



nati00ns.eu

Introduction to EU Soil Mission
Living lab concept and 2024 related
topics

National engagement event

Nicosia; 25th April 2024





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EIT FOOD South Project Specialist



Funded by
the European Union

Please be aware:

-  We will share the **participant list** with names, institutions and e-mail addresses with participants only, for information and further networking.
-  We will take **photos** during the event for communication and dissemination purposes of the NATI00NS project. If you find yourself in a picture you would like us to remove, please send an email to info@nati00ns.eu
-  If you have given your **consent** during registration to receive updates from NATI00NS and/or to receive information from other initiatives related to the EU Soil Mission, you have the **right to withdraw your consent** - by email to info@nati00ns.eu
-  This is a hybrid event with an online component. The **Zoom Meeting will be recorded.**

Explore the pathway to
a competitive proposal



Cyprus National engagement event

25th April 2024

- The Mission explained
- Soil monitoring and resilience (Soil Monitoring Law)
- Soil Health Living Labs and Lighthouses
- Thematic focus of the 2024 Living Lab call

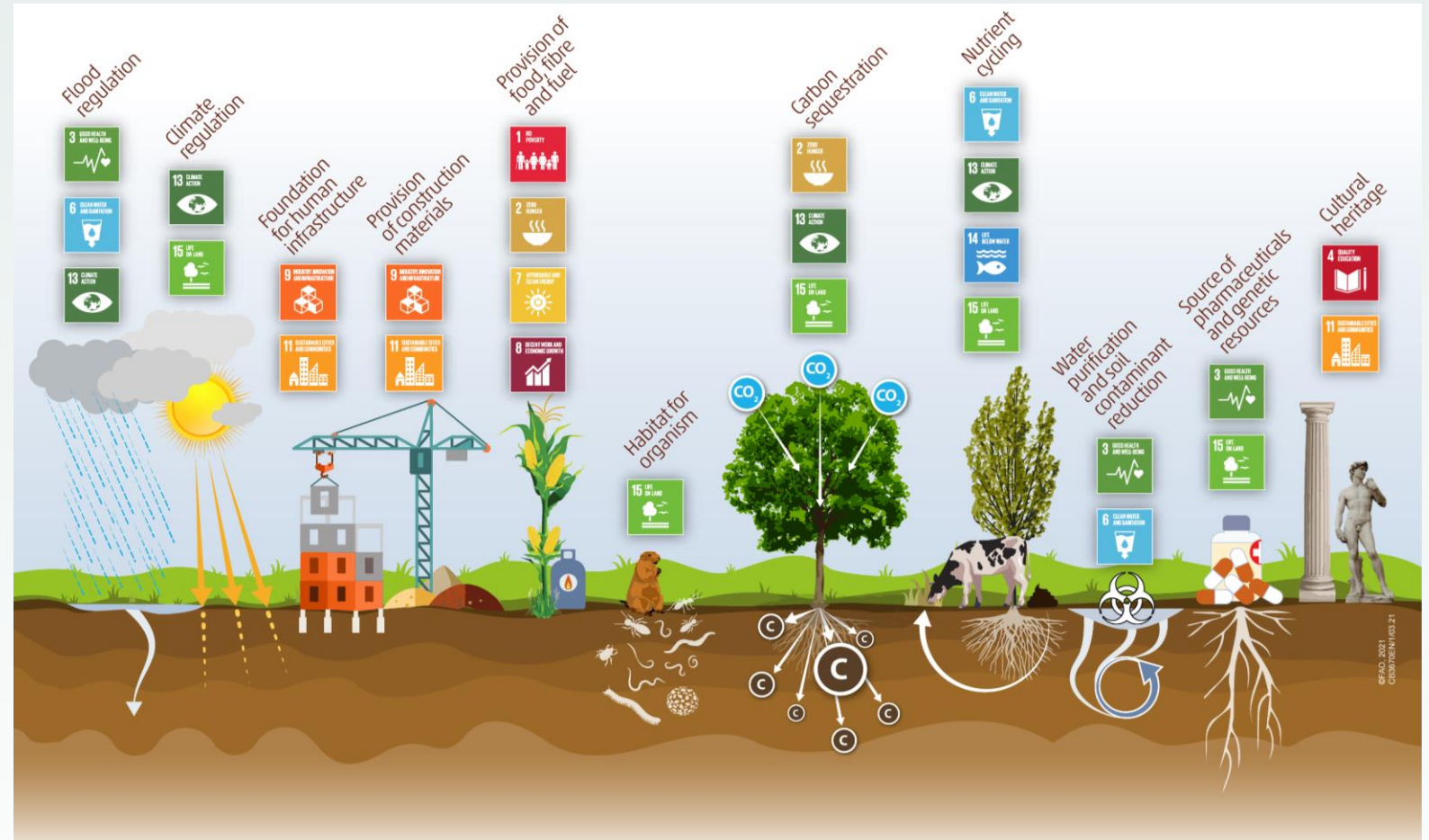


The Mission explained



Healthy soils

- are essential for all life-sustaining processes on Earth
- have the continued capacity to support ecosystem services



Healthy soils, a prerequisite to achieve the SDGs. Source: fao.org

Unhealthy soils

- Soils degraded by human activities, including anthropogenic climate change;
- Often enhanced by a lack of understanding or education;
- Concerns about 2/3rd of European soils: agricultural, natural and rural;
- Ecosystem services are limited, and costs of degraded soils are enormous (> 50 billion € yr⁻¹).

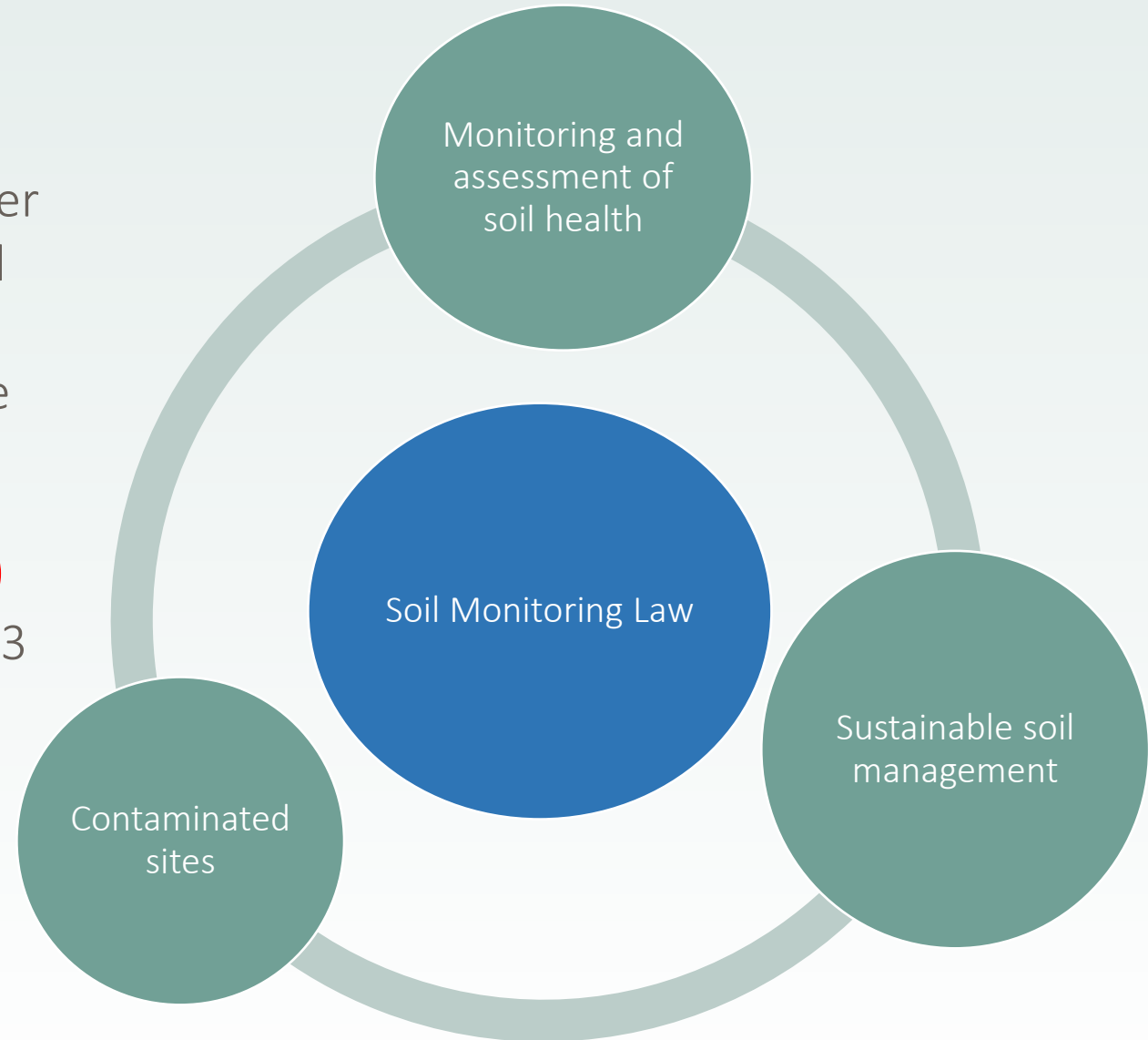


Proposed EU Soil Monitoring Law

- to ensure a level playing field among Member States and a high level of environmental and health protection
- to provide a legal framework to help achieve healthy soils by 2050

Status: **check status (see link in notes)**

- adopted by the EU Commission July 5th 2023
- amendments will be proposed by:
 - European Parliament (ENVI committee)
 - Council of the European Union
- up to three drafts



Putting in place a solid and coherent monitoring framework for all soils across the EU so MS can take measures to regenerate degraded soils

Monitoring and assessment of soil health

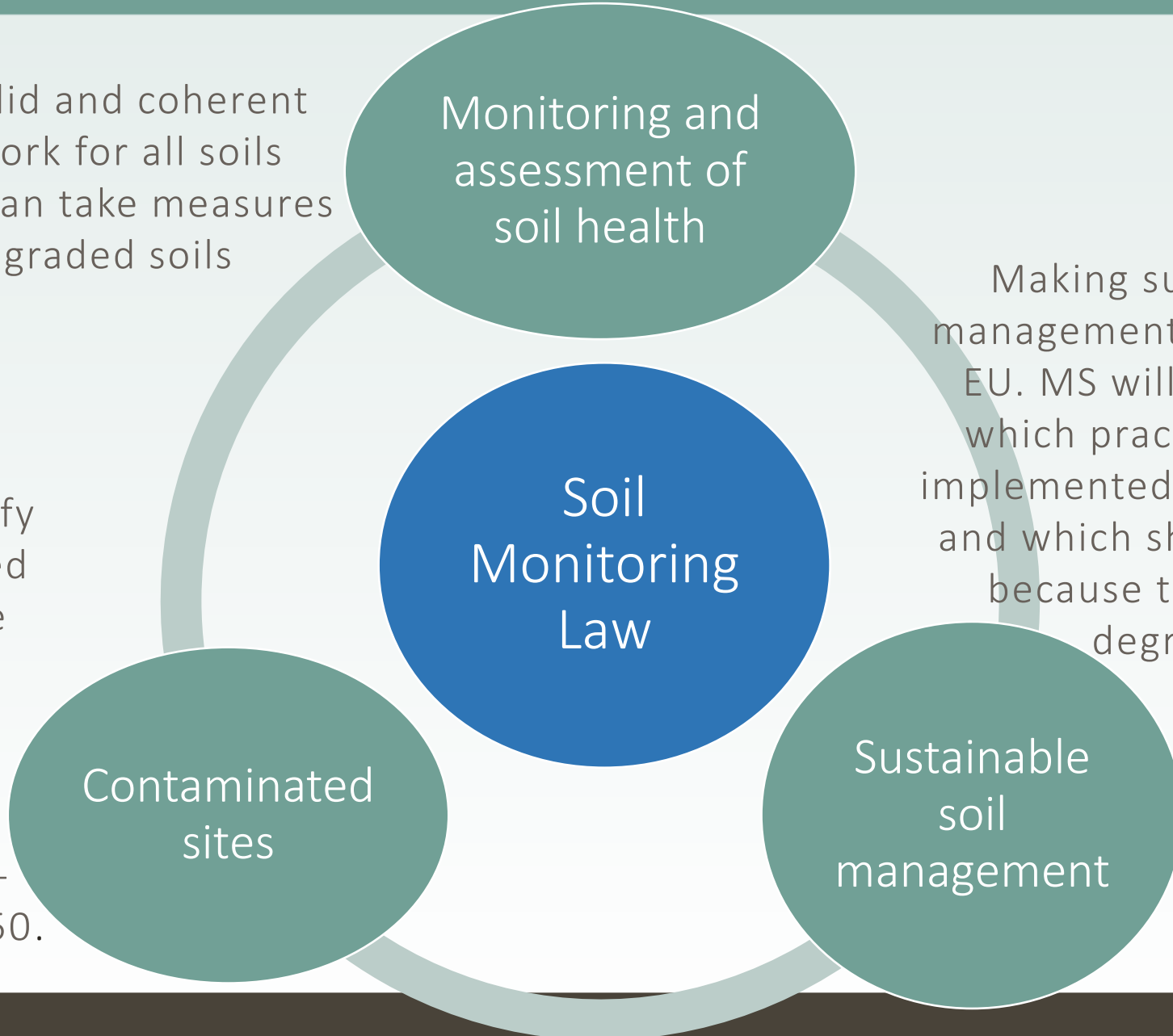
Making sustainable soil management the norm in the EU. MS will have to define which practices should be implemented by soil managers and which should be banned because they cause soil degradation.

Requesting MS to identify potentially contaminated sites, investigate these sites and address unacceptable risks for human health and the environment, thereby contributing to a toxic-free environment by 2050.

Contaminated sites

Soil Monitoring Law

Sustainable soil management



The soil mission's main goal

- The main goal of the Mission 'A Soil Deal for Europe' is to establish 100 living labs (places for on-the-ground experiments) and lighthouses (sites for showcasing good practices) by 2030, to lead the transition towards healthy soils in rural and urban areas.



The Mission 'A Soil Deal for Europe'

- 1 out of 5 EU Missions;
- The Mission to lead the transition towards healthy soils;
- A Mission at the heart of the EU Green Deal: the transition to overcome threats by climate change and environmental degradation.



The benefits of the European Green Deal

The Soil Mission goals and implementation

- 100 Living Labs and Lighthouses across all land uses: agricultural, forestry, natural, industrial and urban sites;
 - To give visibility to soils as a crucial, yet widely “unrecognized” societal asset and public good;
 - To pioneer, showcase and accelerate the transition to healthy soils.
- Bottom-up approach: based on open science and interactive, participatory innovation with strong stakeholder and citizen engagement;
 - Co-implementation of mission by researchers, land managers, regions, businesses, policy makers, citizens and international partners;
 - To accelerate the co-creation and uptake of solutions.

Communication, training and advice targeted to different target groups; specialised "soil advisors"

4. Soil literacy, communication, citizen engagement

Knowledge, data, technologies and infrastructures to support practices and business models for soil health

1. R&I Programme

Harmonization of soil health monitoring and reporting across Europe; contribution to European Soil Observatory

3. Soil Monitoring

A comprehensive network of real-life sites for co-creating, testing, demonstrating and upscaling of solutions

2. Living Labs and Lighthouses

1. Reduce desertification

2. Conserve and increase soil organic carbon stocks

3. Stop soil sealing and increase re-use of urban soils

4. Reduce soil pollution and enhance restoration

5. Prevent erosion

6. Improve soil structure to enhance soil biodiversity

7. Reduce the EU global footprint on soils

8. Improve soil literacy in society



1. Reduce desertification

2. Conserve and increase soil organic carbon stocks

3. Stop soil sealing and increase re-use of urban soils

4. Reduce soil pollution and enhance restoration



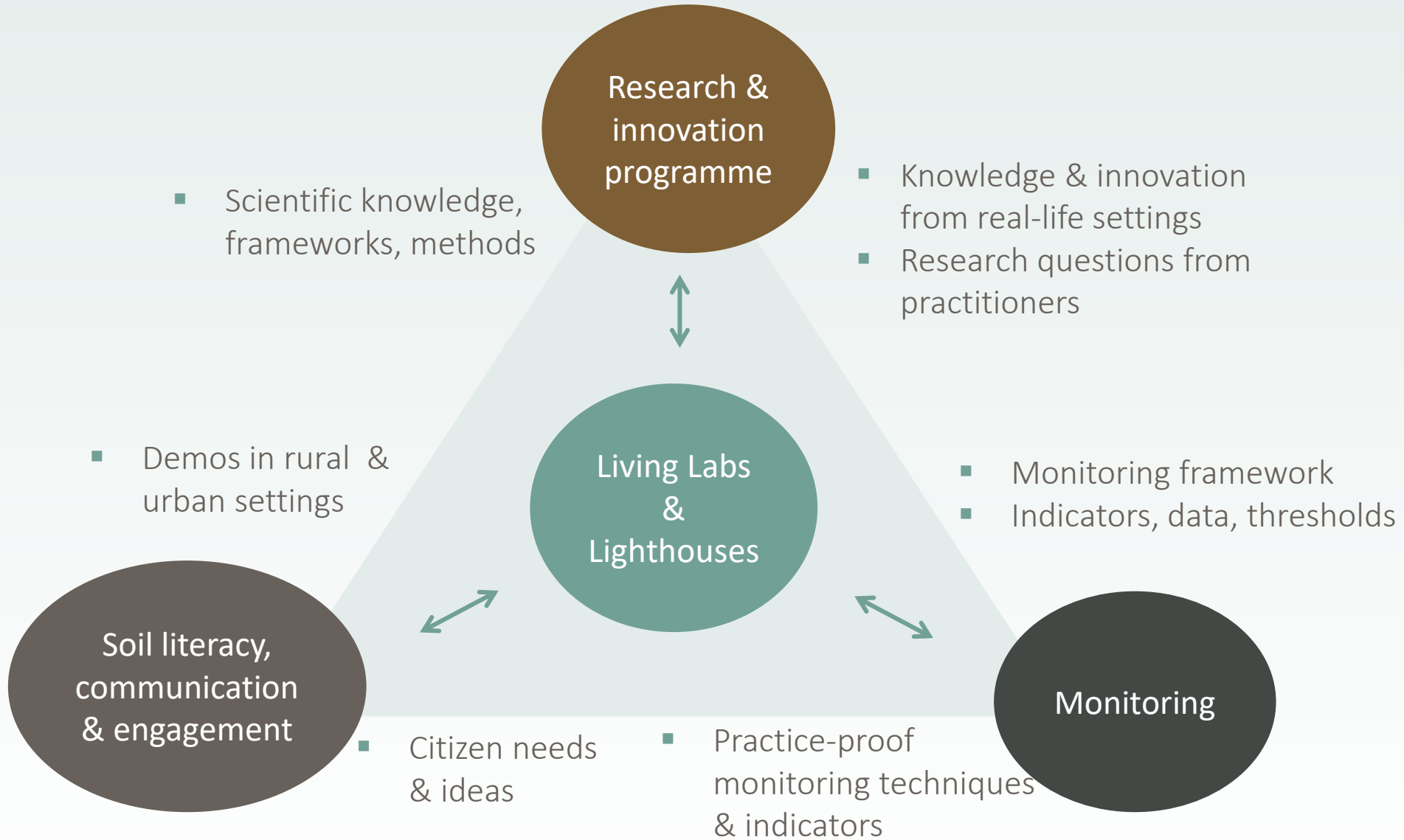


5. Prevent erosion

6. Improve soil structure to enhance soil biodiversity

7. Reduce the EU global footprint on soils

8. Improve soil literacy in society





Soil Health Living Labs and Lighthouses



Soil Health Living Labs *



Collaborative initiatives to co-create knowledge and innovations

“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.”

- **User-centred**, place-based and transdisciplinary
- **Multi-stakeholder**: Involve all relevant partners in co-design, testing, monitoring and evaluation of solutions,
- Use of **real-life** settings to accelerate adoption.
- Contain **several sites** (e.g. farms, forest exploitations, city parks) at **regional** or **sub-regional** level.

Soil Health Lighthouses



Individual sites of exemplary performance

“Places for demonstration of solutions, training and communication that are exemplary in their performance in terms of soil health improvement”

- They **showcase** good practices and upscale solutions.
- They are places for **demonstrations, training, networking** and **communication** towards future users, policy-makers or the broader society.
- Help adoption of sustainable practices by **inspiring land users** through practical tools.

* This LL definition is customised for soil health LL and is provided within the “[A Soil Deal for Europe – Implementation Plan](#)”. It aggregates elements of **ENOLL definition** with those of a WG of the G20 agricultural chief scientists on agroecological living labs.

Living Labs*

AIMS

- **Innovation, co-creation**, formal learning
- Contribution to **societal challenges**
- **Improving soil health and related ecosystem services** (=> mission objectives)

ACTIVITIES

- **Co-creation, co-development & experimentation** of innovations improving soil health and related ESS
- **Research on impact of these innovative practices** on ecosystems
- **Networking and knowledge exchange**
- **Demonstration** (in particular lighthouses)

PARTICIPANTS

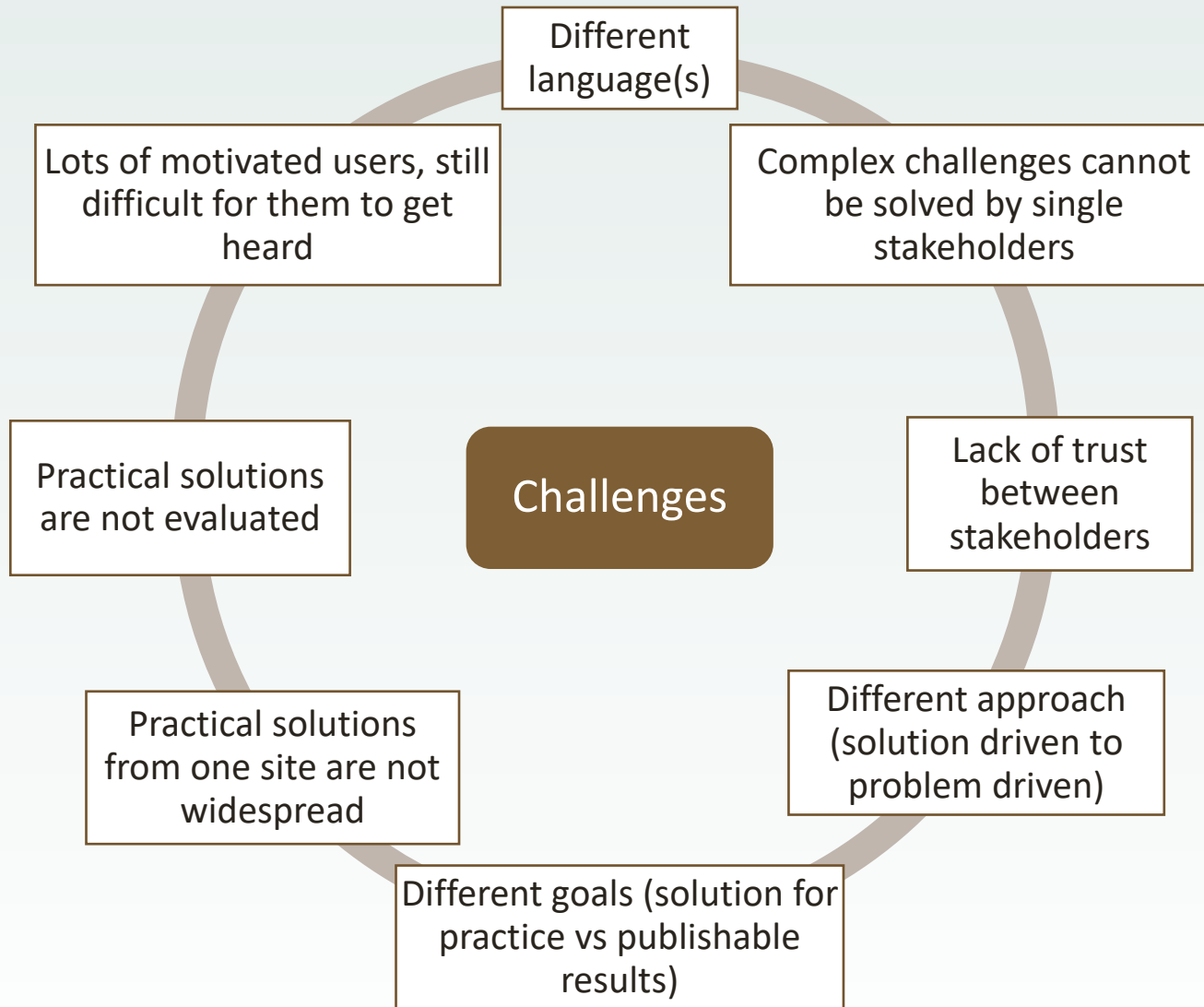
- **Public-private people partnership**
- **Real users (soil managers connected with broad array of stakeholders & decision-makers)**
- **Demonstration:** wider public, policy arena, EIP and relevant networks

CONTEXT

- Multiple **disciplines** (-> transdisciplinary, inc. social sciences), **methods, dimensions** (technical, economic, social)
- **Place-based** approach and **real-life context** = real farms/forest/urban sites
- **Robust scientific setup** for **ecosystem assessment**
- **Openness**, communication, dissemination

Lighthouses

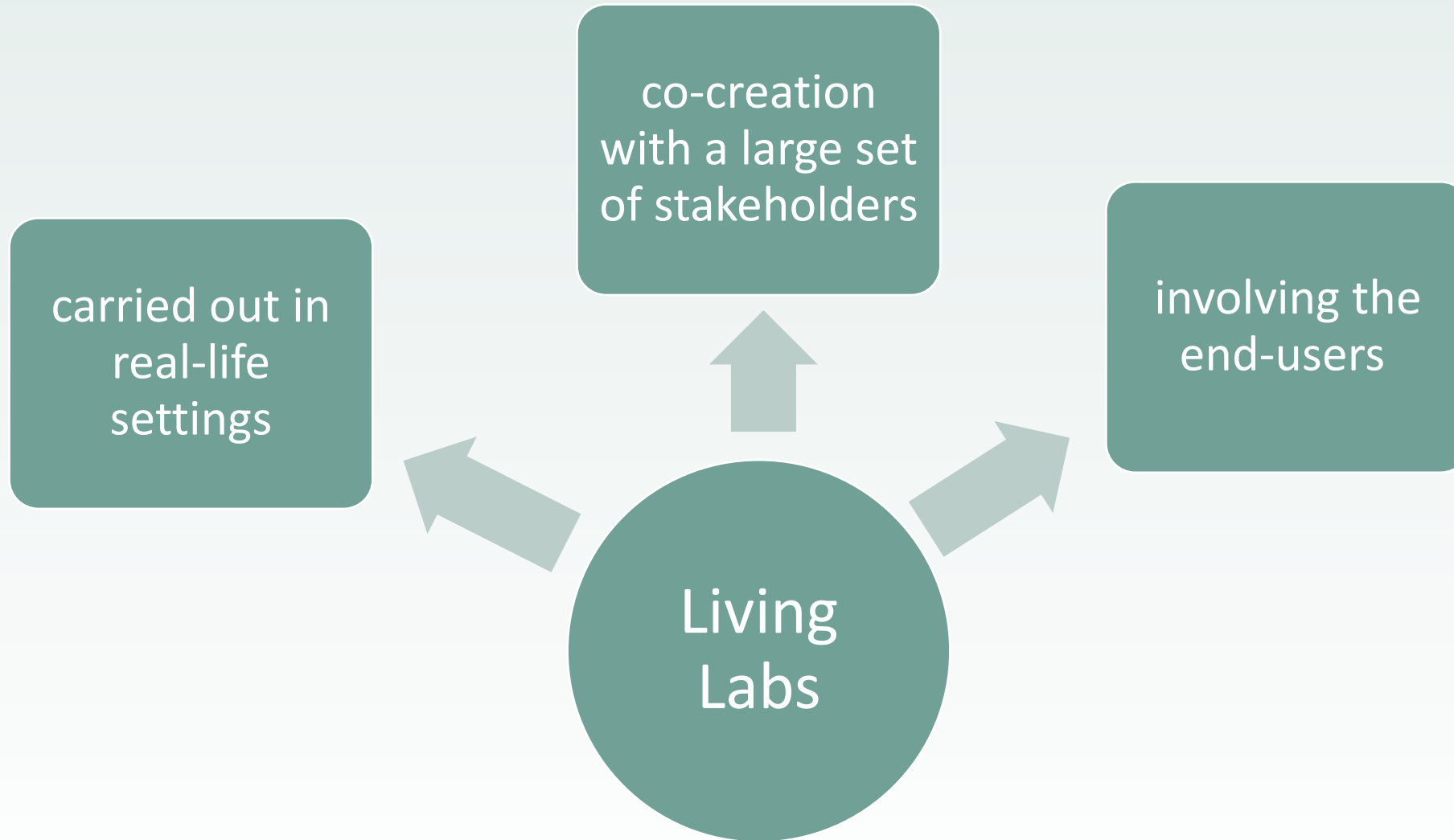
Criteria based on **exemplary performances** in terms of soil health and related ecosystems services



Cooperating in a multi-stakeholder team makes you

- ... become inspired by each other
- ... learn to think out of the box
- ... better understand each other
- ... accept different perspectives from different stakeholders
- ... aim for the same goals
- ... work together instead of side by side
- ... contribute to faster find faster, validated and more scalable solutions
- ...







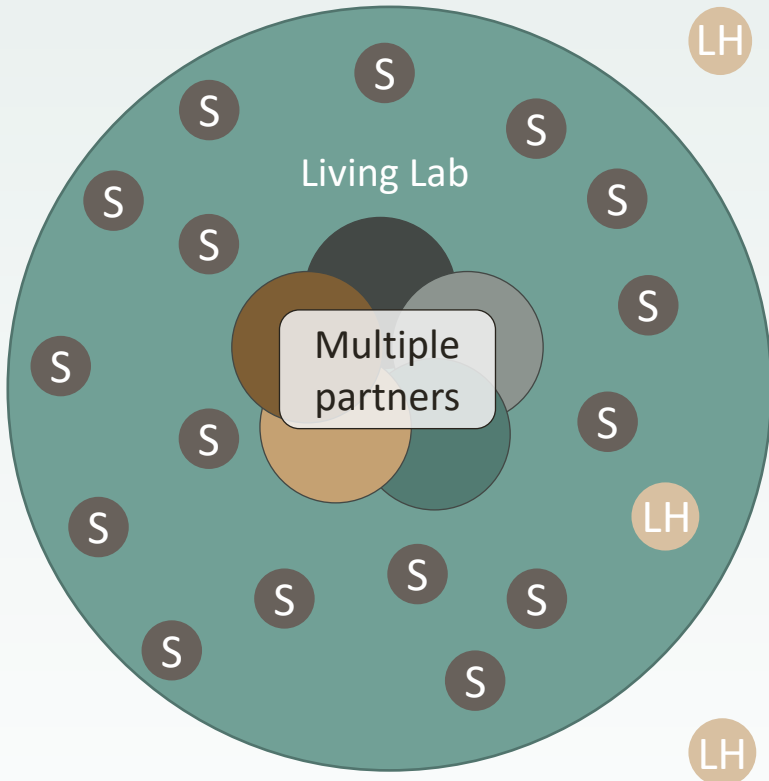
Places of co-creation, co-design, co-implementation and co-assessment



Participatory, interdisciplinary and transdisciplinary R&I approach



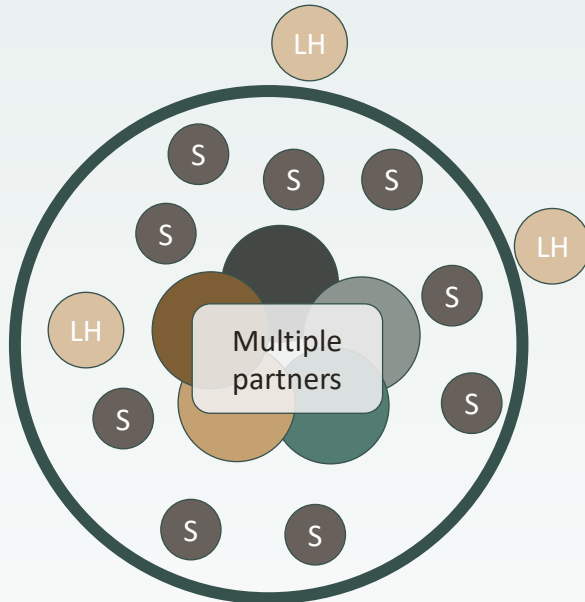
Business Models to ensure sustainability



	Scale	Activities	Performance in soil health improvement
Living Lab (LL)	Regional/ subregional landscape	Coordinate experimentations & partners	In progress at landscape scale
Living Lab experimentation site (S)	Local (one farm/forest, one urban site, etc)	Co-create knowledge and innovations	In progress on the site
Lighthouse (LH)	Local (one farm/forest, one urban site)	Experiment and/or demonstrate	Demonstrates high performance

Regional level

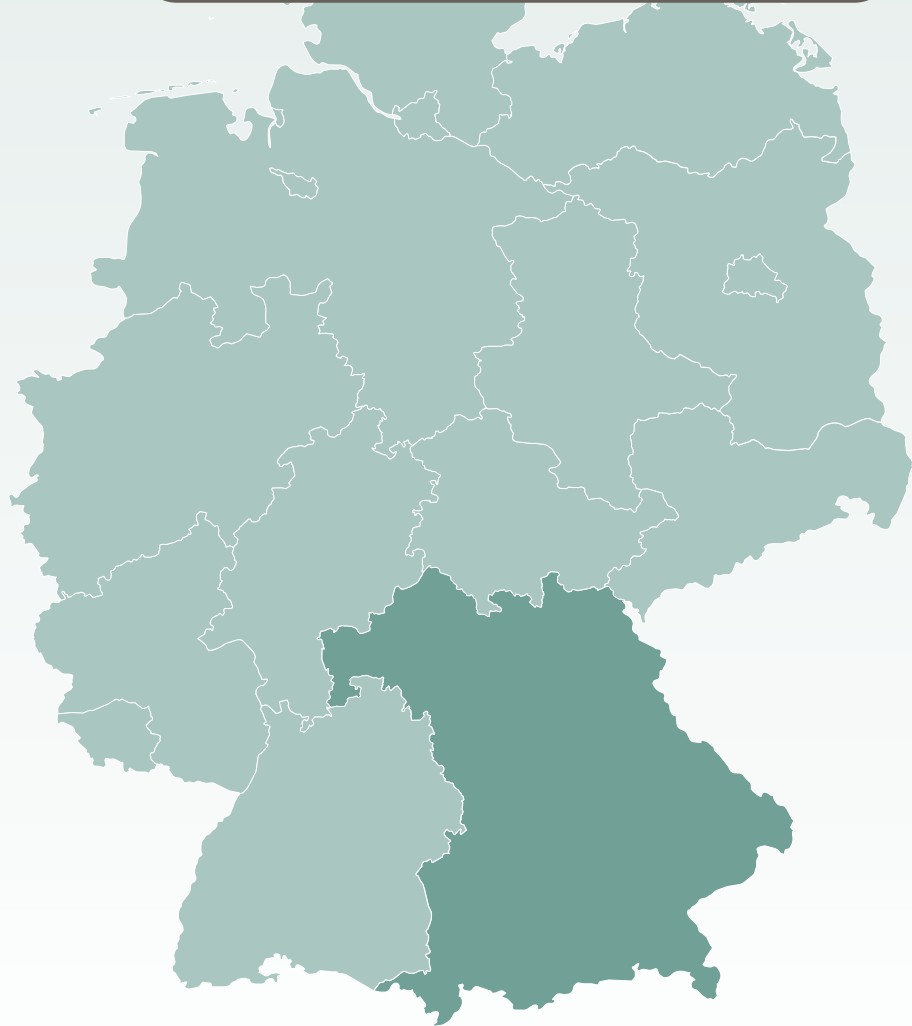
Sub-regional level



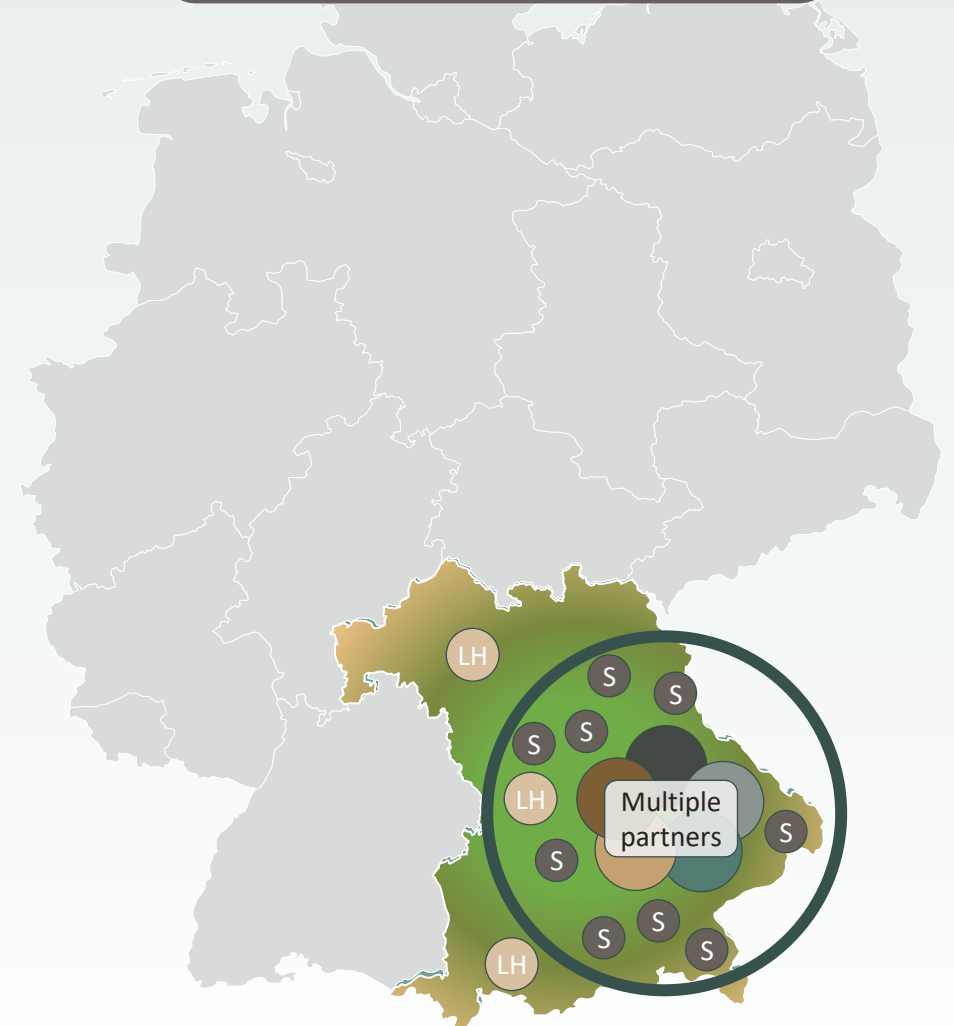
Local soil health needs
Local context
Common soil health goals

Within or across actual
administrative and geographical borders
at regional & national level

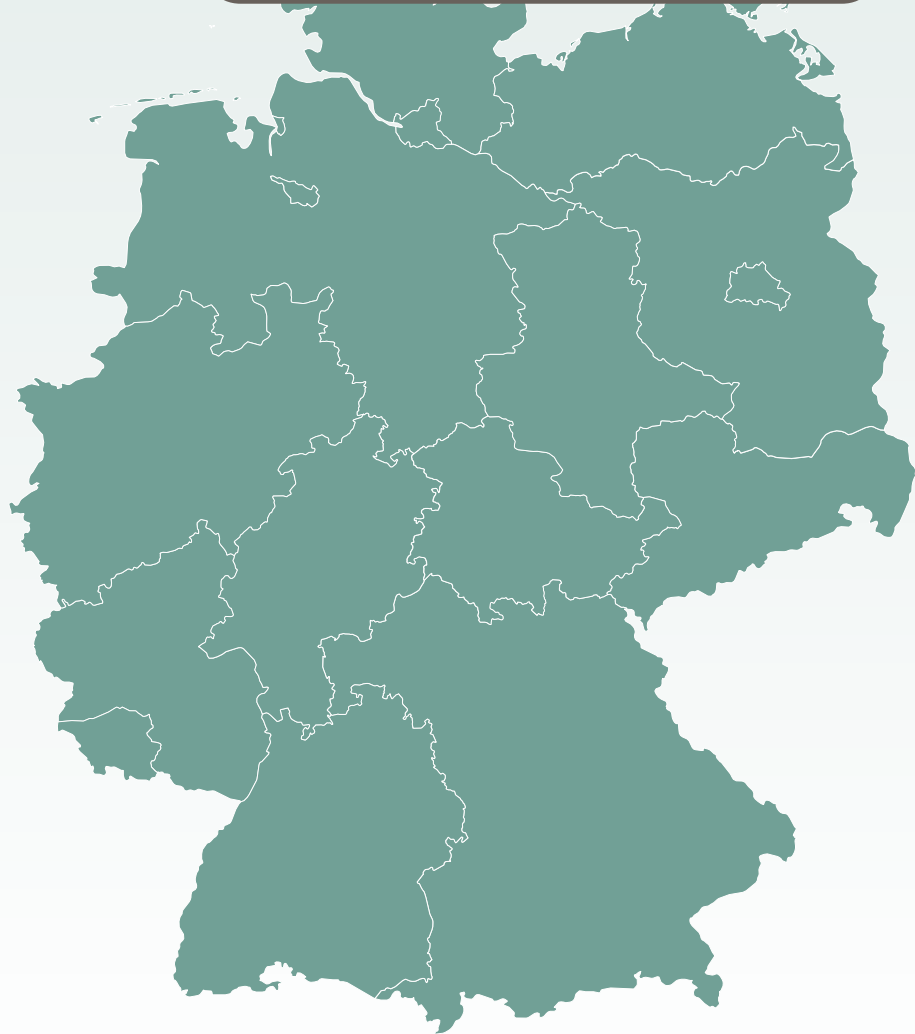
Regional/Sub-regional borders



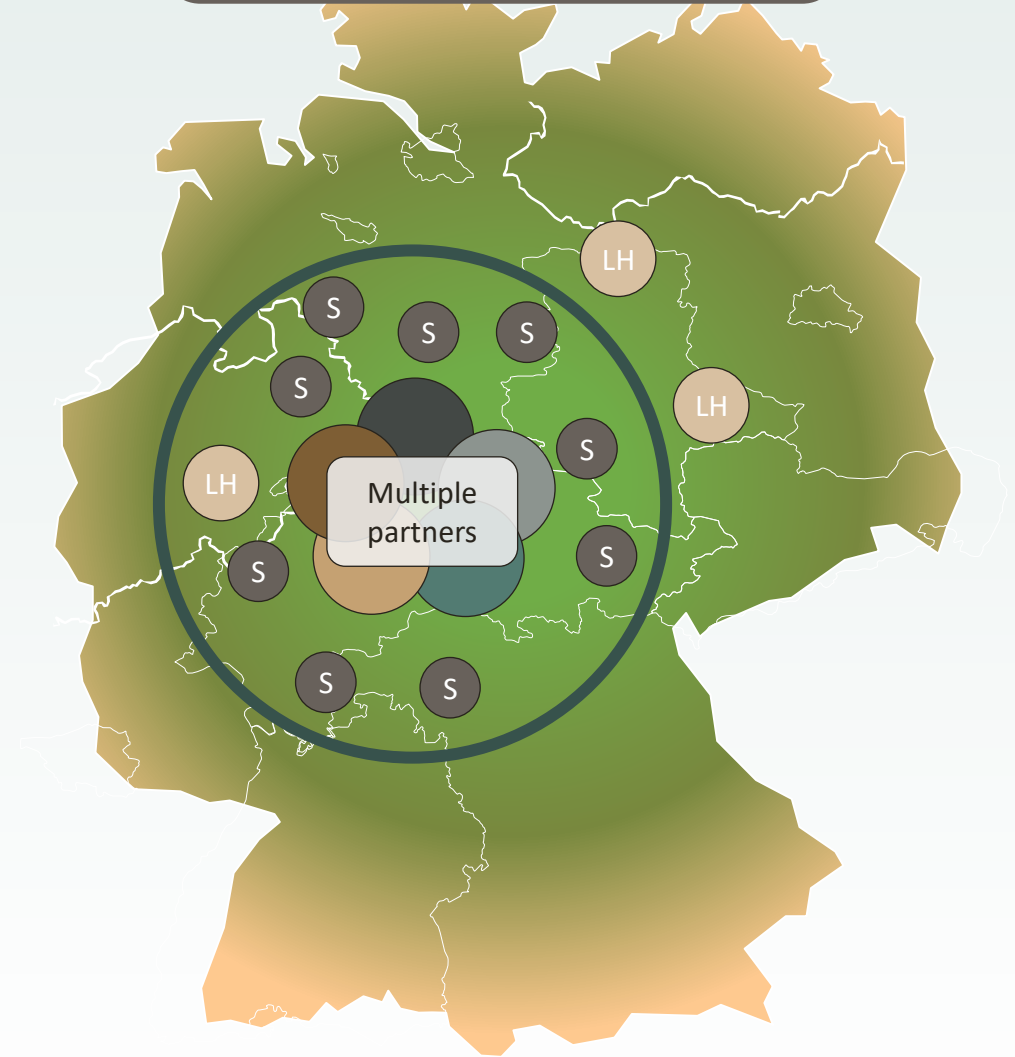
Common soil challenges



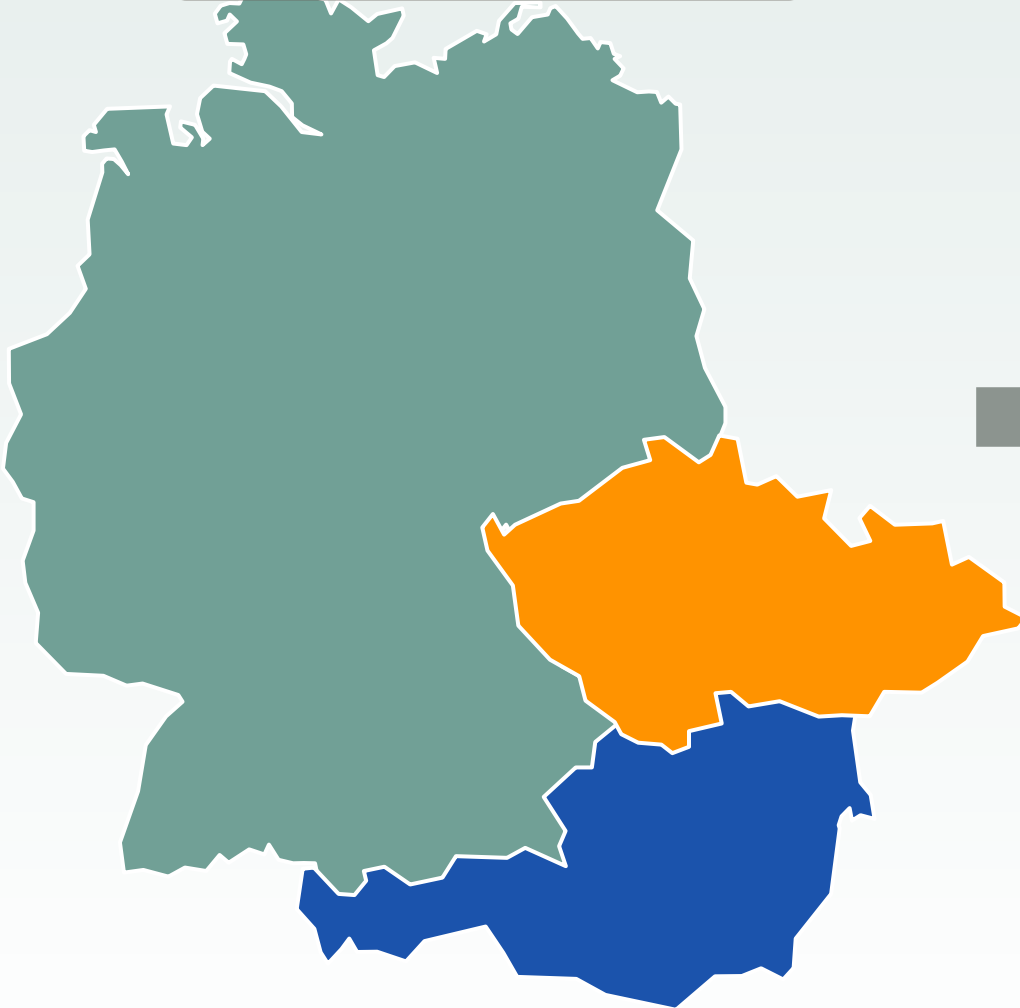
Cross-regional borders



Common soil challenges



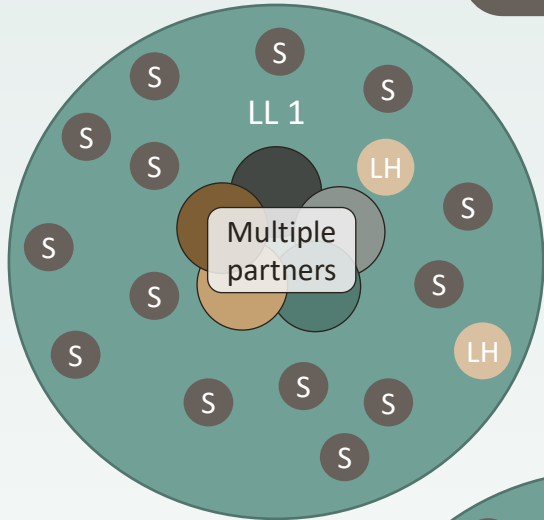
Administrative borders



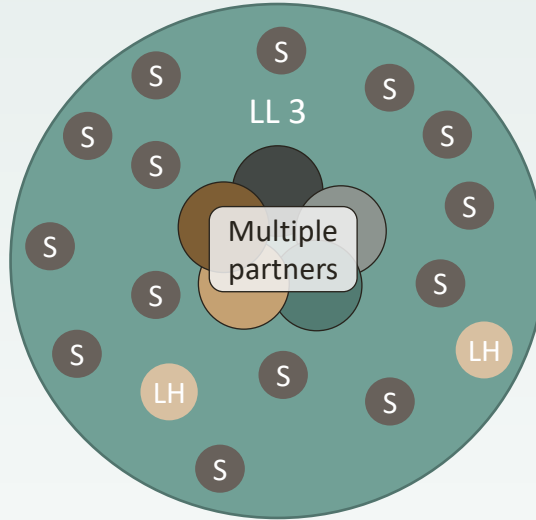
Common soil challenges



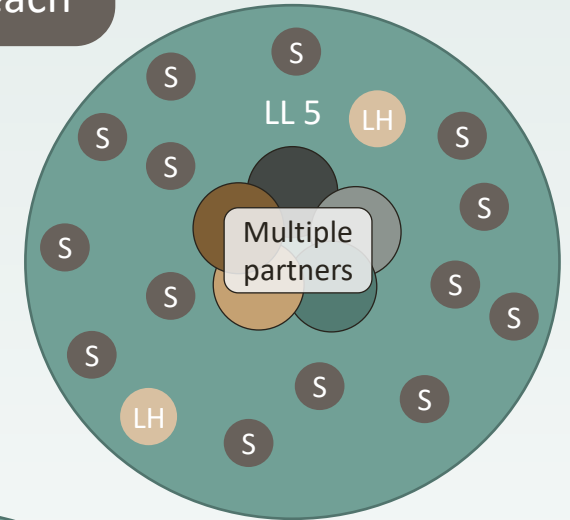
1 project with 4-5 Living Labs, with 10-20 experimental sites each



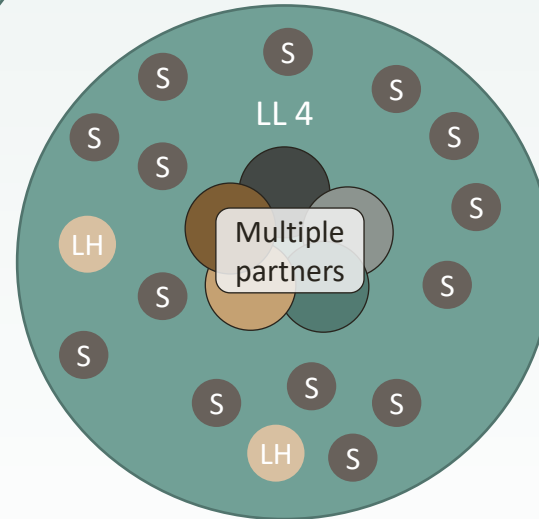
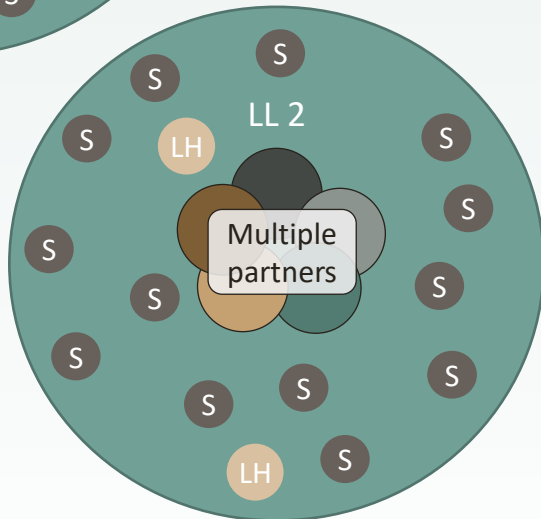
LH



LH

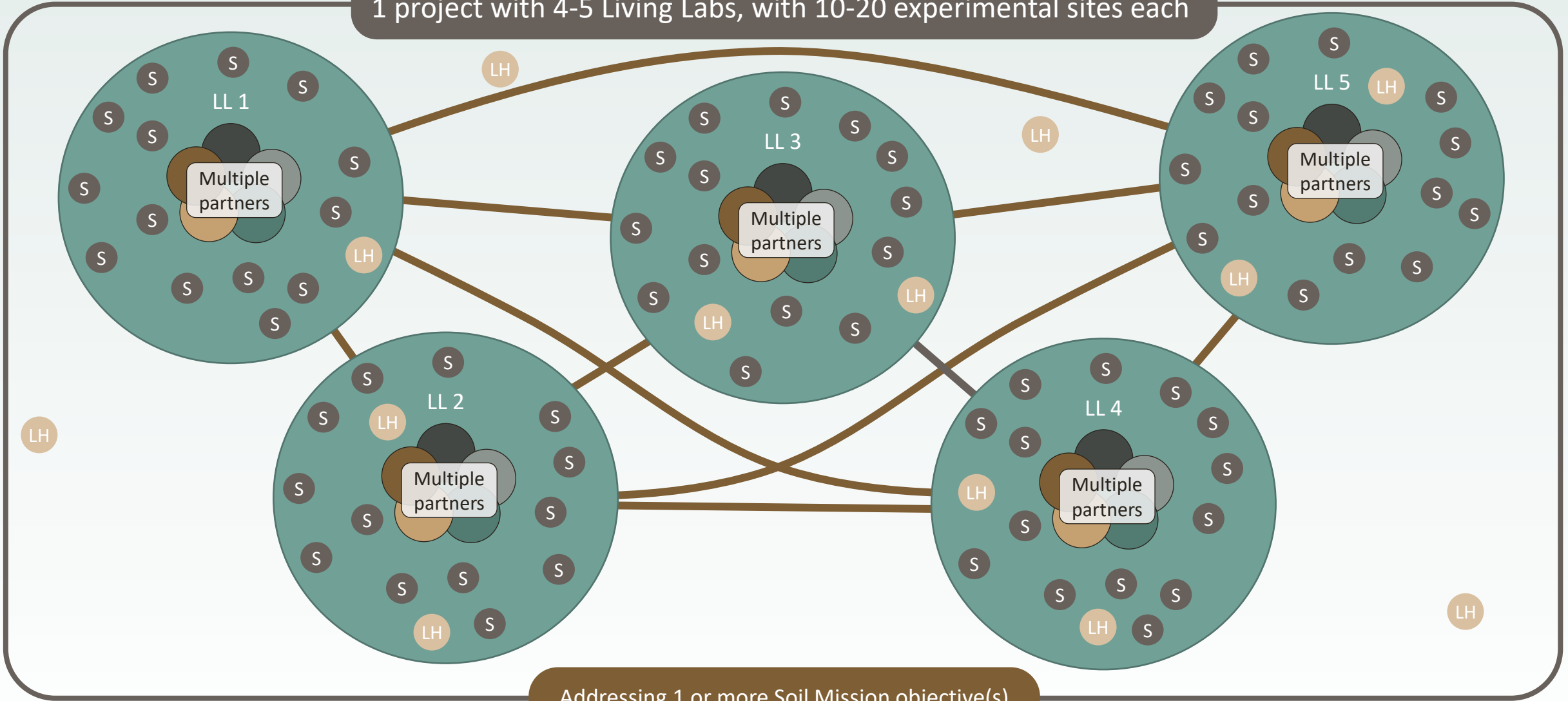


LH



LH

1 project with 4-5 Living Labs, with 10-20 experimental sites each



Addressing 1 or more Soil Mission objective(s)

Living Lab (LL)	Objectives	Land-use types	Application
LL1	Objective A	Land-use A	Local context 1
LL2	Objective A	Land-use B	Local context 2
LL3	Objective A	Land-use C	Local context 2
LL4	Objective A	Land-use A Land-use B	Local context 3
LL5	Objective A	Land-use B Land-use C	Local context 4

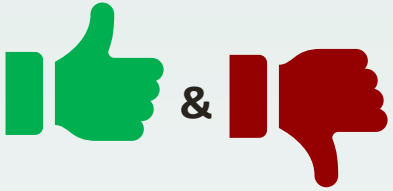
Living Labs focus on the same Mission Objective, different land-use types

Living Labs focus on the same Mission Objective and land-use type, but with different focus

Living Lab (LL)	Objectives	Land-use types	Application
LL1	Objective A	Land-use A	Local context 1
LL2	Objective A	Land-use A	Local context 2
LL3	Objective A	Land-use A	Local context 3
LL4	Objective A	Land-use A	Local context 4
LL5	Objective A	Land-use A	Local context 5

Living Labs focus on the different Mission objectives, but same land-use types

Living Lab (LL)	Objectives	Land-use types	Application
LL1	Objective A	Land-use A	Local context 1
LL2	Objective B	Land-use A	Local context 2
LL3	Objective C	Land-use A	Local context 1, 2
LL4	Objective A Objective B	Land-use A	Local needs 2
LL5	Objective C	Land-use A	Local context 1



Clear and justified biogeographic regions

Make sure to justify the common aspects within LLs in projects and how the coordination across regions will be established.




Prevent cross-regional unjustified scope
 Minimize outliers and, in case of a remote site, explain the management and the involvement in co-creation activities.




Living Labs per land-use type

An icon representing agriculture, showing a sun, a field with two small plants, and rolling hills.

Agricultural LLs

An icon representing forestry, showing several evergreen trees of varying sizes on a small hill.

Forestry LLs

An icon representing urban areas, showing several stylized buildings of different heights.

Urban LLs

An icon representing industrial sites, showing a factory building with a tall chimney.

Industrial LLs



FACTSHEET

EU Soil Mission Living Labs and Lighthouses for Soil Health: **Funding Opportunities**



Funded by the European Union

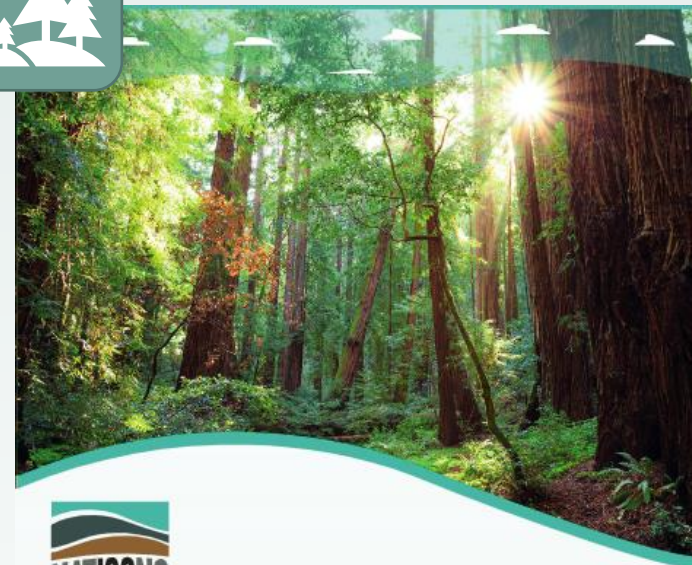


FACTSHEET

EU Soil Mission Living Labs and Lighthouses for Soil Health: **Agricultural Land Use**



Funded by the European Union

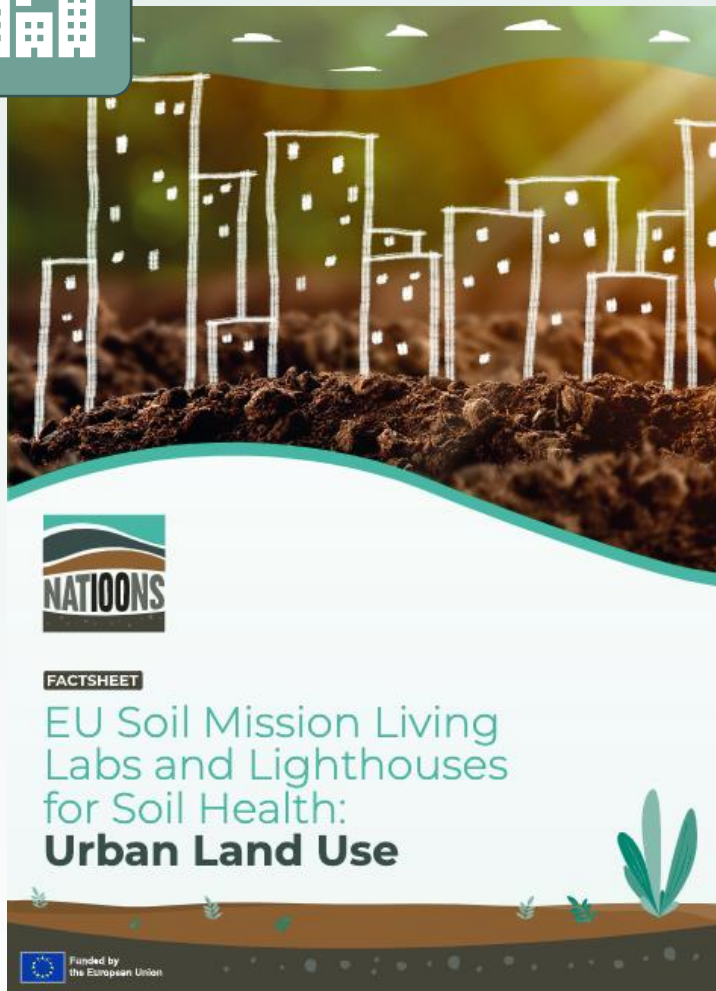


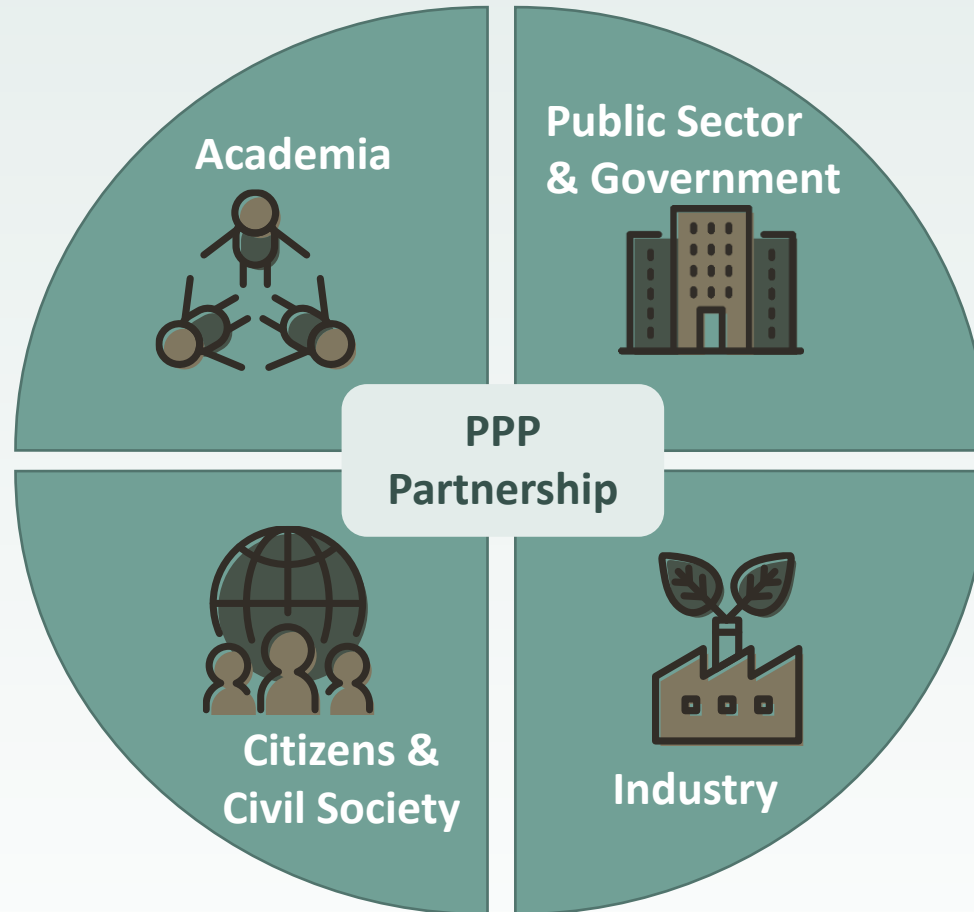
FACTSHEET

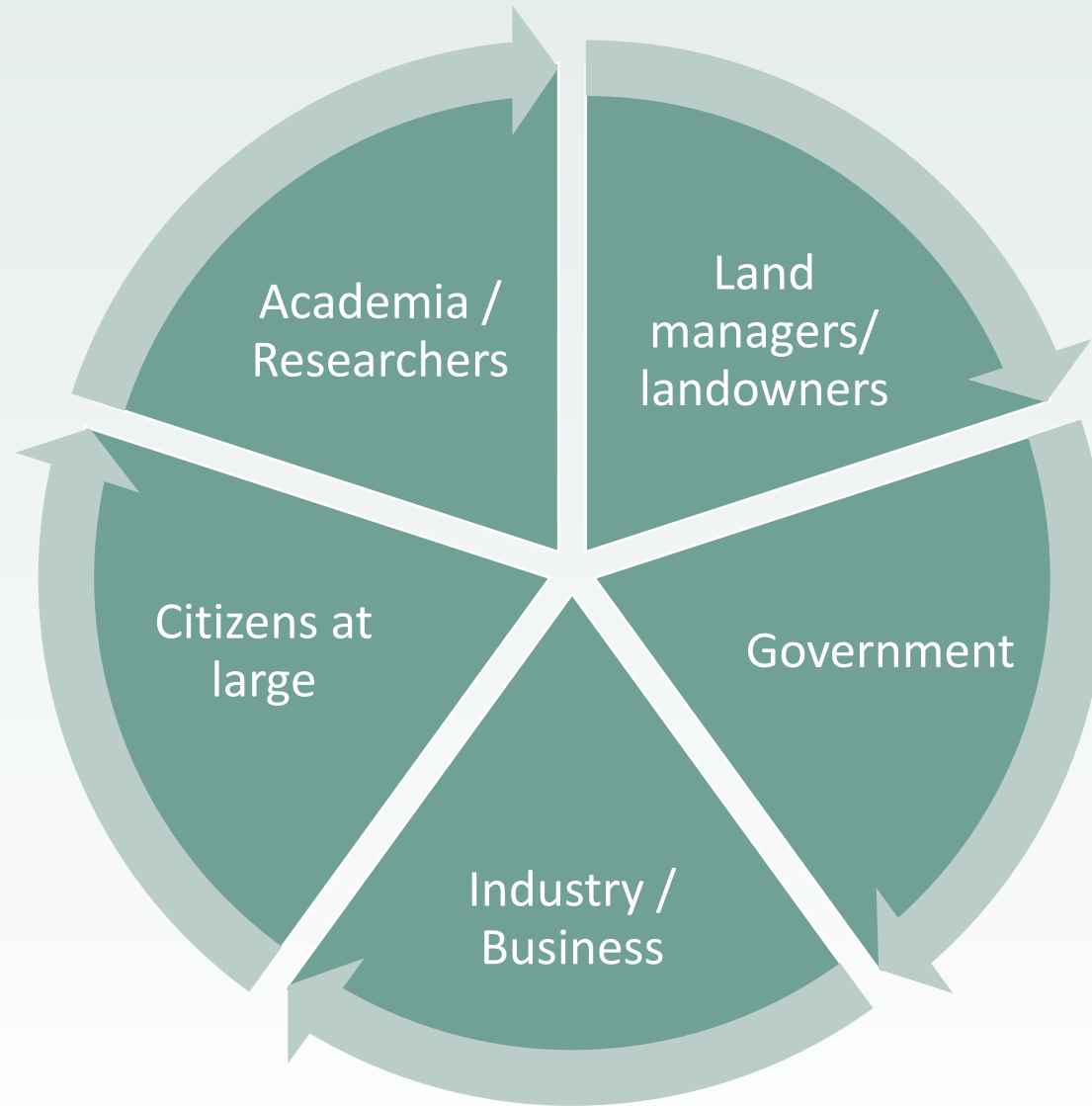
EU Soil Mission Living Labs and Lighthouses for Soil Health: **Forestry Land Use**



Funded by the European Union









Industry



Agricultural

- Farmers and landowners
- Cooperatives and supermarkets
- Agribusiness companies (e.g. agricultural engineers, food engineers, manufacturers of seeds and inorganic fertilizers, retailers) ranging from major European players to innovative startups, investors.



Urban

- Building/construction professionals: e.g. civil engineers, architects, real estate)
- GIS specialists
- Urban Planners (e.g. landscape, transport).



Forestry

- Landowners and forest managers
- Forest companies
- Forest owner associations
- Industries
- Land managers



Industrial

- Industrial landowners
- Land developers
- Environmental consultants
- SMEs

Larson, J. (2023). FACTSHEET - EU Soil Mission Living Labs and Lighthouses for Soil Health: Forestry Land Use. Zenodo. <https://doi.org/10.5281/zenodo.7969297>

Morello, E., & de Franco, A. (2023). FACTSHEET - EU Soil Mission Living Labs and Lighthouses for Soil Health: Urban Land Use. Zenodo. <https://doi.org/10.5281/zenodo.7969333>

Munkholm, L., & ten Damme, L. (2023). FACTSHEET - EU Soil Mission Living Labs and Lighthouses for Soil Health: Agricultural Land Use. Zenodo. <https://doi.org/10.5281/zenodo.7969257>

Siebielec, G. (2023). FACTSHEET - EU Soil Mission Living Labs and Lighthouses for Soil Health: (Post) Industrial Land Use. Zenodo. <https://doi.org/10.5281/zenodo.7969358>



Government & Public Sector



Agricultural

- Local, regional, and national (e.g. authorities, regulators, researchers)



Urban

- Public authorities and private agencies
- Public administrations (e.g. local, county-regional, national, communitarian)
- Health authorities (e.g. public health, epidemiologists)
- Environmental managers (e.g. disaster/risk and environmental managers)



Forestry

- Local, regional, and national authorities
- Regulators
- Governmental organizations
- Public authorities
- Agencies



Industrial

- Local, regional, national authorities
- City and regional administration
- Environmental protection offices
- Spatial planners

That might benefit from LLs focused on the regeneration and reuse of brownfield land and optimised spatial planning in (Post)industrial areas, adding value and addressing health risk.



Academia



Agricultural

- Researchers from universities
- Governmental organizations
- Research institutes



Urban

- Universities
- Social sciences research institutions: e.g. anthropologists, economists, geographers, sociologists
- Physical sciences research institutions: e.g. agronomists, biologists, chemists, climatologists, geologists, epidemiologists, physicians.



Forestry

- Researchers in forest and soil sciences
- Social science researchers
- Universities
- Research institutions



Industrial

- Researchers, agricultural and soil advisors.
- Farmers and advisors that might be interested in tackling diffuse contamination and transformation of agriculture in (Post)industrial regions to avoid contaminant transfer to food.



Citizens, Civil Society & Users



Agricultural

- NGOs (e.g. nature conservation and water protection organizations)
- Citizen groups
- Consumers
- Local, regional and national movements



Urban

- Inhabitants (e.g. residents, tenants)
- Civic groups (e.g. associations, cooperatives, NGOs)
- Loosely organized groups (e.g. artists, designers, retailers, and local businesses)
- Informal interest groups of the communities.
- Nature conservation groups



Forestry

- Urban and local citizens, community and citizens representatives, NGOs (e.g. nature conservation protection organizations).



Industrial

- Citizens
- Citizen organizations,
- Environmental organizations

Larson, J. (2023). FACTSHEET - EU Soil Mission Living Labs and Lighthouses for Soil Health: Forestry Land Use. Zenodo. <https://doi.org/10.5281/zenodo.7969297>

Morello, E., & de Franco, A. (2023). FACTSHEET - EU Soil Mission Living Labs and Lighthouses for Soil Health: Urban Land Use. Zenodo. <https://doi.org/10.5281/zenodo.7969333>

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Siebielec, G. (2023). FACTSHEET - EU Soil Mission Living Labs and Lighthouses for Soil Health: (Post) Industrial Land Use. Zenodo. <https://doi.org/10.5281/zenodo.7969358>



Best practices examples



Agricultural LL: Discovery Center



Forestry LL: FIRE-RES



Industrial LL: Desira Living



Urban LL: Torino City Lab

Discovery Living Lab



Agriculture Living Lab

- The Discovery Center strives to be a leading research hub for **sustainable soil management and precision agriculture**, focusing on the Carpathian basin's environmental conditions.
- Some of the **challenges addressed** are cultivation of dry beans precision, crop rotation, and adaptation to bound meadow soils.
- Involves users from diverse stakeholder groups through its **inclusive approach**, fostering collaboration among users and research ideas. Emphasis is placed on using well-defined methods: **soil sampling, GIS services, soil and plant analytics, soil protection plans, and remote sensing.**



DISCOVERY
CENTER

Hungary

FIRE-RES: Galicia Living Lab



Forestry Living Lab

- The Galicia Living Lab aims to include **Integrated Fire Management (IFM)** that seeks to harness the **ecological benefits of wildfires** while minimising the damage they can cause to communities, infrastructure, and especially, natural resources.
- Adopting proactive and innovative strategies based on **preparedness, prevention and extinction** of forest fires: by establishing **detection** and **support** methods, **information** to the rural and local population, and adaptation and restoration through the **recovery of the landscape** and **post-fire ecosystems.**
- These strategies are established through the collaborative engagement 18 members of the Galician Community of Wildfire Innovations (CWI).



FIRE-RES

Spain



Torino City Lab



Urban Living Lab

- Torino City Lab works as a real-life laboratory aimed at creating simplified conditions for companies interested in conducting **testing in real conditions of innovative solutions for urban living**.
- The City of Turin is becoming a "Mission City," establishing itself as a pivotal center for experimentation and innovation in climate action. It includes practical trials aimed at **ecological and digital transformations**, reinforcing as a pioneering open lab for smart living and nature-inspired solutions.
- This is implemented through the engagement of relevant City of Turin departments and partners to identify and define use cases of interest.



Desira Living: AgrOnov Living Lab

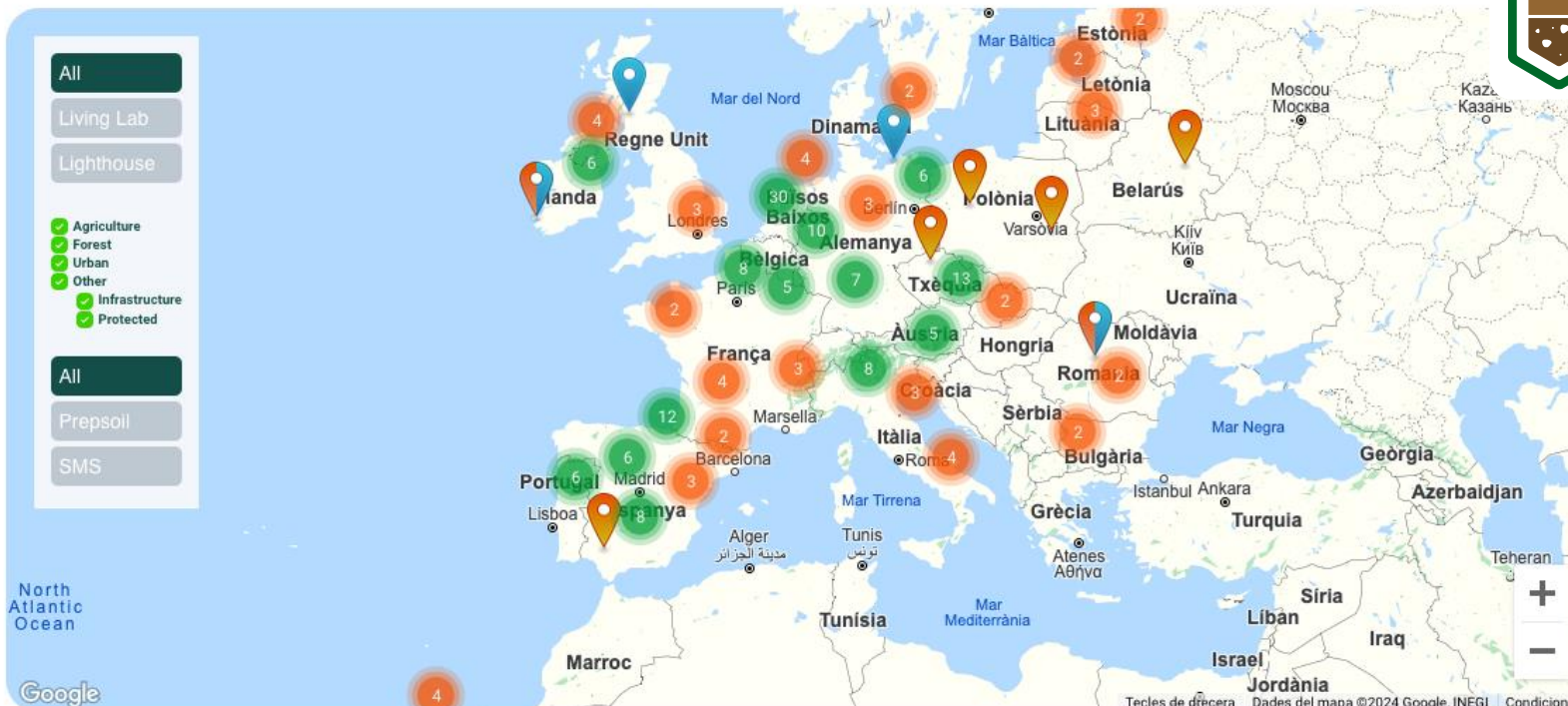


Industrial Living Lab

- The Living Lab AgrOnov, 'Agroecological transition in Burgundy-Franche-Comté', aims to contribute to and support the **digital agriculture** and **agroecological transition** in response to **the region's aging population and considerable loss of added value post-industrialization**, aiming for a transition towards a more sustainable agricultural model.
- Some of the challenges addressed are the loss of product processing in the agri-food industry, interoperability of systems, connectivity and digital tools.
- Through **engagement** of local public authorities (Dijon Metropole, Burgundy-Franche-Comté regional council), digital technology operators, farmers and agricultural chambers.



<https://prepsoil.eu/living-labs-and-lighthouses/map>



Living Lab
 Lighthouse
 Living Lab and Lighthouse

The Living Labs shown on the map do not necessarily fulfil the criteria for the selection and set-up of living labs in the context of the Soil Health Mission presented in the Mission Implementation Plan.



Thematic focus of the 2024 Living Lab call

Disclaimer

Information provided herewith are of the NATI00NS consortium.

The sole official source of reference shall remain the *Horizon Europe Work programme (2023-25) - 12. Missions and Cross-cutting Activities*, published by the European Commission on April 17th, 2024.

Soil health (0101)

*HORIZON-MISS-2024-SOIL-01-01:
Co-creating solutions for soil health in
Living Labs*

<https://ec.europa.eu/info/funding-tenders/opportunities/portal/screen/opportunities/topic-details/horizon-miss-2024-soil-01-01>

Urban (0102)

*HORIZON-MISS-2024-SOIL-01-02:
Living Labs in urban areas for healthy
soils*

<https://ec.europa.eu/info/funding-tenders/opportunities/portal/screen/opportunities/topic-details/horizon-miss-2024-soil-01-02>

- Deadline for applications: 08 October 2024 17:00:00 Brussels time;
- Single-stage submission via the Funding & Tenders Portal;
- **4-5 Living Labs** for each application located **in at least three** different Member States and/or Associated Countries;
- Research and Innovation Actions: 100% funding for any actor.

Soil health (0101)

HORIZON-MISS-2024-SOIL-01-01:

Co-creating solutions for soil health in Living Labs

- 36 M€ funding
- Expect 3 applications funded

1. Reduce desertification

2. Conserve and increase soil organic carbon stocks

3. Stop soil sealing and increase re-use of urban soils

4. Reduce soil pollution and enhance restoration

5. Prevent erosion

6. Improve soil structure to enhance soil biodiversity

7. Reduce the EU global footprint on soils

8. Improve soil literacy in society

Urban (0102)

HORIZON-MISS-2024-SOIL-01-02:

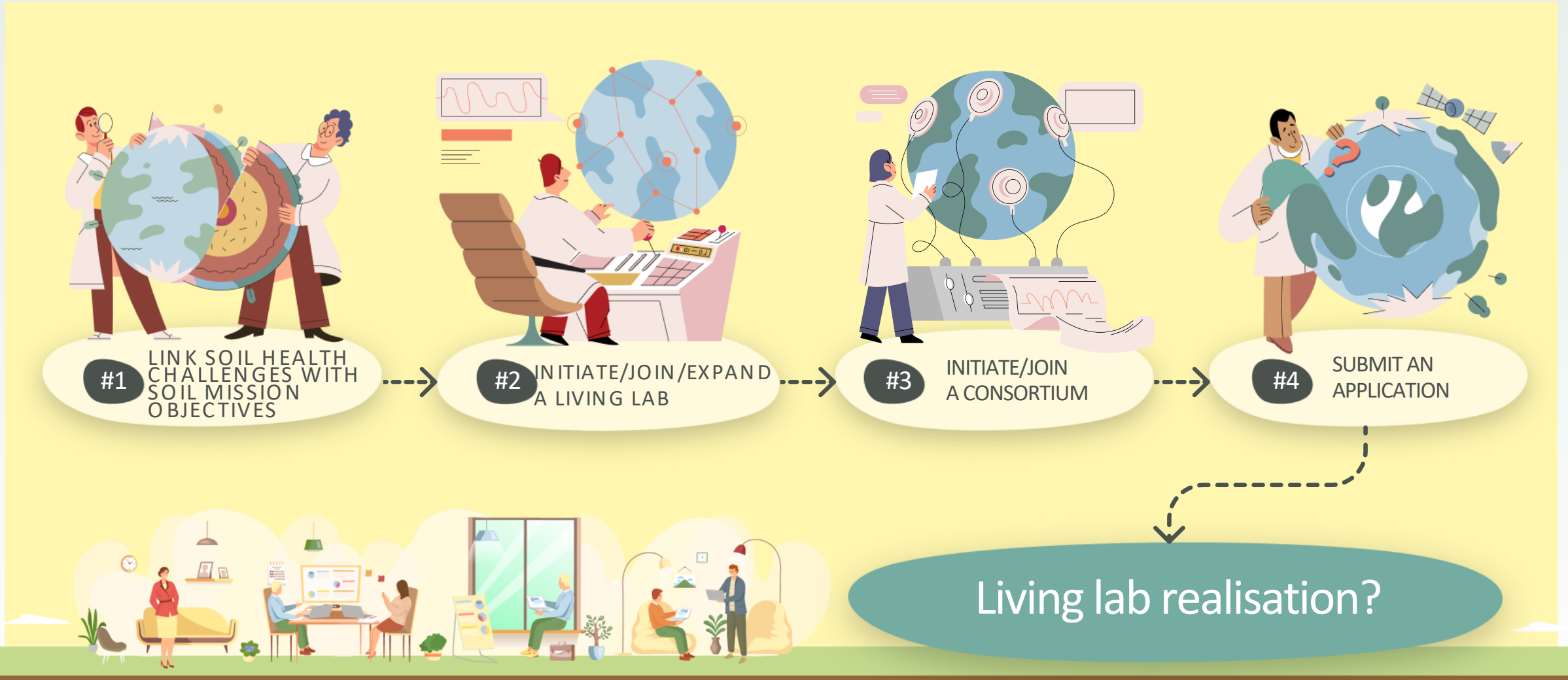
Living Labs in urban areas for healthy soils

- 12 M€ funding
- Expect 1 application funded



Time for engagement





Explore the Pathway to a Competitive Application



#2

INITIATE/JOIN/
EXPAND A LIVING
LAB

- **Identify** stakeholders needed to:
 - overcome soil health challenges
 - fulfil the multi-actor approach
- **Watch** webinars on the Living Lab methodology
- **Learn** about EUs criteria for Living Labs
- **Find** your national mentor
- **Be advised** on the initial phases of establishing a Living Lab

Explore the Pathway to a Competitive Application



#3

INITIATE/JOIN
A CONSORTIUM

- **Reach out** to potential Living Labs collaborators
- **Join** the matchmaking platform and use it for:
 - sending messages
 - showcase products, services, projects, expertise, or other
- **Join/watch** thematic events for networking on a transnational scale
- **Agree** between Living Labs on a joint rationale behind forming the consortium

Explore the Pathway to a Competitive Application



#4

SUBMIT AN
APPLICATION

- **Draft** your application keeping close in mind
 - the rationale of collaboration
 - the roles of stakeholders in the co-creation
 - the status of soil challenges
 - expected impacts
- **Check** NATI00NS FAQ
- **Utilize** NATI00NS tools
- **Comply** with the Horizon Europe Work programme and call text (NATI00NS is guiding)

<https://www.nati00ns.eu/>

	Engagement events	Inform, engage & promote. 43 countries (EU MS + AC), national language
	Matchmaking – (inter)national	Facilitate creation of local LL. Online and along engagement events
	Factsheets & E-learning	Inform & train. LL, open call, types of LL peculiarity
	Helpdesk & FAQ	Support. Online, addressing all questions on LL creation
	Webinars LL methodology	Train. How to set up, develop and enlarge a LL.
	Coaching	Support. Available in local language, appointed mentors.
	Thematic events & webinars	Inform, train & engage. Different themes for specific land uses.
	Matchmaking – International & thematic	Facilitate creation of partnerships of LLs. Online and along thematic events



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