



EUROPEAN UNION

EU MISSIONS



Concrete solutions for our greatest challenges

A Soil Deal for Europe: 100 living labs and lighthouses to lead the transition towards healthy soils by 2030

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#EUmissions #HorizonEU

This presentation is delivered by a former member of a Horizon Europe Mission Board, which is an informal group of experts set up by the European Commission to provide advice for the identification and implementation of missions in Horizon Europe programme. The contents of the presentation do not represent the official views of the European Commission nor do they constitute a commitment of any kind on its behalf

What are the challenges we are facing as a society ?

By 2050, 50 - 700 million people worldwide are likely to be forced to migrate due to a combination of climate change and land degradation

IPBES (2018): The assessment report on land degradation and restoration



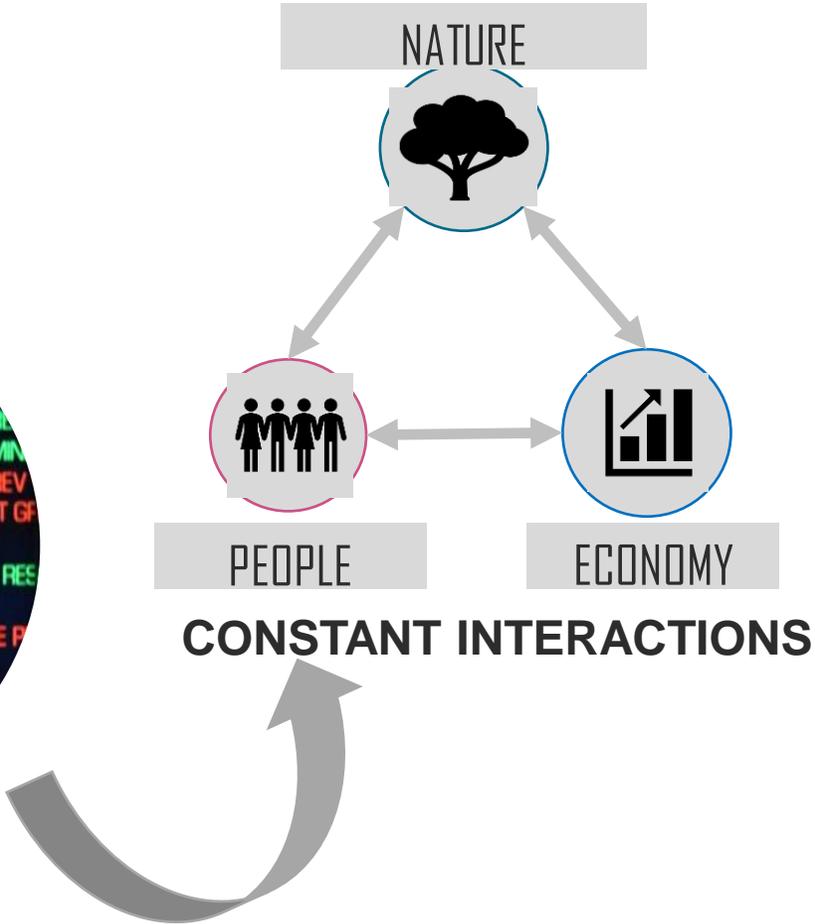
Climatic and environmental pressures



Demography and migrations



Socio-economical instability



A fast changing world »» new solutions urgently needed



The FUNDAMENTAL role of SOILS

A key player– although often forgotten - for the needed transition towards sustainability



- Healthy soils are the **basis for nutritious and safe food – 95% of our food comes from soils.**
- Soils deliver **vital, interconnected ecosystem functions**, as water purification and regulation (protection from droughts and floods), nutrient cycling, biodiversity
- Soil is a **scarce, non-renewable resource.**
- **Soils are threatened: 60-70% of soils in Europe are unhealthy** due to management practices, pollution, urbanisation and the effects of climate change.

The Soil Deal mission supports the Green Deal

■ New EU Soil Strategy

Targets by 2030 and by 2035

- 2035: the EU should aim to reach climate neutrality in the land use, forestry & agriculture sectors



Goal of mission “A Soil Deal for Europe”: 100 living labs and lighthouses to lead the transition towards healthy soils by 2030

Specific objectives

1. Reduce desertification

2. Conserve 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



How will the mission be implemented?

Communication, training and advise 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

Co-implementation of mission by: researchers, land managers, regions, businesses, policy makers, citizens and international partners

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



Activities under the **four building blocks** to address **soil health** and the **drivers of soil health**

When science connects with practice



**understanding
soils
+
understanding
people**

Abril 2018
Herdade da
Abegoaria,
Alentejo Central

What kind of innovations we need ?



Soils are dynamic , living systems that deliver essential ecosystem services across farming, forestry, urban and conservation sectors; from local to landscape, national and global scale.

Soils are at the interface with societal needs for food, fibre, nature, industries and the well-being of people.

SOIL change requires a system's approach

What kind of innovations we need ?

If we want to get ahead in soil regeneration,

it is **people and their actions that need to change** » we need to **focus on PEOPLE: land managers, citizens, consumers, stakeholders, researchers, advisors, policymakers, business owners** » and deliver context specific decision support systems

SOIL does not change on its own



What do we want to achieve ?

INTEGRATION: Knowledge exists within individual disciplines, but there is hardly any **integrated knowledge** on soil health and its drivers.

CONTEXTUALIZATION: Research tailored to **local/regional circumstances** & linked to **living labs** for more fundamental work.

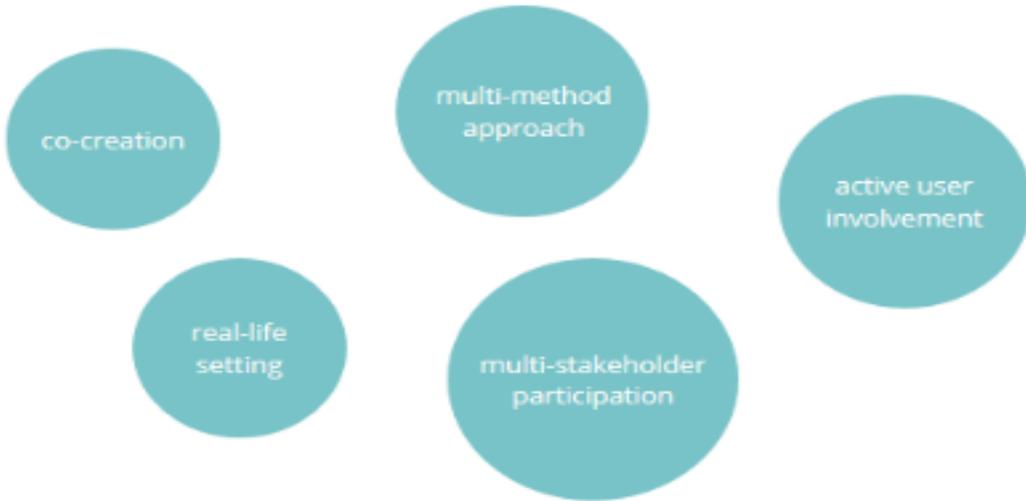
SYSTEM THINKING: **Interdisciplinary teams** with a **systemic approach** working in a **transdisciplinary mode** across scales.

EQUITY: Integration of **natural and social sciences** at an equal level so that mechanisms of change can be designed and revealed.

at multiple scales: field, farm, landscape, regional, national

and of course, an ENABLING ENVIRONMENT: policy and market mechanisms

Understandings of living labs

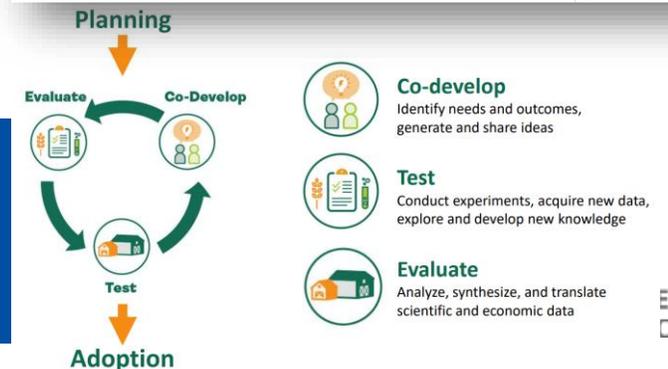


Living Labs (LLs) are defined as **user-centred**, open **innovation ecosystems** based on systematic **user co-creation** approach, **integrating** research and innovation processes **in real life communities** and settings.

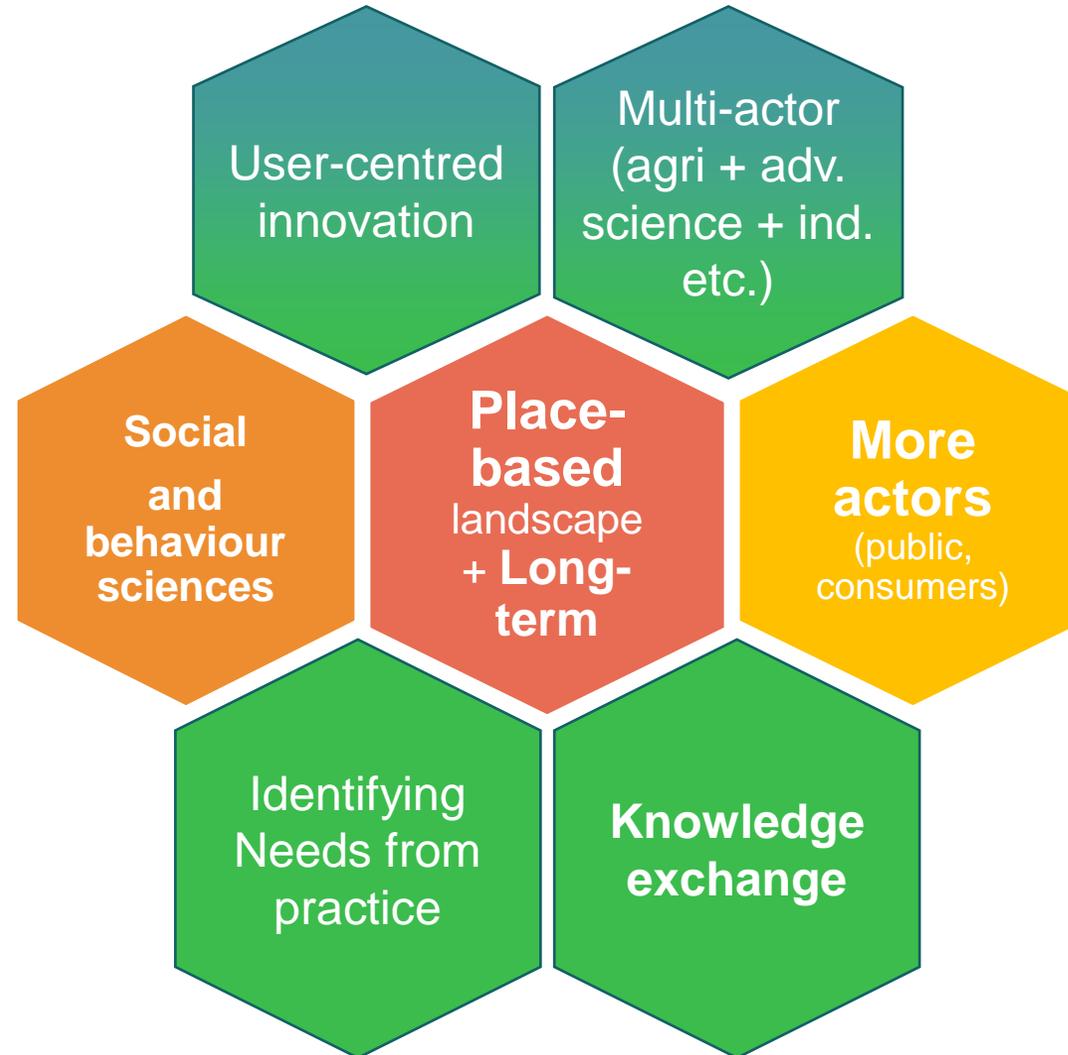
Living Labs <-> **Social innovation**

Key interesting features:

- Place-based/embedded in real working landscapes/communities
- More systematic use of a wide range of social sciences (behaviour)
- Beyond projects, structuring the innovation ecosystem

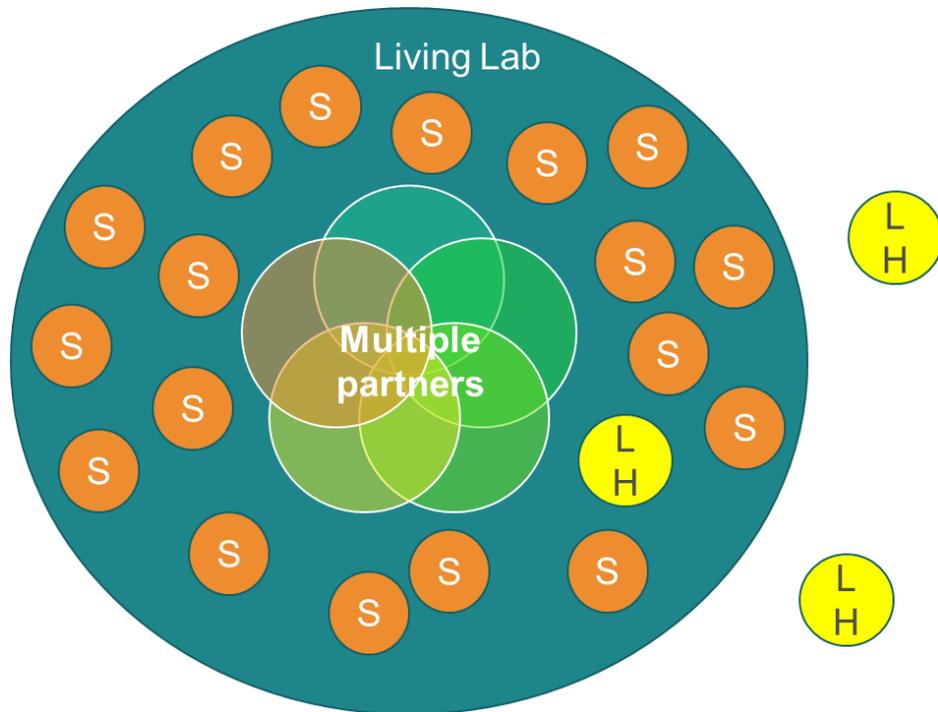


How could living labs enrich the approach?



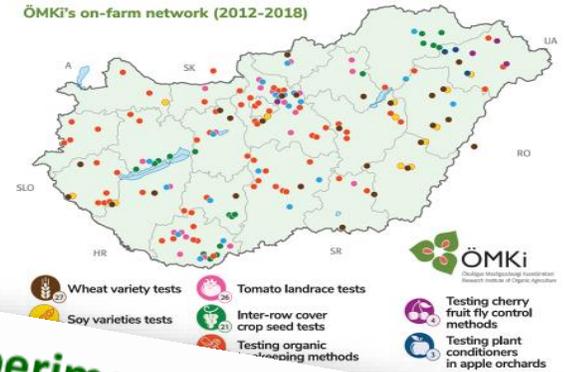
Living labs (and lighthouses) under the Soil Mission (scales)

- Living lab = **regional/sub-regional** scale, multi-partner, several sites
- Each living lab » a cluster of 10 – 20 sites (e.g. farms) working together at regional or sub-regional level
- Lighthouse= one « **exemplary** » site



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

Living labs examples in Europe

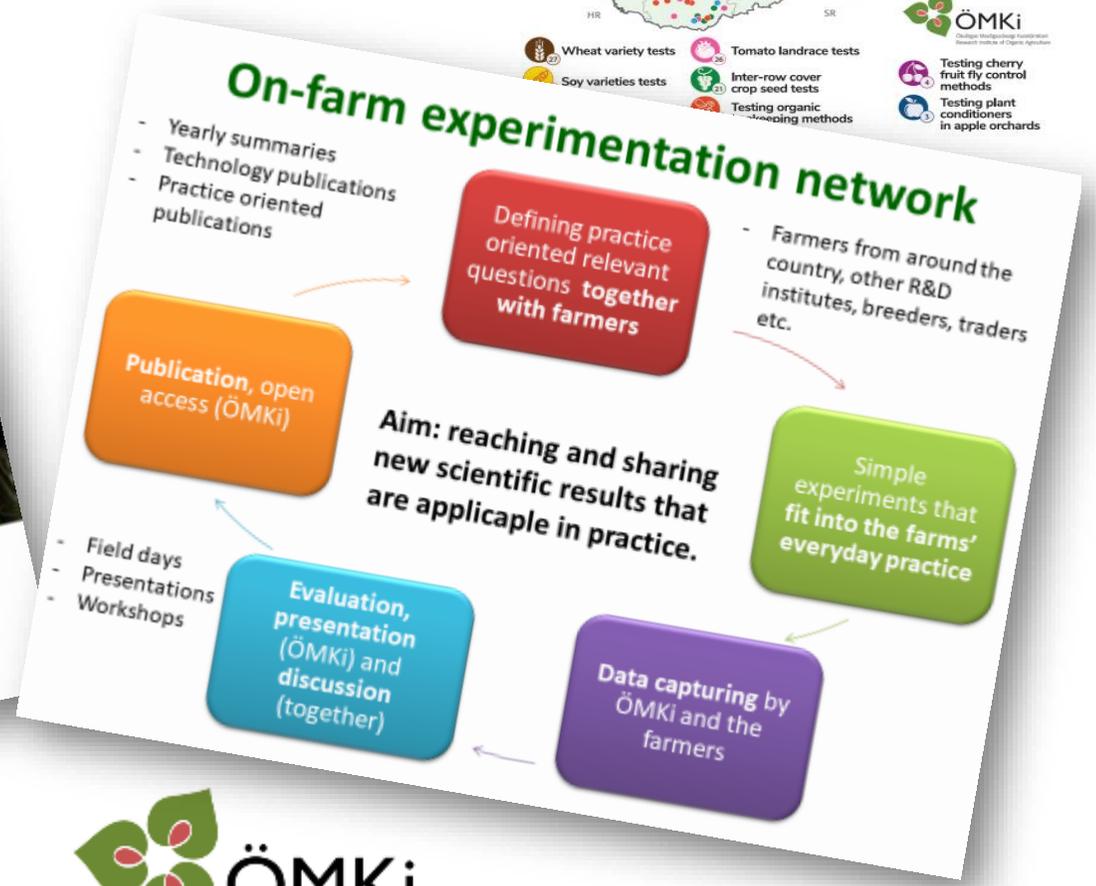


'Open knowledge exchange in co-creation with (organic) farmers as driver for of an agroecological food and farming system'

Vlaanderen
BioForum
Biobedrijfsnetwerken

de Groentelaar
Lekker, duurzaam en lokaal

LIVING LAB
AGRO-ECOLOGIE & BIOLOGISCHE LANDBOUW

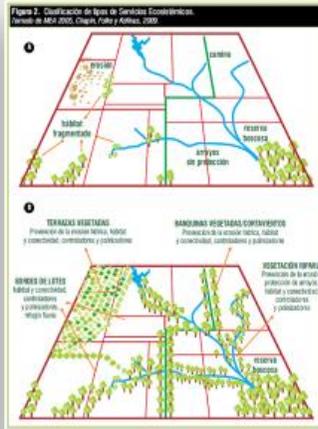


ÖMKi
Ökológiai Mezőgazdasági Kutatóintézet
Research Institute of Organic Agriculture | Forschungsinstitut für biologischen Landbau

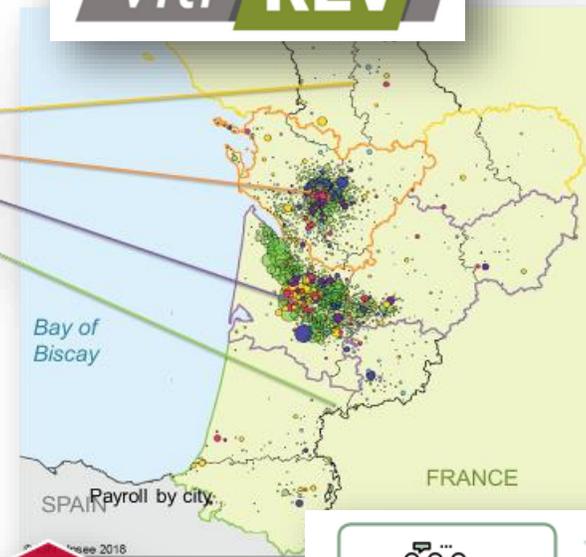
Living labs examples in Europe



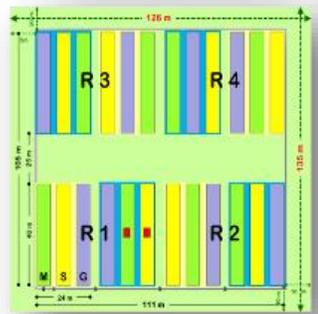
Landscape Labs



- Région N.-Aquitaine district
- Département authority district
- Loire valley area
- Cognac area
- Bordeaux area
- Southwest area (Bergerac, Armagnac, Jurançon...)
- Farming
- Alcohol industry
- Farming equipment
- Oenology industry
- Intra-chain trade
- Services
- Mixed activities

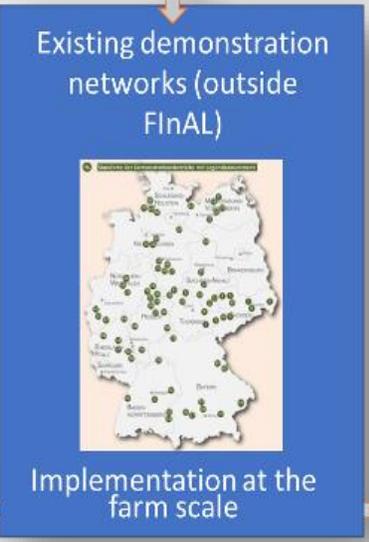


Innovative measures (novel crops) field experiments

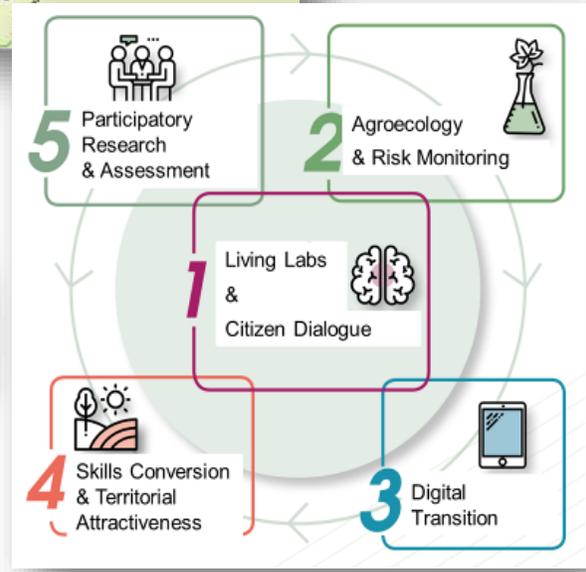


Field scale processes

Existing demonstration networks (outside FInAL)



Functioning of production systems (landscape scale)

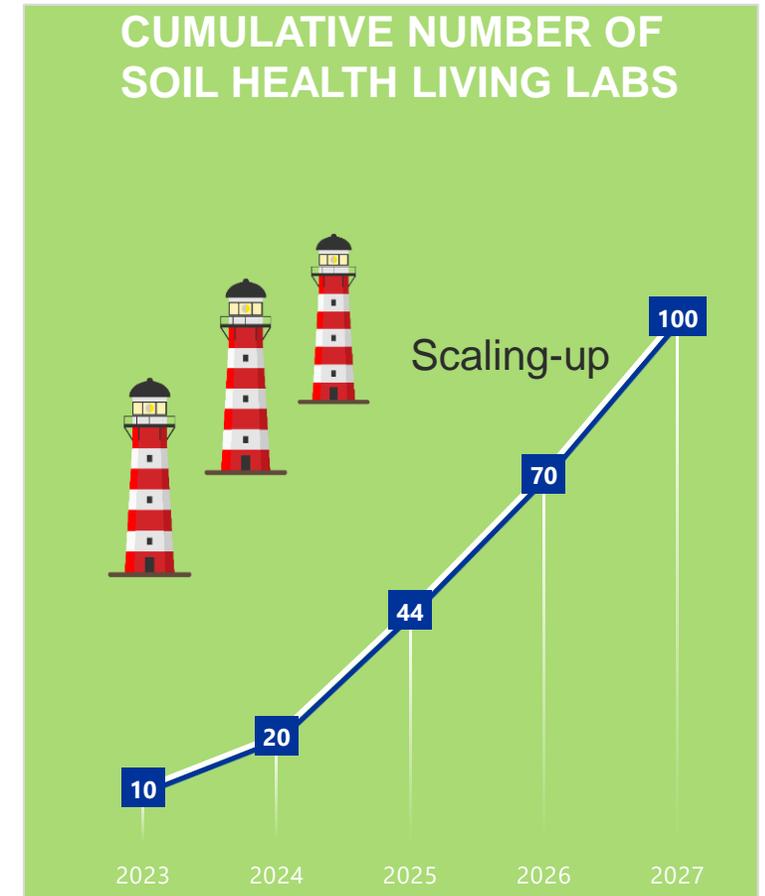




Creation of 100 Living Labs & Lighthouses

- **The network of living labs** will be gradually established through consecutive Work Programme calls under Horizon Europe.
- **Specific criteria for living labs**
- **Engagement with stakeholders** at regional level is essential to
 - create common understanding
 - ensure a balanced coverage of activities in rural and urban areas and across Member States.

Integration
Contextualization
System thinking
Equity





Mission roll-out

Summer '22

Start of action to identify regional “soil needs”, create an interactive map of existing living labs and enhance access to soil information in MS



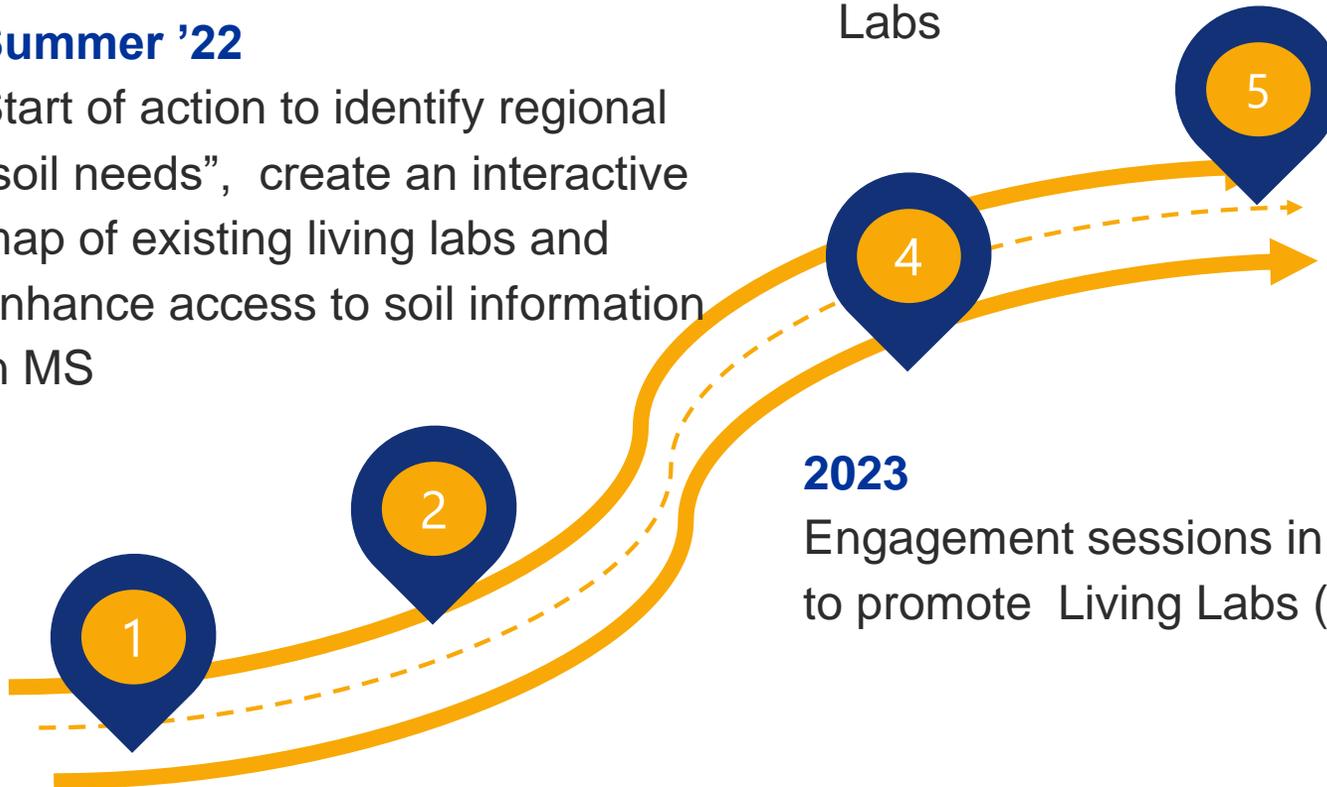
Sept. 2021

2021/2022:

R&I Work Programme development
WP 2021: published, deadline 24 March '22
WP 2022: publication 11 May
WP 2023: first orientations in preparation

2024

Set up of first wave of LLs Living Labs



2023

Engagement sessions in MS to promote Living Labs (LLs)



- + Outreach and engagement (e.g EU Parliament)
- + Synergies with other missions, programmes and policies
- + International cooperation



Funding opportunities for research »» 27 09 2022

- Network on carbon farming for agricultural and forest soils - HORIZON-MISS-2022-SOIL-01-06
- Foster soil education across society - HORIZON-MISS-2022-SOIL-01-07
- Citizen science for soil health - HORIZON-MISS-2022-SOIL-01-09
- Improving food systems sustainability and soil health with food processing residues - HORIZON-MISS-2022-SOIL-01-02
- Innovations for soil improvement from bio-waste - HORIZON-MISS-2022-SOIL-01-10
- [Framework Partnership Agreement \(FPA\) for a Living Lab network support structure - HORIZON-MISS-2022-SOIL-01-08](#)
- Monitoring, reporting and verification of soil carbon and greenhouse gases balance - HORIZON-MISS-2022-SOIL-01-05
- Soil biodiversity and its contribution to ecosystem services - HORIZON-MISS-2022-SOIL-01-03
- Building the mission's knowledge repository and advancing the European Soil Observatory - HORIZON-MISS-2022-SOIL-01-01
- Remediation strategies, methods and financial models for decontamination and reuse of land in urban and rural areas - HORIZON-MISS-2022-SOIL-01-04



Useful links

- **Mission A Soil Deal for Europe** webpage - <http://ec.europa.eu/mission-soil>
- **Mission A Soil Deal for Europe** Implementation Plan https://ec.europa.eu/info/files/eu-mission-soil-deal-europe-implementation-plan_en
- **Mission A Soil Deal for Europe** factsheet <https://op.europa.eu/en/publication-detail/-/publication/90779d7a-227c-11ec-bd8e-01aa75ed71a1/language-en/format-PDF/source-232536601>
- **Press release –Missions launch:** https://ec.europa.eu/commission/presscorner/detail/en/IP_21_4747
- **EU Missions** https://ec.europa.eu/info/research-and-innovation/funding/funding-opportunities/funding-programmes-and-open-calls/horizon-europe/missions-horizon-europe_en
- **Video EU Mission “A Soil Deal for Europe”** <https://youtu.be/3hPIZqwwhhM>
- **Behind the Scenes** podcast episode *A blossoming career as a soil keeper* <https://play.acast.com/s/behind-the-scenes-conversations-with-researchers-and-innovat/s02e05-a-blossoming-career-as-a-soil-keeper>
- **On a mission to save our soils - the EU's plan to rebuild the land (Futuris episode, euronews)** <https://www.euronews.com/2020/09/21/on-a-mission-to-save-our-soils-the-eu-s-plan-to-rebuild-the-land>



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Thank you!

For further information and questions please contact the Mission Soil Secretariat:

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