum and scale impact, enabling them to focus on region-specific needs and expand their reach across Europe.



Key Recommendations & Takeaways: the first Mission Soil Living Labs

The representatives of the first wave of Mission Soil Living Labs – stemming from the projects funded with the Mission 2023 topics – are uniquely positioned to guide future Mission Soil Living Labs and applicants by sharing critical lessons and insights on the challenges and successes encountered during the application phase and the early stages of their projects.

Engaging Local Communities and Encouraging Commitment

Engaging local communities poses a significant challenge, as building trust and relationships is essential for the success of Living Labs. Targeted education and outreach programs inform community members on the importance of soil health and foster active participation in local management efforts. Additionally, encouraging long-term commitment from stakeholders is vital for the sustainability. Establishing frameworks that promote sustained engagement, and investment will ensure the continuity of Living Labs and their efforts over time.

Community Resistance to Change and Engagement

Resistance to adopting new sustainable practices poses challenges to progress. To address this, educational campaigns that highlight the benefits of sustainable agriculture, coupled with peer-to-peer learning, can alleviate fears and foster engagement. Engaging farmers is particularly vital; however, low motivation often hinders participation. Financial incentives can encourage involvement, while co-creating technologies with farmers ensures that solutions are practical and readily adoptable. This participatory approach enhances project outcomes and effectiveness, contributing to a culture of cooperation and support for innovative practices.



Monitoring, Evaluation, and Adaptive Management

Robust monitoring and evaluation frameworks are essential for assessing the impact of soil health initiatives. Clear metrics improve reporting and accountability. Monitoring challenges can limit informed decision-making, making a comprehensive evaluation process crucial for demonstrating impact and sharing success stories. Adaptive management practices are also vital for Living Labs, allowing adjustments based on evaluations and feedback.

Knowledge Transfer and Technical Support

Improving knowledge transfer is crucial for farmers and the wider public, as inadequate technical knowledge can lead to inconsistent practice application. Effective communication strategies must clearly articulate project goals and benefits to ensure stakeholder understanding. Targeted training sessions bridge knowledge gaps, and sharing best practices among Living Labs facilitates learning and accelerates the implementation of effective soil health strategies.

Multi-Stakeholder Coordination and Governance

Coordinating diverse stakeholder priorities can lead to conflicts. Establishing clear roles and communication protocols fosters cooperation, while effective governance models from the outset are critical for the sustainability of Living Labs.


Geographic and Climatic Constraints

Geographic challenges can hamper ecosystem restoration and project impact. Designing locally-adapted, climate-resilient techniques is vital for overcoming barriers. Innovations must be tested across various sites to assess effectiveness, ensuring robustness and scalability while allowing for adjustments.

Resource Limitations and Budget Distribution

Resource constraints in funding and technology hinder the adoption of sustainable practices. Long-term partnerships with public and private sectors are essential for securing support. Involving multiple countries or partners can raise concerns about fund distribution, so transparent justifications for budget allocations are necessary to build trust. Future projects should prioritise equitable distribution methods.





Key Recommendations & Takeaways: Living Lab experts

Synergies with other Living Labs in Europe and beyond are essential for the successful growth of the Mission Soil Living Labs, as insights from ENOLL-certified Living Labs, urban Living Labs, and forest Living Labs foster innovative approaches and collaborative strategies that are crucial for ensuring the harmonised and systemic change of Living Labs across the continent.

Harmonisation of Approaches

Harmonising methodologies across Living Labs is vital for achieving coherent and impactful soil health strategies. Establishing common frameworks and standards can facilitate collaboration, enabling Labs to share best practices and learn from each other's experiences. This harmonisation enhances the overall effectiveness of soil health initiatives and promotes consistency in implementation.


Engaging Local Communities

Effective engagement with local communities remains a significant challenge. Building trust and establishing strong relationships are essential for the success of soil health initiatives. Targeted education and outreach programs can inform community members about the importance of soil health, fostering active participation in local management efforts.

Emphasizing Adaptive Management Practices

Adaptive management practices are critical for the success of Living Labs. Flexibility in approaches allows Labs to adjust strategies based on ongoing evaluations and feedback, ensuring that initiatives remain effective and responsive to changing conditions.





Developing Monitoring and Evaluation Frameworks

Establishing robust monitoring and evaluation frameworks is essential. Clear metrics are necessary to assess the impact of soil health initiatives, enabling better reporting and continuous improvement. Comprehensive evaluation processes enhance accountability and transparency, allowing Living Labs to effectively demonstrate their impact and share success stories.

Encouraging Long-term Commitment

Encouraging long-term commitment from all stakeholders is essential for the success of Living Labs. Establishing frameworks that promote sustained engagement and investment will help ensure the continuity of soil health initiatives over time.

Addressing Technical Challenges


Technical challenges often arise in the implementation of soil health initiatives. Providing technical support and resources can help Living Labs overcome these obstacles, ensuring that they can effectively carry out their projects and achieve desired outcomes.

Building Capacity and Skills

Building capacity and skills within local communities is crucial for the sustainability of soil health initiatives. Training programs that equip community members with the necessary knowledge and skills can empower them to take ownership of local soil health efforts.

Promoting International Collaboration

Promoting international collaboration among Living Labs and stakeholders can amplify efforts to address global soil health challenges. Sharing experiences and strategies across borders fosters learning and innovation, contributing to a more robust and unified approach to soil health.



A path forward for Mission Soil Living Labs

NATIOONS: Practical tips for applicants

The NATIOONS project has significantly supported applicants for the 2023 and 2024 Mission Soil Living Labs.

Engaging Diverse Stakeholders

Interdisciplinary collaboration is essential. Proposals must outline engagement strategies for various stakeholders to ensure user-centred solutions that reflect diverse perspectives, fostering community ownership and long-term support.

Community Engagement Strategies

Active community engagement is essential for addressing soil health issues. Applicants should implement awareness raising or consolidation strategies to build grassroots support for their initiatives.

Resource Utilisation

Applicants should leverage NATIOONS resources, including the matchmaking platform and mentorship programme, to get the most from the provided support and successfully explore the funding landscape and Mission Soil Living Lab features.

Ensuring Sustainability

Sustainability is vital in proposals. Applicants must develop plans that address financial and community engagement strategies, promote cross-border collaborations, and share successful case studies to justify diverse actor inclusion.

SOILL-Startup: future directions

As SOILL-Startup takes over from NATIOONS, it aims to be more than just a continuation, creating an agile and inclusive support structure that can adapt to the evolving needs of Living Labs across Europe.

Building a Supportive Framework

SOILL's mission is to establish a robust support framework for over 100 Living Labs, emphasising collaboration aligned with the Mission Soil. International partnerships and a transdisciplinary approach will enhance Living Labs' capabilities.

Focus on Sustainability and Impact

Focus on sustainable business models beyond initial funding shall be clear from the outset. SOILL provides guidance to create replicable solutions, ensuring initiatives contribute to long-term soil health improvements.

User-Centred Co-Creation

Effective Living Labs must adopt user-centred and co-creation approaches. SOILL encourages sharing methodologies to foster collaboration and enhance the quality of outcomes.

Expanding the Network

SOILL seeks to broaden its network beyond 100 Living Labs by engaging a wider range of stakeholders. The upcoming Soil Hub will facilitate knowledge sharing and collaboration.

Harmonisation for Collective Success

SOILL stresses harmonisation among Living Labs to promote shared learning and high-quality outcomes, creating a coherent approach to improve soil health across Europe.



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