### Call - Supporting the implementation of the Soil Deal for Europe Mission \*HORIZON-MISS-2027-05\*

### Overview of this call<sup>1</sup>

Proposals are invited against the following Destinations and topic(s):

Topics	Type of Action	Budgets (EUR million) 2027	Expected EU contribution per project (EUR million) <sup>2</sup>	Indicative number of projects expected to be funded
Opening: 09 Feb 2027				
Deadline(s): 16 Sep 2027				
HORIZON-MISS-2027-05-SOIL-01: Cocreating solutions to reduce eutrophication in Living Labs	RIA	24.00 <sup>3</sup>	Around 12.00	2
HORIZON-MISS-2027-05-SOIL-02: Participatory research on the health of communities in contact with polluted soils	RIA	12.00 4	5.00 to 6.00	2
HORIZON-MISS-2027-05-SOIL-03: Innovative microbial and bio-based fertilizers products to improve soil health, crop productivity and decontaminate polluted soils	IA	12.00 5	5.00 to 6.00	2

The Director-General responsible for the call may decide to open the call up to one month prior to or after the envisaged date(s) of opening.

The Director-General responsible may delay the deadline(s) by up to two months.

All deadlines are at 17.00.00 Brussels local time.

The budget amounts are subject to the availability of the appropriations provided for in the general budget of the Union for 2026 and 2027

Nonetheless, this does not preclude submission and selection of a proposal requesting different amounts.

Of which EUR 24.00 million from the 'Food, Bioeconomy, Natural Resources, Agriculture and Environment' budget.

Of which EUR 12.00 million from the 'Food, Bioeconomy, Natural Resources, Agriculture and Environment' budget.

Of which EUR 12.00 million from the 'Food, Bioeconomy, Natural Resources, Agriculture and Environment' budget.

HORIZON-MISS-2027-05-SOIL-04: Agroforestry for soil health at landscape level	IA	10.00 6	Around 5.00	2
Overall indicative budget		58.00		

General conditions relating to this call		
Admissibility conditions	The conditions are described in General Annex A.	
Eligibility conditions	The conditions are described in General Annex B.	
Financial and operational capacity and exclusion	The criteria are described in General Annex C.	
Award criteria	The criteria are described in General Annex D.	
Documents	The documents are described in General Annex E.	
Procedure	The procedure is described in General Annex F.	
Legal and financial set-up of the Grant Agreements	The rules are described in General Annex G.	

Proposals are invited against the following topic(s):

# HORIZON-MISS-2027-05-SOIL-01: Co-creating solutions to reduce eutrophication in Living Labs

Specific conditions	<b>(</b>
Expected EU contribution per project	The Commission estimates that an EU contribution of around EUR 12.00 million would allow these outcomes to be addressed appropriately. Nonetheless, this does not preclude submission and selection of a proposal requesting different amounts.
Indicative budget	The total indicative budget for the topic is EUR 24.00 million.
Type of Action	Research and Innovation Actions

<u>Expected Outcome</u>: Activities under this topic respond directly to the goal of the Mission 'A <u>Soil Deal for Europe</u>' (Mission Soil) to set up 100 living labs and lighthouses to lead the

\_

Of which EUR 12.00 million from the 'Food, Bioeconomy, Natural Resources, Agriculture and Environment' budget.

transition to healthy soils by 2030. They support the specific objectives of the Mission Soil (see the Mission implementation plan).

Activities should also contribute to meeting the European Green Deal ambitions and targets and more specifically those of the <u>EU Biodiversity Strategy for 2030</u>, the <u>EU soil strategy for 2030</u> and the <u>proposal for a Soil Monitoring and Resilience Directive</u>, as well as the <u>EU Water Framework Directive</u>, the <u>Nitrates Directive</u>, the <u>Zero Pollution Action Plan</u>, the <u>Communication on Boosting Biotechnology and Biomanufacturing in the EU</u>, as well as to Sustainable Development Goals 15 on Life on land and 3 on Good health and well-being.

Project results are expected to contribute to all the following expected outcomes:

- increased capacities for participatory, interdisciplinary and transdisciplinary R&I to cocreate, and co-implement economically viable soil health solutions to reduce eutrophication, including improved monitoring and standardized soil data at local and regional levels;
- increased availability of practice-oriented knowledge and tools for land managers and land users, leading to better adoption of effective soil health solutions to reduce eutrophication in diverse contexts;
- better understanding of soil processes and functions contributing to eutrophication in regions where the living labs are implemented;
- policy makers are more aware of risks associated with eutrophication and local needs regarding soil health including the economic sustainability of solutions and use this knowledge to design and implement more effective policies to reduce eutrophication while enhancing soil health.

<u>Scope</u>: Eutrophication is a critical environmental issue that primarily affects water bodies but is largely driven by nutrient dynamics in soils. Eutrophication leads to algal blooms, hypoxia, and biodiversity loss, which in turn disrupts the entire food chains threatening both food availability and safety. While its visible impacts are aquatic, the root causes often stem from terrestrial management practices, particularly in agricultural soils. The excessive accumulation of nutrients in soils, predominantly nitrogen (N) and phosphorus (P) and their runoff or leaching into water bodies degrades water quality and linked ecosystem services. While soils are only one of multiple nutrient sources that affect freshwater and marine ecosystems, managing soils represents an important strategy for the mitigation of eutrophication<sup>7</sup>. Degraded soils with low water retention and limited nutrient cycling capacity, exacerbates this situation. Therefore, the restoration of soil health offers a critical opportunity for nutrient interception and reduction of downstream aquatic impacts.

\_

<sup>&</sup>lt;sup>7</sup>A Global Perspective on Integrated Strategies to Manage Soil Phosphorus Status for Eutrophication Control without Limiting Land Productivity - Withers - 2019 - Journal of Environmental Quality - Wiley Online Library

The Mission Soil proposes the deployment of living labs as a novel approach to research and innovation in soil health<sup>8</sup>. Living labs have the potential to facilitate a green transition by involving multiple actors in real-life sites within a local/regional setting to co-create soil health solutions and achieve large-scale impacts on soil health and soil governance. Projects funded under this topic should deploy a number of living labs to expand and complement the network of soil health living labs initiated in previous Mission Soil topics to gradually establish 100 living labs and lighthouses to lead the transition towards healthy soils by 2030<sup>9</sup>.

Soil health living labs are long-term collaborations between multiple actors to address common soil health challenges in real-life sites at local or regional level 10 (10 to 20 sites in each living lab). Depending on the level at which each living lab operates and the specific context (e.g. land use covered, or soil health challenge addressed), applicants can exceptionally propose living labs with fewer sites. Living labs can address soil health challenges in or across different land uses (agricultural, (peri-)urban, (post)-industrial, forest and (semi-)natural). Individual sites can be farms, forest holdings, urban green 11 areas, industrial areas, etc., where work is carried-out and monitored under real-life conditions. Sites that are exemplary in their performance in terms of soil health improvement and serve as places for demonstration of solutions, training and communication are lighthouses. Lighthouse sites can be part of a living lab or be situated outside a living lab. Projects funded under this topic are expected to kick-start participatory process or build on existing ones. While normally projects run for four years, the duration of the projects under this topic should accommodate longer timescales required to establish participatory processes and/or for soils processes to take place.

Actors working on common shared soil health challenge(s) within and across the living labs of the same project, will be able to compare results, exchange good practices, validate methodologies, replicate actions and solutions and benefit from cross-fertilisation, thereby accelerating the transition towards the shared objective of improving soil health.

#### Proposals should:

• support the establishment of four to five living labs to work together on soil health aspects that could affect eutrophication in nearby water bodies. The living labs should be located in at least three different Member States and/or Associated Countries. Proposals should explain the rationale and mechanism for cooperation within and across the living labs while explaining how the work undertaken will contribute to one or more of the Mission's specific objectives 12;

<sup>&</sup>lt;sup>8</sup>Implementation Plans for the EU Missions - European Commission

<sup>&</sup>lt;sup>9</sup>Catalogue 2024 - Mission Soil Living Labs and Lighthouses | Mission Soil Platform

<sup>&</sup>lt;sup>10</sup>In this topic, it is recommended to define the living labs location using the NUTS2 division (<u>Eurostat Statistical Atlas</u>).

<sup>&</sup>lt;sup>11</sup>By urban green areas, we refer to green spaces in cities such as parks, gardens, green roofs or walls, green corridors, squares, recreational areas, etc.

<sup>&</sup>lt;sup>12</sup>Mission Soil specific objectives: reduce land degradation relating to desertification; conserve and increase soil organic carbon stocks, no net soil sealing and increase the reuse of urban soils; reduce soil pollution and enhance restoration; prevent erosion; improve soil structure to enhance habitat quality for soil biota and crops; reduce the EU global footprint on soils; increase soil literacy in society.

- establish an interdisciplinary, participatory and multi-actor approach in the living labs to co-design, co-develop, and co-implement locally adapted solutions (practices, tools, strategies or management practices such as buffer strips or soil amendments) to reduce eutrophication. Proposed solutions should be adapted to the different environmental, socio-economic and cultural contexts in which the living labs are operating;
- establish for each living lab a baseline of the soil and nearby water body conditions to allow for an accurate monitoring over time of improvements in soil health and reductions in eutrophication level, based on the proposed solutions in the different sites of the living labs. The set of soil health indicators/descriptors presented in the proposal for a <u>Directive on Soil Monitoring and Resilience</u> should be used as a basis; proposals may complement with additional indicators tailored to eutrophication as well as to the specific pedoclimatic conditions, land use, and other local/regional factors;
- demonstrate their technical, social, economic, cultural and environmental viability of the proposed solutions, as well as their potential scalability and transferability to diverse contexts;
- identify high-performing sites that may be converted into lighthouses, either at proposal stage or later during project implementation. Engage with the SOILL<sup>13</sup> project to assess the growth and development of these lighthouses and to support the establishment of a labelling process that could formally recognize these exemplary sites as lighthouses;
- propose strategies (e.g., financial, organisational) to ensure the long-term sustainability of
  the established living labs beyond Horizon Europe funding. Strategies should include the
  identification of possible business models and actions involving a mix of public or private
  funding schemes, financial instruments, cooperation with local authorities, engagement of
  social economy entities, social enterprises, business communities, SMEs, as well as
  attracting investors and entrepreneurs.

In line with the nature of living labs, projects must adopt the multi-actor approach. The actors involved in each living lab may vary, based on its unique characteristics and may include, among others, researchers, landowners or land managers, industry representatives (e.g., SMEs), public administrators and civil society representatives (e.g., consumers, local residents, environmental NGOs, youth organisations). Care should be taken to describe the capabilities, roles and resources of the different actors involved in the living labs. An effective contribution of social sciences and humanities and the arts (SSHA) is expected to foster social innovation, knowledge transfer and socio-cultural and behavioural change.

To encourage and facilitate the involvement of different types of actors in the living labs, applicants are reminded of the different types of participation possible under Horizon Europe. This includes not only beneficiaries (or their affiliated entities) but also associated partners, third parties giving in-kind contributions, subcontractors, and recipients of financial support to third parties. Financial support to third parties (FSTP) to facilitate active involvement of small

<sup>&</sup>lt;sup>13</sup>See www.soill2030.eu/about-us

actors (e.g. land managers and landowners such as farmers, SMEs or civil society) in one or more of the living labs of a project, can be provided through calls for proposals. Applicants are advised to consult the standard conditions set out in Annex B of the General Annexes including those that apply to FSTP.

Dedicated tasks and appropriate resources should be envisaged to collaborate with <u>SOILL</u>, the structure created to support soil health living labs and lighthouses with a wide range of actions that include dedicated capacity building, knowledge exchange, promotion, dissemination, networking opportunities and regular monitoring activities\_on living labs performance. The details of the collaboration will be further defined during the grant agreement preparation phase.

Proposals are expected to build on existing knowledge (e.g. data from national soil health monitoring, LUCAS) and solutions developed and tested at national scale or in the frame of other Horizon projects including those funded under the Mission 'A Soil Deal for Europe'. Proposals should therefore include dedicated tasks and appropriate resources for collaboration with relevant projects and initiatives and engage in relevant Mission Soil clustering activities. Proposals are also encouraged to consider, where relevant, the data, expertise and services offered by European research infrastructures (ESFRI) and to cooperate with the Horizon Europe Partnerships on Agroecology and on Sustainable Food Systems and/or relevant networks active at local level, such as the EIP-AGRI operational groups to promote the involvement of key local stakeholders.

Proposals should demonstrate a route towards open access, longevity, sustainability and interoperability of knowledge and outputs through close collaboration with the European Union Soil Observatory (EUSO) and the project <u>SoilWise</u>. In particular, proposals should ensure that relevant data, maps and information can potentially be available publicly through the EUSO. Concrete efforts should be made to ensure that the data produced in the context of the funded project is FAIR (Findable, Accessible, Interoperable and Re-usable).

# HORIZON-MISS-2027-05-SOIL-02: Participatory research on the health of communities in contact with polluted soils

Specific conditions		
Expected EU contribution per project	The Commission estimates that an EU contribution of between EUR 5.00 and 6.00 million would allow these outcomes to be addressed appropriately. Nonetheless, this does not preclude submission and selection of a proposal requesting different amounts.	
Indicative budget	The total indicative budget for the topic is EUR 12.00 million.	
Type of Action	Research and Innovation Actions	

#### **Expected Outcome:**

Project results are expected to contribute to all the following expected outcomes:

- improved citizen awareness on the connection between soil pollution and human health and how to manage, adapt to, and mitigate risks;
- increased public access to FAIR <sup>14</sup> data and knowledge on soil pollution and the emergence of human diseases and other health outcomes;
- policymakers enforce the implementation of long-term, sustainable solutions that enhance soil health, restore the environment, and protect public health.

Scope: Across the European Union, an estimated 2.8 million land sites are potentially contaminated. Exposure to soil pollution poses serious health risks and is estimated to contribute to around 500,000 premature deaths worldwide each year 15. People can be exposed directly, through skin contact or inhalation of dust from polluted soils, or indirectly, by consuming contaminated food or drinking water.

Despite numerous studies clearly demonstrating the harmful effects of soil pollution on human health<sup>16</sup>, public awareness of the risks associated with contaminated sites remains limited.

Community-based participatory research<sup>17</sup>, which directly involves populations living and/or working in polluted or potentially 18 polluted sites, will help, to identify and map human diseases and health outcomes driven by soil pollution, and increase public awareness of the environmental and health the risks related to soil pollution.

#### Proposals should:

• implement community-based participatory research activities to engage with populations living or working in close contact with polluted (or potentially polluted <sup>19</sup>) sites to identify and map human diseases and other health outcomes and their incidence in these areas;

• consider and explore direct (e.g., skin contact with soils) and indirect (e.g., consumption of contaminated food) soil-related drivers of human disease and ill-health as relevant;

15 Landrigan et al. (2018). The Lancet Commission on pollution and health, The Lancet Volume 391, Issue 10119, 3-9 February 2018, Pages 462-512.

<sup>14</sup> Findable, Accessible, Interoperable and Reusable.

<sup>16</sup> https://www.eea.europa.eu/publications/zero-pollution/health/soil-pollution.

<sup>17</sup> This excludes the sampling of polluted soil by non-experts. The population involved in the research activities should never be exposed to additional risks caused by soil pollution. The participation of the population already exposed to soil pollution is meant through interviews/questionnaires/focus groups or other social science methodologies.

<sup>18</sup> Potentially polluted sites refer to areas of land where there is a high probability or it is strongly believed that the soil is contaminated with harmful substances, but it has not yet been fully confirmed or assessed.

<sup>19</sup> If a proposal decides to work on potentially polluted sites, or sites at risk of pollution or sites which communities suspect to be polluted, appropriate tests that demonstrate that sites are polluted should be done by experts in soil contamination.

- engage private entities with industrial operations in polluted sites and which work with potential pollutants, involving them as stakeholders in the research to jointly devise mitigation and remediation strategies and demonstrate corporate responsibility;
- propose locally relevant interventions that foster community resilience against soil pollution and deliver recommendations to policymakers at relevant level of governance to regulate decontamination, promote reuse of land when possible, and protect public health.

Proposals should prioritise the conditions with significant unmet medical need and the populations most vulnerable to the detrimental effects of soil pollution. Proposed approaches should incorporate both qualitative and quantitative research and leverage lived experiences data where possible.

This topic requires an interdisciplinary approach involving experts on land and soil contamination, epidemiology and in social-science and humanities (SSH) disciplines in particular sociology and anthropology.

Proposals are expected to build on existing results and relevant projects.

Proposals should include dedicated tasks and appropriate resources for coordination measures and joint activities with other relevant Horizon Europe projects and initiatives funded under the Mission "A Soil Deal for Europe", including engagement with the relevant cluster activities.

Proposals should demonstrate a route towards open access, longevity, sustainability and interoperability of knowledge and outputs through close collaboration with the European Union Soil Observatory (EUSO) and SoilWise.

HORIZON-MISS-2027-05-SOIL-03: Innovative microbial and bio-based fertilizers products to improve soil health, crop productivity and decontaminate polluted soils

Specific conditions	S
Expected EU contribution per project	The Commission estimates that an EU contribution of between EUR 5.00 and 6.00 million would allow these outcomes to be addressed appropriately. Nonetheless, this does not preclude submission and selection of a proposal requesting different amounts.
Indicative budget	The total indicative budget for the topic is EUR 12.00 million.
Type of Action	Innovation Actions
Technology Readiness Level	Activities are expected to achieve TRL [5-6] by the end of the project – see General Annex B.

Expected Outcome: Activities under this topic will help progress towards the objectives and targets of the Mission 'A Soil Deal for Europe' and should also contribute to meeting the targets of the EU Soil Strategy for 2030 and the Life Science Strategy. Activities should thereby contribute to meeting the objectives on improving soil management and environmental performance of the Vision for Agriculture and Food.

Project results are expected to contribute to all the following expected outcomes:

- increased soil health and crop productivity through effective locally adapted microbiome-driven soil improvers;
- increased deployment of innovative microbial and biotechnology solutions and in field applications - that improve soil health, crop productivity and decontaminate and remediate soils of heavy metals and toxic compounds (i.e.: microplastics, pesticide residuals);
- improved microbial (including fungi) soil-plant networks that improve soil resilience to soil biotic and abiotic stressors while also improving biomass production, crop quality and productivity.

Scope: Europe faces increasing challenges due to soil degradation, loss of biodiversity, and the expanding impacts of climate change. Addressing these issues is essential for ensuring food security and sustainable land use. The integration of biotechnology can play a transformative role in this regard. Evaluating and implementing biotechnology solutions to improve soil health can significantly enhance crop productivity by restoring essential nutrients and microbial balance in the soil. Moreover, biotechnology offers promising techniques to decontaminate and rehabilitate degraded lands, thus boosting the ecological and economic value of underutilized areas. By establishing that these solutions are scalable and cost-effective, we ensure they are adaptable to the varied environmental conditions and land-use types found across Europe. Collaboration in developing and piloting innovative applications of microorganisms and bio – based fertilizers products will drive improvements in soil fertility, thereby supporting a more resilient agricultural system. Additionally, the development of novel bio-based fertilizers products, and microbial inoculants, founded on existing knowledge of nutrient cycles and mycorrhizal networks, promises to revolutionize sustainable lang managing practices.

#### Proposals should:

- develop innovative bio-based fertilizers and microbial inoculants production processes leveraging on the existing knowledge about nutrient cycles and microorganism – including mycorrhizal - networks in soils;
- evaluate the use of biotechnology solutions to improve soil health for a better crop productivity – and the use of biotechnology solutions that decontaminate soils and restore lands;
- monitor and evaluate bio-based fertilizer solutions in terms of soil health and crop productivity, focusing on mechanisms involving positive or negative microbial (including fungi) soil-plant networks;
- screen for suitable/adapted combinations of microbial inoculants (consortia) to deliver better and more efficient microbial solutions to increase soil health, plant growth,

- development and health under different pedoclimatic conditions in agriculture and forestry applications;
- ensure that these biotechnology solutions are scalable, cost-effective, and applicable across diverse environmental conditions and land-use types;
- develop and pilot innovative sustainable solutions of microorganisms' and bio-based fertilizers applications that improve soil fertility, and crop productivity;
- ensure that the bio-based fertilisers and microbial inoculants do not alter soil biodiversity.

The projects shall ensure that the "Do No Significant Harm" principle is applied.

### HORIZON-MISS-2027-05-SOIL-04: Agroforestry for soil health at landscape level

Specific conditions	
Expected EU contribution per project	The Commission estimates that an EU contribution of around EUR 5.00 million would allow these outcomes to be addressed appropriately. Nonetheless, this does not preclude submission and selection of a proposal requesting different amounts.
Indicative budget	The total indicative budget for the topic is EUR 10.00 million.
Type of Action	Innovation Actions
Eligibility and admissibility conditions	Proposals must apply the multi-actor approach. See definition of the multi-actor approach in the introduction to this work programme part.

Expected Outcome: Activities under this topic respond directly to the goal of the Mission 'A Soil Deal for Europe' (Mission Soil) to set up 100 living labs and lighthouses to lead the transition to healthy soils by 2030. They support the specific objectives of the Mission Soil (see the Mission implementation plan).

Activities should support the objectives of the common agricultural policy (CAP), the European Green Deal ambitions and targets and more specifically those of the <u>EU Biodiversity Strategy</u> for 2030, the <u>EU soil strategy for 2030</u>, the <u>EU Climate action</u> and the <u>proposal for a Soil Monitoring and Resilience Directive.</u>

Project results are expected to contribute to all the following expected outcomes:

- farmers and foresters, advisors, food chain operators and policymakers benefit from practice-oriented knowledge, innovations and tools in agroforestry that boost soil health;
- participatory, interdisciplinary and transdisciplinary R&I actions take place at landscape level, involving all actors of the food value chain including consumers, to co-create, and co-implement sustainable farming practices in agroforestry that improve or restore soil health:
- soil processes, functions and benefits under agroforestry are better understood and more awareness is raised, leading to sustainability, resilience and competitiveness of agroforestry farming systems;
- **EU policies**, including the Common Agricultural Policy, the EU's Soil Monitoring Law, and the EU's biodiversity and climate policies **are supported** by science-based evidence.

<u>Scope</u>: Agroforestry is a land management practice that integrates trees and shrubs into agricultural landscapes. It combines agriculture (like crops and livestock) with forestry to create more sustainable and productive land-use systems. Agroforestry enhances biodiversity, improve soil health, conserve water, and provide economic and environmental benefits<sup>20</sup>. It is a suitable tool for landscape restoration because it can enhance physical, chemical and biological soil characteristics, thereby increasing soil fertility and biodiversity, sequestrating carbon controlling erosion and improving nutrients and water availability<sup>21</sup>. Particularly, the restoration of degraded landscapes using agroforestry can increase the resilience of communities to shocks, including drought and food shortages, and help mitigate climate change.

Proposals should focus on landscape-scale implementation of agroforestry practices aiming at scaling up sustainable soil management practices in agroforestry systems across entire value chains and territorial contexts, thereby maximizing ecological and socio-economic impact.

Proposals should be aligned with the Vision of Agriculture and Food and fill R&I gaps, demonstrating value added and complementarity with past/ongoing EU-funded R&I projects, including Mission Soil living labs and projects funded under the Horizon Europe Partnership 'Agroecology and the EU Mission Soil.

#### Proposals should:

establish an interdisciplinary, participatory and multi-actor approach to co-design, co-develop, and co-implement locally adapted agroforestry farming practices that demonstrate an enhancement in soil health. Proposed practices should be adapted to different environmental, socio-economic and cultural contexts in the EU and AC.
 Capitalize, where appropriate, on the existence of relevant living labs set up under

<sup>&</sup>lt;sup>20</sup> Agroforestry | Forest Information System of Europe

<sup>&</sup>lt;sup>21</sup> Agroforestry for landscape restoration

other EU-funded actions such as the Agroecology Partnership, to scale up practices beyond the farm to the landscape level;

- assess and monitor the impacts of agroforestry practices on soil health. For this, establish a baseline of the soil conditions in the agroforestry areas where the project will be operating to allow for an accurate monitoring over time of changes in soil health under different agroforestry management practices. The set of soil health indicators/descriptors presented in the proposal for a <u>Directive on Soil Monitoring and Resilience</u> should be used as a basis; proposals may complement with additional indicators tailored to agroforestry as well as to the specific pedoclimatic conditions, land use, and other local/regional factors. Activities should allow for a comparison of the impacts of conventional and organic farming;
- demonstrate their technical, social, economic, cultural and environmental viability of the proposed agroforestry practices, as well as their potential scalability and transferability to diverse contexts;
- involve pubic and private actors to develop and test **business models**, with the that facilitate the uptake and implementation of agroforestry practices by relevant stakeholders, including farmers and foresters;
- increase **knowledge and best practice exchange** on the contribution of agroforestry practices to soil health, as well as to key ecosystem services such as soil carbon sequestration.

Proposals must implement the **multi-actor approach** to ensure that knowledge and needs from various sectors are brought together. The actors involved should include farmers, forest users, researchers, landowners or land managers – both from the farm and forestry sectors, industry (e.g., SMEs), public administrations (both in charge of farming and of forestry matters), representatives of civil society (e.g., consumers, environmental NGOs).

Dedicated tasks and appropriate resources should be envisaged to **collaborate with the** Horizon Europe Partnership on Agroecology.

Proposals should demonstrate a route towards open access, longevity, sustainability and interoperability of knowledge and outputs through close collaboration with the European Union Soil Observatory (EUSO) and the project <u>SoilWise</u>. In particular, proposals should ensure that relevant data, maps and information can potentially be available publicly through the EUSO. Concrete efforts should be made to ensure that the data produced in the context of the funded project is FAIR (Findable, Accessible, Interoperable and Re-usable).

This topic should involve the effective contribution of **SSH disciplines**.

Beneficiaries must provide financial support to third parties.

### Call - Joint Call between the Soil Deal for Europe Mission and the New European Bauhaus

# HORIZON-NEB-2027-02-NEB-SOIL-01: Reducing soil sealing through sustainable urban design in the New European Bauhaus

Specific condi	tions
Expected EU contribution per project	The Commission estimates that an EU contribution of around EUR 7.50 million would allow these outcomes to be addressed appropriately. Nonetheless, this does not preclude submission and selection of a proposal requesting different amounts.
Indicative budget	The total indicative budget for the topic is EUR 15.00 million.
Type of Action	Innovation Actions
Technology Readiness Level	Activities are expected to achieve TRL 6-8 by the end of the project – see General Annex B. Activities may start at any TRL.

### **Expected Outcome**:

Projects results are expected to contribute to all of the following expected outcomes:

- enhanced innovative and regenerative planning and spatial design approaches that apply the New European Bauhaus (NEB) principles of sustainability, aesthetics, and inclusivity to minimize soil sealing and land take, improve soil health, support food systems transformation, strengthen climate resilience and biodiversity;
- strengthened cross-sector collaboration among different stakeholders (e.g., artists, architects, startups, local authorities, urban designers and planners, NGOs, and communities) to co-create inclusive and regenerative models for territorial transformation;
- increased adoption and upscaling of sustainable, nature-based and regenerative planning practices through robust evaluation, replication across diverse territorial contexts (urban, peri-urban, and rural), and engagement of public and private actors to foster long-term market uptake.

<u>Scope</u>: Reducing soil sealing and land take is a critical challenge for climate resilience, ecosystem health, and the liveability of human settlements. As urbanisation and infrastructure development expand across Europe's urban, peri-urban, and rural areas, healthy soils are increasingly sealed, contributing to biodiversity loss and growing vulnerability to climate change impacts. Despite growing awareness, there is a lack of integrated and scalable solutions to address these challenges through spatial design and planning. There is a pressing need for

solutions that apply the New European Bauhaus (NEB) principles of sustainability, aesthetics, and inclusivity to develop holistic approaches that restore soil function while enabling regenerative and inclusive territorial development.

Projects will contribute to key EU initiatives including the European Green Deal, the Nature Restoration Law, the EU Vision for Agriculture and Food, the EU Soil Strategy for 2030 (including implementation of the Soil Monitoring Law) and the EU Startup and Scaleup Strategy. Activities under this topic will help to progress towards the objectives of the NEB Facility and the Mission 'A Soil Deal for Europe', in particular towards its specific objective 3 'No net soil sealing and increase the reuse of urban soils'.

#### Proposals should:

- develop and pilot innovative planning and spatial design solutions that prioritise sustainable and inclusive spaces. These should integrate nature-based, human-centred and regenerative approaches (e.g. ecosystem restoration, shared and community gardens, or urban agriculture), prevent soil sealing or promote the unsealing of currently sealed soils, apply adaptive reuse and retrofitting strategies, and adapt to diverse territorial contexts (urban, peri-urban, and rural);
- implement and upscale these solutions to improve soil health, support food systems transformation, and enhance climate resilience (e.g., by mitigating urban heat islands and improving water management);
- facilitate cross-sector collaboration among stakeholders (e.g., artists, architects, startups, engineers, planners and territorial managers, local authorities, NGOs, researchers, citizens and communities) to co-create inclusive, place-based solutions through participatory approaches that integrate creative, scientific, and local knowledge to address soil sealing;
- replicate and ensure transferability of successful solutions across diverse territorial
  contexts in EU and Associated Countries by adapting solutions to local conditions,
  fostering knowledge exchange, and building capacity for broader adoption. Where
  relevant, build synergies with initiatives such as the Mission "100 Climate-Neutral and
  Smart Cities", to leverage demonstration sites, policy frameworks, and urban innovation
  ecosystems;
- include a clear plan to monitor and evaluate project impacts, using well-defined indicators on soil health and soil sealing, and urban health metrics and assessments. Ensure that data collected informs policy relevance and future scaling efforts;
- mobilize financing opportunities by developing innovative funding models, and engaging investors and businesses to support the long-term sustainability and replicability of implemented solutions;
- support policy uptake and market deployment by translating project results into actionable recommendations, fostering dialogue with decision-makers, aligning with relevant EU strategies, and creating conditions for broader institutional and regulatory adoption.

Proposals are encouraged to connect with projects funded under the Mission 'A Soil Deal for Europe' particularly those experimenting Living Labs in urban areas (URSOILLto ensure solutions are tested in real-life contexts and aligned with place-based experimentation and citizen engagement (SPADES). Projects are expected to collaborate with the Mission Soil Platform.

In addition, collaboration and synergies with the Mission "100 <u>Climate-Neutral and Smart Cities</u>" is highly encouraged if activities are established within one or more of the cities nominated as part of that EU Mission. Where relevant, projects should also explore complementary synergies with ongoing Horizon Europe projects, such as <u>Cleverfood</u>, which is developing a Food 2030 Connected Lab Network of living labs.

This topic implements the NEB Facility. Projects are thus expected to contribute to the New European Bauhaus initiative and share their intermediate and final results and findings with the 'New European Bauhaus hub for results and impact'.

This topic should involve the effective contribution of Social Sciences and Humanities (SSH) disciplines.

Proposals should integrate the gender dimension where applicable. Consideration of other social categories besides gender (disability, age, socioeconomic status, ethnic and/or cultural origin, sexual orientation, etc.), and their intersections, must be also ensured. The use of Multi-Actor Approach is encouraged.

#### Call - Joint Call between the Soil Deal for Europe Mission and the Mission Cancer

# HORIZON-MISS-2027-06-SOIL-CANCER: Living labs to monitor and mitigate carcinogenic substances in and originating from soils: Evaluating their effects on human cancer risks

Specific cor	nditions
Expected EU contributi on per project	The Commission estimates that an EU contribution of around EUR 12.00 million would allow these outcomes to be addressed appropriately. Nonetheless, this does not preclude submission and selection of a proposal requesting different amounts.
Indicative budget	The total indicative budget for the topic is EUR 24.00 million.
Type of Action	Research and Innovation Actions

Expected Outcome: Activities under this topic should respond directly to the goal of the Mission 'A Soil Deal for Europe' (Mission Soil) to set up 100 living labs and lighthouses to lead the transition to healthy soils by 2030. Activities should also contribute to the goal of the Cancer Mission.

Activities should also contribute to meeting the European Green Deal ambitions and targets and more specifically those of the <u>EU Biodiversity Strategy for 2030</u>, the <u>EU soil strategy for 2030</u> and the <u>proposal for a Soil Monitoring and Resilience Directive</u>, the <u>Zero Pollution Action Plan</u>, as well as to Sustainable Development Goals 15 on Life on land and 3 on Good health and wellbeing.

Project results are expected to contribute to all the following expected outcomes:

- increased capacities for participatory, interdisciplinary and transdisciplinary research
  and innovation to co-create, and co-implement economically viable soil and human
  health solutions tailored to soils contaminated or at risk of contamination by
  carcinogenic compounds;
- better understanding of the drivers and processes linking the presence of carcinogenic contaminants<sup>22</sup> in soils to the incidence, mortality and prevalence of cancer in humans.
- Better understanding of the main environmental pathways by which humans and organisms relevant for the food chain are exposed to carcinogenic substances originating from soil;
- increased awareness and literacy among land managers and citizens about the harmful impact of carcinogenic substances on soil health and related risk of cancer;
- policy makers are aware of local needs and risks of carcinogenic substances regarding soil health, cancer incidence, mortality and prevalence in humans, and the design and implementation of citizen-centred policies in this regard are more evidence-based and effective.

<u>Scope</u>: Environmental and occupational cancer risks are estimated to contribute to over 10% of the total cancer burden in Europe. Soil pollution by carcinogenic, such as PFAS and heavy metals like arsenic and cadmium, is a significant concern for human and environmental health. Exposure to soil polluted by such compounds can lead to serious human health problems, including types of cancer<sup>23</sup>.

However, the complex relationships between land management practices, soil properties, and presence of carcinogenic contaminants remain largely unknown. Also, bioaccumulation and transfer of soil pollutants from the soil to –for example-food crops, water and air, as well as human exposure to these compounds and the incidence, mortality and prevalence of cancer in

<sup>&</sup>lt;sup>22</sup> such as PFAS, heavy metals, and pesticides.

<sup>&</sup>lt;sup>23</sup> Beating cancer — the role of Europe's environment — European Environment Agency

humans are still not well known. Finally, the processes and pathways by which humans are exposed to carcinogenic compounds in soils are generally understudied.

Projects under this topic are intended to expand and complement the network of Mission Soil living labs and lighthouses initiated with projects funded under Work Programmes 2023, 2024 and 2025 of the Mission Soil, with the aim of gradually establishing 100 living labs and lighthouses to lead the transition towards healthy soils by 2030.

The Mission 'A Soil Deal for Europe' proposes a novel approach to research and innovation in the area of soil health, including the implementation of living labs. Living labs have the potential to facilitate a green and fair transition by involving multiple actors in real-life sites within a local/regional setting to co-create soil health solutions and achieve large-scale impacts on soil health and soil governance.

Living labs are long-term collaborations between multiple actors to address common soil health challenges in real-life sites at local or regional level (10 to 20 sites in each living lab). Depending on the level at which each living lab operates and the specific context (e.g. land use covered or soil health challenge addressed), applicants can exceptionally propose living labs with fewer sites. Individual sites can be farms, urban green areas, abandoned commercial and industrial sites, former mining areas or zones with former or current military activities. Sites that are exemplary in their performance in terms of soil health improvement and serve as places for demonstration of solutions, training and communication are lighthouses. Lighthouse sites can be part of a living lab or be situated outside a living lab.

Living labs can address soil health challenges in or across different land uses (agricultural, (peri-)urban, (post)-industrial, forest and (semi-)natural). Projects funded under this topic are expected to kick-start participatory process or build on existing ones. While normally projects run for four years, the duration of the projects should accommodate longer timescales required to establish participatory processes and/or for soils processes to take place. Actors working on common shared soil health challenges within and across the living labs of the same project, will be able to compare results, exchange good practices, validate methodologies, replicate actions and solutions and benefit from cross-fertilisation, thereby accelerating the transition towards the shared objective of improving soil health.

#### Proposals should:

- support the establishment of four to five living labs to work together on soil contamination by carcinogenic substances covering different land uses. Proposed solutions should be adapted to the different environmental, socio-economic and cultural contexts in which the living labs are operating;
- living labs should be located in at least three different Member States and/or Associated Countries. The special attention should be given to the Member States and regions with

the greatest need (hotspots of carcinogenic contaminants<sup>24</sup>). Proposals should explain the rationale and mechanism for cooperation within and across the living labs;

- establish an interdisciplinary, participatory and multi-actor approach in the living labs to co-design, co-develop, and co-implement locally adapted solutions (practices, tools, strategies, etc.) to:
  - o better understand the pathways of carcinogenic contaminants in soils into the soil-water nexus and the food chain;
  - o avoid, mitigate, eliminate carcinogenic contaminant to and from soils; monitor these contaminants' individually and in combination, both in soils and humans (biomonitoring);
  - o establish correlations linking the presence and synergistic effects of carcinogenic contaminants in soils to the incidence and prevalence of cancer in humans;
- establish for each living lab a baseline of the soil conditions to allow for an accurate monitoring over time of soil health improvements and humans exposure to carcinogenic compounds, as well as the effects of the proposed solutions on soil health and associated ecosystem services in the different sites of the living labs;
- demonstrate their technical, social, economic, cultural and environmental viability of the proposed solutions, as well as their potential scalability and transferability to diverse contexts;
- identify high performing sites that may be converted into lighthouses, either at proposal stage or later, during the project implementation;
- propose strategies (e.g., financial, organisational) to ensure the long-term sustainability of the established living labs beyond Horizon Europe funding.

In line with the nature of living labs, projects must adopt the multi-actor approach. The actors involved in each living lab may vary based on its unique characteristics, and may include, among others, researchers, landowners or land managers, industry representatives (e.g. SMEs), public administrators and civil society (e.g. consumers, local residents, environmental NGOs, youth organisations). Care should be taken to describe the capabilities, roles and resources of the different actors involved in the living labs. An effective contribution of social sciences and humanities (SSH) is expected to foster social innovation, knowledge transfer and socio-cultural and behavioural change.

To encourage and facilitate the involvement of different types of actors in the living labs, applicants are reminded of the different types of participation possible in a project under Horizon Europe. This includes not only beneficiaries (or their affiliated entities) but also

-

<sup>&</sup>lt;sup>24</sup> PFAS contamination and soil remediation (Signal) | European zero pollution dashboards

associated partners, third parties giving in-kind contributions, subcontractors and recipients of financial support to third parties<sup>25</sup>. Financial support to third parties (FSTP) to facilitate active involvement of small actors (e.g. land managers, landowners, SMEs or civil society) in one or more of the living labs of a project, can be provided in the form of grants. Applicants are advised to consult the standard conditions set out in Annex B of the General Annexes including those that apply to FSTP.

Dedicated tasks and appropriate resources should be envisioned to collaborate with <u>SOILL</u>, the structure created to support soil health living labs and lighthouses which offers significant capacity building opportunities for the living labs actors. Applicants can benefit from the services of <u>SOILL</u> already during the proposal preparation stage.

Applicants should take into consideration the work done under relevant related EU projects, including on endocrine disruptors and health (<u>EURION</u> and <u>ENKORE</u>), micro- and nanoplastics and health (<u>CUSP</u>), PFAS (<u>PROMISCES</u>, <u>SCENARIOS</u> and <u>ZeroPM</u>), soil contamination (<u>ARAGORN</u>) and the Partnership for the Assessment of Risks from Chemicals (<u>PARC</u>). Work done by the <u>JRC Cancer Knowledge Centre</u> should also be taken into account.

Dedicated tasks and appropriate resources should be envisioned to collaborate with the <u>EU Soil</u> <u>Observatory</u> (EUSO), the project <u>SoilWise</u> and other relevant Mission Soil projects. In particular, proposals should ensure that relevant data, maps and information can potentially be available publicly through the EUSO maps and information can potentially be available publicly through the EUSO. Concrete efforts should be made to ensure that the data produced in the context of the funded project is FAIR (Findable, Accessible, Interoperable and Reusable).

<sup>&</sup>lt;sup>25</sup> To explore the full range of options including what type of costs and activities are eligible to be funded under Horizon Europe, applicants should refer to the AGA – Annotated Model Grant Agreement <a href="https://ec.europa.eu/info/funding-tenders/opportunities/docs/2021-2027/common/guidance/aga">https://ec.europa.eu/info/funding-tenders/opportunities/docs/2021-2027/common/guidance/aga</a> en.pdf

#### Other Actions not subject to calls for proposals

### Specific Grant Agreement for a Living Lab Support Structure

Within the Framework Partnership Agreement (FPA) awarded under topic HORIZON-MISS-2022-SOIL-01-08: Framework Partnership Agreement (FPA) for a living lab network support structure, the selected consortium is invited to submit a proposal for a Specific Grant Agreement (SGA). This SGA will cover the last three years of the FPA (2028-2030). One single proposal should be submitted. The evaluation committee will be composed fully by representatives of EU institutions.

The support structure under this SGA should continue to implement the action plan presented under the FPA while building on the needs and gaps identified by the first two SGAs (SOILL-Startup and SOILL-Stepup), and the European Commission.

#### Proposed activities should:

- 1. Give continuity to the activities of the first two SGAs in terms of tailored support to Mission Soil funded living labs and lighthouses (LL & LH), in the form of advice in their day-to-day operations (including on technical, networking and communication aspects), capacity building, training, knowledge sharing and monitoring. The SGA should also provide selected services to other LL & LH working on soil health issues, created by other projects within or outside the Mission Soil or by other programmes. Finally, the SGA should expand its activities to support emerging soil health initiatives (including existing on the ground experiments), showing potential to develop in mature LL & LH.
- 2. Facilitate the exchange of knowledge, data, findings and experiences within and across LL & LH (with a focus on, but not limited to, those funded under the Mission Soil) and with key stakeholders and other projects, where co-design, testing and evaluation of innovative soil management practices and technologies, as well as capacity building, will take place. To this end, the SGA should continue identifying common areas of interest between funded LL & LH - particularly those operating in the same biogeographical regions-to engage them in concrete actions that create synergies and capitalise on the wealth of existing experiences and resources. Activities should result in the creation of working groups, in the production of learning material and tools addressing specific technical themes (e.g. particular soil challenges or land uses) as well as transversal aspects (e.g. data management, monitoring, use of digital tools, integration of social sciences and humanities (SSH) in research and innovation). The participation in or collaboration with other working groups or project clusters should be foreseen. In addition to enhancing operational capacities of living lab partners, the exchange of experiences should serve to promote a wider dialogue between the various living labs on their contribution to the Mission's objectives and to discuss possibilities for scaling up activities beyond the living lab areas.
- 3. Support the Mission Soil LL & LH projects in establishing a route towards open access, longevity, sustainability and interoperability of knowledge and outputs through close

collaboration with the European Union Soil Observatory (EUSO) and the project SoilWise. The SGA should contribute to the continuous flow of high-quality information on local soil health conditions to support Member States in implementing the future Soil Monitoring Law. Likewise, the SGA will help identify and disseminate sustainable soil management practices and solutions created, tested and demonstrated in LL & LH, so that these are widely known and can be accessed by potential users beyond the living lab areas. The SGA should also flag opportunities for the living labs to make use of data and services available from European Research Infrastructures federated under the European Open Science Cloud (EOSC) or from relevant Data Spaces, as indicated in the Soil Mission implementation plan.

- 4. Promote the creation of new LL & LH by providing potential applicants with information, guidelines, recommendations and dedicated services (such as a helpdesk support, capacity building material, mentoring and matchmaking tools) on the Mission's living lab concept and its implementation as well as with ideas for collaboration. The SGA should reach a wide audience and engage new stakeholders, notably in biogeographical regions where living labs are still underrepresented, supporting the Mission Soil in ensuring a balanced coverage of the growing network of LL & LH.
- 5. Help Mission Soil LL & LH in developing strategies to sustain their activities beyond the lifetime of each project. This will include assisting living lab partners in the development of financial plans and long-term management plans, as well as strengthening connections with local business communities, in particular SMEs, investors and other commercial stakeholders as well as social economy entities and social enterprises. To this end, the SGA should also assist applicants to Mission Soil LL topics to explore new public or private funding schemes and financial instruments, involving, where relevant, finance providers such as financial institutions and investors.
- 6. Apply the harmonized LL monitoring & evaluation framework developed by SOILL-Startup for the monitoring of Mission Soil LL progress and for targeting capacity building needs depending on their level of development. Identify, using the monitoring & evaluation framework those European initiatives that are aligned to the Mission Soil objectives & criteria and that can be labelled as 'European Soil LL'.
- 7. Support Mission Soil LLs in the identification and/or the setting up of LHs as well as in the networking among them during and beyond Horizon Europe funding. Help LHs to enhance their ability to demonstrate and disseminate practice-oriented knowledge and tools, including on business models, harvested from the Mission Soil projects. Assist LHs in their transition assessing growth and development against a defined criteria and employ a labelling process to formally recognize these exemplary sites as lighthouses. Ensure a greater impact of LHs activities by outreaching to relevant stakeholders outside the LL or the Mission Soil projects by organizing trainings for farmers, foresters or policymakers, when justified. Engage with the network of operational groups (OGs) under the EU CAP network to maximize the synergy between them (e.g. encouraging OGs to leverage results showcased in lighthouses or encouraging lighthouses to involve OGs in their activities).

Foster collaboration among LHs as well as with businesses, and public institutions for obtaining further funding opportunities and contribute to the long-term sustainability of the lighthouses beyond the Horizon Europe.

- 8. Continue monitoring and assessing the performance of the LL & LH in a systematic way and report the main trends, achievements, experiences and challenges encountered when working within a living lab approach. The periodicity of the quantitative reporting should be agreed with the Mission Secretariat. A detailed qualitative evaluation of the progress of the funded living lab projects should be reported in a yearly basis. These reports should bring together and complement the information arising from monitoring activities performed by each of the funded living lab projects on their proposed solutions to identified soil health challenges. Close cooperation with the MSP regarding reporting and monitoring requirements of the Mission Soil is essential.
- 9. Maintain and further develop the SOILL Hub initiated by SOILL-Startup and other tools and services for information, dissemination, exchange of experiences and outreach, integrating and further developing existing information and resources. Through the provision of a collaborative space for LL & LH partners, the web-portal should support the establishment of a dynamic and inclusive community of practice.
- 10. Maintain and further develop an interactive map of Soil health LL & LH clearly distinguishing those LL & LH funded under dedicated topics of the Mission Soil (Mission Soil LL & LH); other soil health LL & LH created under other projects or other programmes that align to the Mission Soil criteria (European Soil LL & LH); and emerging and growing soil health initiatives (including existing on the ground experiments) showing potential to develop in mature LL & LH.
- 11. Produce regular newsflashes and an electronic newsletter to support the evolving community of practice of LL. Communication and outreach should benefit LL & LH operating as part of the Mission Soil or outside, as well as a wide range of stakeholders and the wider public.
- 12. Offer training activities and capacity building for soil managers, landowners, advisors and relevant authorities on sustainable soil management practices, as well as activities to support soil education and citizen engagement, in line with and in support of the objectives of the future Soil Monitoring Law.

#### **Specific Conditions:**

The general conditions, including admissibility conditions, eligibility conditions, award criteria, evaluation and award procedure, legal and financial set-up for grants, financial and operational capacity and exclusion, and procedure are provided in parts A to G of the General Annexes.

This action will be implemented through a Coordination and Support Action (CSA). Legal entities established in non-associated third countries may exceptionally participate in this coordination and support action.

Form of Funding: Grants not subject to calls for proposals

<u>Type of Action</u>: Specific grant agreement awarded without call for proposals in relation to a Framework Partnership Agreement

<u>Indicative budget</u>: EUR 7.00 million from the 2027 budget

#### . Financial advisory services and technical assistance to Mission Soil

This action aims at identifying and providing financial advisory services and technical assistance to at least 20 individual flagship investment projects aimed at restoring and enhancing soil health in different land uses (rural, urban, peri-urban, industrial, post-industrial, post-mining, degraded by military use or conflicts, semi-natural, etc.) led by different types of stakeholders (farmers, foresters or their cooperatives, agri-food companies and retailers, urban panners, regions and municipalities, private sector actors etc.). Mission Soil will receive targeted support including, e.g., technical studies, business plans and financial advisory, legal advice, tendering procedure preparation, project bundling or project management. Services will be provided in close coordination with the Mission Soil Implementation Platform, avoiding overlaps and ensuring synergies. They will be also delivered considering relevant Mission Soil projects, for example HuMUS, supporting territorial agreements to co-design public and private strategies to improve and restore soil health at regional and local levels.

The action should be implemented through the existing advisory agreement with the EIB Group for the implementation of the InvestEU Advisory Hub.

#### Legal entities:

European Investment Bank (EIB), 98-100, boulevard Konrad Adenauer L-2950 Luxembourg

Form of Funding: Indirectly managed actions

Type of Action: Indirectly managed action

<u>Indicative budget</u>: EUR 6.00 million from the 2027 budget