



Co-creating Innovative Solutions to Restore Soil Health Across Europe

4

Years
Duration

39

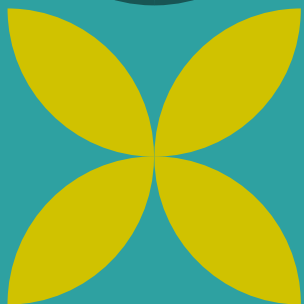
Partners
from 8 countries

6

Living Labs
across Europe

12

Millions €
Total Budget



About

Soil is essential for life on Earth, yet 60%-70% of EU soils are unhealthy due to pollution, urbanisation, and intensive agriculture.

The iCOSHELLs project supports the EU Mission 'A Soil Deal for Europe,' aiming to restore healthy soils by 2030 through 6 Living Labs in the Basque Country, Bulgaria, Greece, Italy, Spain, and Sweden.

The iCOSHELLs project focuses on three key objectives:



Reducing soil pollution and promoting restoration,



Improving soil structure and biodiversity, and

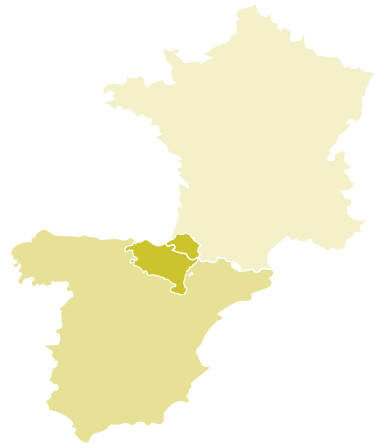


Increasing soil literacy among society.

To achieve these goals, the project engages a wide range of stakeholders, including industry leaders, researchers, policymakers, local communities, and cross-sector networks, fostering collaboration for sustainable soil health.

Basque Soil Health Living Lab

The Basque Soil Health Living Lab (Basque LL) focuses on the Biosphere Reserve of Urdaibai, located in the Basque Country, a region characterised by its Atlantic climate.



Challenges

The key challenge is to protect the area's cultural and biological diversity while ensuring prosperity, wealth, and opportunities for local citizens.



Potential Solutions

To address these challenges, the Living Lab aims to develop methods, metrics, and KPIs for the sustainable use of land.



Partners Involved

GAIA, ESKILARA, Euskampus Fundazioa, Forua Municipality, San Fidel Ikastola, InnovatekBI

Bulgarian Viticultural Soil Health Living Lab

The Bulgarian Viticultural Soil Health Living Lab (BUV LL) is centered on the grape vineyards of the Agricultural University of Plovdiv. This area benefits from a distinct microclimate.



Challenges

The region faces significant issues, including a decline in soil organic matter, poor soil structure and biodiversity, and mounting pressures from climate change.



Potential Solutions

To overcome these challenges, BUV LL focuses on improving soil structure and biodiversity, enhancing soil literacy among society, reducing soil pollution, fostering restoration, conserving soil organic matter, and implementing measures to prevent erosion.



Partners Involved

Agricultural University of Plovdiv and National Agricultural Advisory Service of

Local/Regional Stakeholders Involved: National Grape and Vineyard Chamber, Institute of Soil Science, Agroecology & Plant Protection (ISSAPP “Nikola Poushkarov”), Ondo Solution Ltd., Summit Agro Bulgaria



Greek Mine Soil Health Living Lab

The Greek Mine Soil Health Living Lab (Greek LL) in Western Macedonia focuses on the reclamation of surface lignite mine land. The area includes various abandoned mining sites with soils heavily contaminated by high levels of chromium (Cr) and nickel (Ni), among other pollutants, rendering them unproductive.



Challenges

The Living Lab seeks to identify the most effective approach for restoring surface lignite mine soils. The ultimate aim is to prepare the land for a sustainable return to agriculture and activate the participation of regions stakeholders.



Potential Solutions

Phytoremediation is central to the lab's efforts, aimed at restoring soil health and supporting sustainable practices in the region. Various trees, plants, and crops will be tested for their effectiveness in soil recovery and potential uses like feedstock or essential oils.



Partners Involved

CluBE - Cluster of Bioeconomy & Environment, University of Thessaly, DIADYMA S.A. - Waste Management of Western Macedonia and New Agriculture New Generation

Italian Soil Health Living Lab

The Italian Soil Health Living Lab (IT LL) focuses on soil health in rural, urban, and peri-urban areas within the Adige and Po Valleys, which are areas that span diverse Alpine-Mediterranean pedoclimatic conditions.



Challenges

The Living Lab addresses critical issues aligned with the Soil Mission goals, including reducing soil pollution, enhancing restoration, and improving soil structure to support long-term sustainability.



Potential Solutions

They will test innovative approaches such as soil amendments, mulching, advanced water management, and improved cultivation techniques, while also monitoring and evaluating progress.



Partners Involved

Issinova, Università Degli Studi Di Trento, Comune Di Oppeano, Ruma S.R.L., Innovhub, Consorzio Volontario Per La Tutela Dei Vini Con Denominazione Franciacorta E Sebino, Politecnico Di Milano, Parco Regionale Del Mincio, Università Cattolica Del Sacro Cuore, Università Degli Studi Di Milano

Southeastern Spain Living Lab

The SouthEastern Spain Soil Health Living Lab (SES LL) – GREENNOMED (GREEN INNOVATIVE SOLUTIONS IN MEDITERRANEAN ENVIRONMENTS), is located primarily in the Campo de Cartagena (Murcia) and Almería. Non-sustainable agriculture and a warming, semi-arid climate have degraded this territory's soil health. Many of these factors are threatening the protected Mar Menor Lagoon aimed at reversing eutrophication and ecosystem disruption.



Challenges

The Living Lab focuses on addressing the decline in soil organic matter and biodiversity caused by decades of intensive agricultural practices.



Potential Solutions

Innovative solutions include implementing regenerative farming practices, using natural pesticides, optimising fertigation management, promoting agro-system biodiversity management and employ new fertilisation protocols aimed at mobilising nutrients in the soil and avoiding the pollution of underground water bodies.

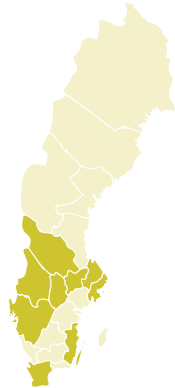


Partners Involved

Cetenma, AGrowingData, Imida, Cebas-CSIC, Fundación Cajamar

SWEdish Soil Health Living Lab

The SWEdish Soil Health Living Lab (SWE LL) consists of a network of experimental sites across Southern Sweden, with additional locations in the central and northern regions. These sites span over 7,000 hectares of arable land, including pig, poultry, and cattle farms.



Challenges

The Living Lab addresses critical issues in agricultural soil health, including soil compaction, poor soil structure, and declining biodiversity. Additional challenges involve areas with nutrient imbalances, particularly surplus phosphorus (P), which contributes to pollution.



Potential Solutions

The experimental sites will test manure-sharing practices between animal farms and crop production farms to reduce eutrophication, enhance soil health, and promote sustainable farm economies while refining policies through collaboration with relevant stakeholder groups.



Partners Involved

RISE Processum, Hushållningssällskapet, Swedish University of Agricultural Sciences, Odling I balans, Swedish Federation of Farmers, National Veterinary Institute

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