



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

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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



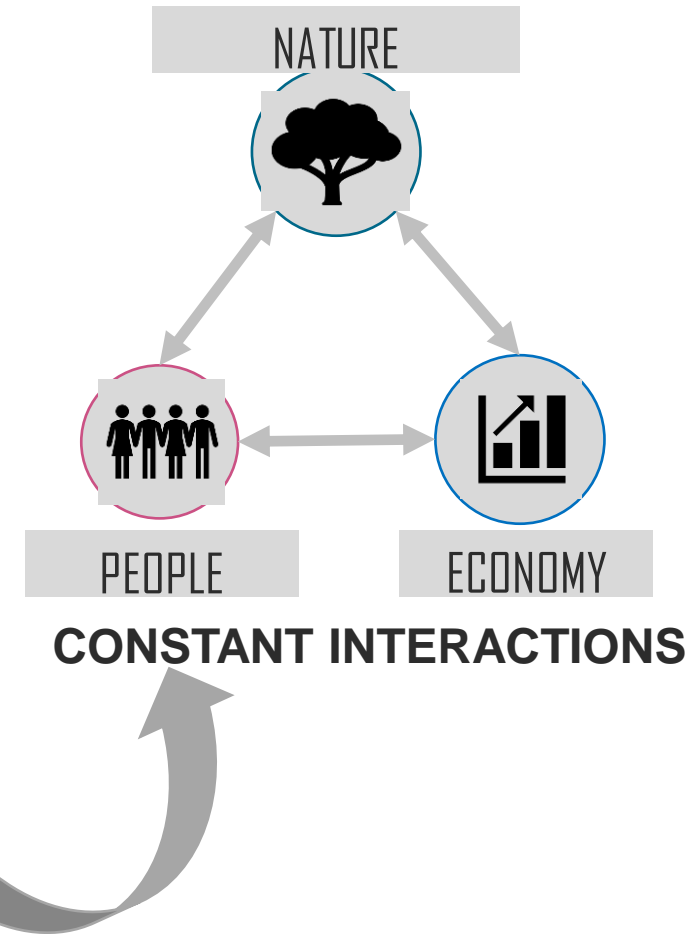
Climatic and environmental pressures



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**

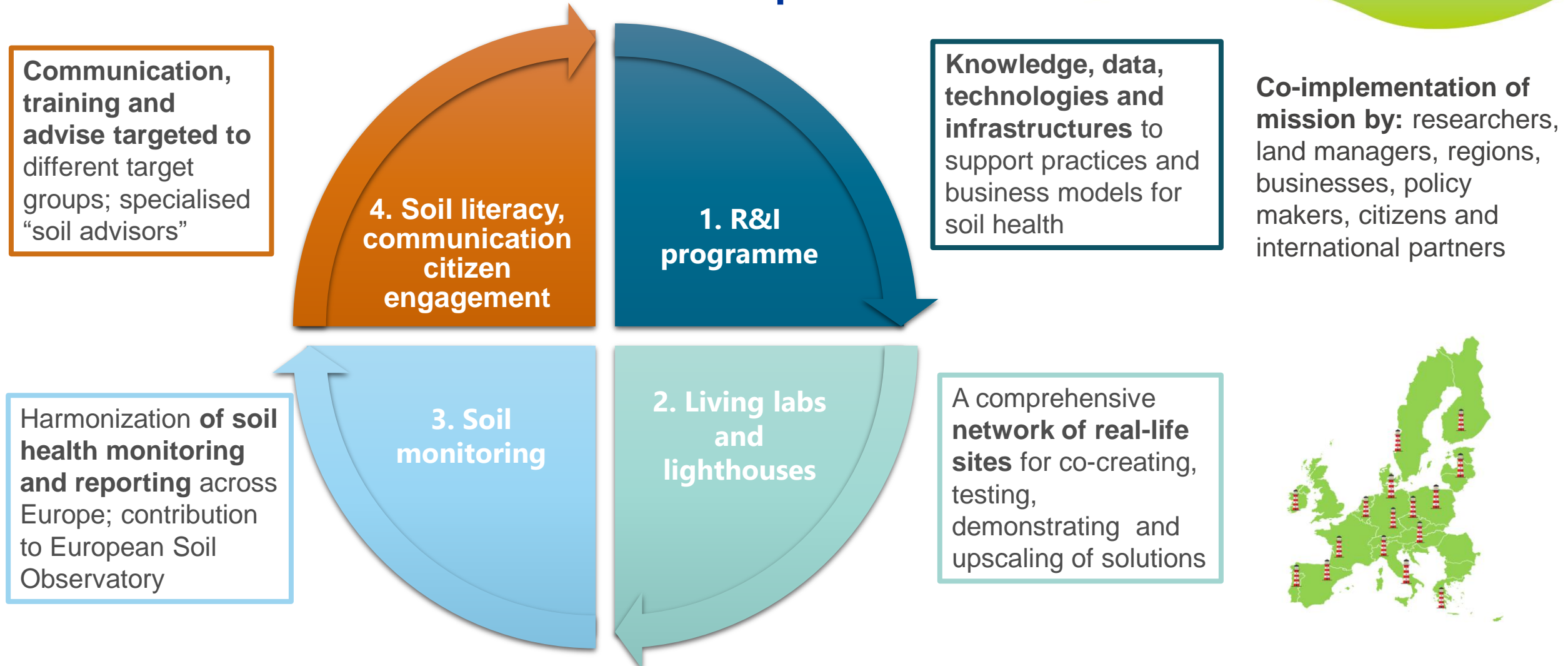
6. Improve soil structure to enhance **soil biodiversity**

7. Reduce the **EU global footprint on soils**

8. Improve **soil literacy** in society



How will the mission be implemented?



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.

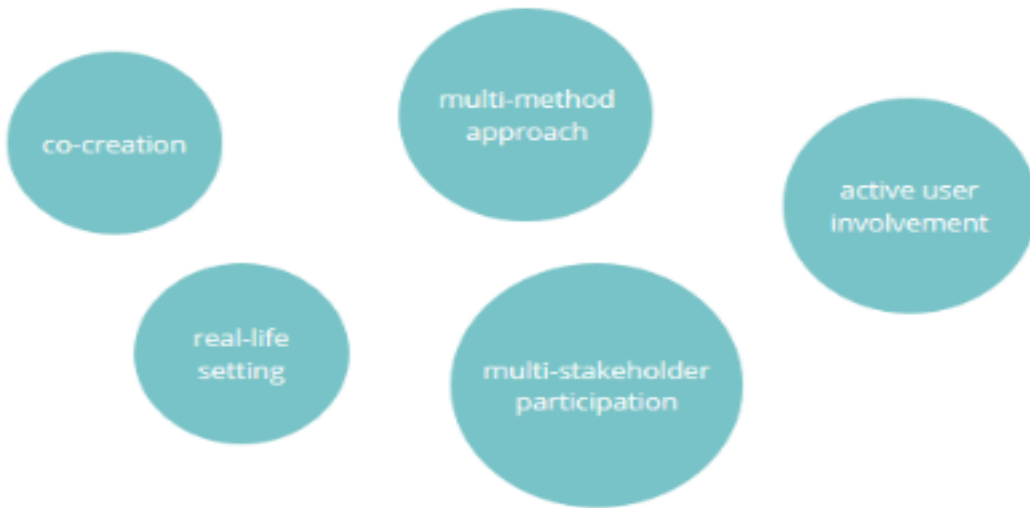
SYSTEM THINKING: **Interdisciplinary teams** with a **systemic approach** working in a **transdisciplinary mode** across scales.

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

Government of Canada / Gouvernement du Canada

Search Canada.ca

MENU

Canada.ca > Agriculture and Agri-Food Canada > Scientific collaboration and research in agriculture

Living Laboratories Initiative

The Living Laboratories Initiative is a new approach to agricultural innovation in Canada, that brings together farmers, scientists, and other collaborators to co-develop and test innovative practices and technologies to address agri-environmental issues.

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Services and information

About the initiative
Core principles, innovation cycle, expected results

International engagement
Current partnerships, international collaboration opportunities

Socio-economic factors
Understanding costs, benefits, social factors and social impacts

National network of Living Labs

Atlantic
Located in Prince Edward Island near the Dunk River, Kensington North and Souris watersheds.

Quebec
Located near the Rivière du Bois-Blanc, Rivière Pot au Beurre, and South Shore of Lac Saint-Pierre watersheds.

Eastern Prairies
Located in southern Manitoba near the Main Drain, North Shannon, Swan Lake and Upper Oak watersheds.

Ontario
Located in agricultural lands in the Lake Erie and Lake St. Clair basins.

News

- Government of Canada supporting Manitoba farmers to develop and implement solutions to combat climate change [December 16, 2020]
- Sustainability on the farm: Shared ambition in Canada and the EU [December 11, 2020]
- Minister Bibeau announces new support for Quebec farmers at the Union des producteurs agricoles' annual congress [December 1, 2020]
- Farmers and researchers working together as part of "Living Labs" [January 9, 2020]
- Government of Canada launches Canada's first Living Lab in Prince Edward Island: homegrown collaborative solutions to local environmental farming issues [August 15, 2019]

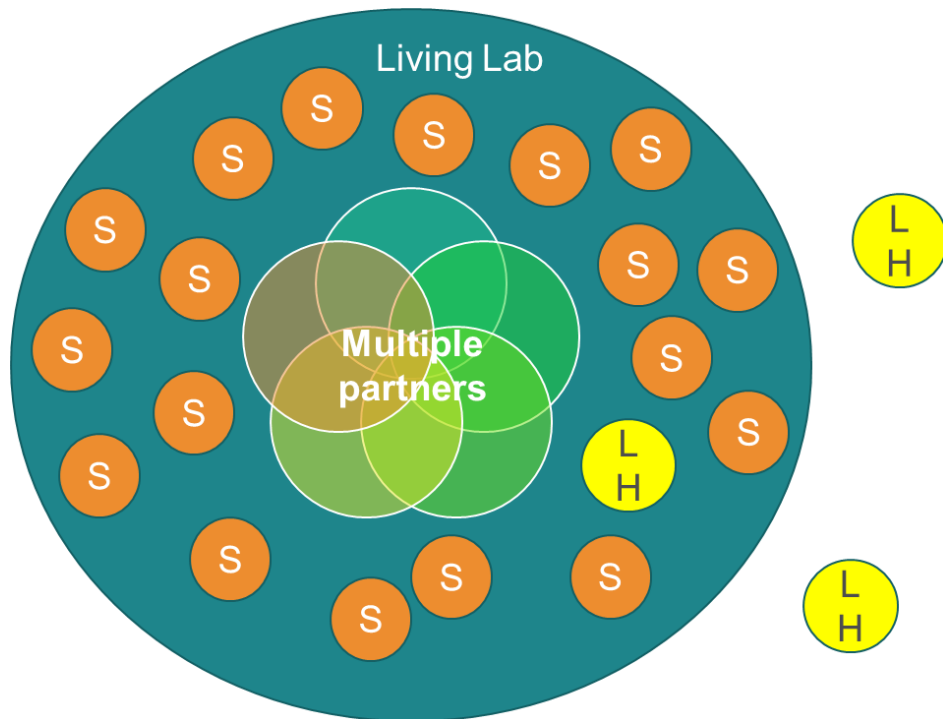


How could living labs enrich the approach?



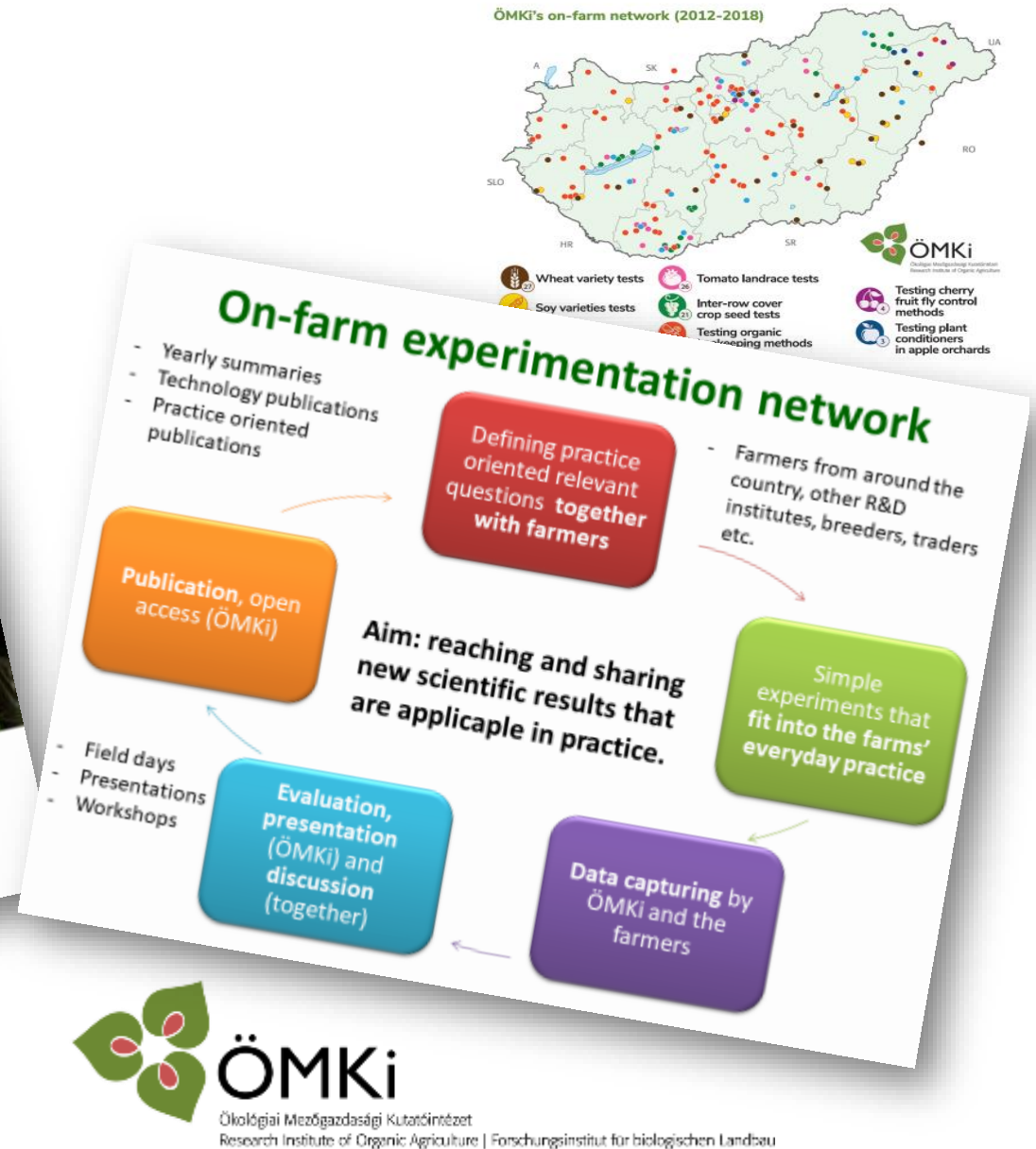
Living labs (and lighthouses) under the Soil Mission (scales)

- 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

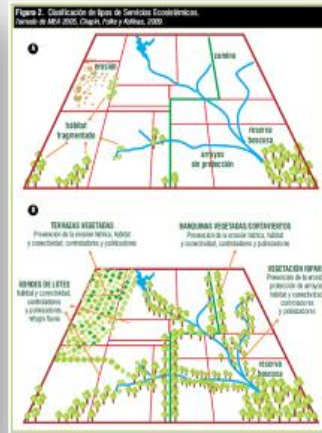
Living labs examples in Europe



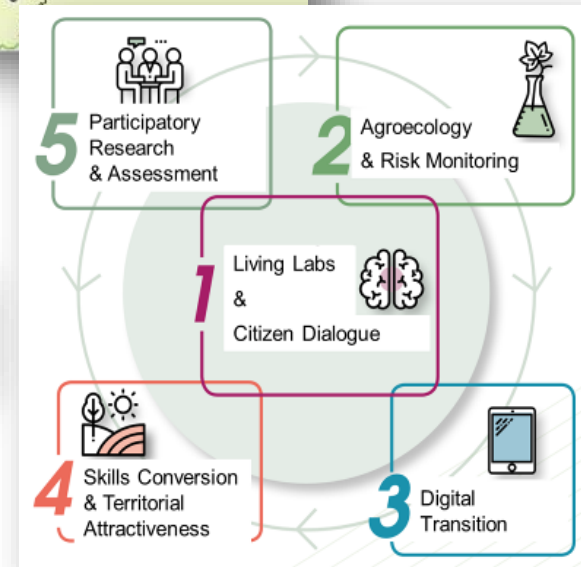
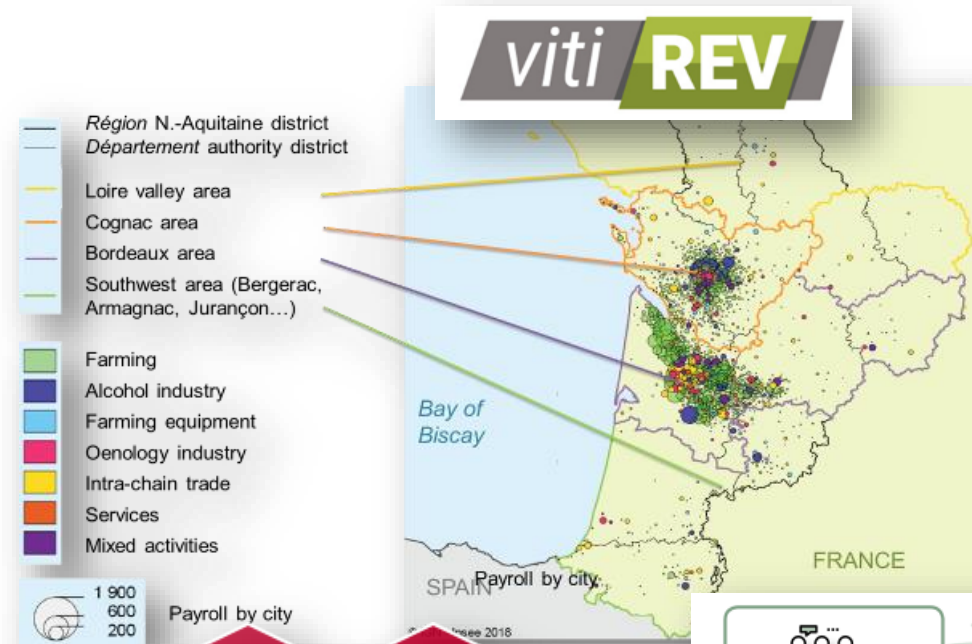
Living labs examples in Europe



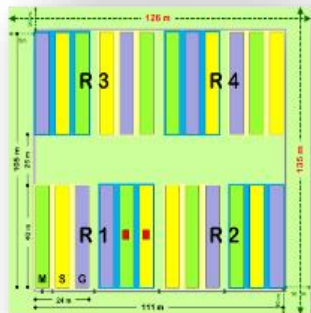
Landscape Labs



Functioning of production
systems (landscape scale)



Innovative measures
(novel crops)
field experiments



Existing demonstration
networks (outside
FInAL)

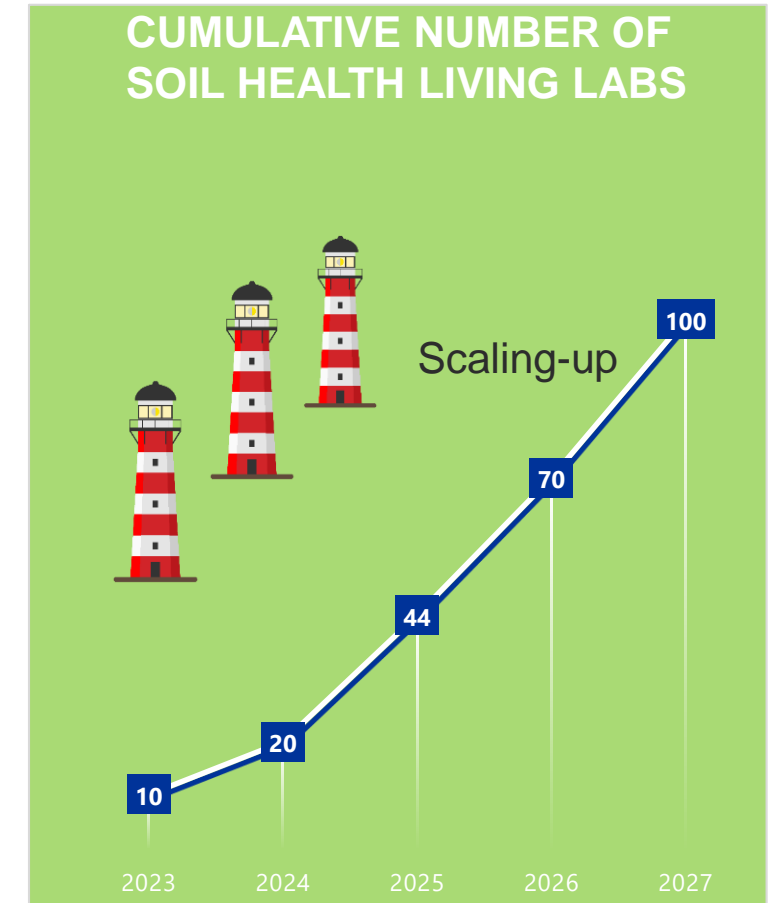




Creation of 100 Living Labs & Lighthouses

- **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

2024

Set up of first wave of LLs Living Labs

2023

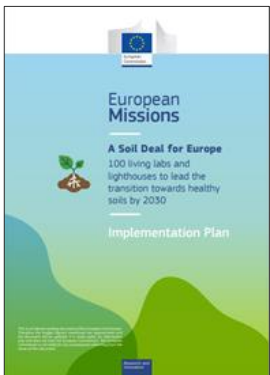
Engagement sessions in MS to promote Living Labs (LLs)



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

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



Sept. 2021



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/3hPlZqwwhhM>
- *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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