

2. Introduction and background

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This is a proposal to set out the boundaries for a public-private collaboration for ICP in Europe. The ICP partnership aims to leverage a commitment from industry, the farming community, academia, and policy/society to develop and implement a platform facilitating implementation of a common roadmap of activities towards 2030. As a collective sector effort, it will seek suitable financing models to generate essential critical mass and foster true integration across the agricultural value network. To set up this initiative, investments from both the public and private side are desirable. European, national and regional public-private (co)funding schemes will be explored to confirm their compatibility with this initiative.

The agri-food sector fulfils the basic requirements of a key sector for European competitiveness and economic growth. Therefore, it is considered timely to elaborate further a partnership that unites, facilitates and bundles the concerted actions of stakeholders across the agricultural value network. The backbone for this document was developed by the members of [the European Technology Platform “Plants for the Future”](#). These are stakeholders from plant-related industry, the farming community and academia. To cover the full scope of the agricultural value network they also reached out for interviews to neighbouring sectors and companies like [European Crop Protection Association](#), [International Biocontrol Manufacturers Association](#), [European Agricultural Machinery Association](#). The feedback from the interviews and the results of a written online survey covering about 100 stakeholders from industry, the farming community and academia have been incorporated in this proposal.

2.2. Background

A multi-year list of ambitions for research and innovation has been developed considering the societal challenges that Europe and the world are facing. In view of these ambitions, the activities that are promoted by this initiative are designed to be aligned with the principles of the following policies and initiatives:

Global level

1. **Sustainable development goals** (SDG); in September 2015, the world’s Heads of State and Governments adopted the 2030 Agenda for Sustainable Development and its 17 Sustainable Development Goals (SDGs). These goals will frame global action on sustainable development until 2030 and at least nine of SDGs are of direct relevance to Food and Nutritional Security (FNS).
2. **Climate action** (COP21); highlighting the threats to FNS from climate change. Over the coming years, the Intergovernmental Panel on Climate Change (IPCC) will prepare special reports on oceans, climate change, desertification, land degradation, sustainable land management, food security and GHG fluxes in terrestrial ecosystems.

European level

3. **Digital Single Market for Europe**; the availability of high-speed broadband Internet and access to digital service infrastructures are the elementary units of a digital single market, allowing communication, data storage and- sharing, services and business to grow - allowing areas such as e-commerce and e-government to exploit their full potential.
4. **The Circular Economy**; as a viable alternative to depleting fossil fuels and as a sustainable natural alternative in the shift to a post-petroleum society. The strategy streamlines existing policy approaches in this area, and is structured around investments in research, innovation and skills; reinforced policy interaction and stakeholder engagement; enhancement of markets and competitiveness.
5. **The Bio-economy Strategy**; addressing the production of renewable biological resources, the reduction of related waste streams and their conversion into vital food, feed, bio-based products and bio-energy.
6. **The Energy Union strategy**; making energy more secure, affordable and sustainable. It will allow a free flow of energy across borders and a secure supply in every EU country, for every European. It will lead to a sustainable, low carbon and environmentally friendly economy, putting Europe at the forefront of renewable energy production and the fight against global warming. In line with the Paris Agreement the European Commission (EC) presented a legislative proposal in 2016 to integrate greenhouse gas emissions and removals from land use, land use-change and forestry (LULUCF) into the 2030 climate and energy framework. The proposal follows the agreement with EU leaders in October 2014 that all sectors should contribute to the EU's 2030 emission reduction target, including the land use sector.
7. **The FOOD2030 initiative** of the EC; aiming for integration of the global and European policy principles towards a coherent policy framework. FOOD 2030 is a EU research and innovation policy response to the recent international policy developments including the SDGs and COP21 commitments.
8. **A strategic approach to EU agricultural research and innovation** initiated by DG-AGRI regarding land-based primary production, centred around agriculture and forestry, but also extending to food and non-food chains and the rural economy.
9. **The 4th SCAR Foresight exercise** aimed to identify emerging research questions and to anticipate future innovation challenges that can support the implementation of the Bio-economy Strategy for Europe.

The relationship between the identified focal areas for research and innovation with the above policies will be spelled out in more detail in section 3.

When preparing the list of ambitions and focal areas, various other European initiatives have been studied and compared and relevant issues have been taken on board. For instance, the [Food4Life Technology Platform](#)¹ stresses the need for more consumer engagement and involvement in the development of novel/improved food products. This informed involvement and the need for transparency reaches out to the primary production processes, breeding and growing. Food safety and nutritional value for human and animal health are important assets in this dialogue. The recently selected [EIT Food KIC “Food Connects”](#) will boost knowledge generation and transfer for innovation in the field of safe and sustainable food production. The ICP initiative will benefit from and seek interaction with this education- and innovation hub.

Initiatives like [ESFRI-EMPHASIS](#) (European Multi-Environment Plant Phenomics and Simulation Infrastructure) demonstrate the need for appropriate infrastructure to speed up the assessment and improvement of plant performance under changing environmental conditions. The [ESFRI-ANAEE](#) increasingly includes infrastructures for agronomy. The [Alliance for Internet Of Things](#) initiative, which will also look at smart farming, crop-protection and livestock production, shows how the connectivity between resources (data and hardware) may boost innovation. There is also good alignment with the objective of integration of big data throughout the ICP initiative.

At the national level, many European countries have developed or are developing their bio-economy strategies, stressing the need for more integration and coordination on the trans-sectorial, transnational and the multi-layered funding level. The regional authorities indicate in their smart specialisations strategies, agri-food as a priority area, also pointing towards a need for more leverage of the macro-regional dimension². The UK study called ‘FoodFutures’³ made an in-depth analysis of topics that are of importance to delivering a more sustainable, resilient food system in the coming decade, resulting in a priority list like the one in this initiative. Closer integration of the various sectors involved appears to be a crucial element to tackle the challenges.

¹ Strategic Research and Innovation Agenda of the European Technology Platform Food for Life; 3rd draft, July 15th, 2016

² “Added value of macro-regional strategies”, Interact, Project and programme perspective, final report of the study, 2017, Spatial Foresight GmbH, Germany

³ “FoodFutures – from business as usual to business unusual” 2016, WRAP, UK

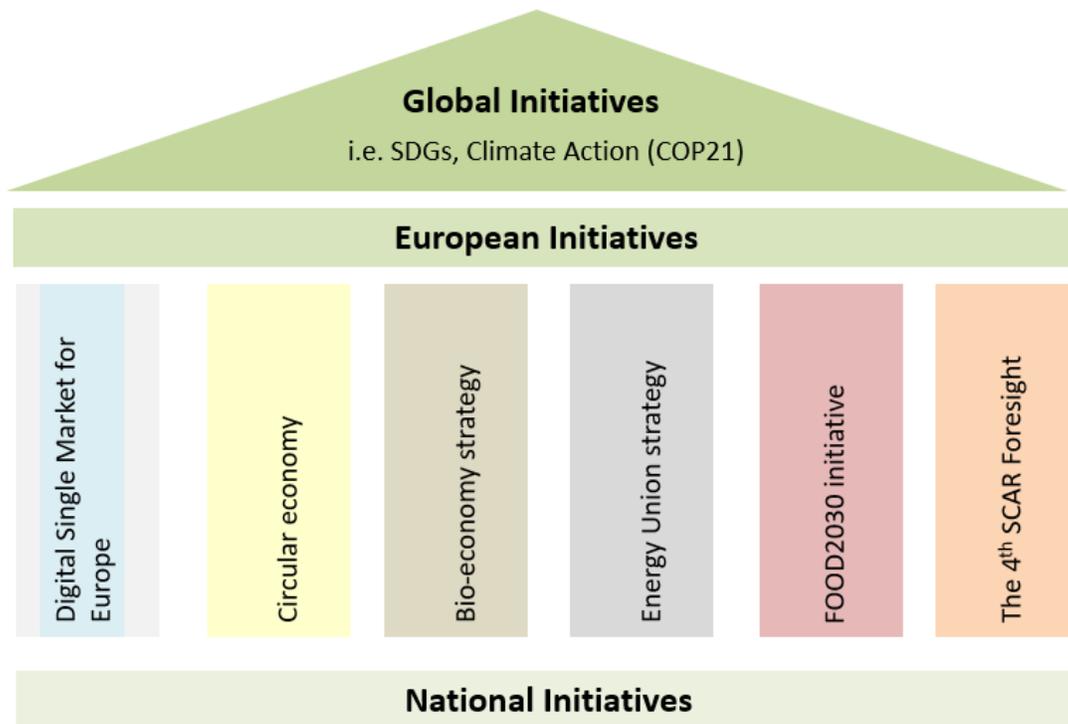


Figure 1: Global and European initiatives shaping the agricultural research and innovation landscape. The ICP partnership aims at providing wiring between the different initiatives to facilitate the development of innovation-oriented partnerships across the Agri-cultural value chain.

The complexity of the challenges ahead requires a smart interaction of the four stakeholder groups representing industry, the farming community, academia and politics/society. The next chapters will describe how the initiative aims to create the right incentives for all stakeholders while paving the way towards resilient and sustainable value chains for food and other bio-based systems.