

# HE project BENCHMARKS - Synergies with NorForSoil?

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# **BENCHMARKS:** Building a European Network for the Characterisation and Harmonisation of Monitoring Approaches for Research and Knowledge on Soils



Funded by the European Commission: call HORIZON-MISS-2021-SOIL-02-02, 'Validating and further developing indicators for soil health and functions'

Project period 2023-2027; 12 mill. EUR

Focus on agricultural, forest and urban ecosystems

Soil health = "the continued capacity of soil to function as a vital living ecosystem that sustains plants, animals, and humans"

## Kickoff Meeting

Wageningen University, The Netherlands

06 Days 11 Hours 37 Minutes 44 Seconds

# Soil Health BENCHMARKS

**Wageningen University** The Netherlands **Osterreichische Agentur fur Gesundheit und Ernährungssicherheit** Austria **Climate Farmers** Germany  
**Consiglio Nazionale delle Ricerche** Italy **Commonland Foundation** The Netherlands **Università degli Studi di Napoli Federico II** Italy **Agencia Estatal**  
**Consejo Superior de Investigaciones Cientificas** Spain **Ustav Vyzkumu Globalni Zmeny Av Cr VVI (Global Change Research Institute)** Czech  
 Republic **Direção Regional de Agricultura e Pescas do Centro** Portugal **Conservation Education and Research Trust (Earthwatch)** United Kingdom  
**Fundació Privada Ersília** Spain **BV Exploitatie Reservegronden Flevoland** The Netherlands **Forschungsinstitut für Biologischen Landbau Stiftung**  
 Switzerland **Fundación Regeneration Academy** Spain **Greenback** France **Alfred Grand** Austria **Institute for Applied Plant Biology** Switzerland  
**INRAE** France **AgroParisTech** France **Université de Lorraine** France **Stichting International Soil Reference and Information Centre** The Netherlands  
**Jozef Stefan Institute** Slovenia **Luonnonvarakeskus – LUKE** Finland **Norwegian Institute for Nature Research** Norway **Masarykova Univerzita** Czech  
 Republic **WCMC LBG** United Kingdom **Universidade de Coimbra** Portugal **Stichting Wageningen Research** The Netherlands **Leibniz-Zentrum für**  
**Agrarlandschaftsforschung** Germany

# Measuring soil health

## EU proposed soil health indicators

1. Presence of pollutants, excess nutrients and salts
2. Soil organic carbon
3. Soil structure including bulk density and the absence of soil sealing and erosion
4. Soil biodiversity
5. Soil nutrients and pH
6. Vegetation cover
7. Landscape heterogeneity
8. Area of forest and other wooded lands

## The objective

Shared understanding of soil health assessment across a range of land uses and climatic conditions

Define how to measure soil health and provide context and spatial scale relevant measurement techniques

- many chemical, physical and biological soil properties assessed

Empower land-use systems, side-by-side with land managers, that promote soil health (Living Labs)

# Measuring soil health

## The challenge

60-70% of soils in Europe are currently unhealthy

Conventional soil monitoring systems measure chemical parameters

- disregard a wide range of biological and physical parameters

“One-size fits all” minimum dataset approaches are often applied in monitoring

- do not account for climatic and land use differences across Europe

## The objective

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## The outcome

- 1) Provide a clear, easy-to-use tool for evaluating soil health, that is transparent, harmonized, and cost-effective.
- 2) Define appropriate indicators that are relevant to the assessment of soil health for a range of land uses and climatic zones.
- 3) A soil health dashboard appropriate for use at a range of scales for agricultural, forestry, and urban settings.
- 4) Contribute to improving existing European policies and regulations related to soil health.

# 17 Living Labs in forests

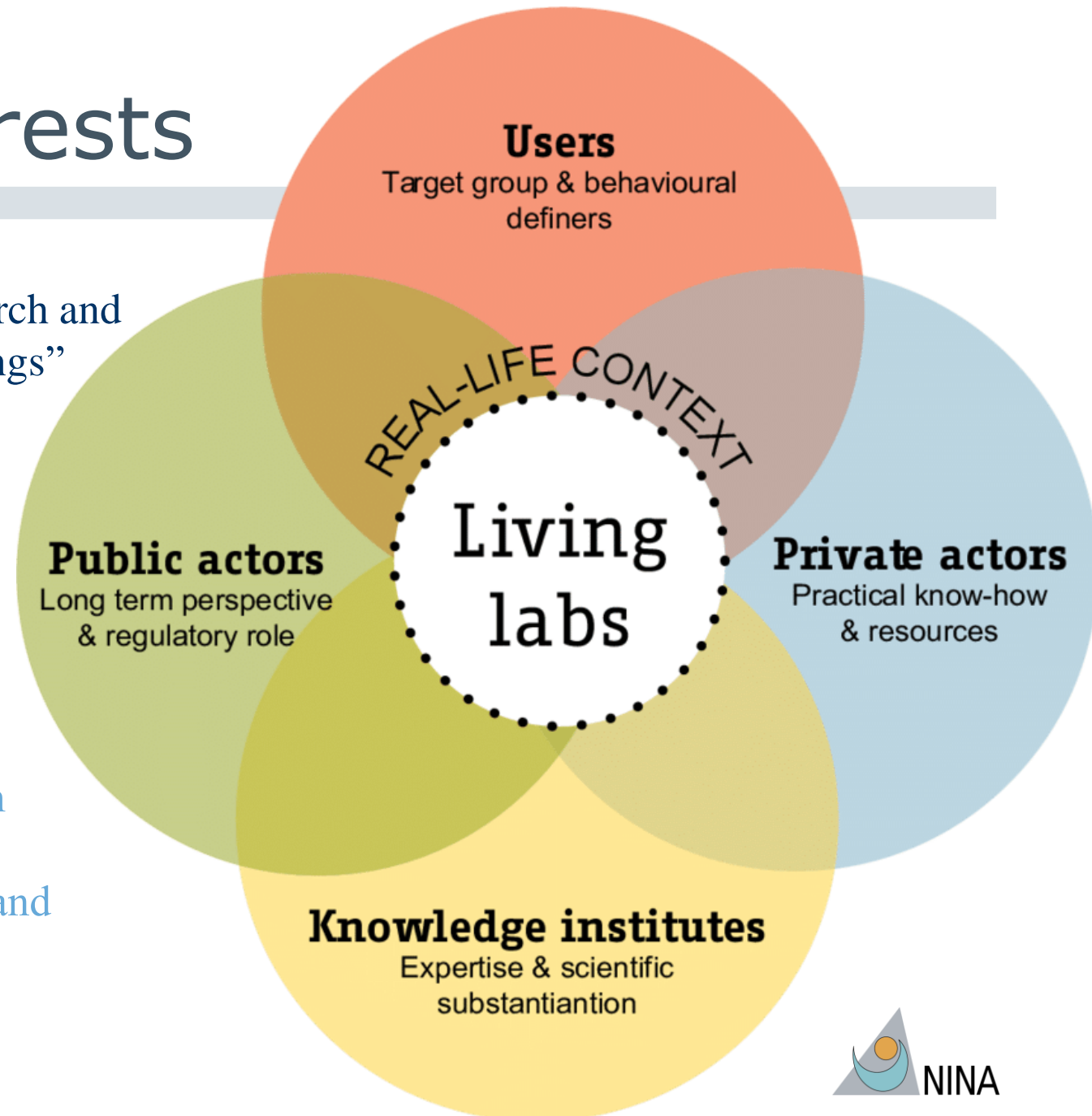
“user-centered, open innovation ecosystems based on systematic user co-creation approach, integrating research and innovation processes in real life communities and settings”



Two Forest Living Labs in northern Europe: Norway (NINA; Nordén) and Finland (LUKE; Mäkipää)

ForBioFuncion 2020-2024

[www.nina.no](http://www.nina.no)



# What's in BENCHMARKS for NorForSoil?

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Sharing ideas, knowledge, experiences

Collaboration on national and European research proposals

Broader and more in-depth assessment of the forest ecosystem soil health indicators, especially in the Nordic-Baltic context?

Future operationalisation of the soil health indicator system?

Nordic-Baltic network of Forest Living Labs?

Other benefits?