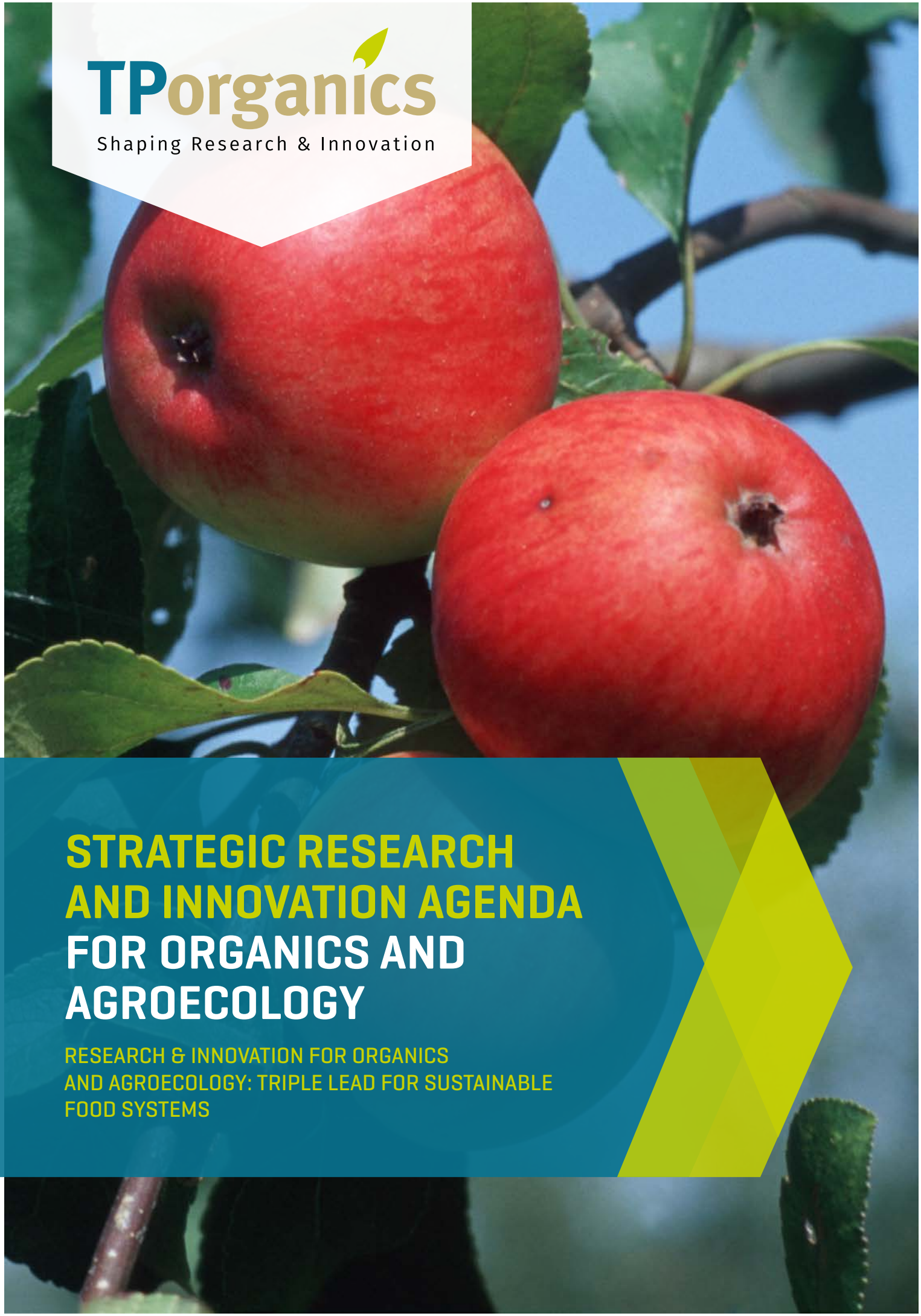

TPorganics

Shaping Research & Innovation

STRATEGIC RESEARCH AND INNOVATION AGENDA FOR ORGANICS AND AGROECOLOGY

RESEARCH & INNOVATION FOR ORGANICS AND AGROECOLOGY: TRIPLE LEAD FOR SUSTAINABLE FOOD SYSTEMS

Strategic Research and Innovation Agenda for Organic Food and Farming

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CONTENT

EXECUTIVE SUMMARY

Today's research and innovation (R&I) determines tomorrow's food and farming systems. Building on their systems approach, R&I in organic and other agroecological approaches, which are knowledge intensive rather than input intensive, can enable the transition to a more sustainable future for all. TP Organics[1], the European Technology Platform (ETP) for Research & Innovation into Organics and Agroecology established in 2008, hosted by IFOAM Organics Europe, and officially recognised by the European Commission as an ETP since 2013, has published its first Strategic Research & Innovation Agenda (SRIA) for organic food and farming in 2009[2] and has published two more SRIAs since then, in 2014[3] and 2019[4]. The new TP Organics SRIA for Organics and Agroecology was developed with the contribution of the OrganicTargets4EU[5] project, in preparation of the next EU R&I Framework Programme (FP) 10 that will succeed the current Horizon Europe (FP9) and that will run from 2028-2034. The new SRIA defines the R&I needs of the organic and agroecological sector, while also outlining R&I needs for the transition of the European food and farming system at large. As a key advocacy document, it is based on the input and ideas from stakeholders at EU and national levels.

The new SRIA is divided in three main parts: the introduction, the identified R&I priorities and the policy recommendations. The introduction sets out TP Organics' vision for future organic and agroecological research, which is embodied by the "triple lead for sustainable food systems" concept, the strategic role of organic R&I for the EU objectives of competitiveness and food security, as well as an outlook of the expected programme and why research funding is crucial. The identified R&I priorities, divided in three themes (i.e., leading for the environment, biodiversity and the climate; leading for people, communities and sustainable livelihoods; leading for responsible innovation) represent TP Organics' main focus in the next years. Finally, policy recommendations are provided concerning the design of FP10 calls and innovative as well as inclusive governance mechanisms to boost the impact of R&I.

[1] https://tporganics.eu/
[2] https://tporganics.eu/wp-content/uploads/2016/01/tporganiceu-strategic-research-and-innovation-agenda-2009.pdf
[3] https://tporganics.eu/wp-content/uploads/2016/01/tporganiceu-strategic-research-and-innovation-agenda-2014-brochure-20150129.pdf
[4] https://tporganics.eu/wp-content/uploads/2020/01/ifoam-sria-full-version-final.pdf
[5] https://organictargets.eu/

FOREWORD

BY EDUARDO CUOCO
HEAD OF SECRETARIAT
TP ORGANICS

The Commission's *Vision for Agriculture and Food (2025)* sets a clear objective: "an agri-food system that is attractive, competitive, sustainable and fair for current and future generations." Delivering on it means pairing day-to-day practicality with long-term investment in research, innovation, and knowledge, so that solutions reach fields, businesses, and communities quickly and reliably. Within this broader transition, organic and agroecological approaches provide useful, practice- and evidence-based contributions. By working with nature-based solutions, they support healthier soils and biodiversity, strengthen consumer confidence, and can inform innovation across all farming systems.

The priority now is to keep building robust evidence, improve economic viability and scalability, and ensure these approaches are well integrated within Europe's diverse agricultural landscapes in order to leverage their potential to make the whole European food and farming system more sustainable, resilient, competitive, and thriving. TP Organics' new Strategic Research and Innovation Agenda, "*Vision for Future Organic and Agroecological Research: Triple Lead for Sustainable Food Systems*", reflects those needs. Its three strands, "Leading for the environment, biodiversity and the climate", "Leading for people, communities and sustainable livelihoods", and "Leading for responsible innovation" align with the European Commission's emphasis on competitiveness, fairness and working hand-in-hand with nature, as set out in the Vision and its implementation roadmap.

With this SRIA, TP Organics takes a crucial step towards an agricultural and food systems model that is resilient, circular, competitive, and future proof, delivering public value while ensuring viable livelihoods for farmers and value chain actors across Europe.

Eduardo Cuoco,
Head of Secretariat, TP Organics

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1. INTRODUCTION

1.1 DRIVING INNOVATION IN ORGANICS AND AGROECOLOGY FOR EU COMPETITIVENESS AND RESILIENCE

Research and innovation (R&I) in organic and agroecological food systems are strategic levers for Europe's resilience and competitiveness. By reducing the dependency on external inputs, strengthening local value chains and regenerating biodiversity and ecosystems, organic R&I helps keep farms profitable and rural regions vibrant. Investing in organic and agroecology creates triple wins: for the environment, for people, and for responsible innovation.

1.1.1 ENVIRONMENT, BIODIVERSITY AND CLIMATE

Organic and agroecological practices work with ecological processes rather than against them. They provide solutions for climate change mitigation and adaptation. Healthy soils with high organic matter improve water infiltration and retention, buffering farms against droughts and floods. Diverse agroecosystems support natural pest regulation, nutrient cycling, and pollination, cutting the need for chemical inputs and fossil energy use per hectare. Metaanalyses consistently find higher onfarm biodiversity in organic systems, alongside reduced nutrient losses. Innovations in organic plant and animal breeding strengthen the genetic base on which food production relies and help shape more diversified farming systems. These benefits translate into greater production stability under climate stress and more robust ecosystem services for society.

1.1.2 VIBRANT COMMUNITIES AND SUSTAINABLE LIVELIHOODS

A competitive EU food system needs fair value distribution, consumer trust, and opportunities for rural entrepreneurs.

Organic value chains tend to be more transparent and territorially rooted, connecting producers and citizens. They improve farmers' bargaining power and capture more value locally, supporting SMEs and placebased jobs.

Organic farming is attractive to new entrants and young farmers because it rewards knowledge, sound management, and quality rather than input intensity. Stronger territorial branding and tourism links—such as bio-districts—further multiply economic benefits, contributing to social cohesion and balanced development.

Health and nutrition goals also intersect with competitiveness. By promoting diverse, minimally processed foods produced without synthetic pesticides, organic systems respond to citizens' demand for healthy, trustworthy options. Public canteens and hospitals that procure organic food create reliable markets while advancing publichealth objectives.

Investing in R&I will amplify the gains organic value chains deliver. New marketing solutions will help bridge the gap between consumer interest and actual purchasing behaviour, making sustainable food more accessible and affordable for all.

More R&I will also contribute to the design of sound policy and governance frameworks, and thereby help secure equitable land access, and economic viability.

1.1.3 RESPONSIBLE INNOVATION

Organic agriculture has long pioneered responsible, farmerled and transdisciplinary innovation. Because agroecological solutions are designed to perform with fewer external inputs, they are widely applicable and raise sustainability across the entire agrifood system, not just in certified organic supply chains.

Digital technologies and artificial intelligence (AI) are rapidly emerging. Organic farming, with its strict framework of principles and regulations, offers a testing ground in which these innovations can be developed responsibly to the benefit of farmers, value chain actors, and consumers. Indeed, ethically driven, digital innovations can offer solutions for sustainable farming, transparent value chains, and effective knowledge exchange.

Conventional knowledge and innovation systems often fail to capture the diverse, place-based knowledge generated by organic and agroecological practitioners. Supporting inclusive and participatory innovation, connected to education and advisory services, will accelerate the transformation towards agroecology.

Finally, robust regulation and integrity systems build and maintain consumer confidence in organic products.

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1.1.4 A NEW STRATEGIC RESEARCH & INNOVATION AGENDA FOR ORGANICS AND AGROECOLOGY

As a European Technology Platform[6] officially recognised by the European Commission, TP Organics[7] plays a vital role in aligning research priorities with real sector needs, acting as a bridge between policymakers, researchers, and practitioners and thereby ensuring that R&I investments are relevant, inclusive, and impact driven. TP Organics develops R&I agendas and roadmaps for research action at EU and national level. **R&I is crucial for the development of the organic sector and the design of more sustainable food systems.** That is why we advocate for more research funding benefiting organic and agroecological approaches. Furthermore, we promote research participation and knowledge exchange between the organic actors. **Our mission is to strengthen research & innovation for organic and other agroecological approaches** that contribute to sustainable and resilient food and farming systems. To achieve our mission, we **unite large companies, small and medium-sized enterprises, research institutes, farmers', consumers', and civil society organisations** active in the organic value chain from production, input and supply to food processing, marketing, and consumption.

Scaling organic food production across landscapes and value chains enhances Europe's strategic autonomy: each shift towards more organic practices reduces the EU's exposure to imported inputs while helping to meet climate and nature commitments. **Organic and agroecological R&I must be treated as priorities in the European Competitiveness Fund and the Horizon Europe Programme that the European Commission proposed in July 2025.**

To guide R&I investments under these new programmes, TP Organics has produced this **new Strategic Research and Innovation Agenda (SRIA) for Organics and Agroecology.** It is the result of almost two years of extensive, bottom-up consultation with farmers, researchers, and other stakeholders in the organic sector and agroecology movements. Divided over the three leading areas, this SRIA proposes 31 R&I topics. Together, they represent a comprehensive picture of the challenges organic and agroecological systems face. Solving these challenges will accelerate a competitive transition of the EU's food systems. In doing so, organic R&I helps deliver on the EU's Vision for Agriculture and Food, working towards a resilient, competitive, climateneutral and naturepositive food and farming system—anchored in thriving rural communities and restored ecosystems.

[6] Read more on the contributions of ETPs to previous EU R&I Framework Programmes: European Commission (2013). Report on the Role of European Technology Platforms (ETPs) in Horizon 2020. Available at: https://www.etp-logistics.eu/wp content/uploads/2021/03/Logistric-TP-recognition-SWD_2013_272_F1_STAFF_WORKING_PAPER_EN_V2_P1_735480.pdf

[7] https://tporganics.eu/

1.2 RESEARCH FUNDING NEEDS TO STEP UP TO ACHIEVE MORE IMPACT

The 10th Framework Programme for Research and Innovation (FP10), proposed within the next Multiannual Financial Framework (MFF) 2028–2034, will be decisive for the future of EU R&I policy. FP10 should receive an appropriate budget under the MFF in order to respond to the expectations set by the European Commission and by society at large. R&I have always been central to Europe's economic and social development; the status quo is not an option. Public investment in R&I must reflect the urgency and the collective benefit of solving societal challenges, especially in sectors such as agri-food where market incentives alone are insufficient to deliver the needed transformation. Following the Commission's proposal, it is essential that the co-legislators—the European Parliament and the EU Council - not only support the proposed €175 billion envelope for FP10 but reinforce it, particularly to sustain collaborative research under Pillar II. This is a precondition to future-proof Europe's food systems, strengthen farmer autonomy and sustainability, and align the programme with the Union's strategic priorities.

1.2.1 ORGANIC AND AGROECOLOGICAL RESEARCH AS PRIORITIES

For FP10 to deliver on its mission to serve the public interest and the EU's strategic goals, organic and agroecological R&I must be recognised and treated as priorities. 30% of the budget for R&I dedicated to agri-food under Policy Window "Health, bioeconomy, agriculture and biotechnology" in the ECF and FP10 should be ring fenced to topics that are specifically addressing organic R&I needs.

Organic farming has long been at the forefront of agricultural innovation, shaping more sustainable, economically viable, and resilient systems—from soil health and biodiversity to circular value chains and climate adaptation. Organic and agroecological practices reduce the exposures to volatile input markets and strengthen farmers resilience and EU food sovereignty. For example, during the 2022 fertiliser price spike, the World Bank's fertiliser affordability index nearly doubled relative to its long-term average[8], underscoring how input-intensive systems increase farmers' vulnerability to energy and commodity shocks. Reducing structural dependency on synthetic fertilisers, pesticides, and imported feed therefore has competitiveness, security, and affordability payoffs, beyond environmental benefits.

[8] World Bank Data Blog — "Fertilizer prices edge lower amid lower input costs and improved supply" (8 July 2024). https://blogs.worldbank.org/en/opendata/fertilizer-prices-edge-lower-amid-lower-input-costs-and-improved

1.2.2 BEYOND TECHNOLOGICAL FIXES: A BROADER MODEL OF INNOVATION

FP10 must embrace the full spectrum of innovation:

- **Technology innovation**: generated mainly through lab-based science and technology, and then transferred to users such as farmers, advisory services, and policy makers

- **Know-how innovation:** knowledge around methods and practices, often the result of participatory research, spanning the usual boundary between knowledge producers and users, making "tacit knowledge" explicit and often combining new and traditional knowledge

- **Organisational innovation:** changes in management and cooperation among actors (e.g., researchers, extension services, farmers, retailers, consumers, civil society)

- **Social innovation:** change of behaviour of groups in wider society, establishing new relationships and allowing people and societies to better cope with complexity

Farmer-led knowledge exchange, advisory and brokerage services, territorial cooperation, and new governance and business models are indispensable complements to technology. Without them, high-tech solutions risk reinforcing dependency and inequity, rather than delivering sustainable, systemic transitions. A truly transformative FP10 should therefore value and support diverse forms of innovation, recognising that systemic change in agri-food cannot be achieved through technology alone.

The EU R&I Framework Programme model enables such transdisciplinary approaches and cross-border collaboration at the scale that sustainability transitions require. Organic research exemplifies these strengths: it integrates agronomy, ecology, economics, and social sciences and thrives on collaboration across regions and sectors. FP10 should preserve this public-interest character, while improving access and time-to-impact through inclusive multi-actor projects, stepping-stone support that links lower TRLs to demonstration, and open-science provisions that safeguard farmers' data rights.

1.2.3 SERVING DEMOCRACY AND THE COMMON GOOD

Finally, FP10 must protect scientific integrity and ensure knowledge serves democratic and societal goals. Organic and agroecological approaches reflect values enshrined in the EU's legal and policy framework—health protection, biodiversity conservation, social inclusion and territorial cohesion—and depend on public trust and citizen engagement. A well-designed FP10 should therefore preserve scientific autonomy, uphold open knowledge as a public good, and direct investment toward systemic solutions that demonstrably advance competitiveness, resilience, and climate-nature objectives across Europe.

1.3 VISION FOR FUTURE ORGANIC AND AGROECOLOGICAL RESEARCH: TRIPLE LEAD FOR SUSTAINABLE FOOD SYSTEMS

Investing in organic R&I creates triple wins for the whole food system: for the environment, for people, and for responsible innovation, see Figure 1 below.

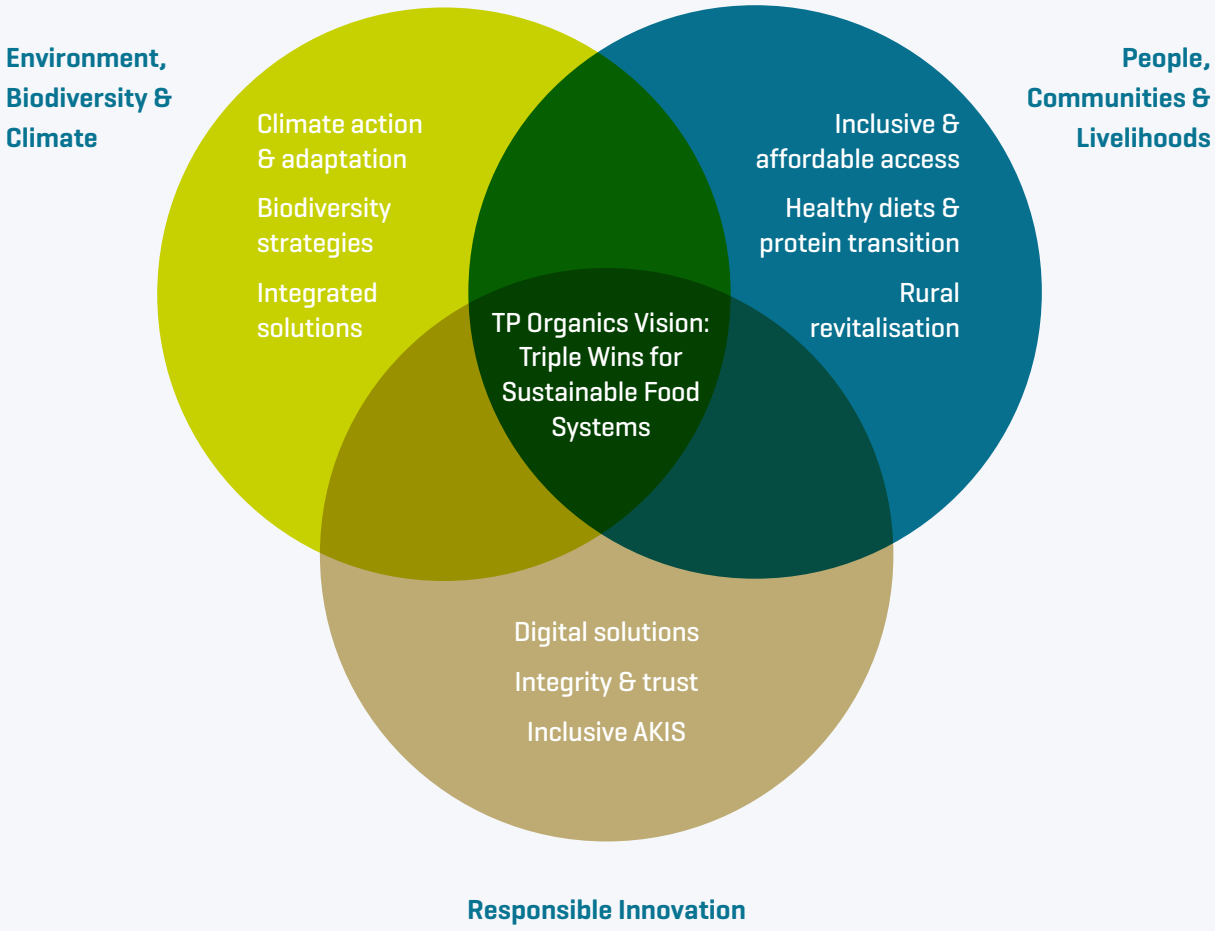
Structured around these three lead areas, TP Organics puts forward 31 R&I topics, representing a comprehensive picture of the challenges organic and agroecological systems face. To make these easier to follow, the topics are clustered into three sub-areas within each area, as described below.

1.3.1 LEADING FOR THE ENVIRONMENT, BIODIVERSITY AND THE CLIMATE

Organics at the frontline of climate action and adaptation

Organic farming plays a leading role in enhancing climate resilience by combining soil, water, and energy strategies. R&I will advance soil carbon sequestration practices that improve yield stability and create carbon credit systems tailored to organic farmers. Water-smart solutions will be developed to enhance retention and reduce irrigation needs. At the same time, renewable energy integration through agrivoltaics, biogas, wind, and other technologies will cut emissions, strengthen farm autonomy, and support rural vitality.

FIGURE 1
TP ORGANICS' R&I VISION - TRIPLE WINS FOR SUSTAINABLE FOOD SYSTEMS



Organic strategies for a biodiverse world

Organic farming enhances biodiversity by combining multifunctional crop and livestock systems with innovative breeding approaches. Research will demonstrate how crop diversification and multi-species livestock systems improve ecosystem services, yield stability, and farm income. At the same time, plant breeding will deliver stress-tolerant, nutrient-rich cultivars suited to low-input organic systems, while animal breeding will prioritise robustness, longevity, and feed autonomy.

Integrated solutions for sustainable food systems

Organic food production builds on holistic resource use rather than dependency on external inputs. Healthy soils with active microbiomes form the foundation of productivity. Organic cropping systems range from wide-scale arable to specialised horticultural production. Livestock systems cover cattle, poultry, and pigs to niche species such as rabbits. Dedicated organic sectors exist in beekeeping and aquaculture. Each of these has its own R&I needs. R&I will accelerate the uptake of biocontrol, strengthen nutrient self-sufficiency, and reduce feed–food competition. Free-range livestock systems will be improved to enhance animal welfare. Finally, harmonised sustainability reporting will consolidate organic farming's role as a frontrunner in sustainable food systems.

1.3.2 LEADING FOR PEOPLE, COMMUNITIES AND SUSTAINABLE LIVELIHOODS

Organics for Everyone: inclusive and affordable

Organic food consumption in Europe is still uneven, with affordability, accessibility, and trust as key barriers. R&I will identify strategies that make organic food more inclusive by addressing socio-economic disparities and embedding organic options into public procurement. Policy tools such as subsidies and fiscal incentives will be assessed alongside innovative distribution models. At the same time, R&I will support tailored campaigns and improved labelling to overcome confusion and ensure organic food resonates across different demographic and cultural groups.

Providing nutritious and healthy food

Organic products are widely recognised as healthy and nutritious, but more scientific evidence is needed to substantiate their impacts. Large-scale epidemiological studies will clarify the benefits of organic diets, including reduced pesticide exposure and higher nutrient density. To preserve these qualities and to make them accessible, R&I must improve processing technologies and logistics solutions. With its strong health focus, the organic sector is well positioned to drive the EU's protein transition by expanding production of climate-resilient protein crops, developing processing techniques for high-quality, plant-based foods, and encouraging consumer shifts toward more plant-rich diets.

Reviving rural communities through organic farming

Organic agriculture is a driver of rural revitalisation across Europe, for example through the development of bio-districts. R&I will create governance frameworks that actively involve local communities in territorial development. Organic and agroecological farming will also be leveraged as tools for generational renewal, opening pathways for young and diverse entrants. Focus will be placed on governance and business innovations that secure land access for organic farmers and reinforce their position in the value chain. Finally, R&I will enhance existing organic policies to deliver stronger market performance alongside environmental and social benefits.

1.3.3 LEADING FOR RESPONSIBLE INNOVATION

Digital solutions suited for organic and agroecological systems

AI and robotics offer opportunities for organic food production but must be adapted to organic principles and contexts. R&I will develop tools for soil, crop, and livestock monitoring as well as precision technologies, calibrated with organic farming data. Decision-support systems (DSS) and early detection tools will strengthen agroecological management. AI will also be harnessed to improve certification and knowledge systems. Ethical frameworks will ensure transparency, equity, and data sovereignty.

Protecting the integrity of the organic sector

Safeguarding the integrity of organic products requires robust strategies to prevent and correctly assess the presence of non-authorised substances in supply chains. Research will consolidate scientific and empirical knowledge on contamination pathways and provide an evidence base to distinguish between unintentional contamination and fraud.

Inclusive and participatory innovation for organic farming and agroecology

Tailoring Agricultural Knowledge and Innovation Systems (AKIS) to the needs of agroecology and organic farming is key to accelerating their scale-up. Research will create frameworks that better connect farmers' experiential knowledge with formal research and advisory services. By making innovation processes participatory and inclusive, these frameworks will strengthen the adaptive capacity of organic and agroecological systems.

Shaping inclusive research & innovation for real impact

After presenting the 31 R&I challenges, the Strategic Research and Innovation Agenda concludes with recommendations on improving the rules and modalities of research funding. To achieve real impact, the way funds are provided—and to whom—matters as much as the content of research itself. The multi-actor approach must be strengthened in Horizon Europe, and rules for participation need to be simplified. Only then will R&I programmes ensure broad participation and deliver solutions that address the real needs of those working daily in food and farming.

2. METHODOLOGY

Two workshops with European stakeholders were held by TP Organics during the annual BIOFACH Congress session Science Day in 2024 and the Organic Innovation Days 2024, to get feedback on the draft topics and research questions and to identify potential gaps and missing priority topics. The workshops included break-out groups to discuss the proposed research questions under the main themes, as well as to ask the participants for potentially missing questions and/or themes, thereby preparing the main content of the new SRIA. While the input of the participants was noted down on flipcharts during the first workshop at Science Day, the workshop at Organic Innovation Days on 22-23 October 2024 gave participants the possibility to vote online for the questions they consider of highest importance and to provide further input. In between, throughout summer 2024, a public consultation available in six European languages was conducted online to get feedback and further input from a maximum of stakeholders.

The flowchart below (Figure 2) shows the overall timeline of the SRIA development process.

FIGURE 2
TP ORGANICS SRIA PROCESS – TIMELINE

Feb 2024	June-Aug 2024	Jul-Oct 2024	Oct 2024	Throughout 2025
First workshop at BIOFACH Science Day	Public online consultation	National workshops	Second workshop at Organic Innovation Days	• Full draft • Launch at Organic Innovation Days

2.1 SCIENCE DAY WORKSHOP

The BIOFACH Science Day 2024[9] organised by TP Organics aimed to receive initial input and feedback on the initial research themes. Based on the input and notes from the workshop, a first draft of research questions was developed. In collaboration with the co-authors who led the Science Day parallel workshops, the chapter descriptions were updated in early March 2024.

2.2 PUBLIC SRIA CONSULTATION

TP Organics, assisted by FiBL Europe, developed an online survey, as well as a communication plan for the promotion of the survey from mid-June to mid-July 2024 via TP Organics and IFOAM Organics Europe communication channels (websites, newsletters, social media, and mass mailings). To enhance outreach and engagement among target audiences, the consultation was translated into six official European languages. Launched on 17 June 2024[10], the public online consultation was available in English, French, Spanish, German, Hungarian, Romanian, and Italian until 18 August 2024. TP Organics developed the public SRIA consultation utilising Microsoft Forms and incorporated a variety of question formats, including multiple-choice, rating scales, and open-ended responses.

The consultation framework consisted of several sections aimed at gathering insights regarding the respondents, specifically focusing on the type of organisation they represent, their geographical reach, and their involvement in funding R&I in agroecology and/or other sustainable farming practices. Respondents were encouraged to specify the sustainable farming methods addressed within their national and regional strategies. Subsequent sections were designed based on the outcomes of the Science Day SRIA workshop, each containing a comprehensive description and a series of related research questions to be rated on a scale from 1 to 4. "4" meant the question is highly relevant (very urgent and important) to be addressed by future R&I, whereas "1" equalled least relevant. Notably, none of the rating questions were mandatory. Each section concluded with an open text box for respondents to provide any additional comments or remarks.

In total, the survey encompassed seven content sections and featured 27 research questions. TP Organics received a total of 72 responses, thereof 38 in English, 3 in French, 10 in German, 2 in Spanish, 17 in Italian, 1 in Hungarian, and 1 in Romanian. The majority of respondents represent the research sector, with 33 individuals identifying their affiliations as "research institute/University."

The other groups of respondents included the private sector (9 responses) and civil society organisations (8 responses). Asked whether their organisations fund R&I in agroecology or other sustainable methods, 50% of the answers were positive.

The responses from the SRIA consultation were anonymised and subsequently organised into an Excel sheet for processing and analysis. For each question, data was extracted to include total votes for each rating, medians, and means. A comparative analysis was conducted to evaluate the questions both within their respective sections and overall. To facilitate the drawing of conclusions, TP Organics ranked the results of the 27 questions, concentrating on the top 10 highest scores and the bottom 5. The criteria for ranking included means, response rate (calculated as the number of answers divided by total respondents multiplied by 100), and the totals of 4 and 1 responses. Various charts were generated to enhance the interpretation of the data and information collected. The qualitative and quantitative answers were shared with the SRIA co-authors for in-depth analysis and to be integrated into the further SRIA preparation.

[9] https://tporganics.eu/science-day-2024-review/
[10] https://tporganics.eu/sria-survey-2024/

2.3 ORGANIC INNOVATION DAYS WORKSHOP

Based on the guidelines developed by TP Organics, all eight focus countries (Austria, Denmark, France, Germany, Greece, Italy, Hungary and Romania) of the Horizon Europe project OrganicTargets4EU[11] provided research topics during the respective national workshops. These topics were validated during the Organic Innovation Days on 22-23 October 2024[12]. At TP Organics' annual public event in Brussels, four parallel workshops were held on the three main themes from the first European workshop plus one parallel workshop on the needed governance of the next EU R&I framework programme FP10, to provide recommendations for an enabling policy environment. The aim was to get final in-person feedback on the identified research questions (10 per theme). Participants could listen to a brief presentation of the new SRIA and the four themes in plenary. Subsequently, they were invited to join one of the four workshops for 45 minutes, and subsequently another workshop for 45 minutes. The workshop setting with two rounds helped ensure mobility and greater engagement from the participants during the discussion, stimulating input regarding the importance of the respective questions and if anything should be changed or added to make them more relevant and clearer, as well as if any other research questions should be added.

In the case of the three R&I "content" themes discussing the research questions, the participants received input in form of a presentation of the respective workshop's theme and why it is important. Afterwards, the participants rated the research questions anonymously, using a survey created with Microsoft Forms. The order of answers was randomised for each participant, which reduced bias due to the order of the questions. The ranking was projected in real time on a screen to support workshop facilitators to foster discussion. Specific attention was given to the most popular and least popular research questions, based on the means of the points received for each question. Before closing the workshop session, participants were invited to propose new, additional questions that could likewise be ranked. Notetakers also evaluated which questions were more or most discussed, and which ones less. The process was then repeated for the second workshop round, with a new set of participants.

The fourth parallel workshop was dedicated to the enabling policy environment needed, such as AKIS at national and European levels and EU Common Agricultural Policy (CAP) Network, and was facilitated by a representative of the PREMIERE project[13]. The quantitative and qualitative data of the workshops was processed and shared at a later stage with the theme expert to provide them with further insights to develop their respective chapters of the SRIA.

[11] https://organictargets.eu/
[12] https://tporganics.eu/organic-innovation-days-2024-event-review/
[13] https://premiere-multiactor.eu/

3. RESEARCH & INNOVATION PRIORITIES

3.1 LEADING FOR THE ENVIRONMENT, BIODIVERSITY AND THE CLIMATE

3.1.1 ORGANICS AT THE FRONTLINE OF CLIMATE ACTION AND ADAPTATION

3.1.1.1 CARBON SEQUESTRATION AND SOIL MANAGEMENT FOR CLIMATE-RESILIENT ORGANIC FARMING

EXPECTED OUTCOME:

Projects will enhance the climate resilience of organic agriculture and contribute to EU climate goals by identifying and scaling up effective soil carbon sequestration practices. They will support robust policy instruments, empower advisory systems, and deliver measurable mitigation and adaptation outcomes.

Project results are expected to contribute to the following outcomes:

- Widespread adoption of economically viable organic practices that enhance soil carbon storage.
- Quantified impact of soil carbon on resilience to climate stress and yield stability.
- Policy recommendations and monitoring, reporting, verification (MRV) systems that enable carbon credits for organic farmers.
- Strengthened advisory networks connecting research to on-farm implementation.

SCOPE:

Projects will deliver solutions that increase long-term soil organic carbon storage in organic systems while addressing climate change mitigation and adaptation. Strategies for improved manure and compost management will be developed to minimise nutrient losses, avoid contamination, and enhance crop nutrient uptake.

Research will explore in-situ biomass production methods such as intercropping, green manures and perennial species, and assess the impact of these practices on soil carbon and yield stability in view of unavoidable climate change. Quantification of soil carbon's role in drought and extreme weather resilience will support climate adaptation planning. Alternatives to weed control in no-tillage organic systems will be tested.

Carbon removal schemes and MRV systems that are compatible with organic farming will be proposed. Projects will make realistic assessments of carbon credit potentials and trade implications. Tailored advisory and outreach structures will be designed to bridge research and practical uptake. This integrated approach will empower organic farmers to become climate mitigation leaders, while ensuring resilient, sustainable, and economically viable production systems.

3.1.1.2 ENHANCING WATER RESILIENCE IN ORGANIC FARMING SYSTEMS

EXPECTED OUTCOME:

Projects will advance water resilience in organic agriculture by developing scalable nature-based practices that improve water retention, reduce irrigation needs, and strengthen climate adaptation. They will support holistic water governance and provide policy guidance to integrate water-smart strategies into agri-environmental frameworks.

Project results are expected to contribute to the following outcomes:

- Enhanced water retention and reduced irrigation needs in organic farming.
- Demonstrated impact of organic practices on water efficiency under varied climatic and soil conditions.
- Strategies for widespread adoption of water-efficient crops and innovative water management.
- Scalable, locally adapted nature-based water solutions that contribute to EU water resilience goals.
- Policy recommendations integrating agroecological water strategies into CAP and climate resilience plans.

SCOPE:

Water scarcity and climate extremes challenge European agriculture, necessitating innovative, locally adapted water strategies. Organic farming offers a rich toolbox to improve soil structure, organic matter content, and root depth—critical for enhancing water retention and resilience against drought.

Projects will assess and demonstrate water-smart practices rooted in organic systems, such as:

- Minimum/no tillage, mulching, cover cropping, intercropping and agroforestry to improve infiltration and reduce evapotranspiration.
- Adoption of water-efficient crops suited to dryland and variable climates.

Integrated systems such as paludiculture, rainwater harvesting, and keyline design will be evaluated for their dual benefits in farming and water ecosystem restoration. Projects will explore how organic farming can expand such nature-based approaches.

Socio-economic and behavioural drivers of adoption will be investigated, alongside tailored policy instruments and financial incentives. Attention will be given to aligning solutions with the European Water Resilience Strategy.

A multi-actor approach will involve agronomists, water engineers, ecologists, economists, and social scientists. A blend of data-driven research and place-based case studies will enhance uptake across EU regions.

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3.1.1.3 INTEGRATING RENEWABLE ENERGY INTO ORGANIC FARMING FOR CLIMATE RESILIENCE AND VITAL RURAL AREAS

EXPECTED OUTCOME:

Projects will integrate renewable energy systems into organic agriculture to enhance farm autonomy, reduce emissions, and support rural development. They will demonstrate how energy innovations can align with organic principles while contributing to EU climate and energy goals.

Project results are expected to contribute to the following outcomes:

- Increased energy self-sufficiency and reduced GHG emissions in organic farming systems.
- Recommendations on suitable renewable technologies (e.g., agrivoltaics, biogas, wind) for diverse farming contexts.
- Enhanced economic sustainability of organic farms through reduced energy costs and new revenue streams.
- Strengthened local cooperation and community engagement via participatory energy models.
- Policy alignment between renewable energy and agricultural development for multifunctional rural landscapes.

SCOPE:

The EU's twin green and energy transitions call for integration of renewable energy into farming systems. Organic farms, with their holistic resource management approach, are ideal testing grounds for sustainable energy solutions that maintain ecological integrity and promote social cohesion.

Projects will:

- Evaluate the feasibility and performance of renewable technologies on organic farms, including agrivoltaics, wind turbines, biomass, and geothermal systems.
- Develop strategies to mitigate potential conflicts, such as land-use competition, biodiversity risks and end-of-life management of equipment.
- Demonstrate energy solutions that reduce environmental impacts, improve farm resilience to economic shocks, and enhance rural vitality.

Particular attention will be paid to circularity and synergies in biomass use (e.g., using farm residues for biogas or heating) as well as site-specific design to avoid compromising soil health, habitats, or farm productivity.

Projects will also explore models for community-based or cooperative energy ownership and pathways for integrating energy considerations into bio-districts as driver for rural development.

A transdisciplinary, multi-actor approach will guide project implementation. It will bring together farmers, energy experts, rural planners, social scientists, and policy makers. A blend of data-driven research and place-based case studies will enhance uptake across EU regions.

3.1.2 ORGANIC STRATEGIES FOR A BIODIVERSE WORLD

3.1.2.1 ENHANCING BIODIVERSITY THROUGH MULTIFUNCTIONAL ORGANIC CROP AND LIVESTOCK SYSTEMS

EXPECTED OUTCOME:

Projects will develop low-input, multifunctional organic farming systems that enhance biodiversity at field and landscape levels. They will demonstrate economic and ecological benefits of biodiversity-focused management and provide policy guidance for integrating biodiversity into agricultural support schemes.

Project results are expected to contribute to the following outcomes:

- Demonstrated synergies between biodiversity, yield stability, and farm income in organic farming.
- Best-practice models of diversified crop-livestock systems.
- Practical strategies for integrating wild and semi-natural habitats into farm landscapes.
- Policy and incentive frameworks supporting biodiversity-friendly organic farming.
- Strengthened advisory and knowledge systems for uptake of biodiversity practices.

SCOPE:

Biodiversity loss is a critical challenge in EU agriculture. Organic farming provides a foundation for biodiversity protection through diverse rotations, minimal inputs, and integration of natural habitats.

Projects will:

- Design, test, and evaluate systems that combine crop diversification with multi-species livestock systems and landscape features (e.g., hedgerows, buffer zones).
- Promote practices like agroforestry, silvopasture, multi-annual leys, pollinator crops, and conservation grazing, tailored to local conditions.
- Investigate biodiversity benefits for farm productivity, pest regulation, pollination, soil health, and climate resilience. Research will assess yield stability and economic viability of multifunctional systems under varying environmental and market conditions.

Knowledge-sharing and capacity-building will be embedded in the project. Lighthouse farms and advisory networks will facilitate uptake. Special attention will be paid to developing training materials and decision-support tools. Policy-oriented work will identify gaps and opportunities in CAP, agri-environment schemes, and EU biodiversity and climate policies. Recommendations will be provided for scaling up biodiversity-friendly farming and rewarding public goods. A multi-actor approach involving ecologists, agronomists, economists, social scientists, and farmers will ensure context relevance, scientific robustness, and policy impact.

3.1.2.2 DIVERSIFIED AND RESILIENT PERENNIAL SYSTEMS IN ORGANIC FARMING

EXPECTED OUTCOME:

Projects will design resilient, diversified perennial farming systems that align with organic principles and meet climate, biodiversity, and market demands.

Project results are expected to contribute to the following outcomes:

- Innovative organic models for perennial crops with improved resilience, productivity, and biodiversity.
- Enhanced ecosystem and climate services, including carbon sequestration, pollination, and natural pest control.
- Scenarios and transition tools for converting current perennial systems to diversified organic models.
- Communication tools to support farmer engagement and adoption.

SCOPE:

Perennial crops (e.g., fruits, nuts, olives, vineyards) are central to high-value organic production, yet often face challenges fulfilling all organic principles, particularly diversification, input autonomy, and ecosystem service delivery. These systems are increasingly vulnerable to climate extremes, pests, and declining soil health.

Projects will:

- Design and test diversified organic perennial systems that improve ecological functioning and reduce dependency on external inputs.
- Explore practices such as inter-row vegetation, agroforestry, companion cropping, and mixed perennial systems to enhance resilience.
- Investigate pest- and disease-regulation strategies that strengthen natural balances and reduce interventions.
- Integrate novel and underutilised species to enhance system resilience and market diversity.

Special attention will be given to climate-smart adaptations in the Mediterranean and other vulnerable zones, addressing water scarcity, heatwaves, and emerging pest pressures. Social dimensions, including fair remuneration and safe working conditions, will be addressed.

Projects will include farm-level economic assessments and ecosystem service evaluations. Participatory multi-actor approaches will ensure farmer and advisor involvement. Policy engagement will identify supportive measures within EU and national frameworks.

3.1.2.3 CLIMATE-RESILIENT AND DIVERSE PLANT BREEDING FOR SUSTAINABLE ORGANIC FOOD SYSTEMS

EXPECTED OUTCOME:

Projects will drive innovation in organic plant breeding to expand crop diversity, strengthen climate resilience, and support low-input organic and agroecological systems. They will harness genetic resources to deliver robust cultivars and enhance food system sustainability.

Project results are expected to contribute to the following outcomes:

- Greater crop and cultivar diversity tailored to organic and low-input systems across EU pedoclimatic zones.
- Development of cultivars tolerant to abiotic and biotic stresses with minimal input needs.
- Strengthened food and nutrition security through high-quality nutrient-dense crops.
- Farmer- and community-driven breeding approaches that support local adaptation.
- Policy support for organic breeding, organic seed and other organic plant reproductive material.

SCOPE:

Diversified cropping systems are critical for climate adaptation, reduced chemical dependency, and sustainable diets. Organic farming needs cultivars adapted to low-input and heterogeneous field conditions.

Projects will:

- Develop cultivars and heterogeneous materials for a wide range of food crops (e.g., legumes, cereals, pseudocereals, minor cereals, oil crops, vegetables, fruits).
- Screen genetic resources, landraces, and underutilised crops for traits supporting resilience, yield stability, and food quality.
- Apply advanced tools (e.g., phenotyping, genetic markers, microbiome analysis, omics) to identify resistance to drought, nutrient deficiencies, diseases, and to improve nutritional traits.
- Link stress tolerance to microbiome interactions and explore trade-offs between resistance and nutritional quality.

A decentralised, farmer-led cultivar testing network will be established across EU pedoclimatic zones to assess suitability under organic and agroecological practices. Their results shall be compared with replicated on-station VCU trials.

A multi-actor approach will bring together breeders, researchers, farmers, advisors, processors, seed savers, and policy makers. Projects will address economic, regulatory, and technical barriers to organic breeding uptake and support recognition of organic breeding in EU seed law. Financing mechanisms for organic breeding will be explored.

3.1.2.4 BREEDING RESILIENT, LONG LIVING, AND MULTI-PURPOSE ANIMALS FOR ORGANIC FARMING

EXPECTED OUTCOME:

Projects will define breeding strategies for organic livestock by focusing on robustness, longevity, and feed autonomy. They will support climate-resilient and welfare-oriented animal production aligned with organic principles.

Project results are expected to contribute to the following outcomes:

- Breeding goals for ruminants and monogastrics aligned with low-input, grass- and roughage-based feeding systems.
- Identification of resilient traits in local, dual-purpose, or heritage breeds.
- Development of multi-purpose breeding lines suited to diverse farming systems.
- Improved animal health and welfare, with reduced mortality and better longevity.

SCOPE:

Most livestock on organic farms originate from conventional breeding programmes focused on high-input systems. Organic farming requires animals that thrive under low-input conditions, are robust, live longer, and serve multiple functions (e.g., milk and meat).

Projects will:

- Investigate genetic traits in cattle, sheep, goats, pigs, poultry, and rabbits relevant to organic performance.
  - Health and animal welfare, roughage utilisation, easy birth, social behaviour, longevity and product quality shall be considered for all animals.
  - Particular attention will be paid to methane exhalation in ruminants.
- Develop strategies for dual-purpose breeds (in ruminants and poultry).
- Facilitate value chain cooperation and create slaughterhouse flexibility for non-standard animals.

Research will evaluate local and heritage breeds for suitability under organic conditions and incorporate genomic, phenotypic, and performance data to guide selection. Microbiota-based methods (e.g., from faeces or rumen fluid) will be used to assess feed efficiency and nutrient use.

Tools to design regional breeding programmes and/or to integrate regional requirements into centralised, (inter)national breeding programmes shall be developed. Projects will engage farmers, breeders, veterinarians, researchers, processors, and certifiers through a multi-actor approach.

3.1.3 INTEGRATED SOLUTIONS FOR SUSTAINABLE FOOD SYSTEMS

3.1.3.1 INTEGRATING MEDICINAL PLANTS AND BIODIVERSITY IN ORGANIC LIVESTOCK UNDER ONE HEALTH

EXPECTED OUTCOME

Projects will integrate the use of medicinal plants and local plant biodiversity into preventive herd health management in organic farming. This will reduce reliance on chemically synthesised veterinary medicines, support One Health goals, and improve animal welfare while tackling environmental contamination, and antimicrobial and antiparasitic resistance.

Project results are expected to contribute to the following outcomes:

- Improved resilience and animal welfare in organic and low-input livestock systems.
- Integration of farm-level plant biodiversity into effective disease prevention and treatment.
- Practical tools and protocols aligned with organic principles to reduce reliance on synthetic veterinary drugs.
- Increased uptake of phytotherapy and complementary approaches via targeted training for farmers, advisors, and veterinarians.
- Policy recommendations to incorporate medicinal plant use into One Health and antimicrobial resistance strategies.

SCOPE:

Despite the organic sector's focus on prevention, chemically synthesised veterinary drugs—including antibiotics and antiparasitics—are still used when other options are lacking. Phytotherapy and on-farm plant biodiversity should become first-line solutions in organic herd health management.

Projects should explore and validate the preventive and therapeutic potential of medicinal plants and other natural products, including the role of animal self-medication, and integrate these approaches into herd health management plans. Particular attention should be given to effects on the animal and farm microbiome as well as drug resistance, including interactions with manure and pasture ecosystems.

Research should also assess how farm-specific biodiversity—including native and cultivated medicinal plants—can be used as a resource for sustainable animal health. Education and training are essential to scale uptake. A strong multi-actor approach is required, involving farmers, advisors, researchers and phytotherapy producers. Projects should deliver evidence-based recommendations for policy and regulation that help embed phytotherapeutic approaches into One Health strategies.

3.1.3.2 ACCELERATING THE DEVELOPMENT AND ADOPTION OF BIOCONTROL SOLUTIONS IN ORGANIC FARMING

EXPECTED OUTCOME:

Projects will accelerate the development and adoption of biocontrol solutions and biostimulants tailored to organic systems. They will address regulatory, technical, and practical bottlenecks while strengthening ecosystem-based crop protection.

Project results are expected to contribute to the following outcomes:

- Enhanced integration of biocontrol and biostimulants into crop protection strategies.
- Practical recommendations for improving efficacy, reliability, and on-farm implementation of biocontrol solutions, including digital tools, under diverse conditions.
- Demonstration of synergistic use of biocontrol with functional biodiversity, crop rotation and soil health management.
- Strengthened stakeholder collaboration for innovation regarding biological crop protection.
- Identification of regulatory gaps and solutions to streamline the approval and market access of biocontrol agents and biostimulants in organic farming.

SCOPE:

Biocontrol is a cornerstone of organic crop protection and also holds significant potential as a sustainable solution for conventional farmers facing increasing pest pressures. However, current uptake of biocontrol solutions is constrained by regulatory delays, limited efficacy under field conditions for certain crops and environmental conditions, and lack of systemic integration. To fully realise its potential, projects will support the design and deployment of biocontrol solutions for high-value and vulnerable organic crops (fruits, vines, olives, potatoes…).

Projects will:

- Identify key agronomic, climatic, and ecological conditions under which biocontrol tools (e.g. macro- and microorganisms, extracts, semiochemicals) are most effective.
- Explore the potential of digital tools to support biocontrol strategies (e.g. set up of EU-wide pest monitoring and early warning systems, development of decision-making support systems).
- Investigate the synergy of biocontrol with broader organic crop protection practices, including functional biodiversity (e.g. flower strips, companion planting), and soil health.
- Propose improvements to EU regulatory procedures to speed up the approval of low-risk biocontrol agents without compromising safety or efficacy.

Research will include exploration of microbiomes and underutilised natural compounds as sources of next-generation biocontrol agents.

Socio-economic, logistical, and advisory barriers to implementation and scaling of biocontrol solutions will be evaluated. Based on that analysis, policy and market incentives will be designed to stimulate demand and investment in biocontrol innovation. Projects will adopt a multi-actor approach engaging researchers, organic farmers, SMEs, certification bodies, regulators, and advisors.

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3.1.3.3 UPSCALING ORGANIC AQUACULTURE

EXPECTED OUTCOME:

Projects will accelerate the sustainable growth of organic aquaculture in Europe. They will enhance ecological performance, animal welfare, and operational resilience, positioning organic aquaculture as a credible pillar of the EU's sustainable food systems and Blue Economy agenda.

Project results are expected to contribute to the following outcomes:

- Hatchery systems producing organic-compliant eggs and juveniles for full-cycle production.
- Sustainable, low-impact feed strategies using insect protein, algae, yeasts and local plant sources.
- Enhanced animal welfare and resilience through digital monitoring and organic-adapted breeding.
- Real-time data tools to improve water quality, stocking density, feeding, and fish health.
- Scalable Integrated Multi-Trophic Aquaculture (IMTA) models aligned with organic standards.
- Clarified and harmonised regulatory frameworks for water quality and certification.
- Increased consumer trust and market share.
- Business models for diversified organic aquaculture integrated in rural and coastal economies.

SCOPE:

Organic aquaculture remains underdeveloped in the EU, constrained by input bottlenecks, limited availability of organic juveniles, and technical or regulatory barriers. Yet, it has a unique role in delivering healthy, low-impact food while supporting aquatic ecosystem services and animal welfare.

Input autonomy:

Projects should develop organic-compliant hatchery systems to avoid reliance on conventional fry or distant transport. Selective breeding programmes for robust, locally adapted strains of fish, molluscs and algae should align with organic principles and regional ecological conditions. Feed strategies should prioritise organic-certified alternatives to fishmeal/oil, including insect protein, microalgae, yeasts, and legume-based proteins.

System innovation and IMTA:

Projects should develop and demonstrate Integrated Multi-Trophic Aquaculture (IMTA) systems adapted to organic standards. These could combine finfish, bivalves, and algae, with site-adapted designs for both marine and inland settings. Projects should quantify the environmental, economic, and nutritional benefits of IMTA systems and identify needs to enable wider uptake.

Digitalisation:
AI and sensor-based tools should be tailored to organic aquaculture systems to support non-invasive monitoring of water quality, fish behaviour, and stress. Decision-support systems should be co-designed with farmers and certifiers to ensure operational relevance and regulatory compliance.

Regulatory enablers:
Proposals should address inconsistencies in how EU water quality requirements are applied to organic production of bivalves and algae (e.g. Directives 2000/60/EC, 2008/56/EC, and Regulation 2017/625). Guidance on microbiological testing burdens, equivalence standards, and site certification procedures is critical to enable production.

Projects should apply a strong multi-actor approach. They should deliver solutions, policy recommendations, regulatory guidance, demonstration pilots and consumer-oriented communication tools to support the upscaling of organic aquaculture across Europe.

3.1.3.4 CIRCULAR FERTILISATION STRATEGIES FOR ORGANIC AND AGROECOLOGICAL FARMING

EXPECTED OUTCOME:

Projects will strengthen the circular bioeconomy by developing and scaling fertilisation strategies that nourish biologically active soils while reducing dependency on unsustainable inputs. They will support nutrient self-sufficiency, control contamination, and improve soil health in organic and agroecological farming.

Project results are expected to contribute to the following outcomes:

- Safe nutrient recycling strategies for conventional or societal waste-derived inputs with minimal contamination risks.
- Long-term evidence on the effects of recycled inputs on soil quality, greenhouse gas mitigation and crop health.
- Diversified farming practices enhancing internal nutrient cycling.
- Affordable and accurate tools for monitoring and managing soil fertility and soil health in organic systems.
- Increased citizen awareness and participation in closing nutrient loops through waste valorisation.

SCOPE:

To reduce reliance on unsustainable nutrient sources and increase autonomy, organic and agroecological systems must pioneer the adoption of innovative circular fertilisers. Organic farming's emphasis on closed nutrient cycles makes it a natural testing ground for such innovations.

Projects will:

- Identify and test novel fertilisers derived from renewable sources (e.g., digestates, seaweed, forest biomass, food and feed processing by-products, public green waste) and internal farm sources (e.g., pruning and agroforestry residues), focusing on their agronomic performance and safety under diverse pedoclimatic conditions.
- Explore new fertilisation strategies such as green manures and cover crops pre-amended with digestate or hydrolysed proteins that cannot directly be applied to food or feed crops.
- Address contamination risks (e.g. heavy metals, microplastics, PFAS pathogens, pharmaceuticals) when sourcing nutrients from waste streams.
- Quantify benefits of legumes and other multifunctional crops in nutrient cycling and soil fertility.
- Improve knowledge on optimal decomposition processes that enhance nutrient turnover while supporting long-term soil carbon sequestration.

- Develop decision support tools, nutrient budgeting frameworks and soil monitoring tools that integrate real-time soil data and weather forecasts, allowing synchronization of nutrient release and uptake.

A multi-actor approach will guide project design and implementation. Farmers, advisors, compost producers, researchers, and policy makers will co-develop practical solutions and policy frameworks. Farmer-to-farmer collaboration for logistics (e.g. shared equipment, composting facilities, nutrient exchanges) should be stimulated. Attention will be given to public engagement, promoting understanding of organic waste as a valuable resource for sustainable food systems.

3.1.3.5 DIVERSIFIED AND CLIMATERESILIENT ORGANIC FEED SYSTEMS FOR MONOGASTRICS AND RUMINANTS

EXPECTED OUTCOME:

Projects will strengthen organic livestock systems by diversifying feeds, optimising grassland protein conversion, and reducing feed–food competition. They will integrate roughage and nonhumanedible biomass into rations and deliver decision tools for lowinput feeding strategies.

Project results are expected to contribute to the following outcomes:

- Identification and onfarm validation of climateresilient feed crops and multispecies swards.
- Optimised grassland protein conversion in dairy and beef, including integrated dairy–beef pathways.
- Expanded use of roughage and forages, as well as safe valorisation of food waste in monogastric diets to lower reliance on humanedible feeds.
- Agroforestry and intercropping systems that enhance feed productivity, nutrient cycling, soil health and biodiversity.
- Practical tools to assess landuse efficiency, GHG and nutrient balances, and animal welfare outcomes in diversified feed systems.

SCOPE:

Agricultural specialisation has simplified feed bases and disconnected livestock from crops and food residues, reducing resilience. Organic farming—built on circularity—can reconnect feed, food and nutrient cycles at farm and landscape levels. Projects should deliver diversified, climateresilient feed systems for both ruminants and monogastrics.

Feed resources & cropping systems:

Explore legumerich mixtures, alternative forage crops, agroforestry systems and multispecies swards adapted to lowinput conditions and future climates.

Feedfood decoupling:

Develop rations for pigs and poultry that prioritise nonhumanedible biomass (e.g., pasture herbs, agroforestry residues, postharvest biomass) and the safe, regulated use of food waste and foodprocessing byproducts.

Grasslandbased ruminant systems:

Optimise forage cultivation and feeding strategies to increase conversion of grass proteins into milk and meat while lowering external feed inputs. Develop integrated dairy–beef systems that extend dairy cow longevity and valorise calves through sustainable beef production. Address barriers to novel product types (e.g., grass-fed veal, crossbred beef) through value chain support.

Evaluation & decision support:

Build models to assess landuse efficiency and environmental performance (GHG, nutrient losses, biodiversity), nutritional value, animal welfare and economics across diversified feed strategies at farm and landscape levels. Provide yearround planning tools that match feed availability to animal requirements.

A multiactor approach should be applied with farmers, animal nutritionists and advisors. Practical guidelines, training materials and advisory methods should be co-created.

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3.1.3.6 RESILIENT AND MULTIFUNCTIONAL FREE-RANGE LIVESTOCK SYSTEMS FOR ORGANIC FARMING

EXPECTED OUTCOME:

Projects will develop resilient and multifunctional free-range livestock systems that combine high animal welfare with climate and environmental performance. They will improve disease prevention, support natural behaviour, and promote sustainable land use.

Project results are expected to contribute to the following outcomes:

- Management support systems and digital tools for real-time monitoring of animal health, welfare, and performance in free-range systems.
- Farming approaches that enhance disease resistance, reduce disease transmission and ensure food safety while allowing animals to express natural behaviours.
- Business models supporting the economic viability of diverse, free-range organic livestock enterprises.

SCOPE:

Free-range organic livestock systems are central to organic principles, offering ethical and animal welfare benefits. However, these systems face challenges such as increased exposure to pathogens, nutrient losses, and climate vulnerability.

Projects will:

- Develop species- and breed-specific free-ranging systems that optimise animal health, welfare, and environmental outcomes.
- Develop digital tools to monitor biosecurity in outdoor condition.
- Investigate feeding and foraging systems that promote natural behaviours while ensuring nutritional adequacy and long-term paddock productivity.
- Investigate climate adaptation strategies under increasing weather variability, including use of heat-tolerant forages and design of microhabitats (e.g. silvopasture for shade, shelter, thermal regulation).
- Conduct economic and ecological assessments of organic free-range livestock systems across the EU.

Other key research themes include weaning management of young animals for increased immunocompetence and integration of small and underutilised species (e.g. rabbits, ducks, geese) into organic livestock systems, focusing on their ecological roles and economic potential.

Projects will adopt a multi-actor approach involving farmers, veterinarians, animal welfare scientists, agroecologists, economists, and policy makers.

3.1.3.7 SUSTAINABILITY ASSESSMENT, BENCHMARKING AND REPORTING FOR ORGANIC FARMS

EXPECTED OUTCOME:

Projects will advance sustainability data collection, assessment and communication for organic farms. They will identify harmonised, low-burden indicators suitable for organic systems, while exploring data integration and payment mechanisms for ecosystem services.

Project results are expected to contribute to the following outcomes:

- A comprehensive review of sustainability assessment methods and indicators relevant to organic farming, with proposals for harmonisation and minimum standards.
- Identification of efficient, low-burden approaches to meet diverse reporting needs from farmers, businesses (e.g. CSRD), policymakers, and consumers.
- Feasibility assessment of deriving indicators from existing administrative, certification, and remote sensing data to reduce duplication.
- Strategies for communicating results effectively to multiple audiences to improve performance, transparency, and consumer understanding.
- Evaluation of market-based mechanisms (e.g. carbon and nature credits) to reward verified sustainability outcomes from organic farming.

SCOPE:

Sustainability is core to organic farming, yet data on performance is fragmented and underutilised for policy, market, investment and farm management purposes. A variety of tools exist but lack alignment and often impose high administrative burdens. Projects will close the data gap by developing harmonised assessment frameworks that reflect organic farming's multifunctional nature and enable outcome-oriented governance under the CAP.

Projects will:

- Map and evaluate existing sustainability tools, covering environmental, social and economic sustainability, with focus on their applicability to organic farms.
- Define a baseline set of sustainability indicators that can be inferred or verified through certification schemes, IACS data, satellite imagery, or other sources.
- Analyse overlaps and tensions between data needs for farm management improvement, corporate reporting (e.g. CSRD), policy evaluation, and consumer information.
- Explore integration of sustainability reporting into farm advisory systems.
- Develop tailored communication strategies for farmers, businesses, policymakers, and consumers, recognising varying information needs and literacy levels.

- Assess the role of certification bodies in supporting sustainability data collection and interpretation.
- Examine how sustainability indicators can inform payments for ecosystem services or new business models like carbon/nature credits.
- Recommend updates to Eurostat, Farm Sustainability Data Network, and national data systems to improve availability and granularity of data on organic performance.

A transdisciplinary and multi-actor approach will be followed, engaging organic farmers, certification bodies, sustainability researchers, IT developers, food companies, and public authorities.

3.1.3.8 ENHANCING THE SOIL MICROBIOME FOR RESILIENT AND PRODUCTIVE ORGANIC AGRICULTURE

EXPECTED OUTCOME:

Projects will unlock the potential of the soil microbiome to improve resilience, soil health, and crop performance in organic farming. They will deliver practical innovations that stimulate beneficial plant-microbe interactions, promote microbial diversity, and reduce dependency on external inputs.

Project results are expected to contribute to the following outcomes:

- Increased microbial diversity through improved soil management.
- Improved guidance for the application of organic fertilisers and soil amendments to stimulate the soil microbiome and natural disease suppressiveness.
- Development of microbial seed coatings and biocontrol agents that enhance plant health and reduce disease incidence.
- New organic crop varieties bred for compatibility with beneficial soil microorganisms, enhancing nutrient uptake, growth, and resilience.

SCOPE:

The soil microbiome plays a vital role in nutrient cycling, drought resistance and disease suppression. Organic agriculture is well positioned to harness the power of microbiomes. Further research is needed to optimise microbiome management in diverse organic contexts and integrate it into breeding, crop management, and crop protection strategies.

Projects will pursue a multi-disciplinary and multi-actor approach to:

- Study the effects of management practices (e.g. organic amendments, reduced tillage, crop rotation, intercropping, and agroforestry) on microbiome composition and function.
- Assess the impact of microbiomes on soil functioning in field and laboratory experiments.

- Identify beneficial microbial strains and develop microbial products (e.g. inoculants, seed coatings, foliar applications) for disease suppression, drought tolerance, and nutrient use efficiency.

Plant-microbe interactions will be investigated to guide breeding efforts. Using genome-wide association studies (GWAS), projects will identify traits associated with beneficial microbial recruitment under organic conditions.

By linking cutting-edge science with practical application and field demonstrations, projects will strengthen the ecological foundation of organic farming and enhance its contribution to sustainable food systems.

3.1.3.9 STRENGTHENING ORGANIC BEEKEEPING

EXPECTED OUTCOME:

Projects will improve the profitability, resilience and ecological value of organic beekeeping in Europe. They will enhance pollination services, foster bee health, and support the development of robust disease and pest control strategies aligned with organic principles.

Project results are expected to contribute to the following outcomes:

- Increased profitability and autonomy of organic beekeeping by reducing reliance on imported feeding inputs.
- Recommendations for sustainable winter-feeding strategies and their effect on overwintering success.
- Practical tools for integrated pest and disease prevention, with a focus on Varroa control and Asian hornet.
- Improved strategies for forage planning and landscape management to secure continuous, diverse nectar and pollen supply.
- Enhanced contribution of organic beekeeping to pollination of cultivated crops.
- Strengthened advisory and knowledge systems supporting organic beekeepers.
- Policy improvements to better align regulatory frameworks with the needs of organic beekeeping.

SCOPE:

Organic beekeeping contributes not only to high-quality bee products, but also to broader agroecological goals through pollination services and biodiversity support. However, organic apiculture faces challenges that limit its resilience, productivity and wider uptake.

One key issue is the reliance on imported sugar for winter feeding. This impacts both profitability and input sustainability. Research should assess the feasibility of replacing sugar with own-produced honey or regional alternatives. The nutritional and microbial characteristics of various feed types should be assessed to determine their suitability under organic standards.

Bee health and pests such as Varroa mite and Asian Hornet are another pressing concern. Organic principles limit the use of synthetic substances for disease and pest control. Therefore, research is needed to develop and validate integrated health strategies with a focus on management practices, breeding for disease resistance and safe and effective use of natural substances.

Another fundamental research area is forage quality and landscape management. Projects should identify best practices to improve forage availability throughout the season, explore land use synergies (e.g. with organic arable or permanent crops) and evaluate effects of cover crops, flowering strips, agroforestry, and uncultivated margins.

A multi-actor approach is essential, involving organic beekeepers, advisors, veterinarians, researchers, breeding specialists, organic certifiers, and policy stakeholders. Special attention should be paid to education and training, targeting both newcomers and experienced practitioners.

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3.2 LEADING FOR PEOPLE, COMMUNITIES AND SUSTAINABLE LIVELIHOODS

3.2.1 ORGANICS FOR EVERYONE: INCLUSIVE AND AFFORDABLE

3.2.1.1 MAKING ORGANIC FOOD ACCESSIBLE FOR ALL: STRATEGIES FOR INCLUSIVE CONSUMPTION

EXPECTED OUTCOME:

Projects will identify strategies to increase organic food consumption across diverse socio-economic and demographic groups. They will provide policy and market-based solutions to enhance accessibility and affordability, especially for vulnerable populations.

Project results are expected to contribute to the following outcomes:

- Evidence-based policy recommendations and fiscal tools (e.g. subsidies, tax reductions, procurement strategies) to improve affordability and access to organic food.
- Improved understanding of consumer behaviour and barriers to organic food consumption among underrepresented groups.
- Innovative and inclusive distribution models, including local markets, cooperatives, and public-private partnerships.

SCOPE:

Despite growing demand for organic food in Europe, access remains uneven. Affordability, availability, and information gaps continue to limit consumption, especially among lower-income and vulnerable groups. Projects will take a systemic approach to address these disparities by combining economic policy, behavioural insights, innovation in value chains, and public engagement.

Research will map consumer behaviour and barriers to organic food consumption across different income levels, age groups, and regions. Projects will evaluate policy tools such as food subsidies, VAT exemptions, and sustainable public procurement to assess their effectiveness in increasing organic food uptake among underrepresented groups. Projects will explore how to embed organic food in public institutions such as schools, hospitals, and social service centres.

Furthermore, alternative retail and distribution models will be tested, including cooperative grocery stores and community-supported agriculture (CSA). To enhance access, researchers will investigate innovative tools that connect consumers with organic products in a user-friendly and inclusive way.

A transdisciplinary, multi-actor approach will guide the work, engaging consumers, researchers, health professionals, retailers, social workers, and policymakers.

3.2.1.2 BRIDGING THE GAP BETWEEN CONSUMER ATTITUDES AND ACTUAL PURCHASING BEHAVIOUR FOR ORGANIC FOOD

EXPECTED OUTCOME:

Projects will deepen understanding of the gap between positive consumer attitudes toward organic food and actual purchasing behaviour. They will deliver evidence-based communication and labelling strategies to strengthen consumer trust, improve purchasing consistency, and foster sustainable food choices across different markets and consumer segments.

Project results are expected to contribute to the following outcomes:

- Increased consumer knowledge and trust in EU and national organic labels, including improved understanding of their environmental and health benefits.
- Greater alignment between favourable consumer attitudes and actual organic purchasing behaviour, leading to more consistent consumption.
- Effective communication strategies tailored to different social, cultural, and demographic contexts.
- Enhanced credibility and visibility of organic labels.

SCOPE:

While consumers across the EU express strong support for organic food, this is not always reflected in actual purchasing decisions. The relationship between attitude and behaviour remains moderate, often constrained by price perceptions, label confusion, inconsistent availability, and competing sustainability claims. Projects will investigate these barriers and generate practical solutions to close the attitude-behaviour gap.

Research will explore the broader psychological and contextual factors that shape food choice and how these interact with perceptions of organic products. Particular attention will be paid to the role of subjective label interpretation, familiarity with labelling criteria, and the credibility of certifiers. Studies will assess how competing claims affect trust in organic labels, and how such confusion varies across consumer segments and EU regions.

Labelling research will clarify how organic and other food labels present on the same product influence perception and choice. Improvements to visual design and complementary information (e.g. digitally available information, point-of-sale education) will be proposed.

In parallel, projects will develop and evaluate strategic communication approaches that effectively position organic food in consumers' minds. This includes:

- Testing message framing (e.g. health, environment, ethics), source credibility, and media channels (including digital and influencer marketing).
- Identifying messages that resonate with specific consumer segments, e.g., young adults, low-income groups, and parents.
- Designing EU-wide and market-specific campaign prototypes adapted to consumption patterns, and literacy levels.

Projects will bring together behavioural scientists, marketers, social scientists, retailers, and organic stakeholders to design, test, and upscale solutions that align consumer values with real-world purchasing behaviour. Results will support the EU promotion policy for organic food by enhancing demand and building public trust in the organic sector.

3.2.2 PROVIDING NUTRITIOUS AND HEALTHY FOOD

3.2.2.1 STRENGTHENING PROCESSING CAPACITY AND INFRASTRUCTURE FOR RESILIENT ORGANIC FOOD SYSTEMS

EXPECTED OUTCOME:

Projects will identify and scale appropriate technologies, infrastructure, and logistics systems that support small and medium-sized processors in the organic food sector. They will improve access to local processing, enhance value addition, and reduce the environmental footprint of organic food supply chains.

Project results are expected to contribute to the following outcomes:

- Improved access to appropriate processing technologies for organic raw materials with varying composition.
- Enhanced on-farm, local and regional processing capacity to support short supply chains and value addition.
- Development of flexible infrastructure and logistics models tailored to the needs of small-scale organic operators.
- Evaluation of competitiveness, scalability, and environmental performance of new organic food processing concepts.
- Increased availability of organic products contributing to healthy diets and sustainable consumption.

SCOPE:

A key barrier to scaling organic food systems is limited access to suitable processing facilities and infrastructure, particularly for farmers, SMEs and rural operators. Projects will address this bottleneck by identifying technologies and processing models that enable small- and medium-scale organic producers to process diverse raw materials efficiently. They will explore innovations in mobile processing units, and shared infrastructure supported by producer cooperatives or public-private partnerships.

Research will:

- Map the current gaps in processing infrastructure across EU regions and analyse the economic and logistical constraints that limit investment in organic processing.
- Develop and test scalable processing methods that maintain the integrity, health-promoting and nutritious qualities of organic food, in line with the concept of "appropriate technology" for cereals, vegetables, fruits, dairy, and meat.
- Design logistics solutions that reduce transport emissions, support regional markets, and increase efficiency in organic supply chains.
- Develop new product and marketing concepts rooted in local organic value chains and vital rural areas.
- Evaluate the environmental, social, and economic performance of new processing and logistics models.

A living lab approach will be used to test solutions in real-world conditions with the involvement of organic processors, farmers, technology developers, retailers, and local authorities. Outcomes will support CAP objectives on rural development, while enabling innovation in the organic sector.

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3.2.2.2 UNDERSTANDING THE HEALTH IMPACTS OF ORGANIC FOOD CONSUMPTION

EXPECTED OUTCOME:

Projects will generate robust, high-quality evidence on the health implications of consuming organic food. They will strengthen the scientific foundation for policy decisions, dietary recommendations, and public health investments. Research will evaluate pesticide exposure, toxicological, nutritional, and life-course effects.

Project results are expected to contribute to the following outcomes:

- Harmonised methods for accurately assessing the health impact of organic food consumption across diverse populations and studies.
- Large-scale, prospective epidemiological evidence on the relationship between organic food consumption and a wide range of health outcomes, including effects during pregnancy, childhood, adulthood, and old age.
- Improved understanding of the potential health effects of organic diets with increased nutrient density and reduced exposure to pesticides, veterinary drug residues and food additives.
- Validation of exposure pathways and self-reported organic consumption using biomarkers and complementary methodologies.

SCOPE:

Most epidemiological studies assessing diet and health do not distinguish between organic and conventional food production methods. Yet, organic farming restricts synthetic pesticides, antibiotics and additives, potentially reducing exposure to harmful substances and improving nutritional quality. Projects will address knowledge gaps by combining long-term prospective cohort studies with targeted interventions. A life-course approach will be taken, encompassing vulnerable stages such as pregnancy, infancy, and ageing. Research will evaluate nutritional profiles, contamination levels (e.g. heavy metals, veterinary residues, pesticides), and phytochemical content across organic and conventional diets. It will also assess whether organic foods—especially when minimally processed—offer health advantages in the context of rising ultra-processed food consumption.

A comprehensive, standardised food composition database differentiating organic and conventional foods will be developed to support accurate exposure and nutritional assessments. In parallel, projects will explore the feasibility and limitations of biomarkers to validate organic food intake in large populations. True Cost Accounting and similar methodologies will be applied to estimate the real health costs and benefits of organic food consumption. This includes quantifying impacts on chronic disease burden. This research will engage public health authorities, nutritionists, epidemiologists, toxicologists, organic stakeholders, and citizens to deliver actionable insights for EU policy.

3.2.2.3 ENHANCING THE CONTRIBUTION OF THE ORGANIC SECTOR TO THE EU'S PROTEIN TRANSITION

EXPECTED OUTCOME:

Projects will explore how the organic sector can play a key role in the EU's transition to more sustainable and plant-rich protein consumption. They will develop strategies to scale up organic plant protein production, improve processing methods, and influence dietary behaviour.

Project results are expected to contribute to the following outcomes:

- Increased production and consumption of local, climate-resilient organic protein crops.
- New supply chain formats and business models that increase the availability and appeal of organic plant proteins.
- Development of mild and appropriate processing techniques for organic-compliant plant-based products.
- Empowerment of consumers to reduce animal protein intake and shift toward plant-based diets through nudging, education, and supportive policy tools.
- Strengthened integration of protein transition goals with biodiversity, soil health, climate change mitigation, and rural development objectives.

SCOPE:

The organic sector, with its sustainability-driven principles, is well positioned to spearhead the EU's protein transition. Organic food systems can facilitate a shift toward plant-based diets by offering healthier, minimally processed products and environmentally sound production practices.

Research will support this transition by:

- Stimulating organic plant protein production through alternative crops, improved varieties, adapted cultivation practices, and supply chain innovation.
- Developing processing methods that maintain nutritional quality and sensory appeal, enabling the creation of organic-compliant meat and dairy alternatives suitable for both home and out-of-home consumption.
- Designing behaviour change strategies and marketing tools to encourage a shift toward more plant-based eating, including policy nudges and information campaigns.

Projects will also analyse the socio-economic benefits of the organic protein transition, including job creation, and revitalisation of rural economies.

A transdisciplinary, multi-actor approach will ensure engagement of organic farmers, breeders, processors, retailers, behavioural scientists, and policy actors. The outcomes will support a balanced and sustainable protein transition that aligns with public health goals, environmental protection, and empowerment of rural communities.

3.2.3 REVIVING RURAL COMMUNITIES THROUGH ORGANIC FARMING

3.2.3.1 BIO-DISTRICTS AS A STRATEGY FOR PARTICIPATORY TERRITORIAL PLANNING AND RURAL REVITALISATION

EXPECTED OUTCOME:

Projects will generate governance models to enhance the role of bio-districts in driving territorial sustainability and rural revitalization. They will strengthen multi-level governance, foster inclusive stakeholder participation, and support resilient local economies through place-based innovation.

Project results are expected to contribute to the following outcomes:

- Enhanced governance frameworks through comparative analysis of national and regional regulations for bio-districts, and identification of enabling conditions and barriers.
- Strengthened organic value chains embedded in territorial food systems, including improved public procurement.
- Better coordination of advisory services and knowledge sharing across and within bio-districts.
- Greater inclusivity and participatory governance, ensuring equal opportunities and wider engagement of citizens, farmers, SMEs, and local authorities.
- Better participatory territorial planning integrated with landscape, climate, biodiversity, and cultural heritage objectives.

SCOPE:

Bio-districts are multi-actor, place-based initiatives that integrate organic agriculture, local value chains, sustainable tourism, ecosystem stewardship, and civic participation. They offer a promising territorial development model that aligns with the EU Organic Action Plan, CAP goals, and cohesion policies.

Projects will:

- Document successful and less successful bio-district models across Europe, identifying key enablers and barriers in governance, agroecological transition, and economic strategies.
- Support the development of multi-level governance structures and finance models that align local initiatives with EU and national policy frameworks, including CAP instruments and regional development funds.
- Characterise and strengthen organic value chains within districts by enhancing local branding, certification schemes, and linking products with cultural and environmental attributes.
- Promote cross-regional cooperation and experience-sharing between districts.

- Support the integration of eco- and agri-tourism in organic districts, developing sustainable hospitality models.

- Foster replication and scale-up of bio-districts across EU regions.

Projects will establish measurable indicators to assess the social, economic, and ecological performance of bio-districts and support sustainable business models that foster employment, social cohesion, and environmental regeneration.

3.2.3.2 ORGANIC FARMING AND AGROECOLOGY AS A TOOL FOR GENERATIONAL RENEWAL

EXPECTED OUTCOME:

Projects will deliver a comprehensive understanding of the challenges and opportunities related to generational renewal in organic and agroecological farming systems. They will identify key drivers for youth engagement and propose strategies and policy recommendations to support young and diverse entrants, ensuring a socially inclusive and future-proof agricultural workforce.

Project results are expected to contribute to the following outcomes:

- Identification of key challenges and drivers influencing new entrants in agriculture, particularly in organic and agroecological contexts.

- Assessment of how organic and agroecological farming models can accelerate generational renewal.

- Tailored strategies and capacity-building programmes to engage, equip, and retain young farmers and entrepreneurs in organic value chains.

- Policy recommendations to enhance youth engagement by addressing structural challenges related to land access, finance, education, farm succession, and career pathways.

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SCOPE:

Generational renewal is a major concern for European agriculture. Many young people are discouraged from pursuing farming careers due to land inaccessibility, high capital requirements, insufficient training, and limited career pathways. However, organic and agroecological farming offer strong potential to attract younger generations due to their alignment with environmental values, innovation opportunities, and social missions.

Projects will analyse demographic shifts and how they influence the availability of a skilled agricultural workforce, farm succession, and rural vitality. Particular attention will be given to the situation of women, migrant youth, informal workers and new entrants without a family farming background.

Research activities will include:

- Mapping and assessing financial, technical, and institutional barriers to youth entry in farming.
- Identifying motivators for youth engagement in organic and agroecological farming.
- Investigating how education, mentorship, and peer learning can support professional development for young farmers.
- Exploring innovative economic support schemes (e.g. start-up grants, land banks, taxation reforms, green finance) that effectively address the start-up needs of young entrants.
- Analysing differences between intergenerational farm transfers and access for new entrants, and how policy can better support both.
- Conducting workforce analysis to determine opportunities for youth across the value chain.

A multi-stakeholder and participatory research design will engage young farmers, trainers, advisory services, NGOs, and policy actors. Projects will provide actionable insights for strengthening the EU's generational renewal objectives under the CAP, Rural Pact and the EU Vision for Agriculture and Food.

3.2.3.3 DEVELOPING ORGANIC FARMING POLICIES FOR BETTER MARKET, ENVIRONMENTAL AND SOCIAL OUTCOMES

EXPECTED OUTCOME:

Projects will enhance policy frameworks supporting the organic sector by assessing the effectiveness of current policy instruments and proposing improvements to deliver on production, market, environmental, and social goals. They will strengthen the integration of public and private efforts and improve data infrastructure.

Project results are expected to contribute to the following outcomes:

- Evaluation of the effectiveness of organic farming and broader agricultural policies at EU and Member State levels.
- Better alignment of policy tools with demand and market dynamics, improving market access and profitability for organic producers.
- Enhanced policies to balance supply and demand, mitigating risks of over- or undersupply.
- Improved integration of environmental and social objectives into organic policy through outcome-based support schemes.
- A robust monitoring framework to track and evaluate the impact of organic policies, supported by enhanced data collection systems at national and EU levels.
- Closer alignment of private sector and civil society initiatives for organic farming with public policy goals.

SCOPE:

The organic sector contributes to multiple policy goals, including climate change mitigation, biodiversity, public health, rural development, strategic autonomy and preparedness for crises. However, current policy instruments are primarily production-oriented and do not consider market dynamics. Projects will provide comprehensive analysis of the effectiveness of EU and national policies in supporting organic food production.

Research activities will include:

- Assessing how policy instruments interact—positively or negatively—with supply chains, market development, and environmental performance.
- Mapping data gaps in market performance, environmental outcomes, and social indicators, and proposing improvements in statistical and monitoring systems at EU and national level.
- Integrating sustainability assessments at both farm and sector levels to track the delivery of public goods and reward organic actors accordingly.

- Exploring the roles of private and civil society actors in supporting organic development and how these can be better integrated within policy frameworks.

- Assessing institutional innovations needed to increase the organic sector's capacity to engage with policymakers.

By bridging data, governance, and market gaps, research will inform the implementation of the EU Organic Action Plan, enabling policies that are evidence-based, outcome-oriented, and aligned with the organic sector's multi-functional potential.

3.2.3.4 IMPROVING ACCESS TO LAND FOR ORGANIC FARMERS THROUGH BETTER GOVERNANCE AND POLICY SUPPORT

EXPECTED OUTCOME:

Projects will develop practical strategies and policy recommendations to improve access to land for organic and agroecological farmers. They will assess existing land access initiatives, propose governance innovations, and identify tools that secure long-term land use for organic farming.

Project results are expected to contribute to the following outcomes:

- Identification of success factors and bottlenecks in land access initiatives across the EU, with a focus on organic and agroecological systems.

- Development of governance and business models to ensure affordable, long-term access to land for organic farmers.

- Better intergenerational land transfer mechanisms and support for community-based land stewardship.

- Policy recommendations at EU, national, and regional levels to promote land preservation and fair tenure arrangements.

SCOPE:

Access to land is one of the most pressing barriers to generational renewal and expansion of organic farming in Europe. Projects will address this barrier and promote equitable and lasting land access for organic and agroecological farmers. They will investigate how land can be recognised and managed as a common good.

Research will:

- Map existing initiatives—such as land trusts, cooperative land banks, community land stewardship programmes, and public land leasing schemes—and evaluate their impact, governance, and scalability.

- Analyse legal, financial, and institutional frameworks that affect land tenure security and accessibility for organic and agroecological farmers, including obstacles faced by youth and women.

- Explore new governance models involving landowners, farmers, and local communities and authorities that balance individual and collective interests.

- Assess what roles different actors (municipalities, NGOs, landowners, investors) can play in enabling fair and durable land access.

- Explore how intergenerational land transfers can be supported through tax, succession, or legal mechanisms.

Projects will take a multi-actor approach, working with land users, policymakers, researchers, and civil society. They will provide essential input to the EU Vision for Agriculture and Food by supporting the viability and expansion of agroecological farming systems through secured access to land.

3.2.3.5 STRENGTHENING THE POSITION OF ORGANIC FARMERS IN THE VALUE CHAIN

EXPECTED OUTCOME:

Projects will deliver strategies and policy recommendations to improve the position of organic farmers within the food value chain. They will develop data-driven tools, cooperative models, and pricing methodologies that promote transparency, fair contracts, and stronger bargaining power, aligned with the EU's Vision for Agriculture and the organic principle of fairness.

Project results are expected to contribute to the following outcomes:

- Identification of structural imbalances in organic food chains.

- Transparent pricing models and methodologies for fair cost allocation along the entire food value chain.

- Implementation of national and EU-level monitoring systems for costs and prices across the organic food chain.

- Identification of success factors and barriers related to transparency, cooperation, contract fairness, and market access.

- Policy proposals for regulatory, and market-based interventions to enhance farmer position and value chain equity.

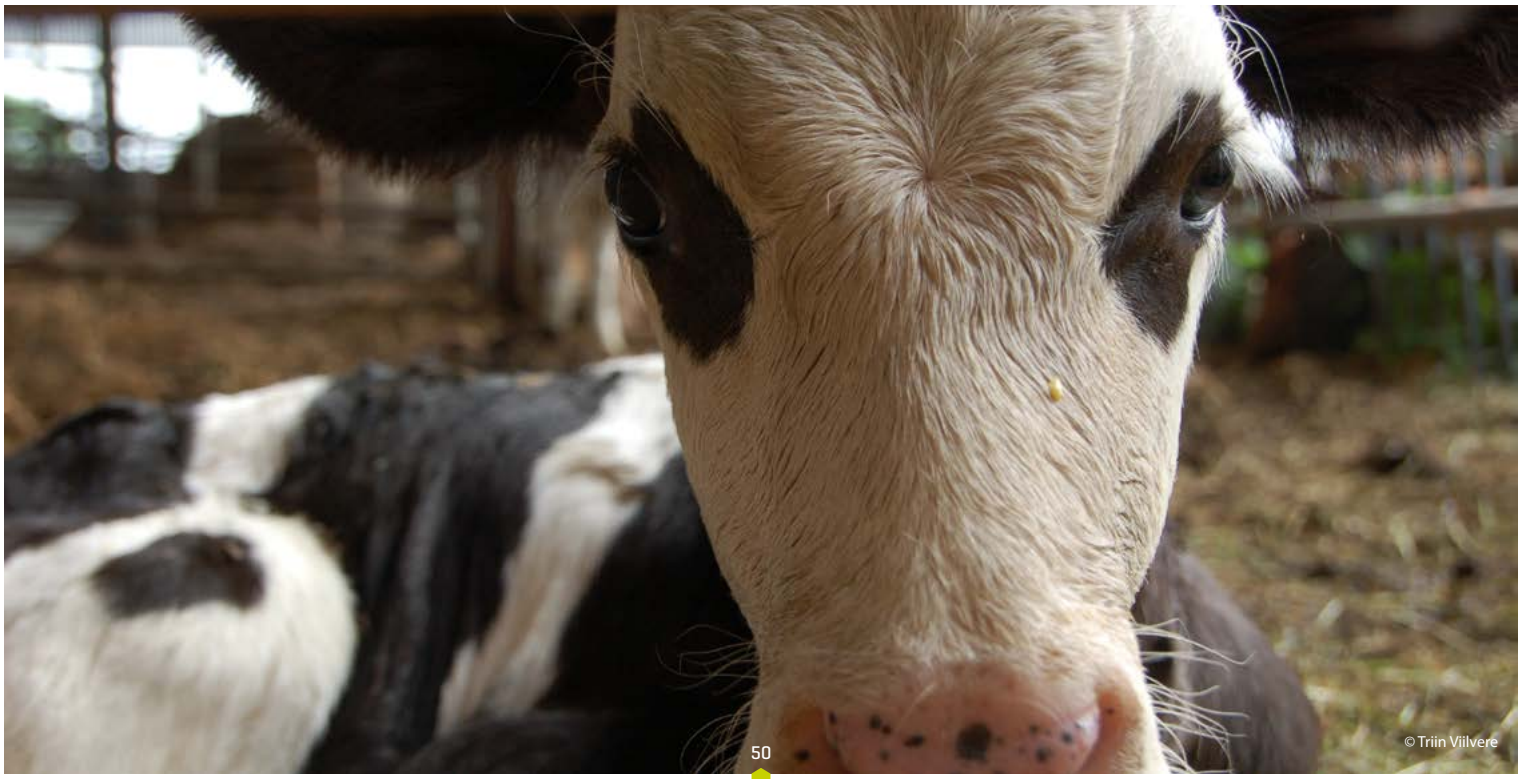
SCOPE:

While organic farming aims to embody the principle of fairness, many organic farmers struggle to obtain fair prices due to imbalanced power dynamics, particularly with large retailers. The EU has already initiated instruments like the Agri-Food Chain Observatory and further work is needed to address structural inequalities within the organic food chain. Projects will conduct a comprehensive status quo analysis of organic value chains, focusing on both long supply chains (e.g. farmer–processor–retailer–consumer) and short supply chains (e.g. direct sales).

Research will:

- Develop tools and indicators to monitor cost and price evolution along organic food chains.
- Analyse pricing mechanisms, contract practices, market structures and profit margins to reveal disparities.
- Identify leverage points for farmer cooperation and collective bargaining, including cooperative marketing, producer organisations, and regional food networks.
- Develop policy recommendations and public procurement guidelines to restrict excessive retail market power and improve transparency.

Projects will actively involve stakeholders across the value chain—including farmers, processors, retailers, advisory services, and public authorities. Case studies should cover meat, milk, vegetable, fruit, potato and cereal value chains. Outputs will support EU objectives on fair income, sustainable supply chains, and strengthened rural economies.



3.2.3.6 IMPROVING SOCIO-ECONOMIC PERFORMANCE OF ORGANIC AND AGROECOLOGICAL PRODUCTION SYSTEMS

EXPECTED OUTCOME:

Projects will deliver evidence and strategies to enhance the socio-economic sustainability of organic and agroecological farms. By identifying drivers of high performance and opportunities for innovation, they will foster viable, attractive, and inclusive farming careers.

Project results are expected to contribute to the following outcomes:

- A multi-dimensional understanding of socio-economic performance in organic and agroecological farming across regions and systems.
- Tools and metrics to assess, benchmark, and improve performance, tailored to the needs of diverse stakeholders including farming organisations, advisors and policymakers.
- Insights for more effective agricultural policy design that support organic farming careers—particularly for women, young people, migrants, and seasonal workers.
- Improved advisory, training, and education services supporting viable businesses in organic farming.

SCOPE:

Despite a perception of lower financial returns, many organic and agroecological farms demonstrate strong socio-economic performance. Projects will explore what factors contribute to such success—ranging from business models, management practices, and cooperative structures to motivations, social values, and institutional environments.

Key research areas will include:

- Economic and social performance of organic and agroecological farms using both quantitative (e.g. farm income, labour quality) and qualitative (e.g. well-being, motivation, social capital) indicators.
- Drivers behind diverse forms of "high performance" and farm attractiveness for different profiles of farmers and workers, across territorial, gender, and socio-cultural dimensions.
- Scalable strategies and conditions under which organic and agroecological farms outperform other ones economically and socially.

Projects will generate harmonised datasets and indicators to enable benchmarking of socio-economic performance across regions and systems, with links to the Farm Sustainability Data Network (FSDN), Eurostat, Farm Management Information Systems (FMIS), and spatial datasets. They will test alternative business and cooperation models through living labs and participatory research and deliver recommendations to strengthen advisory services, policy instruments, and education curricula.

A multi-actor design will ensure practical relevance and legitimacy. Outputs will directly support the EU Organic Action Plan, CAP objectives, and broader sustainability goals.

3.3 LEADING FOR RESPONSIBLE INNOVATION

3.3.1 DIGITAL SOLUTIONS SUITED FOR ORGANIC AND AGROECOLOGICAL SYSTEMS

3.3.1.1 INTEGRATING AI AND ROBOTICS IN ORGANIC AGRICULTURE: NEEDS, RISKS, AND OPPORTUNITIES

EXPECTED OUTCOME:

Projects will explore how artificial intelligence (AI) and robotics can enhance organic farming productivity and sustainability while upholding organic principles. They will identify pathways for adapting digital tools to organic farming contexts, address adoption barriers, and develop inclusive and ethical frameworks for implementation.

Project results are expected to contribute to the following outcomes:

- Efficient tools for soil health, plant and animal monitoring.
- Precision technologies (e.g., weeding, sowing, irrigation, harvesting) based on models calibrated with organic farming data.
- Advanced decision support systems (DSS) and early pest and disease detection.
- Digitally supported agroecological management to strengthen sustainability and productivity.
- Better production planning and yield prediction.

SCOPE:

Organic farming operates under a strict framework of principles and regulations. Digitalisation and artificial intelligence can be a valuable ally by providing tools to optimise operations, improve productivity and enhance the health of all components in the system. Further investigation is however required into the specific needs, risks and barriers linked to their use in organic systems.

Projects will address practical applications and governance aspects of AI and robotics in organic agriculture. They will prioritise tools suited for diverse organic systems, including on small and medium farms.

The suitability of datasets used for model calibration should be considered. Models developed for conventional agriculture may not be suitable for organic systems. Research is needed to support the development and calibration of AI models based on data from organic farms and local, experiential knowledge.

Projects will identify barriers to adoption including cost, digital literacy, interoperability, and trust. They will develop models for shared access and cooperative ownership of machinery and services. Regulatory and policy frameworks will be proposed to support fair, and transparent use of AI technologies in organic farming fostering equity and data sovereignty.

Projects will adopt a multi-actor approach to ensure relevance and scalability. They will co-design inclusive tools with farmers to enhance fit-for-purpose deployment. Engagement with advisory services, certifiers, researchers, and technology developers will be key to ensuring robust outcomes that are usable in real farming environments.

3.3.1.2 HARNESSING AI FOR BETTER ORGANIC CERTIFICATION AND KNOWLEDGE SYSTEMS

EXPECTED OUTCOME:

Projects will develop artificial intelligence (AI) solutions to strengthen organic certification and knowledge systems. They will create smart and inclusive digital infrastructures that reduce administrative burden and foster knowledge exchange across the organic value chain.

Project results are expected to contribute to the following outcomes:

- AI-based farm advisory and decision tools offering real-time, context-specific guidance to improve sustainability and productivity.
- Advanced knowledge platforms that integrate scientific and experiential knowledge, accessible across languages and regions.
- AI-enhanced digital communities supporting peer learning, collaboration, and co-innovation in organic farming.
- Transparent and inclusive data governance ensuring data protection, and equal access for smallholders and diverse actors.
- Digital tools that improve traceability, reduce bureaucracy, and support robust, risk-based organic certification systems.

SCOPE:

Projects will leverage AI and digital technologies to redesign organic certification and knowledge systems. Key focus areas include:

- Data Integration: combining on-farm data (e.g. soil health, crop and livestock management) with supply chain and certification metrics to generate insights and support compliance monitoring and logistics planning.
- Traceability and assurance: developing real-time, AI-enabled systems that enhance traceability and reduce fraud along the value chain.
- Integration with existing organic control schemes, helping to transition towards a more flexible, risk-based, and efficient guarantee system.

- Knowledge exchange: using natural language processing and multilingual interfaces to democratise access to technical knowledge, making advisory services and peer learning more inclusive.

- Fairness and ethics: designing and deploying ethical AI frameworks that prevent algorithmic bias, ensure data privacy, reduce digital divide and avoid exclusion of vulnerable groups.

Projects will be implemented through a multi-actor approach. This means needs will be assessed with organic value chain stakeholders and Agricultural Knowledge and Innovation System (AKIS) actors. Tools will be co-designed and tested in diverse settings—from smallholder farms to large cooperatives—to ensure robustness and scalability.

Outputs will support the EU Organic Action Plan and the EU's strategy for the digitalisation of the agricultural sector.

3.3.2 PROTECTING THE INTEGRITY OF THE ORGANIC SECTOR

KNOWLEDGE-BASED STRATEGIES FOR PREVENTION OF NON-AUTHORISED SUBSTANCES IN ORGANIC SUPPLY CHAINS

EXPECTED OUTCOME:

Projects will strengthen the integrity of the organic sector by developing knowledge-based tools and strategies to assess and mitigate the presence of non-authorised substances in organic products. By consolidating scientific and empirical knowledge, projects will support organic operators, control bodies, and policymakers in making informed and fair decisions.

Project results are expected to contribute to the following outcomes:

- Greater knowledge among organic operators and control bodies about the most probable contamination pathways—including pesticide drift, historic land use, processing, storage, and transport.
- Consolidation and validation of site-specific, crop-specific, and supply chain-specific data on the likelihood of contamination.
- Empowerment of organic actors to proactively assess suspected non-compliance and prevent unjustified fraud accusations.

SCOPE:

When residues of non-authorised substances are detected in organic products, determining whether this is due to fraud or unintentional contamination is complex. Organic farmers often face disproportionate consequences in such cases, and certifiers are challenged in making fair compliance decisions. Projects will provide the scientific and contextual knowledge needed to support accurate assessments.

Research will:

- Analyse conventional and organic practices for the most cultivated crops, identifying commonly used substances and contamination risks.
- Identify the most frequently detected non-authorised substances in organic products and investigate their origin and typical uses (e.g., pesticides, disinfectants, fertilisers).
- Develop and test hypotheses on how these substances can unintentionally enter organic supply chains, factoring in variables like soil type, adjacent field use, climate conditions, processing and logistics.

Outputs will include a farmer- and inspector-friendly handbook summarising contamination pathways and guidance documents to support rapid and evidence-based assessments. Pilot projects will be set up to assess whether the project's recommendations improve the speed and quality of assessments by farmers and inspectors.

Projects will contribute to strengthening fraud prevention in line with EU organic regulations, while reducing undue burden on compliant organic operators and enhancing trust in the organic label.

3.3.3 INCLUSIVE AND PARTICIPATORY INNOVATION FOR ORGANIC FARMING AND AGROECOLOGY

BUILDING AGROECOLOGICALLY ORIENTED AKIS FRAMEWORKS

EXPECTED OUTCOME:

Projects will design and test frameworks to strengthen Agricultural Knowledge and Innovation Systems (AKIS) in support of agroecology and organic farming. They will foster closer collaboration among farmers, researchers, trainers, and advisors, with the aim of valorising practitioners' knowledge and democratising innovation processes.

Project results are expected to contribute to the following outcomes:

- Strengthened networks among AKIS actors promoting continuous learning and co-innovation.
- Empowerment of practitioners through participatory research and peer learning.
- Insights on the drivers and conditions that support successful co-creation of innovation.
- Improved integration of training, advisory services, and farmer-led research in agroecological transitions.
- Policy recommendations for inclusive and decentralised AKIS governance at EU, national and regional levels.

SCOPE:

Conventional AKIS frameworks often fail to capture the diverse, place-based knowledge generated by organic and agroecological practitioners. Projects will address this gap by creating agroecologically oriented AKIS models that elevate informal and experiential knowledge as drivers of innovation.

Research will:

- Develop models linking training, advisory services, and innovation networks.
- Identify enabling and limiting conditions for co-creation, drawing from successful and failed participatory initiatives.
- Compare participatory methodologies (e.g. Living Labs, Operational Groups, Multi-Actor Platforms) to assess effectiveness in agroecological innovation.
- Investigate regulatory, institutional, and cultural barriers that hinder the integration of farmer knowledge in advisory and innovation systems.
- Propose metrics to assess the impact and continuous improvement of agroecological AKIS frameworks.

Projects will build on and synthesise outcomes from previous initiatives such as i2connect, ATTRACTIS, ModernAKIS, OrganicAdviceNetwork, and the EU Agroecology Partnership and support the EU's Pact for Skills.

By building bridges across formal and practitioners' knowledge systems, projects will lay the foundation for AKIS frameworks that are equitable and better aligned with agroecological principles.

4. SHAPING INCLUSIVE RESEARCH & INNOVATION FOR REAL IMPACT

With FP10's overall ambition and budget now on the table, the question arises of how the EU will invest in R&I to ensure those resources reach the actors and approaches that deliver measurable change. The European Commission's proposal to double Horizon Europe to €175 billion signals a positive commitment to science, but the task ahead is to channel this investment through instruments that privilege collaborative research, farmer and SME participation, and system-level solutions - so that public money drives practical outcomes in fields, value chains, and territories. At the same time, the Commission's drive to simplify participation is welcome, provided simplification is implemented in ways that truly lower barriers for newcomers and small organisations, rather than shifting administrative work onto them.

STRENGTHENING THE MULTI-ACTOR APPROACH

The multi-actor approach remains the most effective way to keep projects anchored in real-world needs. It obliges consortia to involve farmers, SMEs, advisers, and civil-society organisations from design to dissemination, ensuring that research questions, methods, demonstration sites, and outputs are co-created with those who will use them[14]. For organic and agroecology, this is not a procedural add-on; it reflects long-standing practice where farmer-led innovation and place-based knowledge are the starting point. A reinforced multi-actor approach in FP10 will ensure public funding delivers actionable outcomes for end-users and will strongly contribute to bridge the gap between conception to market deployment in the sphere of R&I.

[14] Feo, E., Berckmoes, E., Opdebeek, A., Burssens, S., Pascal, E., & Mosquera Losada, R. (2022). The multi-actor approach in thematic networks for agriculture and forestry innovation. Agricultural and Food Economics, 10(1), 1–18. Available at: https://agrifoodecon.springeropen.com/articles/10.1186/s40100-021-00209-0?utm_source=chatgpt.com

THIRD-PARTY FUNDING (CASCADE FUNDING) TO REACH SMES AND GRASSROOTS INNOVATORS

Organic value chains are dominated by micro-enterprises, start-ups, cooperatives, and local initiatives that rarely join large EU consortia—even though they are critical for piloting and diffusion. Financial Support to Third Parties (FSTP), also called cascade funding, allows consortia to run small, rapid open calls and award sub-grants or vouchers to these actors[15]. Mainstreaming FSTP in relevant FP10 topics will widen participation, reduce administrative friction for newcomers, and accelerate context-specific experimentation. The European Commission's Good Practice Guide (2025)[16] sets out templates and transparency rules. FP10 should build on this to encourage the good practices and the uptake of cascade funding in EU projects.

SIMPLIFIED PARTICIPATION DONE RIGHT: TWO-STAGE APPLICATIONS AND LUMP-SUM FUNDING

Two-stage application procedures lower the cost of entry and broaden competition. Stage 1 requires a concise concept; only shortlisted consortia submit full proposals. This reduces sunk costs for applicants and evaluators alike and is already used across Horizon calls. FP10 should make two-stage procedures the default for most agri-food topics, especially those targeting newcomers and practice-oriented innovation. Clear page limits at each stage (e.g., 10 pages at Stage 1, as in current work programme practice) keep the process predictable and fair.

Lump-sum funding, which the Commission has decided to use more widely within the FP10, can be a powerful simplification tool if designed for inclusiveness. Instead of ex-post cost reporting, beneficiaries are paid a fixed amount per completed work package, shifting the focus from cost accounting to outputs and milestones. Commission guidance documents underline benefits: less administrative burden, lower error risk, and a more level playing field for smaller beneficiaries. FP10 should retain lump sums as a standard option but go further to ensure they work for small farmers and SMEs within MAA projects. There is a clear need to simplify access to funding and registration on official platforms for reporting, as it represents a real burden to access EU fundings.

Used together, two-stage and lump-sum approaches shorten time-to-grant, reduce barriers to entry, and let consortia prioritise research quality and uptake rather than paperwork—exactly what is needed to scale organic and agroecological R&I.

SMALLER, MODULAR CONSORTIA WITH LIVING LABS & LIGHTHOUSES AT THE CORE

Oversized consortia can dilute roles and complicate coordination, making it harder to include SMEs and farmer groups meaningfully. FP10 should pivot towards smaller, modular consortia that iterate faster and integrate existing living labs and lighthouse farms as real-world testbeds. The Mission "A Soil Deal for Europe" aims to establish 100 Living Labs and Lighthouses by 2030, creating a continental ecosystem for long-term, place-based experimentation. The European R&I Partnership on Agroecology is structuring a complementary network of Living Labs and research infrastructures, designed for multi-stakeholder, real-life trials. FP10 calls should require proposers to anchor trials and demonstrations in these networks. Well-resourced Missions and Partnerships will turn organic breakthroughs into EU-wide impacts.

[15] C. L. I. D. L. P. (2022). Cascade Funding as an Alternative Funding Source for Innovative Investments. ResearchGate. Available at: https://www.researchgate.net/publication/363359142_Cascade_Funding_as_an_Alternative_Funding_Source_for_Innovati ve_Investmentsresearchgate.net

[16] European Commission, Good Practice for implementing Financial Support to Third Parties (FSTP) in EU Grant, June 2025. Available at: https://ec.europa.eu/info/funding-tenders/opportunities/docs/2021-2027/common/other/guidance_fstp-good-practices_en.pdf

OPEN SCIENCE, DATA RIGHTS AND INTEGRITY

FP10 must remain open by default, rights-respecting by design. Open access to publications, data, and software should be the norm, backed by practical support for repositories and curation. At the same time, farmer data rights require clear ownership, access and use clauses—including opt-out for sensitive data and data minimisation for on-farm trials. Robust conflict-of-interest and integrity safeguards, plus meaningful participation of civil society and practitioners in governance—from programme committees to evaluation panels—will protect scientific autonomy and ensure relevance.

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