SOILL STARTUP

POST-INDUSTRIAL LAND USE

FACTSHEET

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MISSION SOIL OBJECTIVES & PARTICULARITIES POST-INDUSTRIAL LAND USE

EU MISSION 'A SOIL DEAL FOR EUROPE'

Healthy soils are essential to life on Earth. They are the foundation of our food systems, they also provide clean water and habitats for biodiversity while contributing to climate resilience. Yet, between 60% and 70% of soils in the EU are considered unhealthy. While it can take hundreds of years to form just one centimetre of soil, it can be lost in a single rainstorm or through industrial damage.

The EC launched the Mission **'A Soil Deal for Europe'**- Horizon Europe programme **-to create 100 living labs and lighthouses** in rural and urban areas to drive the transition to healthy soils by 2030.

Funded by the European Union

THE MISSION SOIL WILL[1]:

- Create knowledge and solutions for soil health,
- Advance the development of a harmonised framework for soil monitoring in Europe,
- Increase people's awareness of the vital importance of soils,
- Support the EU's ambition to lead on global commitments, notably the Sustainable Development Goals (SDGs) and contribute to the European Green Deal targets.*

[1] European Commission

*more information in the Mission implementation plan.

THE 8 MISSION OBJECTIVES

1. Reduce desertification
2. Conserve soil organic carbon stocks
3. Stop soil sealing & 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

MISSION SOIL OBJECTIVES & PARTICULARITIES POST-INDUSTRIAL LAND USE

THE MISSION SOIL LIVING LABS ARE...

"user-centred, place-based and transdisciplinary research and innovation ecosystems, which involve land managers, scientists, and other relevant partners in systemic research and codesign, testing, monitoring, and evaluation of solutions, in real-life settings, to improve their effectiveness for soil health and accelerate adoption." Factsheet - EU Mission Soil Deal for Europe: Living labs and lighthouses.

CHALLENGES IN POST-INDUSTRIAL LAND USE

Post-industrial (brownfields) and industrial lands usually face a combination of challenges related to multifunctionality of land use and variability of challenges, such as contamination, resource use, sealing of land, all of this under the pressures of climate change.

Historical waste deposits, former mining areas and contaminated sites can pose risks to their surroundings such as densely populated areas, ecosystems and crop production on arable land.

A transition to healthy soils, by sustainable, risk-based land management (SRBLM) would facilitate the restoration of soil, water and air in the ecosystem and support the delivery of various ecosystem services.

Addressing contamination and other soil health problems on sites and their surroundings, and transformation of post-industrial and brownfield land to other land uses, needs engagement of diverse stakeholders and a co-creation process.

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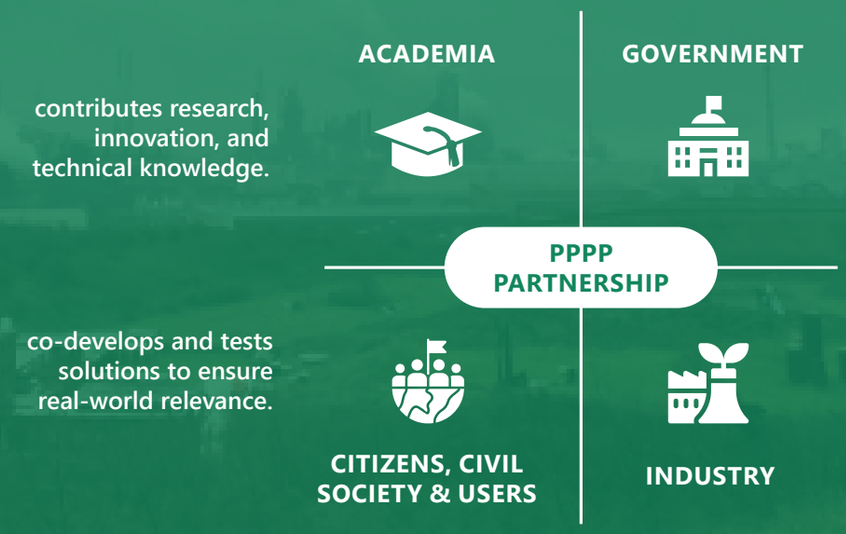
WHO CAN BE INVOLVED?

THE QUADRUPLE HELIX – TYPES OF STAKEHOLDERS INVOLVED IN LIVING LABS

An essential feature of Living Labs is their user-centric approach, involving all key actors and end-users throughout the innovation process. While specific participants vary by context, they can be grouped using the **Quadruple Helix Model**—Academia, Industry, Government, and Civil Society—forming a **Public-Private-People Partnership (PPPP)** that enables real co-creation and impact.

This inclusive model supports co-learning and ensures that solutions are not only scientifically sound but also practical, economically viable, socially accepted, and environmentally sustainable.



SOME EXAMPLES OF STAKEHOLDERS OF LIVING LABS IN THE POST-INDUSTRIAL LAND USE MAY INCLUDE:

Managing and improving soil health to support ecosystem services in (post-)industrial areas would be important for the entire population in industrial and post-industrial regions (land stewardship).

- **GOVERNMENT & PUBLIC SECTOR:** Local, regional authorities and national authorities, city, and regional administration, environmental protection offices, and spatial planners might benefit from Living Labs focused on the regeneration and reuse of brownfield land and optimised spatial planning in post-industrial areas, adding value and addressing health and environmental risk.

- **INDUSTRY:** industrial landowners, land developers, SMEs, farmers are problem owners and benefit from the redevelopment and regeneration of their land.

- **ACADEMIA:** researchers, environmental consultants, agricultural and soil advisors might be interested in tackling diffuse contamination and contaminants of concern and development of sustainable and risk-based land management.

- **CITIZENS, CIVIL SOCIETY & USERS:** citizen organisations, environmental organisations, and citizens might be users of potential Living Labs focused on developing interim and new uses for brownfield sites, helping bring them back into beneficial use.

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WHAT CAN POST-INDUSTRIAL LIVING LABS DO?

WHICH ADDED VALUE CAN CO-CREATION BRING IN THIS FIELD?

Sustainable and risk-based land management and use planning in post-industrial areas / Brownfield land is extremely important for environmental and ecosystem quality and human health. Involving citizens, municipal administration, planners, land developers, researchers, and environmental officers in the Living Lab co-creation processes might help to optimise the re-use of land in a way that involves soil information, soil ecosystem services, and risk management in the planning while envisioning interim and new uses.

In many post-industrial regions, a substantial part of the land is still used as arable land. Elevated soil contaminants might pose a risk of food contamination. Therefore, alternative agricultural production and soil management practices must be proposed to farmers. They can be effectively developed only in a co-creation process with farmers and advisors to address environmental and socio-economic barriers the transformation might face.

WHICH ACTIVITIES CAN A POST-INDUSTRIAL MISSION SOIL LIVING LAB PERFORM?

Mission Soil Living Labs can test and discuss soil management to reduce negative effects on humans and the ecosystem.

Mission Soil Living Labs can develop innovative cost-effective, and non-invasive (to soil) sustainable remediation techniques.

Mission Soil Living Labs can develop sustainable and risk-based land management strategies involving soil health.

Mission Soil Living Labs can co-create monitoring techniques of soil health and its effects on residents and wider values for interim and new land uses.

Look after your soil and prevent contamination.

PILAR BERNAL (SPAIN)
EXPERT FROM THE EIP-AGRI FOCUS GROUP ON PROTECTING AGRICULTURAL SOILS FROM CONTAMINATION

CRITERIA OF LIVING LABS AND LIGHTHOUSES

CRITERIA TO IDENTIFY

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 ecosystems
- **Research on impact of these innovative practices on ecosystems**
- **Networking** and **knowledge exchange**
- **Demonstration** (in particular lighthouses)

Participants

Public-private people partnership:

- **Real soil managers** (farmers, advisors, foresters, city greens managers, allotment holders, etc.) to be at the centre of the innovation process.
- **Other stakeholders:** Associations and organisations with interest in soil health, local or regional government, scientists from a variety of fields outside of soil (natural sciences, social, and behavioural sciences), and the wider public

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

*adapted from McPhee et al. (2021)

LIGHTHOUSES

As lighthouses are sites achieving exemplary performance in terms of soil health improvement, the criteria for selecting them will be based on the **mission objectives**, indicators, and thresholds as defined by the monitoring programme:

- **Demonstration, dissemination, and promotion** to soil managers, the public, and the policy arena, at the landscape scale and beyond, of land-use systems that satisfy criteria for sustainable development, in particular in terms of soil health and related ecosystem services.
- Reaching out to the **policy arena** linking results of the Lighthouses to environmental rules and regulations. This is in line with science-based policy support and governance.

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HOW TO GET INVOLVED IN THE SOIL MISSION

HOW TO PARTICIPATE? TWO LIVING LAB TOPICS

1) Brownfield

HORIZON-MISS-2025-05-SOIL-01: Living Labs for soil remediation and green redevelopment of **brownfields**

- **Single-stage** submission
- **Deadline:** 30 September 2025
- 4-5 Living Labs for each application - should be located in at least three different Member States and/or Associated Countries

2) Biogeographical regions

HORIZON-MISS-2025-05-SOIL-01-two-stage: Living labs to enhance soil health in **Continental, Boreal and Alpine biogeographical regions**

- **Two-stage** submission (First, applicants submit a brief outline. Selected proposals are then invited to submit a full application)
- **Deadline:** 4 September 2025 (first stage) and 18 February 2026 (second stage).
- 4-5 Living Labs for each application - **Most of the living labs** (i.e., 3 out of 4, or 4 out of 5) must be located **within the chosen region**

Research and Innovation Actions:
100% funding for any actor
Proposals must apply the multi-actor approach
Support to third parties is allowed

WANT TO EXPLORE FURTHER?

Biogeographical Regions factsheet

Both Living Lab topics on the SOILL website

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HOW TO GET INVOLVED IN THE SOIL MISSION

FOLLOW THE SOILL PROJECT!

Check out for updates

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SOILL HUB

A collaborative space dedicated to soil health.

HELPDESK

A wide network of experts ready to provide guidance and answers on many topics.

NATI00NS

Adapted from original content by the NATI00NS project.

Funded by the European Union