Pre-draft proposal for a

European Partnership under Horizon Europe
Sustainable Food Systems for People, Planet & Climate

About this draft

In the course of 2021 Commission services asked potential partners to further elaborate proposals for the 2023/24 candidate European Partnerships identified during the strategic planning of Horizon Europe. These proposals have been developed by potential partners based on common guidance and template, taking into account the initial concepts developed by the Commission and feedback received from Member States during early consultation[1]. The Commission Services have guided revisions during drafting to facilitate alignment with the overall EU political ambition and compliance with the criteria for Partnerships.

This document is a stable draft of the partnership proposal, released for the purpose of ensuring transparency of information on the current status of preparation (including on the process for developing the Strategic Research and Innovation Agenda). As such, it aims to contribute to further collaboration, synergies and alignment between partnership candidates, as well as more broadly with related R&I stakeholders in the EU, and beyond where relevant.

This informal document does not reflect the final views of the Commission, nor pre-empt the formal decision-making (comitology or legislative procedure) on the establishment of European Partnerships.

In the next steps of preparations, the Commission Services will further assess these proposals against the selection criteria for European Partnerships. The final decision on launching a Partnership will depend on progress in their preparation (incl. compliance with selection criteria) and the formal decisions on European Partnerships (linked with the adoption of Strategic Plan, work programmes, and legislative procedures, depending on the form). Key precondition is the existence of an agreed Strategic Research and Innovation Agenda / Roadmap. The launch of a Partnership is also conditional to partners signing up to final, commonly agreed objectives and committing the resources and investments needed from their side to achieve them.

The remaining issues will be addressed in the context of the development of the Strategic Research and Innovation Agendas/ Roadmaps, and as part of the overall policy (notably in the respective legal frameworks). In particular, it is important that all Partnerships further develop their framework of objectives. All Partnerships need to have a well-developed logical framework with concrete objectives and targets and with a set of Key Performance Indicators to monitor achievement of objectives and the resources that are invested.

Aspects related to implementation, programme design, monitoring and evaluation system will be streamlined and harmonised at a later stage across initiatives to ensure compliance

[1] https://www.era-learn.eu/documents/final_report_ms_partnerships.pdf

with the implementation criteria, comparability across initiatives and to simplify the overall landscape.

In case you would like to receive further information about this initiative, please contact:

Commission services (main contact):
European Commission, DG R&I B2
Partnership sector in DG R&I (overall policy approach for European Partnerships and its coherent application across initiatives), E-mail: RTD-EUROPEAN-PARTNERSHIPS@ec.europa.eu

The partnership is part of a "partnership landscape" that will avoid overlaps and build synergies for win-win collaboration and solutions, in particular with the Partnerships Accelerating farming systems transition: Agroecology living labs and research infrastructures, Agriculture of Data and Animal Health and Welfare.

Introduction

This document follows the proposal template of the European Commission of September 2019[2]. It is based on the co-creation process convened by the Standing Committee of Agricultural Research (SCAR) Strategic Working Group (SWG) Food Systems. It is also based on inputs received from the Horizon Europe Shadow PC, further discussions in the SCAR SWG Food Systems workshops on 18/09/2019 and 01/10/2020. The subsequent drafting process in four drafting teams led to four different narratives which were presented and discussed in two workshops on 19/01/2021 and 03/02/2021. Combined drafting teams worked on the essential questions of Why? What? and How? of the combined narrative with presentations and discussions in workshops on 24/02 and 03/03/2021 with Commission Services (DG RTD, SANTE, MARE and AGRI) and other HE Partnerships to develop linkage points. The combined narrative was published and summarized as a fact sheet by DG RTD[3]. Work on the template started on 03/03/2021, taking into account the earlier summary drafts of 06/2019 and a partly filled template of 07/07/2020. Early feed-back was received at a stakeholder workshop on 29/09/2021.

The present candidate partnership is proposed to be published in the Horizon Europe 2023-2024 work programme. The format proposed is a co-funded partnership with financial and in-kind contributions by the partners and a Top Up by the European Commission. Co-funded financial contributions to this partnership will consist of and build on the successful food systems related parts of JPIs, ERA-Nets and KICs such as FACCE, HDHL and Oceans, JPI Urban ERA-NETS: Surplus, ICT Agri Food, Core-Organic, ERA GAS, SUSAN, ERA HDL, SusFood2, EU-Africa HLPD FNSSA pillar 2, EIT FOOD and the Climate KIC.

[2] HE Partnership Proposal Template and Guidance Document (Sept 2019):
https://www.era-learn.eu/news-events/news/european-partnerships-new-draft-guidance-document-and-proposal-template

[3] Narrative:
https://scar-europe.org/images/FOOD/Main_actions/Food-Systems-Partnership_Narrative-06-2021.pdf

Fact Sheet:
https://op.europa.eu/en/publication-detail/-/publication/ca9da79e-df96-11eb-895a-01aa75ed71a1

This may evolve depending on the outcome of discussions on the modus operandi with the different potential partners.

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1 General information

1.1 Draft title of the European Partnerships

Sustainable Food Systems for People, Planet & Climate

1.2 Lead entity (main contact)

Co-Chairs of the Strategic Working Group Food Systems of the Standing Committee on Agricultural Research (SCAR):

INRAE -

Ministry of Agriculture and Forestry, Finland -

1.3 Commission services (main contact)

DG Research and Innovation DG R&I B2

DG SANTE:

1.4 Summary

Sustainable food systems (SFS) for people, planet and climate, provide and promote safe, nutritious and healthy food of low environmental impact for all current and future citizens. The objective of SFS is 'to collectively develop and implement an EU-wide committed research and innovation partnership to accelerate the transition towards healthy diets that are safe and sustainably produced and consumed in resilient EU and global food systems'. SFS protect and restore the natural environment and its ecosystem services, are robust and resilient, economically dynamic, just and fair, and socially acceptable and inclusive. They do so without compromising the availability and accessibility of nutritious, safe, tasty, culturally-diverse, and healthy food for people living inside and outside the EU, nor impairing their natural environment[4] (SAM, 2019b).

Building the Sustainable Food Systems of tomorrow is central to the transition to a 'Sustainable Europe by 2030', and key to meeting the European Green Deal, the Farm to Fork strategy and Food2030 ambitions on 'climate & sustainability', 'nutrition & health', 'circularity & resource efficiency' and 'innovation & communities'. The EU's goals of the Farm to Fork strategy are to reduce the environmental and climate footprint of the EU food system and strengthen its resilience, ensure food security in the face of climate change and biodiversity loss and lead a global transition towards competitive sustainability from farm to fork and tapping into new opportunities. The Food2030 experience has identified 10 pathways: (i) governance and system change, (ii) urban food systems transformation, (iii) food from the oceans and fresh water resources, (iv) alternative proteins and dietary shift, (v) food waste, (vi) the microbiome world, (vii) health and sustainable personalized nutrition, (viii) food safety systems of the future, (ix) food systems Africa, and (x) food & data[5]. Past experiences confirmed the need to implement a new and systemic approach to Research and Innovation (R&I)[6] in food. This includes problem-solving, policy supporting and programming that is inter- and transdisciplinary and applying a multi actor approach by prioritising the engagement and expertise of all stakeholders within the food system[7,8].

This Partnership will provide a food systems R&I platform connecting European platforms, local, national and European R&I programs and combining in-cash and in-kind resources in support of the transition to sustainable European food systems by 2030.

It will co-develop multidisciplinary R&I programs with stakeholders, set up a European network of harmonised observatories for food system monitoring, and implement a broad range

[4] Sustainable food systems provide and promote safe, nutritious and healthy food of low environmental impact for all. (SAPEA, 2020. A Sustainable Food System for the European Union. Science Advice for Policy by European Academies. https://doi.org/10.26356/sustainablefood)

[5] Crippa, M., Solazzo, E., Guizzardi, D. et al. Food systems are responsible for a third of global anthropogenic GHG emissions. Nat Food2, 198–209 (2021). DOI: 10.1038/s43016-021-00225-9.

[6] Xu, X., Sharma, P., Shu, S. *et al.* Global greenhouse gas emissions from animal-based foods are twice those of plant-based foods. *Nat Food* **2,** 724–732 (2021). https://doi.org/10.1038/s43016-021-00358-x

EEA (2015). How does the food we buy, eat and don't eat impact the environment? https://www.eea.europa.eu/media/infographics/how-does-the-food-we/view

EEA (2017). Air quality in Europe – 2017 report. https://www.eea.europa.eu/publications/air-quality-in-europe-2017

[7] "Decade of nutrition" from FAO & WHO; HLPE report: Food security and nutrition: building a global narrative towards 2030; European Commission's Food 2030 Policy framework; Willet et al., 2019 in The Lancet.

[8] IPES-Food (2016). From Uniformity to Diversity: diversity: a paradigm shift from industrial agriculture to diversified agroecological systems. Available at: http://www.ipes-food.org/reports/

of activities to increase the relevance, impact, and visibility of R&I and EU leadership in tackling unsustainable food systems, in line with the European Green Deal and the EU Farm to Fork strategy for 2030. The proposal is to combine a bottom-up and a top-down approach – bottom-up in the sense that local R&I issues are respected and explored in projects, proposed by the local players (member states, private sector, public institutions, NGOs, citizens...). The partnership will engage all relevant business actors from large food companies to small and local actors. It should be noted that 99% of local businesses are (small or very small) SMEs in the agri-food area, all with their own rhythm of innovation. The partnership will aim at integrating these actors in a more balanced R&I approach. The local R&I projects are guided at European level, i.e. through top-down support, where generic issues are further researched. The lessons learnt in these EU-wide research trajectories will then provide responses to food-related societal challenges both at EU and national levels. Finally, it should be noted that the inter-territorial dependencies are treated on the one hand by supporting the diversity of regional activities, and on the other hand by exploring the synergies between local and regional food systems (at least in the 6 focus areas). Here, the creativity and passion of the young food professionals will be mobilised.

2 Context, objectives, expected impacts

2.1 Context and problem definition

- *Please explain the context in which the Partnership is considered: Why is this initiative being proposed now? What problems and/or strategic opportunities does the initiative aim to tackle? What are the causes ("drivers") of the problem and their relative importance?*
- ***Include data and evidence on the state and scale** of the problems and/or strategic opportunities currently (status quo), and possible results from foresight on how this is expected to evolve in the future. In establishing and analysing this, draw clear links with previous Framework Programme intervention and results in this priority area – both in the context of work programmes, as well as R&I partnerships, if applicable;*
- *Describe the underlying research, innovation, **deployment or systemic bottlenecks** and/or market failures that are to be addressed by the Partnership and how this serves both private and public interest and delivery of public goods, including dissemination and exploitation issues;*
- *Demonstrate how it will take into account and build on the experience and outcomes of previous R&I Partnerships and the results of evaluations and assessments, if relevant.*

The future health of Europe's people and the planet lies on our plate. The way in which food is produced on land, in fresh water and in oceans, as well as in aquaculture systems, fished, processed, packaged, distributed, valued, prepared, consumed, and wasted must change to ensure that environmental, social and economic sustainability of food become core assets of EU's food systems, along with food safety and food security. Research and Innovation (R&I) is a critical resource for the EU in the transformation towards Sustainable Food Systems[9] for People, Planet & Climate (SFS). The prime condition for success is that a wide diversity of actors join forces in a partnership – with a mission for change. With the Green Deal, the

[9] IPES-Food (2017). Unravelling the Food–Health Nexus: Addressing practices, political economy, and power relations to build healthier food systems. The Global Alliance for the Future of Food and IPES-Food. Available at: http://www.ipes-food.org/reports/

European Union has committed to a radical transformation of its economy into a sustainable, circular and inclusive economy. It aims to transform the EU into a fair and prosperous society, with a modern, resource-efficient and competitive economy where there are no net emissions of greenhouse gases in 2050 and where economic growth is decoupled from resource use. It also aims to protect, conserve and enhance the EU's natural capital, and protect the health and well-being of citizens from environment-related risks and impacts. The Green Deal is an integral part of the European strategy to implement the Paris Climate Agreement and the United Nation's 2030 Agenda for Sustainable Development. The Farm to Fork Strategy aims to accelerate the transition to a sustainable food system that 1) have a neutral or positive environmental impact 2) help to mitigate climate change and adapt to its impacts 3) reverse the loss of biodiversity 4) ensure food security, nutrition and public health, making sure that everyone has access to sufficient, safe, nutritious, sustainable food 5) preserve affordability of food while generating fairer economic returns, fostering competitiveness of the EU supply sector and promoting fair trade.

Food systems are among the central leverage points for the transition; they are inextricably linked with the well-being of people and planet. This is reflected in the EU Farm to Fork and Biodiversity strategies, which are at the heart of the Green Deal. They identify ambitious targets and objectives for redesigning parts of the food system, outline actions, and pledge to monitor the progress towards them. The UN Global Food Systems Summit 2021 has addressed these issues globally.

There is consensus about the need for transformation of the current types of production and consumption in linear food chains towards healthy, sustainable, circular, fair and safe food systems. This transition needs an overarching food systems approach to address a number of challenges in an integrative manner. This partnership does not address primary production as growing food, agricultural production and other specific aspects related to it, will be covered in the Horizon Europe partnerships on Agroecology and Animal Health and Welfare. Any references to food production that will be part of the partnership scope refers to food processing, extraction and combination of ingredients, and food preparation (such as by the catering and restaurant industry).

It is estimated that food systems are responsible for 25-34% of global greenhouse gas emissions[10] around half of which is linked to the production of animal-based foods including feed production[11]. In the EU, food systems account for 30% of greenhouse gas (GHG) emissions, and agricultural production of food, feed, fuel and fibre accounts for 11.3% of greenhouse gas (GHG) emissions and for 94% of ammonia emissions that negatively affect air quality. The use of livestock manure and synthetic fertilisers is linked to 50–80% of the nitrogen load in freshwater bodies in Europe, with adverse effects on water quality and aquatic ecosystems[12]. Adoption of more sustainable production, processing, delivery and consumption practises across food systems can thus greatly alleviate some of the current adverse effects on

[10] Crippa, M., Solazzo, E., Guizzardi, D. et al. Food systems are responsible for a third of global anthropogenic GHG emissions. Nat Food2, 198–209 (2021). DOI: 10.1038/s43016-021-00225-9.

[11] Xu, X., Sharma, P., Shu, S. *et al*. Global greenhouse gas emissions from animal-based foods are twice those of plant-based foods. *Nat Food* **2,** 724–732 (2021). https://doi.org/10.1038/s43016-021-00358-x

[12] EEA (2015). How does the food we buy, eat and don't eat impact the environment? https://www.eea.europa.eu/media/infographics/how-does-the-food-we/view

EEA (2017). Air quality in Europe – 2017 report. https://www.eea.europa.eu/publications/air-quality-in-europe-2017

climate. Thus, replacing part of livestock-based food with increasing production of crops for direct food consumption could be part of a solution to reduce global greenhouse gas emissions and pressures on water resources from the agriculture and food sector. Such a change would require a systems approach linking the specific innovations in primary production, processing, logistics and retail with consumption and consumer preferences, and weighting their pros and cons in a benefit-risk approach.

Second, the agriculture and food industry is the largest producing and manufacturing sector in the world and in Europe, and yet in need of a viable, future-proof economic model. More than 10 million farms and 22,000 agri-food cooperatives in the EU create jobs for a workforce of 20 million employees, especially in rural areas, and more than 294,000 food processing companies provide jobs for 4.8 million people. Overall, the agri-food ecosystem is by far the biggest employment sector in Europe; it has a significant impact on rural and urban communities as an aggregated ecosystem that includes more than 99% of small and medium-sized enterprises (SMEs). Preserving and creating jobs and wellbeing as well as securing fair revenues for all involved is of great importance. Thus, promoting the development of sustainable food systems is a necessary contribution to the economic cornerstone of the Green Deal.

Third, food systems must transform to better support public health. Currently, unhealthy consumption patterns are leading to a triple burden of malnutrition and/or undernourishment, overweight and obesity, and micronutrient deficiency which in turn are responsible for a number of non-communicable diseases such as diabetes, cardiovascular diseases and certain cancers. At the same time, global hunger is rising and if the current trend continues, we could have 840 million undernourished people worldwide by 2030.

Fourth, food systems feature systemic shortcomings in fairness and inclusiveness, which appear in the activities of food production, up to consumption. The economic and power structure of many current food value chains (from land use and market access to product availability and food environment) cause problems such as an increased social and economic vulnerability (e.g. many small-scale producers and workers in the agri- and aqua-food systems struggle to earn a decent income). Furthermore, the current global and oligopoly food system structures lead to a decoupling/disconnection between rural and urban areas, unequal access to and insecurity of food, which may lead to conflicts. Many citizens can't afford or do not have access to healthy and sustainable foods. The importance of these societal challenges[13] is even more accentuated by the current Covid-19 crisis, which is revealing social inequalities, vulnerabilities, a lack of resilience, global-local trade tensions, logistic problems and delays, deficiencies in food security due to interdependencies and lack of self-sufficiency, as well as comorbidity factors, such as diet-related chronic diseases. Those aspects may all evoke avalanches in globalised industrial food supply chains. The Covid-19 pandemic has demonstrated that greater resilience must be a cornerstone of the food systems transformation.

While the transition is imperative, it is also complex, due to the barriers to change built into social systems and the many interconnections. Industrial agriculture including types of livestock production and large-scale fisheries, and the food systems that have developed around

[13] "Decade of nutrition" from FAO & WHO; HLPE report: Food security and nutrition: building a global narrative towards 2030; European Commission's Food 2030 Policy framework; Willet et al., 2019 in The Lancet.

them, are locked in place by a series of feedback loops. For example, the way food systems are currently structured allows value to accrue to a limited number of actors, reinforcing their economic and political power, and thus their ability to influence the governance of food systems. The IPES-Food[14] report identified eight such lock-ins extending well beyond the food production gate, including export orientation, the expectation of cheap food, and "feed the world" narratives, but also current measures of success (in terms of total yields and productivity) and the concentration of power in food systems, which in turn reinforces all the other lock-ins. The lock-ins are reflected in the 7 key challenges pointed out by IPES-Food[15]. Food systems impacts are systemic in nature, caused by many agents, and interact with factors like climate change, unsanitary conditions, and poverty, which are themselves pandered or even caused/shaped by food and farming systems. This calls for a systems approach, which acknowledges the interactions and interdependencies between farming, aquaculture and fishery, feed and food production, food processing, packaging, logistics, marketing, retail, food services, feed and food safety, food consumption and waste management. The relevance of the food systems perspective is to look for those synergies and trade-offs between the system elements that are conducive or are counterproductive to successful transformations. A holistic approach makes aspects visible that could not be seen from separate perspectives. It aims to better understand these processes and their distant effects, to assess the systemic impacts of policies, and to find leverage points and 'game-changers'. Accelerating the transition towards sustainable food systems requires collaborative actions and work across boundaries. Multi- and transdisciplinary research and innovation (R&I), as well as Responsible R&I, including real-life experiments with place-based solution (e.g. Living Labs, see later), are key enablers of this transition, as stressed by the Green Deal strategies and the Food 2030 R&I initiative. To do so effectively, it will need to incorporate environmental, social, and economic sustainability dimensions through aspects such as financial, legal, cultural, ethical and philosophical dimensions into future R&I programmes, as well as co-creation and co-designing with all actors in the food system and collaboration with R&I organisations in countries outside Europe where food systems may be affected by distant effects of the transition in European food systems.

To date, the relevant policy areas, regulation, R&I programming and funding are fragmented. This fragmentation corresponds to lock-in 4 identified by IPES-Food (2016), i.e. compartmentalised thinking/structures that govern the setting of priorities in policies, research and business. Integrating policies across the food system, integrating aquatic and agri-food systems, is a prerequisite for tackling urgent global challenges[16]. Similarly, issues of food access, nutrition, poverty and social exclusion still represent major blind spots in a result of biased concentration of power[17]. Moreover, lack of coherence in legislation can distort the

[14] IPES-Food (2016). From Uniformity to Diversity: diversity: a paradigm shift from industrial agriculture to diversified agroecological systems. Available at: http://www.ipes-food.org/reports/

[15] IPES-Food (2017). Unravelling the Food–Health Nexus: Addressing practices, political economy, and power relations to build healthier food systems. The Global Alliance for the Future of Food and IPES-Food. Available at: http://www.ipes-food.org/reports/

[16] Buckwell A, Matthews A, Baldock D, Mathijs E (2017). CAP - Thinking Out of the Box: Further modernisation of the CAP – why, what and how? Brussels: Rise Foundation.
IPES-Food (2019). Towards a Common Food Policy for the EU. Available at: http://www.ipes-food.org/pages/CommonFoodPolicy

[17] Walls HL, Cornelsen L, Lock K, Smith RD (2016). How much priority is given to nutrition and health in the EU Common Agricultural Policy? *Food Policy* 59, 23-34.
Zahrnt V (2011). Food security and the EU's common agricultural policy: Facts against fears. Brussels: ECIPE.
Moragues-Faus A, Sonnino R, Marsden TK (2017). Exploring European food system vulnerabilities: towards integrated food security governance. *Environmental Science and* Policy 75, 184-215.

development of new sustainable, blue and green value chains. Regaining trust and confidence in a One Health –Safety-Quality approach is imperative for the EU's Food Agenda.

That is why a new European Partnership for Sustainable Food Systems for People, Planet & Climate (SFS) is needed. The partnership takes into account the Food 2030 pathways for action. Through its focus on integration and a long-term perspective/commitment, it will equally overcome the short-term thinking prevalent in the policy and investment sphere (lock-in 5). Current political, institutional and business approaches, bounded by short-term cycles, are ill-adapted to provide the long-term support needed to support the transition to sustainable food systems at European scale and beyond due to international trade and interdependencies.

The SFS Partnership provides the interconnections for the multi-actor approach to food systems R&I that involves a wide diversity of sectors and implements responsible research and innovation principles. Many successful transnational R&I initiatives, like ERA-Nets, ETP's, EJPs, JPIs and BIOEAST have been initiated. These are thematically focused platforms and networks, tailor-made for the needs and requirements of a certain thematic researcher and funder community. Their clear focus on specific sectors or actors of food systems led to a multitude of excellent smaller and specific projects with variable funding geometry. In order to address broader themes, to close research gaps at intersections, and to effectively build on already existing knowledge, bigger networks with a broader thematic focus and strong inter- and transdisciplinary approaches are needed, with special attention to social sciences and humanities. The ambition of the food system partnership will be to search for solutions to complex challenges through research and innovation while also developing a common research language, which can help breaking down silos. This should lead to a transitioning to sustainable, circular and safe food systems benefitting from synergies and making use of interlinkages between actors and activities. This also means involving multiple actors across and beyond established communities of funders and researchers in order to reach impact. In this context, exploitation of results and making use of learnings from local and regional food systems initiatives need to be emphasized. We will also work towards ensuring coherence between the SFS and other partnerships, the missions and initiatives supporting the ERA.[18]

The SFS partnership will foster inclusive food systems R&I governance. Stakeholders from the quadruple helix[19] (i.e. policymakers, businesses/industry, researchers, and civil society), from different sectors of the food system, will be brought together on this overarching platform, with the aim of strengthening science-policy-society interfaces and increase transformative potential. The partnership will coordinate, align, and leverage European and national R&I efforts and investments to future-proof food systems for co-benefits through an integrated and transdisciplinary approach. Linkages to global R&I efforts will be explored and fostered. The partnership will function in synergy with existing initiatives and build on their work, to capitalise on current R&I and initiate much needed new R&I, with a strong focus on delivering impact and co-benefits. The partnership will cooperate with the other Horizon Europe partnerships (Agroecology, Animal Health and Welfare, Agriculture of Data), which will focus on addressing the challenges related to primary production also from a systems perspective, and work on win-win strategies. This will provide the scientific evidence, as well as the

[18] Including ERA-NETs SusFood 1&2, SusAn, CORE Organic, ETPs such as Food for Life, JPIs FACCE, HDHL and Oceans, EIT Food, EFFoST, PRIMA, Food, Nutrition and Health Research Infrastructure (FNH-RI), FIT4FOOD2030, MicrobiomeSupport and many others.

[19] https://op.europa.eu/en/publication-detail/-/publication/6e54c161-36a9-11e6-a825-01aa75ed71a1

collaborative experience, to support the transformation of national and European FS including their links with global food systems, making them safe, sustainable, within planetary boundaries, healthy, resilient, fair and trusted – for everyone.

2.2 Common vision, objectives and expected impacts

Partnerships allow to pool additional private and public R&I investments on EU priorities (additionality) and align them towards common objectives (directionality), thus facilitating the achievement of impacts that cannot be realised by other Framework Programme actions or national action alone. This requires a common vision and a corresponding firm commitment from partners from the beginning, with a clear idea of the impacts and objectives that need to be achieved, and the necessary resources, investments and activities. Since Partnerships are by definition only receiving financial support from the Framework Programme for a limited duration they have to also provide a clear concept on the expected time necessary to achieve the objectives, and the phasing out from the Union funding. The common vision is an important element demonstrating the envisaged benefits for the partners and the society at large stemming from the desired additionality and directionality of the public and private R&I investments.

- *Describe the general, specific and operational **objectives** of the proposed partnership, based on a clear **intervention logic.** In establishing the objectives, link them to broader policy objectives, in particular priorities set by the new Commission, including links with global strategies and agreements such has SDGs where EU has committed itself, where relevant. What is the expected timeframe to achieve the specific objectives?*

The objective of SFS is 'to collectively develop and implement an EU-wide committed research and innovation partnership to accelerate the transition towards healthy diets that are sustainably produced and consumed in resilient EU and global food systems'. Table 1 is a summary of the SFS partnership.

Table 1. Summary of the SFS partnership impact, outcomes, objectives, activities and the policies behind it.

<table>
<tr><td colspan="4">Impact:</td></tr>
<tr><td colspan="2">Accelerated transformation of local, national, European and global food systems, making them safe, sustainable, within planetary boundaries, healthy, resilient, fair and trusted – for everyone</td><td colspan="2">Sustained multi-stakeholder EU partnership for R&I on food systems transformation with global-to-local linkages and creation of a core strategy on Food Systems</td></tr>
<tr><td colspan="4">Outcomes:
EU-wide committed food innovation policy
Strong foundation for a European Research Area for food systems.</td></tr>
<tr><td colspan="4">General objective:
The Partnership will coordinate, align, and leverage European and national R&I efforts to future-proof food systems for co-benefits through an integrated and transdisciplinary systems approach. The Partnership will provide the scientific evidence, as well as the collaborative experience among practitioners and citizens, to support the transformation of local, national, European and global food systems around the four thematic research and innovation areas:</td></tr>
<tr><td>Change the way we eat: safe, healthy and sustainable food are standard in the food environment, enabling dietary shifts</td><td>Change the way we process and supply[20] food: supply-side innovation towards carbon neutrality and circularity, reorienting the food environment</td><td>Change the way we connect with food systems: Citizen engagement and consumer trust in reoriented food systems</td><td>Change the way we govern food systems: Leverage points for local, national, EU and global transition pathways - incentives and co-creation</td></tr>
<tr><td colspan="4">Specific objectives:
Enable and implement the co-creation of context-specific food systems innovations by assessing, experimenting and learning & scaling via the following steps in the partnership:</td></tr>
<tr><td>Strengthening the European Research Area in Food Systems via collaboration and joint funding of R&I</td><td>Assessing, diagnosing and foresighting food system challenges and sustainability improvements</td><td>Developing context-specific food system solutions in multi-actor experimentation</td><td>Ensuring impact through learning, deliberating and scaling</td></tr>
<tr><td colspan="4">Activities:</td></tr>
<tr><td>Pooling R&I resources and programming
Joint calls, joint Programming, and strategic research and innovation agendas (SRIA)</td><td>Launching a Food systems observatory
Platform for sharing metrics, data and assessments on the sustainability performance of food systems</td><td>Establishing a Food systems knowledge hub
Network of transformative research and innovation labs (FS-labs) on systemic innovations at different scale</td><td>Knowledge sharing, and scaling Adapting knowledge systems, innovation platforms and science-policy interfaces for ensuring impact</td></tr>
<tr><td colspan="4">Strategic planning, monitoring, impact evaluation, valorization</td></tr>
<tr><td colspan="4">EU Policies
Farm to Fork Strategy, Green Deal; Common Agricultural Policy / Common Fisheries Policy; Circular Economy action plan/ Blue Economy; Sustainable Aquaculture; Biodiversity Strategy;</td></tr>
</table>

[20] Food supply does not refer to agricultural production, but to food processing, extraction and combination of ingredients, and food preparation (such as by the catering and restaurant industry.

Single market for Green Products; Europe's Digital Decade; 2030 Climate Target Plan; Waste Framework Directive; SDGs, Bioeconomy Strategy and Action Plan, Zero pollution action plan

*Outline the **common vision and ambition of the Partnership** that includes information and qualitative and quantitative data from socio-economic, environmental and industrial/technological studies, recent research results, policies and strategies, as well as data? on identifiable business/investment plans, as appropriate. **In case of a predecessor Partnerships under H2020: please describe what will be different**, reflecting notably the raised ambition to realise the economic, social and ecological systemic transitions that Europe needs;*

The SFS Partnership embodies Europe's ambition to form a new societal pact for addressing the fundamental and transversal role of food in addressing the grand societal challenges of our time. The overarching vision is designing a fair, healthy and environmentally-friendly food system in order to help realise the EU goals of the Farm to Fork strategy and the global ambition of UN Sustainable Food Summit 2021.The SFS partnership will serve as means to implement the UN Food Summit goals.

The SFS partnership will deliver benefits in the form of better understanding of interlinked processes and their distant effects, identifying potential trade-offs and co-benefits, delivering systemic impacts, contribute to policymaking for sustainable food systems, and act on leverage points relevant to business, place-based communities and/or government driven action. The partnership will expand the EU's potential for context dependent, socially embedded and responsible research and innovation (RRI) as well as changes in practices relevant to food production[21] and processing methods, products, food environments, dietary habits, waste and circularity, business models, institutions and policies.

The core strategy of the SFS Partnership will build on the EU Green Deal and its Farm to Fork, Biodiversity and Bioeconomy strategies, relevant expert groups[22] on FOOD 2030 and SCAR themes, Horizon Europe Mission Boards and various programming and technology platforms. The core strategy leads to new research needs and approaches. In order to bring about transformative change in food systems, new knowledge needs to arise in terms of methods and approaches for overcoming issues that cannot be solved using an orientation on value chains, but can be dealt with in a co-creation food system approach. Also linked to the core strategy is exploring how to enable society (and citizens in particular, whether as consumers or in other roles) to partake in the transition, in different regions with specific cultural and dietary habits and governance models.

- *Describe links and/or collaboration opportunities identified at this stage with other Partnership candidates and Union programmes, in particular if co-financing of the Partnership by other programmes, or upstream use of other programmes is planned;*

We envision the SFS Partnership as an interlinking one, tapping from the available knowledge and experience of the initiatives more directly connected to the remit of Food Systems, as well as connecting to, or bridging towards adjacent relevant Partnerships. Additionally, make use of existing research outcomes, build visibly upon the knowledge we have, connecting

[21] MicrobiomeSupport and many others. Publication-detail/-/publication/6e54c1

knowledge parts and bringing them together in a systems approach. A food systems approach does not begin, nor stop at the 'plate'. Food processing, marketing and consumption can provide entry points for making production systems for crops, livestock and fish more sustainable, and similar perspectives are possible for feed chains, waste streams, urban challenges with regard to resilient food availability, chemical and biological food safety, as well as economic aspects in the food chain. Wealth distribution, one health and animal welfare issues are intimately connected to the way we produce, distribute, trade, consume and experience food. Another Horizon Europe partnership will tackle the issues related to Animal Health and Welfare. While the Partnership will need to focus on more specific themes, we suggest a mechanism to enable and ensure these interlinkages are taken into account. The proposed Partnership structure includes a Knowledge Hub and an Observatory. In both, there can be an opportunity to interlink with other relevant initiatives, such as the ETP's, EIT's, Partnerships and Missions.

In particular the following other Horizon Partnerships are relevant: Partnership for the Assessment of Risk from Chemicals (PARC); European Partnership for One Health/AMR Antimicrobial Resistance (AMR); European Partnership on Pandemic Preparedness; European Partnership for Key Digital Technologies (KDT); European Partnership – driving urban transitions to a sustainable future (DUT); European Partnership accelerating farming systems transition: agroecology living labs and research infrastructures; European Partnership for Animal health and welfare (PAHW); Agriculture of data; European Partnership for rescuing biodiversity to safeguard life on Earth; European Partnership for a climate neutral, sustainable and productive Blue Economy; European Partnership for a Circular bio-based Europe; European Partnership Water Security for the Planet (Water4All).

Input from the relevant initiatives and securing the links between the remits is especially relevant for a Partnership with a Food Systems approach at its core. This however also demands clear, specific and focused goals and subsequent KPIs. Such an approach implies matching different pathways, and/or where trade-offs occur, mapping, analyzing and experimenting with novel ways forward. Pathways are amongst others: connecting agriculture, nature and food, which will be one of the objectives of the Agroecology partnership; healthy, safe and affordable diets for all; healthy and sustainable food, real food pricing and consumer awareness of pricing; sustainable production on land and in the sea in an overall system approach, including exploring a wider range of (non-) animal protein systems and climate neutrality. Sustainable food production on land will be the overarching objective of the Agroecology partnership under which the R&I activities in this area will be tackled.

*Estimate **how much R&I investments** are overall necessary to achieve the specific objectives, which parts will be contributed by partners, and which by other sources, in order to justify the investment from the Framework Programme (additionality, possible quantitative direct and indirect leverage effects). Explain how reaching those investment targets could be monitored throughout the programme;*

- *Demonstrate how the proposed Partnership is expected to trigger relevant transformational changes in the broader research and innovation ecosystem (qualitative impacts) at national and/or sectorial level; Include a clear and realistic exit-strategy and measures for phasing-out from the Framework Programme funding.*

The **potential impact** of the partnership is strongly related to the **capacity to align actors** of the food system around the goals identified by the Green Deal and to quantify contributions to the objectives in the Farm to Fork strategy. Besides, it should have qualified contributions to food and nutrition security, safety, efficient resource usage, and economic and social aspects in food system approaches at EU, national, regional and local levels. **Its success depends on the transformation capacity of food system actors** towards more sustainable outcomes, via an understanding of food systems, exploring systems approaches, searching for appropriate leverage points and solutions, and overcoming barriers and trade-offs. For this reason, **outcomes will be assessed in terms of conceptual development** (i.e. capacity to introduce new concepts in the knowledge ecosystem), **technology development** (i.e. capacity to deliver technological solutions tailored to the variety of the emerging problem and to foster their market uptake), **social and business development** (i.e. capacity to provide knowledge to new social configurations, new business models and bottom-up initiatives), **policy development** (i.e. capacity to provide new concepts and new technological solutions for policy consideration), and **territorial and context specific 'RIPE' (Research, Innovation, Policy advice, Education) activities**. The societal **impact** generated with these outcomes is a strong contribution to an accelerated transformation of national, European and global food systems, making them safe, sustainable, within planetary boundaries, healthy, resilient, fair and trusted – for everyone.

The **success factors, or better 'Key Performance Indicators (KPI)',** are highly diverse and, hence, categorised. The categories, with one concrete KPI as an example, are: *(i) commitment of stakeholders* (level of **political and financial commitment**), (ii) *contributions to more sustainable food system pathways* (level of **change towards a systems approach)**, (iii) *relevant focus areas in sustainable food systems* (potential of a **focus area to establish leverage points)**, (iv) *alignment of activities at EU level* (level of **monitored alignment of European and national R&I efforts**), (v) *mutual benefits by strengthening local food system activities* (quality of the **network of FS-labs** in terms of exchanging best practices and co-funded actions), (vi) *performance of Partnership activities* (**programming structure** for management of calls and 'RIPE' agenda setting), (vii) *attractiveness and source of inspiration (via interactive communication) of the Partnership* (level of **spirit, joint ambition, belonging and engagement** based on realistic success stories). Further specification of these KPIs into concrete and measurable components will further secure delivery against the transformational changes needed across the whole food system. The final impact pathway with KPIs will be developed in a process engaging relevant stakeholders including funding bodies and beneficiaries of the R&I activities before launching the partnership.

Progress monitoring and the Exit Strategy of the SFS partnership

The strategies developed under the Green Deal, in particular the Farm to Fork strategy and the Biodiversity strategies, identify precise and ambitious targets and **pledge to monitor the progress towards them.** The time frame of the Partnership instrument is restricted with regard to its activities. However, its remit and subsequent challenges are likely to exist well beyond the lifespan of a network. A European Food System Observatory for performance monitoring will stay important even post-Horizon Europe. Activities of the Partnership aim to gradually give shape to and be sustained by a coordinated Mission on Food Systems. The Partnership will work in a coordinated manner with the Agroecology Partnership, Partnership of

Agriculture of data, Sustainable Blue Economy Partnership, Water4All Partnership, One Health AMR, Biodiversa+ and other relevant initiatives such as the Eurobarometer action, the risk assessment of chemicals Partnership (PARC), the Animal Health and Welfare Partnership, digitalisation, and EIT-Food through joint meetings, common forums, coordination among SRIAs, and possible joint calls.

*European Partnerships will be based on jointly developed **Strategic (Research and) Innovation Agendas / roadmaps[9] with clearly identified milestones and outcomes** and their planned uptake. The development of such a strategy is a precondition for launching a European Partnership. To meet the requirements set in Horizon Europe, the strategy process needs to be comprehensive, notably by ensuring strong and broad stakeholder involvement and by making connections to ongoing policy and strategy debates. The Strategic Research and Innovation Agenda/roadmap needs to be agreed with the Commission services. It has to be sufficiently detailed to either build the basis for the drafting of work programmes, or otherwise clearly describe the process for further detailing the agenda of activities on an annual/multiannual basis. In the latter case, and depending on the area addressed and communities involved, it is appropriate to identify only high-level topics to be addressed, and describe the annual stakeholder consultation process in detail that translates this into the scope of annual activities. The level of detail should be agreed beforehand with the Commission Services.*

*Depending on the progress in the preparation of the proposed Partnership, please include an **annex** to the proposal that includes either:*

- *A description of the planned process for developing a Strategic Research and Innovation Agenda/roadmap; or*
- *A Strategic Research and Innovation Agenda/roadmap, including a description of the strategy process and evidence of the involvement of stakeholders in the identification of objectives.*

The partnership will be guided by a common Strategic Research and Innovation Agenda (SRIA), jointly developed with input from stakeholder representatives and funding agencies. The SRIA will reflect knowledge needs within civil society, business development and strategic policy support and act as a guideline for formulation of more detailed scope and topics for the joint calls and for continuous portfolio management of funded activities and their results vis-a-vis the partnerships objectives. The first steps towards development of a SRIA was taken in a process guided by the SCAR SWG Food Systems and involving national representatives and a representation of trans-European umbrella organisations and stakeholder groups. This has resulted in the formulation of four provisional thematic areas framing different aspects of the Food Systems development needed. Figure 1. summarises how the SFS partnership enables R&I to drive food systems transformation.

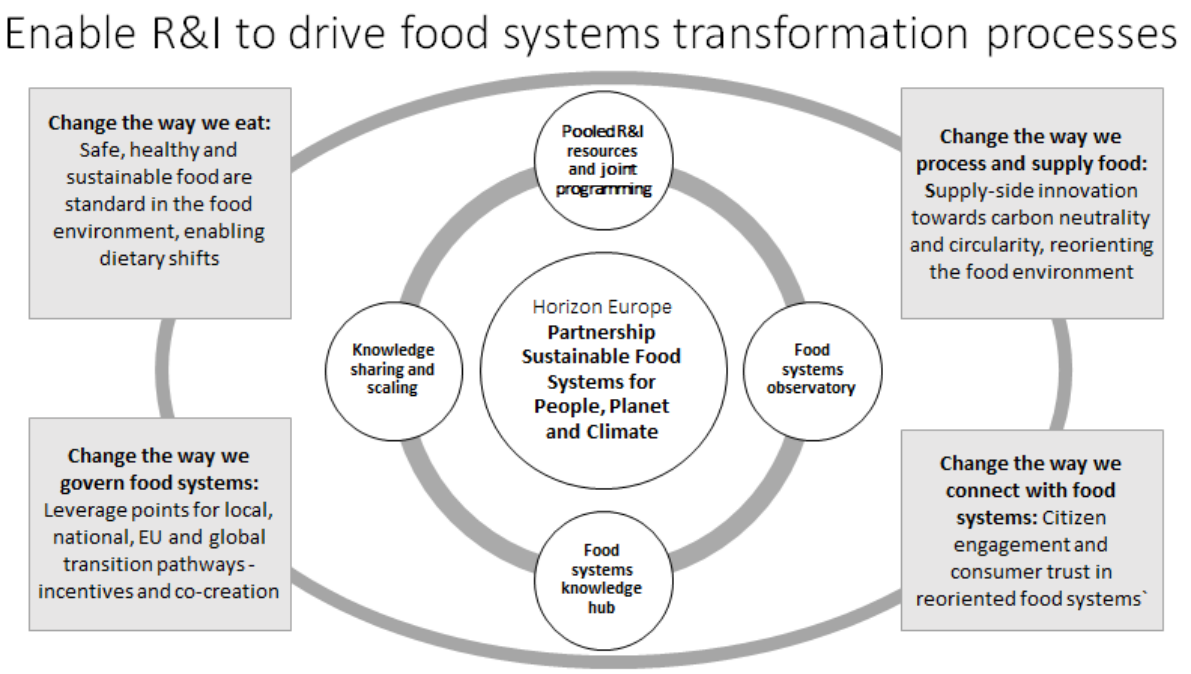

Figure 1. Summary of how the SFS partnership drives food systems transformation through its four thematic areas and activities (also see Table 1.).

- **Change the way we eat**

Along with education, transforming current food systems to improve the availability, accessibility, and adoption of nutritious, safe, affordable, attractive, and sustainable diets and products is essential to combating malnutrition in all its forms and promoting health. Furthermore, the way we eat today has a significant negative impact on the environment, which extends far beyond the geography of Europe. Combining sustainability and health requires better understanding of the various strategies to bring both aspects into balance within culturally and culinary diverse dietary habits while adapting to changes in lifestyle, physical and health-related needs. Shift towards healthy and sustainable diets for all citizens requires a better understanding of a range of changes in the food environment and consumption that are oriented towards more plant-based diets. It also requires utilizing the untapped potential of sustainable consumption of animal-based foods, lower trophic level aquaculture, and alternative protein sources (both terrestrial and aquatic). Opportunities for beneficial microorganisms, including bacteria, viruses, fungi and protozoa, and their interaction with the microbiome for healthy organisms, should be further explored.

Public health nutrition interventions in the past have led to the insight that behaviour change campaigns, voluntary industry guidelines, and other freedom-of-choice measures (Griffiths and West, 2015) have positive but insufficient effects on shifting dietary habits. Such considerations are based on the notion that consumers make rational choices, which in itself has been proven over-optimistic to downright wrong. Today's consensus is that the food

environment and food supply chain should be optimized to ensure that healthy and sustainable food is the standard choice. The food environment is where consumer's personal preferences and opportunities intersect with the supply of food. It has a personal dimension, which includes the role of food in different citizens' lives and how they view and value food in their social context. Food availability, prices, vendor and product properties and marketing shape the external dimension of the food environment. R&I is needed to improve food purchasing and choice to promote desirable changes in behaviour, reorienting the food environment towards affordable, accessible, sustainable, healthy choices and reducing inequalities. Research on nutritional behaviour, on social determinants of nutrition and on solutions that address the broader societal context and framework conditions should lead to social and business innovations, for example in the domains of food retail and property development. Potentially such R&I underpins a need for more restrictive and normative regulations and policies. New options should be explored for consumers to participate in the transition towards a different food system and how to raise awareness among consumers in different regions with different dietary habits. Novel technologies and approaches can be used to better understand behaviour and guide food choice, including digital approaches. Further R&I and strategy development are needed to ensure that diverse and resilient local food systems support dietary shifts.

- **Change the way we process and supply food**

If we change the way we eat, we need to change the way we supply, process and produce[23] food to provide the desired sustainable, healthy and diverse diets. Hereby, EU food systems should strive to reach climate neutrality, and zero waste, preserve biodiversity, land and water resources, and eliminate biological and chemical hazards. This partnership focuses on new ways to process and supply sustainably, starting from a consumer orientation and FS outcomes, while connecting to green and blue production as targeted by other Partnerships.

Circularity, to close nutrient cycles and efficiently use resources, will be a first driver for sustainably processing and supplying foods, and feed. This requires new recycling and processing on-demand methods, food waste reduction guidance tools (for households, food service and retailers), safety tools and measures (e.g. avoiding migration of non-intentionally added substances from recycled food contact materials to the food), conservation methods, hygienic designs and even disease control (e.g. zoonoses by viruses, bacteria and parasites).

Diversification is a second driver for processes and supply chains to provide diverse diets and handle biodiverse (agro-ecological) resources. This also includes innovative food products from alternative protein crops, forgotten (ancient) crops, algae, low-trophic fish species and invertebrates, insects, etc. Diversification also evokes challenging research questions in the microbiome field, from fermentation (biotechnological processes) till the gut microbiota.

The move towards more circular and diversified farming systems will be the focus of the agroecology partnership.

[23] Food production does not refer to agricultural production, but to food processing, extraction and combination of ingredients, and food preparation (such as by the catering and restaurant industry.

Re-localisation and adapted logistic schemes will become the third driver resulting in re-scaling of processes and alternative (short and long) supply chains. This also includes cascading methods for locally transforming main and by-products into food 'first', then feed, and non-food applications (in pharma, cosmetics, biomaterials, bioenergy; the latter with the Partnership Circular Bio-Based Europe). Here, technological, social and organizational innovations are integrally addressed.

A key transversal topic is mild and targeted food processing that preserves the freshness of natural resources as well as nutritional density, limits the use of additives and seeks optimal health properties of food. This will be combined with novel preservation schemes (storage, packaging), adaptable to various supply chains. These should be more resource efficient, diminish environmental impact and reduce the use of fossil fuels, while keeping shelf-life all along the food chain.

Finally, digitalization of processes and of food supply chains requires R&I efforts to enhance efficient resources usage, food safety and food authenticity. Complex food system modelling, predictive benefit-risk and fraud modelling (AI, blockchain technologies, etc.), early warning signalling, data management, are key themes to be addressed.

Responsible research and innovation schemes for (new) processes and supply chains, in addition to skills development and education, should help food actors in the EU; this, to increase the diversity of healthy and safe food products, sustainably produced in a fair and inclusive manner. Special attention will be given to addressing technological and financial lock-ins, at all TRL scales, that build on the HE Partnerships and Missions.

- **Change the way we connect with food systems**

Improve citizen engagement and consumer understanding and trust in transparent, sustainable European food systems. Achieving this requires novel tools and practices for improved consumer/citizen engagement, and empowerment as well as awareness raising of sustainable food systems. The transformation requires taking up responsibilities and decision making of own diets as well as for influencing how food is produced, distributed and consumed. The social context, socio-economic inequalities in access, and discrepancy between citizens' reported intent and actual consumer behaviour are all underexplored. Innovating in local terrestrial and aquatic farming and food systems, short supply chains, distribution and business models, support to foster food cultures with local and authentic products while preventing food fraud and food safety hazards. With a view of not compromising consumer trust and food safety in the transition of food systems, e.g. in the expanding use of novel sources of protein, multi-criteria risk-benefit assessment approaches are needed to integrate and link safe, high-quality, affordable, appealing and sustainable nutrition including the development of new practices in complex local food systems as well as improved or increased share of information. Research and innovation will contribute to fostering feed and food safety (including food packaging), authenticity, integrity, and the necessary transparency across the food systems, through innovation in digital technologies like Artificial Intelligence (AI) and blockchain, data-driven services or other.

- **Change the way we govern food systems**

Ensure effective and inclusive governance of the transition towards sustainable EU food systems. This will support the use of evidence-based levers, incentives and steering mechanisms in local, regional, national and global transition pathways towards sustainable food systems through R&I contributions that support the design of innovation-friendly food systems-related policies at all levels. R&I efforts may foster collaboration across 'food policy councils', rural, coastal areas, islands and urban networks and city-regional collaboration models, regional innovation platforms and support involvement of a plurality of food system actors including non-traditional actors, e.g. from housing, public health, insurance and banking sectors. The partnership would thus contribute to policymaking and implementation by providing R&I support to sustainable food system policies, providing - where relevant - support to the future EU legislative framework for sustainable food systems as well as legal obstacles to development of new value chains including land-water interaction. It will analyse the impact of governance in fields such as breeding, aquaculture, fisheries, agriculture, food processing, food services, retailing and marketing, food packaging, food safety and international trade in order to identify aspects restricting innovation and the sustainability of food systems. In this regard, overlap will be avoided and synergies will be ensured with related activities of other partnerships focusing on land-based production. Focus on practices in incentivising sustainable businesses would contribute to implement the code of conduct for responsible business and marketing in the food supply chain that is an action of the Farm to Fork strategy. The partnership will also examine ways to strengthen decision-making based on true cost accounting in food business that also embed environmental and social (incl. health) externalities.

A more complete SRIA including clearly identified milestones and outcomes and impact pathways for their planned uptake will be developed in dialogue with potential funding agencies, EC services, stakeholder representatives and other Horizon Europe Partnerships. The Partnership will be designed to match different R&I pathways, facilitating more fundamental knowledge questions, as well as closer-to-market questions where the link with SMEs and larger companies, as well as the relevant players such as EIT FOOD will be established.

2.3 Necessity for a European Partnership

European Partnerships are established for addressing European or global challenges only in cases where they will more effectively achieve objectives of Horizon Europe than the Union alone and when compared to other forms of support from the Framework programme. Therefore, the proposal needs to demonstrate convincingly that the envisaged Partnership will indeed be more effective in achieving the related objectives of the Programme. Depending on the intervention logic of the proposed Partnership, the proposal needs to address to different degrees the following aspects:

- *Demonstrate how the Partnership addresses the objectives of Horizon Europe and common political priorities of the EU and its Member States, with cooperation extending well beyond transnational joint calls and R&I projects, thus ensuring that structural and societal impacts contributing to the overarching policy objectives can be achieved;*

- *Demonstrate how the partnership will establish a meaningful collaboration with Member States /Associated Countries and relevant national/regional authorities and their respective commitments (e.g., by identifying and connecting with relevant national activities and programmes that allow addressing common challenged more effectively).*

A recent report of the Standing Committee on Agriculture Research (SCAR) SWG on Food Systems research by European MS has signaled that food safety, sustainability and health are of particular interest in MS research policies. This is underlined by the joint statement letter of the SCAR and 3 JPIs (HDHL, FACCE and Oceans) and of EFFoST, EIT Food, FoodDrinkEurope, FoodNexus, ETP Food for Life and Foodforce. At the World Food Day 2019, the need for innovations at EU and national levels was emphasized by the EC representatives.

According to the SAM-SAPEA report[24] on Food Systems, the coordination, alignment and leveraging of European and national R&I efforts is essential for tackling the challenges associated with sustainable food systems through a transnational, integrated and transdisciplinary approach. This will provide the necessary scientific evidence to help civil society, policymakers, businesses and primary producers to take concerted action on European, national, regional and local levels that deliver co-benefits on nutrition, climate, circularity and place-based innovation and avoid detrimental effects in particular to developing countries.

Citizens' concerns on food safety, healthiness, and sustainability of foods are further emphasized by the lack of trust in the food systems including parts of science and innovation. For example, increasing transparency of the EU food safety system, as brought forward by the Commission proposal amending the EU General food Law, contributes to meeting citizens' expectations. This requires both a bottom-up approach in local food systems with citizens and a European guidance approach.

The references in this document are in line with the Farm to Fork strategy and Food2030 agenda priorities, all underlining needs for a joint system approach by a real Partnership mobilizing all complementary skills and competences. Only in this way can the overwhelming challenges be tackled such as climate change, triple burden of malnutrition and rising non-communicable disease, loss of biodiversity, lack of stakeholder engagement, loss of cultural heritage, etc. This is particularly true for the agri-food domain, who find themselves also impacted by the same issues, but is partly at the origin of these problems. These actors are however also equipped to find solutions including improving animal-based food systems as well as developing alternatives such as more plant-based food.

An impact-oriented Partnership with strong guidance at EU level, and well embedded in all regions in Europe, is therefore the most suitable tool to support future long-term EU coordination, cooperation and capacity building of R&I in these areas.

[24] https://www.sapea.info/topics/sustainable-food/

[24] https://ec.europa.eu/info/research-and-innovation/strategy/support-policy-making/scientific-support-eu-policies/group-chief-scientific-advisors/towards-sustainable-food-system_en

2.4 Partner composition and target group

- *Describe how the Partnership will build upon, strengthen and/or expand collaboration networks and initiatives that are currently existing at the EU level, beyond currently existing Partnerships;*

The ambition behind the Sustainable Food Systems Partnership is that this new instrument can provide a platform that connects new types of partners and enable innovative working methods relevant to the entire food system. The Members States and regional governments have already started deliberating on what the new instrument could bring back home. The Flemish Department of Agriculture and Fisheries has started working on supporting a Food Hub aiming at bringing different stakeholders from the entire food value chain together. It is apparent that other MS or regional governments also have deliberations on this subject or have already started prototyping innovative food system concepts that can be embraced under the SFS Partnership. Hence, the aim is that the SFS Partnership would be equipped so to integrate all the governmental levels and ensure unprecedented transfer of scientific knowledge.

- *Justify the **type and composition of partners** (public, private, foundations etc.) considered necessary for this partnership and describe the ambition to include new types of partners (in particular end-users), and to ensure the necessary thematic and geographical coverage to meet the objectives;*

When it comes to food systems, it is important to recognize all food producers, including aquaculture and fisheries, and that retailing and processing (industry) have a key role as intermediaries between production and consumption. Also local and regional governments, as well as philanthropic organisations, are paramount for the food systems of tomorrow. **Alignment of private and public goals is thus a condition for success of public strategies.** Governance of partnerships should then be able to guarantee a balance between all interests (at different scales: small and big production units, SME, agroindustry, from farm to landscape, different phases of the chain, different sectors, from local, territorial, regional, and intergovernmental, taking into account geographical differences), and should be based on a clear commitment of the private sector in relation to common values, to public goals and the related targets. Structural differences across small- and largescale aquaculture, farming and fisheries are also reflected in public strategies and acceptance. Therefore, one aim is to find loci and leverage points in food systems, where specific changes by conscious actors may create positive feedbacks from other actors in the system, resulting in transformations that catalyse co-benefits and synergies between healthy diets, behavioural change, and circular and affordable food production, processing, marketing and consumption with low waste and with sustainable outcomes (Meadows, D. (1999). Leverage points: Places to intervene in a system. Hartland, WI: The Sustainability Institute). Such successful changes will require food systems inspired by research, innovation and real-life experiments and demonstrators. Hence, the Partnership will benefit if it can identify: (i) the nodes where the stakeholders of the part of the system at a societal level are underperforming and (ii) provide opportunities to **partners** who can credibly make a difference in terms of an exemplary niche innovation or shift in the mainstream practice. A challenge for the partnership is to bring on board representatives from all stakeholder groups, and to incorporate or develop mechanisms to support R&I with both public and private funding, in cash as well as in-kind. Within the governance of the Partnership,

modalities are designed to enable **in-kind contributions** from relevant (national) actors, and to make them explicit in the Partnership activities, e.g. sharing of national/regional data sets, joint development of indicators, addressing policy questions or regulatory affairs is a collaboration across member states.

- *Describe the envisaged target groups / stakeholder community (beyond the members of the Partnership). Elaborate also on the international dimension and justify the EU-added value including international partners and stakeholders, and provide a justification when specific strategic needs at European level should restrict the international dimension.*

The Sustainable Food Systems Partnership is an ambitious venture, bringing together parties at all scales in a new framework to foster collaboration (described in 2.2), in line with the Green Deal's call for a "new pact", working together with actors on the ground to deliver transformation. It will establish a new kind of mechanism that can implement unprecedented change, going beyond ERA-NETs and JPIs to also include groups that could not be included until now. The working methods will be advanced in a novel way, helping to mobilise and integrate investments that take on only partial challenges, acting as a hub. The Sustainable Food Systems Partnership is complementary to other partnerships and enables synergy and cross talk between existing research networks and knowledge hubs taking a holistic approach in transforming the food systems.

A knowledge hub will encompass a network of (new and existing) transformative research and innovation labs for the co-creation of systemic innovations at different scales across Europe. The food system labs will be inclusive, inter and trans-disciplinary, and multi-sectorial platforms with a multi-actor approach involving a wide diversity of sectors including primary production, harvest, food processing and packaging, logistics, retailing, food services (e.g. restaurants, canteens) and public health. It will involve stakeholders including researchers and academia, policymakers, industry (small, medium and large companies), NGO, educators, knowledge brokers, consumers and civil society including youth and young professionals working together in the Living Lab approach. Overlap will be avoided and coordination of activities will be ensured with other Horizon Europe partnerships also using living labs as implementation, in particular the Agroecology partnership. Where relevant, international collaborations with third countries having international trade of foodstuff and feedstuff with Europe will be supported to share ideas, progresses and impacts, and finally achieve the development of sustainable food systems at various scales, leaving no one behind.

Novel tools and practices for improved citizen and actor engagement in food systems development and consumer trust in transparent EU food systems are required. Innovating in urban food systems, short supply chains, distribution and business models needs support to foster food cultures with local and/or authentic products while developing innovative protection against food fraud and improving food safety. With a view of not compromising consumer trust and food safety in the transition of food systems, e.g., in the expanding use of side-streams in feeds for food, novel sources of protein, novel processing pathways, circularity in food systems, new holistic risk-benefit assessment approaches are needed to integrate and link safe, high-quality, affordable, appealing and sustainable nutrition including the development of new practices in complex local food systems. The new holistic risk benefit assessment not only includes the traditional beneficial aspects of the particular food item but

also the benefits in terms of sustainability and animal health and welfare. Research and innovation will contribute to fostering food safety, authenticity, integrity, and the necessary transparency across the aquatic and land-based food systems, through innovation in digital technologies, and data-driven services. Especially modern digital technologies (Artificial Intelligence, Blockchain and data economy) have a great potential to make the EU food systems more transparent and fair. These technologies could also allow more citizens and SMEs to engage themselves in the development of their food systems, e.g. by giving them tools to collect, exchange and share data on the food, its origin and supply chain.

This partnership is built on networks composed of a wide variety of actors, including public and private sectors, industry, citizens, NGOs, academia and other stakeholders from across the food system, from food production to food consumption and health, and linking the terrestrial and aquatic dimensions (the blue-green continuum). The preliminary governance model foresees a 'Collaboration Partners Platform', composed of (i) a food systems community of practice/ambassadors (representatives of European and national agencies, food and health authorities); and (ii) society and private actors (representatives of industry, farmers, aqua culturists, fishers, civil society, education and health organisations, dieticians, investors, spatial planners, knowledge brokers, etc.). This platform may function as an inclusive Stakeholder Board of the future partnership.

A part is based on a still immature network of national and/or regional clusters that are strongly R&I oriented, with an excellent embeddedness at local level. They could potentially mobilise physical and virtual co-creation and consumption platforms. Their usage permits not only dealing with food as a trading good, but also food as a commodity, a human right, enjoyment, pleasure, culture, social value, etc. Once this network becomes mature, it may function as: (i) a guidance/steering team with experts in food system coordination actions; and (ii) expert teams for each focus area. The latter should then unite scientific experts both from public and potentially also private partners willing to work in open science-innovation environments.

International and European dimension

The SFS Partnership will liaise with intergovernmental organisations and initiatives (e.g., UN, FAO, WFP, WHO, OECD, WEF, Project Drawdown, etc.) and private funders (EIT FOOD KIC and relevant European Technology Platforms and foundations), urban and regional food systems strategies (including actions relevant to smart specialization strategies). It will link to international networks of universities and research centres working on food systems transition, for example in the EU-AU HLPD Partnership on food and nutrition security and sustainable agriculture. WHO's recent report "Safer food for better Health" (https://www.who.int/publications-detail-redirect/9789240031739) promotes the same approach at international level. Food safety is imperative and strong collaboration around this topic is a key. The high level of food safety in the EU is best maintained with strong public activity, bringing together public bodies including EU and National Food Safety Agencies and regulatory bodies including those responsible for risk assessment like EFSA.

European food systems rely on global inputs. The import of for example soy bean and palm oil challenges sustainability in distant areas. The EU's relationship with Africa is a key priority for the EU. EU – Africa jointly tackle climate change and environmental-related challenges

(e.g. biodiversity loss, natural habitats alteration, landscape degradation). They strive to meet the objectives of the Paris Agreement on climate change, and contribute to the Sustainable Development Goals, in particular ensuring food and nutrition security and decent livelihoods. There is an urgent need for more concerted action and financing to accelerate innovation in adaptation because, in many current agricultural systems, the operating environment for agriculture will soon shift beyond what can be managed through incremental adjustments. Food systems are at the center of these challenges, e.g.: OneHealth and food systems, Agro-ecological approaches in African agriculture systems, Rural innovation, AU-EU Combatting all forms of malnutrition, African food cities. A focal point for collaboration is given by the EU-AUHLPD-FNSSA priority roadmap for science and technology collaboration from different funding sources including Horizon 2020 and Horizon Europe, ERA-Nets, African Union research grants, DeSIRA or PRIMA. They should contribute to the work of the FNSSA-working group (WG) by linking to the LEAP4FNSSA project supporting the FNSSA-WG secretariat.

3 Planned Implementation

3.1 Activities

The Partnership should deploy the necessary broad range of activities including calls for R&I proposals, from concept to demonstration and validation, as well as joint activities beyond joint calls that effectively support achieving its objectives. Where appropriate, the Partnership should take into account relevant standardisation, regulation and certification issues to maximise the impact of its actions and ensure market, regulatory or policy uptake.

- *Describe the envisaged portfolio of activities to support the full and effective achievement of the objectives and expected impacts of the proposed Partnership (**to be elaborated in detail in the SRIA);***
- *Describe the mechanisms which will ensure the complementarity of activities and help **avoid unnecessary duplications with other relevant initiatives of Horizon Europe, including with other relevant European Partnerships**, missions and EU actions / initiatives beyond Horizon Europe;*
- *Demonstrate how the Partnership will ensure coherence and synergies in relation to major national (sectorial) policies, programmes and activities;*

The SFS partnership will enable network partners to co-create and deploy R&I actions in support of food systems transition. The objective of SFS is ***'to collectively develop and implement an EU-wide committed research and innovation partnership to accelerate the transition towards healthy diets that are safe and sustainably produced[24] and consumed in resilient EU and global food systems'.*** The partnership will address challenges and thematic focus areas from **a food systems approach** in complementarity with other initiatives and partnerships that will address the challenges of specific parts of the system, e.g., accelerating transition of land-based production towards sustainability under the Agroecology partnership.

The SFS partnership will deliver benefits in the form of better understanding of interlinked processes and their distant effects, identifying potential trade-offs and co-benefits, delivering systemic impacts, contribute to policymaking for sustainable food systems, and act on leverage points relevant to business, place-based, communities and/or government driven action. The

partnership will expand the EU's potential for context dependent, socially embedded and responsible research and innovation (RRI) as well as changes in practices relevant to production[25] methods, products, food environments, dietary habits, waste and circularity, business models, institutions and policies. This includes the regulation of novel ingredients in feed and food.

The core strategy of the SFS Partnership will be informed and build on the EU Green Deal and its Farm to Fork and Biodiversity strategies, relevant expert groups[26] on FOOD 2030 and SCAR themes, Horizon Europe Mission Boards and various programming and technology platforms to deploy across the SRIA's ***four thematic areas for transformative R&I*** described above**.**

- **Change the way we eat**
- **Change the way we process and supply food**
- **Change the way we connect with food systems**
- **Change the way we govern food systems**

A Horizon Europe Partnership should make use of **collaborative and integrated policy design and governance engaging stakeholders with coordinated bottom-up and top-down approaches.** The SFS Partnership will invest in a new narrative for sustainable EU food in the global marketplace, in which maintaining EU cultural diversity, quality and safety standards above international levels is considered an asset in global competition and the development of precompetitive initiatives for accountability and **creation of shared values in food is essential.** Thus, the SFS Partnership will advocate for a more extended view on food, not only as a commodity but also as a common and a human right.

Overall, the partnership will achieve its ambition to coordinate, align and leverage European and national R&I efforts on future-proof food systems through ***four interconnected activities***:

- **Pooling R&I resources and programming**

A main objective of the partnership is to strengthen the European Research Area in Food Systems via joint funding of R&I based on interactively developed Strategic Research and Innovation Agenda (SRIA) and a Roadmap. A key aim is to attract contributions from important public funding agencies and – where possible – private funds in MS, associated countries and European level to complement the EC co-funding. The partnership including EC will agree on scopes for competitive calls based on the SRIA and will select and fund relevant, high-quality and impact oriented R&I projects engaging a wide array of scientific disciplines and stakeholders in multi-actor and Food Systems approaches including - where relevant – Living Lab initiatives. While the mentioned thematic areas describe a large set of specific knowledge needs, the FS approach will ensure that funded projects will address challenges from a multi-node and multi-actor perspective including relevant interactions among agents as well as linked sustainability outcomes – intended and unintended. Thus, the Co-fund competitive calls will enhance a food systems approach at various scales (local, regional,

[25] Food production does not refer to agricultural production, but to food processing, extraction and combination of ingredients, and food preparation (such as by the catering and restaurant industry.

22-36a9-11e6-a825-01aa75ed71a1" https://op.europa.eu/en/publication-detail/-/publication/6e54c161-36a9-11e6-a825-01aa75ed71a1

roupID=3543&news=1" Food 2030 Expert Group ; IPFSS Expert Group, SAM Opinion Food Systems

national, EU, transnational and global level) while respecting division of labour with partnerships and Missions specifically addressing primary production. The approach will also involve jointly accelerating coordinated action on the most pressing public-private R&I priorities: agenda-setting and legal frameworks for involving industry and SME representatives in programming and for involving SMEs in projects. Coordinated calls with other partnerships and associated partners for specific objectives such as the World Food Programme, the European Space Agency or foundations that are active within the scope of sustainable food systems (e.g. the Rockefeller Foundation, the Ellen MacArthur Foundation, the Daniel and Nina Carasso Foundation, the Bill & Melinda Gates Foundation) could be explored. When transformation in Europe is expected to generate distant effects on food systems in other non-Europe countries, particularly in Africa, R&I projects involving collaboration with R&I organisations in these countries will be encouraged with the aim to mitigate negative effects, thus leaving no one behind the European FS transformation.

- **Launching a food systems observatory**

The food systems observatory will create a European platform and network with the objective of following and describing the status, challenges and sustainability of European Food Systems at relevant scales. The aim is to assist decision makers and stakeholders with updated assessments and trends regarding food systems development at regional, national and European scales including international FS linkages and interrelations. The data obtained will be used for diagnoses, forecasts and for monitoring the impacts of the SFS partnerships activities. The observatory will contribute to co-developing – where possible - harmonized data recording to supplement existing monitoring efforts by national and EC research agencies/ministries on the sustainability performance of European food systems including distant effects (outside Europe). At present, capacities and protocols to monitor and map food systems drivers and outcomes differ widely across the EU. The observatory will build on future Farm to Fork strategy's policy initiatives and develop protocols for defining and delineating specific EU food systems at various scales in the global context following science-based methods using data and modelling and translating these into policy relevant findings. The observatory will seek collaboration with international institutions and initiatives to jointly cover the widest possible FS linkages in a global perspective including trade related impacts on land use, food availability and other sustainability aspects. A conducive institutional setting of the FS observatory will be considered in order to ensure contribution from MS and sustainability of the effort beyond the partnership as well as avoiding overlap with existing institutions. At a mature state of the partnership, the food system observatory model can be expanded to seek synergies beyond Europe in order to develop concerted sustainable food system approaches, sharing innovations and changes at a global scale. These activities will be complementary to the partnership on Agriculture of Data.

- **Establishing a food systems knowledge hub**

The food systems knowledge hub will identify, build on and make available relevant knowledge and experience generated from previous national and EU R&I programmes and projects on FS and FS Living Labs. The hub will encompass a network of transformative research and innovation labs (FS-labs) for the co-creation of systemic innovations at different scales across Europe and considering innovations generated by R&I collaborations with third countries, in particular from Africa in the framework of LEAP4FNSSA. The food system labs will be inclusive, multi-actor, inter and trans-disciplinary, and multi-sectorial platforms, with

consumers, public sector, and all other actors in food systems (e.g. citizens, industry, retailers, food services, farmers, aqua culturists and fishers, investors, planners, policymakers, knowledge brokers etc.). Partners will work together in the Living Lab approach, fostering diverse forms of innovation that starts from the prevailing multi-objective societal problems to be addressed and the associated risks and benefits. The FS knowledge hub will ensure that experiences and results gained via the FS-labs will be recorded and synthesized as best possible across regions and food system types. For this purpose, the knowledge hub will also deliver science-based joint protocols, benchmarks, methodologies and tools for food systems approaches in R&I action.

- **Knowledge sharing and scaling** Adapting knowledge systems, innovation platforms and science-policy interfaces

The knowledge hub will organise the sharing of existing knowledge and co-create new knowledge at transnational, national or subnational level, through joint protocols and methodologies for designing, organising and evaluating food system lab activities. Activities are 1/Community of practice/learning network for food system labs. 2/ Reflect on the value-added of the activities in the hub. 3/ "R&I roadmap activity" 4/ Innovation Nest: Liaison with existing tools (EIT Food; EIC; national incubators) for SME and start-up engagement including business development. The SFS will invest in several types of knowledge transfer and training on food systems awareness:

1. Develop formal and informal education programme and competence building for food system transformation at all levels (e.g.: schools, Higher Education Institutions and Vocational training);
2. Knowledge transfer for scaling innovations and policy coherence;
3. Knowledge transfer to industry organized through the stakeholders and the individual project consortia and
4. Science-policy interfaces in the EU at various levels (local to national), including Intergovernmental EU and global levels.

SFS partnership will ensure collaboration with EC SAM and related activities as well as international initiatives for policy advice in FS. The activities in this area may result in the development of a Food Systems Mission for the medium-term. Particular support will be made to relevant EU Agencies and the Joint Research Centre (JRC) of the European Commission, who are key research stakeholders that provide scientific advice for policymaking.

3.2 Resources

A partnership will only be successful if all partners are and remain committed. Binding commitments to their contributions will be necessary to achieve the objectives.

- ***Please specify which types and levels of contributions from partners are necessary to achieve the objectives and impacts (financial contributions, in-kind contributions, activities/resources linked to market, regulatory, societal or policy uptake, broader investments)*** *and provide qualitative and quantitative information on these;*
- *Please specify which other investments or framework conditions are envisaged / relevant for the deployment.*

Co-funded Partnership on Sustainable Food Systems

To speed up Food System transition, the involvement of all relevant stakeholders is necessary. **The Partnership on Sustainable Food Systems** will be a **co-funded partnership** where the co-fund owners and the EC are considered as the first circle of partners in order to finance activities of the Partnership. However, the following elements should be taken into account for commitment and alignment of all relevant stakeholders: (i) possibility for in-kind contributions from both private and public stakeholders, (ii) the flexibility in programming and (iii) long-term implementation frameworks.

The advantages of the Co-funded Partnership model include the direct involvement of the European Commission (EC), direct benefits in terms of mobilised national funding being co-funded, and the possibility to design and implement a common programme within the Member States/Associated Countries, thus mobilising even more national R&I funding under a jointly programmed Partnership. This is an attractive and proven model that has served well in a large number of JPIs and ERA-NETs[27] showing that it is possible to include private partners in such programmes. For the private sector, contributing to sustainability goals is an important source of legitimacy and a driver of innovation, not to speak of mitigation of reputation and liability risks related to environmental or social hazards. Moreover, **a well-structured and balanced and sustained interaction between the private sector, the public sector and societal actors on R&I policy can contribute to highlight the critical points of present and future regulation and help identify potential barriers to implementation.**

When it comes to food systems, it is important to recognize all food producers, including aquaculture and fisheries, and that retailing and processing have a key role as intermediaries between production and consumption. **Alignment of private goals and public goals is thus a condition for success of public strategies. In particular, innovative food businesses implementing the European Green Deal, Farm to Fork and Bioeconomy objectives could play a lighthouse role**. Governance of partnerships should then be able to guarantee a balance between all interests (small and big, different phases of the chain, different sectors, geographical differences), and should be based on a clear commitment of the private sector in relation to common values, public goals and the related targets.

The shift to sustainable food systems require a transition in perspective and a recognition of the interlinkages among agriculture, food and environmental policies. Therefore, one aim is to find these win-win or leverage–points, where specific changes take place, which again creates synergies by facilitating other shifts in the food system. The objective is that changed behaviour by conscious actors may create positive feedbacks from other actors in the system. These transformations thus catalyse co-benefits and synergies between healthy diets, behavioural change, and circular and affordable food production, processing and marketing with low waste and sustainable outcomes contributing to the livelihoods of people. Such successful changes will require food systems inspired by research, innovation and real-life experiments and demonstrators. No single solution will be suitable for all food systems. Hence, the Partnership will benefit if it can identify: (i) the nodes where we as a part of the system on the societal level are underperforming and (ii) provide opportunities to **incredible partners** who can make a difference. **Commitment to stakeholders' involvement in the spirit of responsible research**

[27] https://www.era-learn.eu/partnerships-in-a-nutshell/type-of-networks/partnerships-under-horizon-2020

and innovation (RRI) at all stages of the Partnership (including the agenda setting) and consequent responsibility should be at the basis of any governance model.

3.3 Governance

- *Outline the governance and management of the Partnership, including advisory structures and mechanism to be established. Demonstrate how the governance and management of the Partnership helps to achieve the defined vision and objectives. Describe how it will contribute to ensuring coherence and synergies with the EU research and innovation landscape and demonstrate, as well as transparency and openness during the Partnership as regards the identification of its objectives, priorities, vision, Strategic Research and Innovation Agenda (SRIA) and work programmes.*
- *Provide, with the support of the Commission services supporting the preparation, a description of the involvement of the Commission in the preparation and implementation of the Partnership. In particular, describe the mechanisms for defining and defending the EU public interest in the framework of the Partnership.*

Governance structure of the Partnership:

In order to guide the Transition towards Sustainable Food Systems as the new Partnership, the governance structure should be inclusive and capable of aligning strategies, as well as agendas and work programmes. Even more, it should be structured in such a way that the 4 thematic areas will be successfully implemented and operationalized. Finally, it should guarantee a coherent and systematic way of operating and address the 4 inter-connected activities. Consequently, a possible governance structure of the partnership considers:

- **Governing board (GB):** the highest-level decision-making body. Will be formed by partners representing program owners across Europe and from the European Commission. It should also ensure that both macro and place-based priorities are considered.

- **Management board (MB):** will support the GB and is responsible for day-to-day management, initiating and overseeing the Partnerships' activities. Will include the coordinator, co-coordinator and hub leaders.

- **EU Food Systems Executive Office (FSEO**): will implement the defined actions according to the established work plans, performing the R&I activities and establishing an interface between science and policy. FSEO will be constituted by the Hub leaders, Task leaders, and Partners.

- **EU Food Systems Hub of Hubs (FSHH):** will consider the national hubs (NH) and thematic hubs (TH), which will closely interact with the Collaboration Partners Platform (CPP).
    - **National hubs (NH**): national networking bodies regarding the thematic of the partnership, gathering the national expertise on these subjects and federating/framing relevant initiatives at local and regional levels.

- **Thematic hubs (TH):** transnational hubs dedicated to specific subjects/common themes under the umbrella of the partnership, corresponding to "system thinking hubs".

• **Collaboration Partners Platform (CPP)/Ambassadors**: should include the representatives of the different actors playing a role in the definition and implementation of sustainable food systems. CPP will consider the Food Systems Community of Practice, Private Partners, and Representatives of diverse civil society and other stakeholder groups such as industry. A youth group or youth ambassador system should be part of it.

• **Advisory board (AB)**: provides advice to the MB on the planning and implementation of the main activities of the partnership.

It should be noted that further elaboration of the Governance structure in the template would include a reflection on a most suitable governance structure for a committed approach to the Partnership, which may ensure that over time the portfolio of projects funded through competitive calls will cover as much of the SRIA and Roadmap as possible and that results (outputs) from individual projects feed into the necessary outcomes in terms of sustainable food systems following an explicit impact pathway. This means the R&I solutions aim to respond to the grand food system challenges in a holistic and systemic manner: economy, environment and societal solutions require horizontal collaboration. It should include reflections on a potential role for the SCAR Food Systems Strategic Working Group, which is the convening platform for co-creating the Partnership. Moreover, a comparison of different governance models is then recommended.

3.4 Openness and transparency

A Partnership will maximise its impacts by involving all relevant partners and stakeholders beyond the narrow composition of core partners and by remaining open during its lifetime. Consequently, there should be a high level of openness and transparency regarding the identification of common vision, and the involvement of partners and stakeholders from different sectors, including international ones when relevant. Also, the Partnership should seek to remove barriers that hinder newcomers from entering and participating in the Partnership or its activities. The implementation of the Partnership should include regular activities that allow new players to enter, participate in and benefit from its activities, and add value to the Partnership without compromising the ownership and commitment from the partners.

- *Demonstrate that the proposed Partnership **will be established in a transparent way** with no unjustified restriction in participation and with a broad, open and transparent approach towards different sectors and geographical areas including international partners when relevant. Justify any restrictions for the openness of the Partnership where it is deemed absolutely necessary*;

The partnership preparations have been carried out in an open and interactive manner. The co-creation process started in 2019 with the **1st workshop** to identify the main challenges the partnership should address. The workshop participants were SCAR Food Systems SWG members (representatives of national public authorities and research centers of 14 countries) and JPIs HDHL, FACCE and OCEANS representatives; 37 people participated in a physical workshop in Brussel on 18th September 2019.

During the summer of 2020 **a survey** was carried out to collect the opinion of various stakeholders on challenges and opportunities for the development of a Horizon Europe R&I partnership on Sustainable Food Systems for People, Planet and Climate. Representatives of research centers, national public authorities, NGOs as well as the industry have provided consolidated responses (79 responses). Their contributions and the information gathered was further refined in a **2nd workshop** to exchange opinions and opportunities with the stakeholders. Representatives of 16 EU and associated countries and representatives of EFSA, FAO; ERA-NETs SUSFOOD2 and CORE ORGANIC, JPIs, EIT FOOD, BIOEAST, FoodDrinkEurop (103 people in total) took part in the workshop. The first outline of the partnership took shape after the second workshop and gave path to the partnership narrative.
In the 1st quarter of 2021, four drafting groups were established, involving 47 experts from 14 countries and different networks to draft a document containing the reasoning for the partnership: why, what and how this partnership is to be.

The **3rd workshop** took place in the spring of 2021 to explore synergies with the other partnerships and identify complementarians. This workshop brought together the experts involved in the drafting process of the narrative and the representatives of other relevant Horizon Europe partnerships such as: Agroecology, Animal Health and Welfare, Blue economy, as well as the chairs of all SCAR Strategic and Collaborative Working groups (SCAR SWGs and CWGs). 78 people participated in the 3rd online workshop. There is e.g. certainly a link with food safety between the PSs on Food Systems and Animal Health and Welfare under the One Health approach to properly monitor and as much as possible prevent the spread of zoonoses and antimicrobial resistance from animal production via food and other sources. Cross collaboration around One Health is therefore one of the pillars on which activities for both partnerships can take place.

The template drafting of the partnership took place during the summer of 2021, and the **4th workshop** held in September 2021 gave the stakeholders the opportunity to reflect the scope and the outcome expectations of the partnership. The 4th workshop involved even further stakeholders as 128 participants gave input. The participants were representatives of 26 EU and associated countries, funder and foundation representatives, ERA-NETs, (SUSFOOD2, CORE ORGANIC, ICT-AGRI-FOOD); COPA COGECA; BIOEAST, FoodDrinkEurope and ETP 'Food for Life', EIT FOOD, EFSA, as well as a large number of EC representatives (DG RTD, DG AGRI, DG SANTE, DG ENVI, DG REGIO, DG INTPA, DG CLIMA).

In addition to the invited parties at the Partnership SFS organised workshops, representatives of the 'SFS Partnership in preparation' have presented the narrative and factsheet findings at meetings of other relevant stakeholder meetings: TP Organics, SCAR FISH and SCAR AKIS, JPI HDHL, BIOEAST initiative, ERA4Health (16/11/2021), Foodforce meeting of food research institutes and universities (25/11/2021), FACCE-JPI, ETP Food for Life (2/12/2021).

The further design of the Partnership will continue to be done in an open, stakeholder-oriented process under the guidance of SCAR Food Systems SWG, supported initially by an active group of experts, and from Spring 2022 onward also by a CSA project. The targeted stakeholders' groups for consultations are national ministries and funding agencies, regional and local governments, international institutions, philanthropic organisations, academic institutions and research centers, farmers and private sector parties directly and indirectly involved in food systems (like food manufacturers, food service, legal offices, logistic

suppliers, etc.). Steps foreseen are the formulation of missions for the partnership, establishing procedures for developing a Strategic Research and Innovation (SRIA) Agenda and subsequent implementation, open access research and innovation cases inspiring others, feedbacks on code of conduct and potential trade-offs, etc. The SRIA will be established, based on analyses of the major needs, gaps and leverage points, building on work from FOOD2030, challenges specified in the Green Deal and Farm to Fork strategies and leading studies and reports. This may lead to further development of the objectives, specific objectives, priority areas for alignment of research priorities and gaps, identification of additional leverage points and stakeholders.

- Describe the strategies and plans throughout the lifetime of the Partnership to ensure easy and non-discriminatory access to information about the initiative and dissemination of and access to results (in line with Horizon Europe provisions), and to stimulate the participation of new partners and actors in the definition of common priorities and their participation in the partnerships itself or its activities (including eligibility for funding);

The Partnership distinguishes 'co-funders', 'beneficiaries' and 'wider public'. For all, the Partnership will develop dedicated tasks. For the first, attention will be on the exploration of funding partners and modalities that are suited for several levels of engagement of actors/stakeholders. This will include public-private funding modalities as well as options for in-kind funding. A specific point of attention will be the exploration of alignment of funding instruments in the partnership with other funding options that specifically address regional and local levels: i.e. ERDF, EAFRD (POP), Interreg, URBACT; or funding for nature-based and environmental solutions such as LIFE. The partnership could open new opportunities for more synergistic funding in the EU. For example, ERDF funding is tailored to higher, closer-to-market TRL levels than Horizon actions, and explicitly encourages local needs, public (knowledge partners) and private (SME) coupling through their RIS3 Strategies. Such financial and programming partners will be invited to explore possibilities for local experiments under the knowledge transfer and competence building/education including science to policy advice action of the Partnership.

For the second (beneficiaries), the Partnership will guarantee open access to calls and all relevant information flows, presentation of best cases, interactive tools for providing the opportunities to give feedback and input. The objective here is to be both transparent as well as to inspire all individual and clustered parties to contribute to sustainable development trajectories.

For the third (wider public), the Partnership will provide timely communication, dissemination of new findings and insights in exploration pathways. In particular, attention will be paid as to how the wider public can be partner in sustainability-oriented projects or even propose creative initiatives to be seriously taken into account. Here, the Observatory will also play a key role in monitoring best and worst practices. The Knowledge Hub is foreseen to provide evidence – in an open manner – to the pros and cons of proposed pathways.

Overall, Open Access and Open data procedures, as foreseen to be elaborated in the CSA, will be included in the functioning of the Partnership.

- *Describe how the proposed Partnership will establish a proactive recruitment policy which is dynamic and agile to allow a membership constituency responding to the evolution of the sector*

and the needs of the partnerships throughout its lifetime, across the Union and, where relevant beyond; Describe the process, during the implementation phase of the SRIA/roadmap, for establishing annual work programmes, and define measures to ensure and open and transparent methodology for consulting all constituent entities and relevant stakeholders for the identification of its priorities and the design of its activities.

The Partnership will ensure that all funding bodies are represented. This will be done in two ways:

First, a core group will be recruited that is commitment to serve the needs, preferences and demands of all funding bodies in an objective manner. Together with the Board of Funders representatives – that will be installed at the start of the Partnership – eventual conflicting issues will be discussed, prioritized and translated into democratically well-selected actions. Since, both the Board of Funders representatives, the core group as well as topics and context evolve over time, the procedures for objectively proposing actions will be reviewed annually (only in case of major changes).

Second, the core group will be assisted by temporary staff members provided by the funding bodies. This enables the communication flow between the funding organisations and the partnership core group. It will also support the core group in better digesting all potential demands and requirements. Again, the Board of Funders representatives will annually review if these demands and requirements are taken into account in a balanced manner. A yearly report will be provided with major observations, conclusions and actions points for the following period. Since this concerns a challenging activity for all Partnerships, each two years, an exchange meeting for lessons learnt will be organised by the Partnership SFS with invited Partnerships in its wider field of interest.