

A close-up photograph of two ripe red apples hanging from a branch. The apples have a mix of red and yellow-green skin. Several large green leaves are visible, some in the foreground and some in the background, creating a lush, natural setting. The lighting is bright, highlighting the texture of the fruit and the veins of the leaves.

SUSFOOD

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ERA-Net on Sustainable Food production and consumption

About

The [SUSFOOD2](#) ERA-Net Cofund started in January 2017 and ended in June 2022. The network has 26 partners from 15 EU member states and third countries and is coordinated by PTJ Juelich. SUSFOOD2 is the successor of the first SUSFOOD ERA-NET that was launched in 2011 under the EU 7th Framework programme. The first SUSFOOD ERA-Net was built on and accelerated the work of the SCAR (Standing Committee on Agricultural Research) Collaborative Working Group that was launched in Denmark in 2010.

SUSFOOD2 promotes a cross-sectoral and multi-disciplinary approach of food systems from biology to food engineering, social science, economics and humanities. The network focuses on the food chain beyond the farm gate, covering processing, packaging, transport, retailing, food services, storage and consumer activities.

Vision and aim

SUSFOOD2 has the vision:

All food chain partners contribute to achieving sustainable, secure and resilient food systems which feed the world and make sustainable choices the easy and preferable choices for consumers.

SUSFOOD2 aims:

- Responding to the increasing demand for food by increasing food production sustainably (reducing CO₂ emissions, energy consumption and water use, and taking account of ecosystem/bio-diversity impacts) and reducing losses and waste in the food supply chain;
- Improvement of the quality, traceability and safety of food in a sustainable way;
- Improve the quality of life through better availability and improved access to food and healthy diets;
- Improvement of the resilience of the food chain;
- Encourage more sustainable consumption behaviour;
- Improvement of the European agri-business competitiveness and green economic growth with additional focus on SMEs and job creation.

Challenges

SUSFOOD defines sustainability in the food area as “A food system that supports food security, makes optimal use of natural and human resources, and respects biodiversity and ecosystems for present and future generations, and which is culturally acceptable and accessible, environmentally sound and economically fair and viable, and provides the consumer with nutritionally adequate, safe, healthy and affordable food.”

The global food system will experience unprecedented pressures over the coming years. Global challenges in the food sector are numerous: climate change, the growing and ageing population,

urbanization, excessive use of natural resources, and loss of biodiversity. All forms of malnutrition (hunger and undernutrition, micronutrient deficiencies, but also overweight and obesity) threaten the health of billions.

Set against the context of the global challenges on food security, resource constraints and food waste, and taking into account the other EU initiatives in this field, SUSFOOD has identified a number of core challenges for research relevant for the SUSFOOD ERANET. These challenges reflect environmental, technological, socio-demographic, economic and political dimensions:

1. Food security for providing enough food for the world's growing population with a sustainable and secure supply of safe, nutritious and affordable high-quality food which takes account of resource constraints and the need to adapt to climate change – set within a global context.
2. Pressures on supplies of energy, water, natural resources and adapting to climate change. This requires more effective use and re-use/recycling of resources, and mitigation of and adaptation to climate change.
3. Innovation in development of smart technology and infrastructure across the food chain. Knowledge transfer between all stakeholders to support uptake and use of innovative approaches into practice, tool sets and infrastructure are needed to support sustainable development in the food system. Indicators of change need to be defined to support monitoring and evaluation of progress.
4. Food and health to improve and ensure quality of life of an ageing society will be a leading issue in terms of demographic and social challenges.
5. Change of markets and approaches to a new economy, including value creation, are challenges that have to be taken into consideration to ensure a more resilient and sustainable food economy. Markets have to reflect integrated policies, new governance and innovative institutionalisation. Other specific issues in this area include new approaches to employment and a new understanding of real and equitable prosperity. As far as economic growth and competitiveness are concerned, SUSFOOD has the crucial role of promoting incentives for innovation in order to explore sustainability-oriented business models and value creation in the food supply chain.
6. Contribution to food security by understanding how food demand can be managed. This is a challenge for the whole food system and not only for the end consumer. Indeed, changing consumer patterns can not only be dealt with by more consumer awareness; the whole design of processes, markets and products has to be redesigned.

Scope, goals and research topics

The strategic goal of SUSFOOD ERA-NET is to reinforce the scientific cooperation between EU Member States and associated states in order to maximise the contribution of research to the development of more sustainable food systems.

The research funded under SUSFOOD can be clustered into four main research areas (including some topic examples):

- 1) Resource Efficiency and Valorisation

- Redesign input, waste and side flow strategies to increase resource efficiency and provide added value in food products and processing, manufacture etc.; In order to achieve more sustainable and resilient food production, there is a strong need for research supporting redesign of the supply chain and the whole production chain from raw material to consumption.
- 2) Processing Technologies
- Innovation in food processing technologies; There is a need for flexible, innovative food manufacturing, and resilient processes and systems.
 - Interdisciplinary research approach to develop innovative food products and use of new raw materials for food products; There is a need for research into the use of new raw materials for production of ingredients or foods based on side streams or by-products, which are important sources for a sustainable food production.
- 3) Sustainable & Diverse Food Systems
- Connection between stakeholders and food systems; There is a need for a multi-stakeholder approach to redesign and optimize food systems for more sustainable food production that meets consumer demand.
 - Diversity in food from field to plate; to ensure a healthy and sustainable diet and increase resilience within the food system
 - Food systems adaptation and resilience to system shocks; research is needed to make food systems more resilient and resistant towards stresses and shocks
 - Harmonization of the methods and metrics for integrated assessment of sustainability of food products and food patterns; For stakeholders to be able to assess and value the sustainability of food products in a chain perspective there is the need to develop harmonised and transparent methods and metrics to measure, monitor and assess sustainability of food production and consumption.
 - Public policy coherence; In order to achieve sustainable food systems, public policies need to be coherent and transparent throughout the system.
- 4) Consumer Behaviour
- Understanding of consumer behaviour and food choices; To facilitate sustainable consumer behaviour, insight is needed into the factors that determine consumer behaviours and choice.
 - Integration of information systems for personalized and sustainable choices; Based on existing information systems, research is needed to identify which type of information and in which mode of expression information has an impact on consumer behaviour inside and outside the home, why and how it has an effect on sustainability, safety and nutrition.



Next to the research areas/ topics, SUSFOOD projects have to consider and adapt cross-cutting issues, such as multi-actor approach, multi-disciplinary approach and systems approach in order to increase impact.



SUSFOOD, 10 years of sustainable food systems research for a better future.