Support for agrifood-tech research projects

ERA-NET Cofund ICT-AGRI-FOOD

ICT-enabled agrifood systems

Coordination team

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This project has received funding from the European Union's Horizon 2020 research and innovation programme under grand agreement no 862665 ICT-AGRI-FOOD.

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Background & main objectives of the ERA-NET

Agriculture and food contribute to - virtually all - of the 17 UN Sustainable Development Goals.

Background & main objectives of the ERA-NET

- **Digital technologies** (e.g. remote & local sensing, data analytics, Big Data technologies, Artificial Intelligence, IOT, automation and robotics) **offer much potential to address these issues**.

- But despite this, the **uptake** of new digital technologies by the actors in the agri-food systems has been **slow**.

- **Much of the potential value of the data** that is already collected **remains untapped** because it exists in **silos** unavailable to those who might use it. Unlocking the value of this data remains a significant challenge **due to technological barriers, lack of trust between the different actors** (regarding also data security and safety issues), and **economic barriers**, such as reluctance of stakeholders to invest because of **unclear returns** and **variable ability of the private sector to serve the transparency needs**.

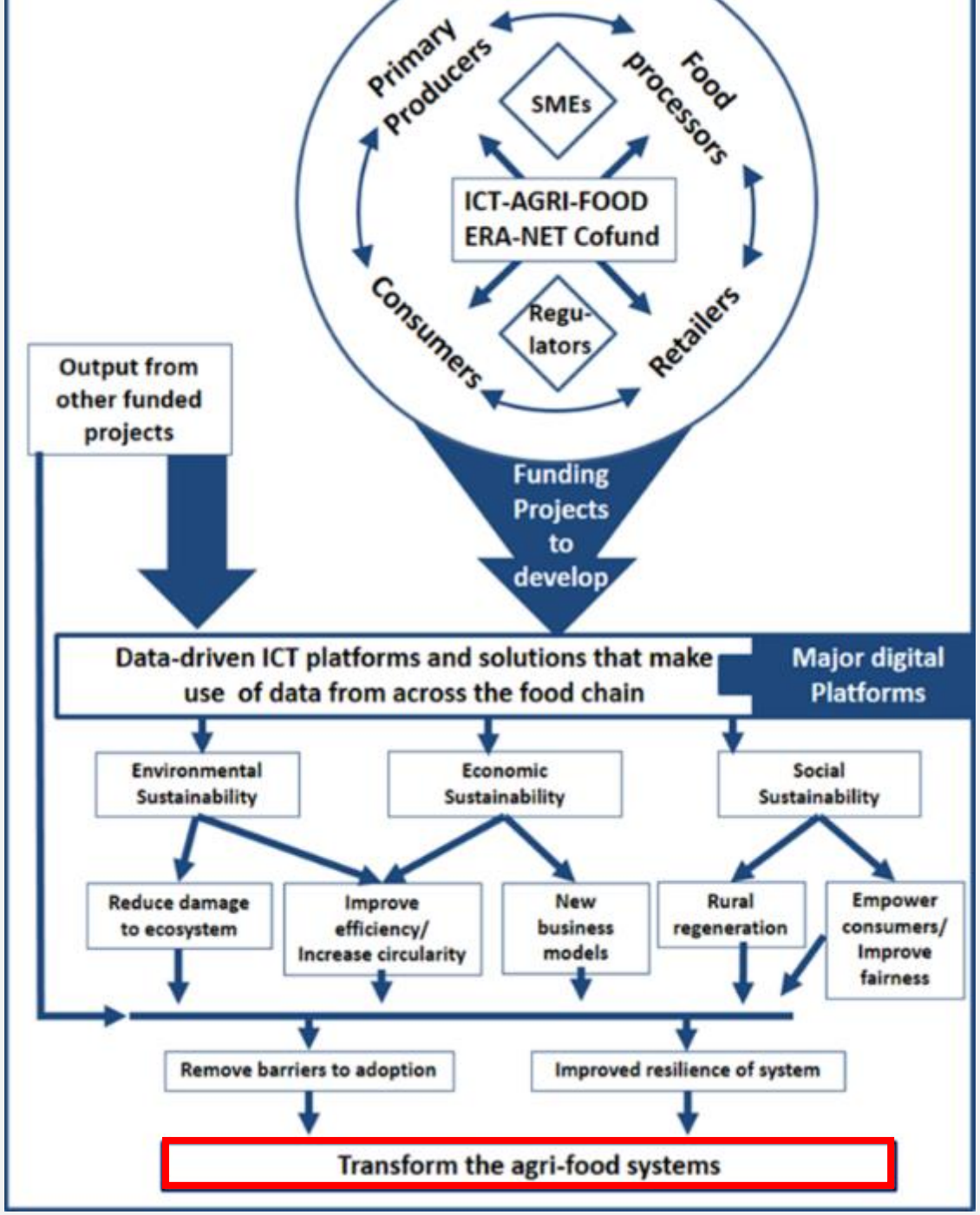
→ Therefore, ICT-AGRI-FOOD has developed a **vision**, which the implementation of the Cofund action will contribute to make a **reality.**

Vision

To bring together actors from across the entire agri-food systems with researchers in a **multi-actor approach**, to enable digital technology solutions for a **transformation towards sustainable and resilient agri-food systems**.

These solutions will make **use of data from all across the food chain** to deliver benefits for the society as a whole and will **lead to a more sustainable and transparent food system with empowered stakeholders** (e.g. consumers, governmental authorities, industries) who are in the position to take smarter, more sustainable, healthier and more personal food and dietary choices, taking into account data regarding environmental impact, origin, nutrition, safety and integrity.

Potentially the improved use of data can result in transformed agri-food systems characterised by a much **better management of the environmental impact of the sector**, including greater efficiency, reducing inputs, emissions, waste and losses throughout the food system.



Further objectives of the ERA-NET Cofund

Next to calls, **complementary additional joint activities -** that go beyond the calls - are planned in order to make ICT-AGRI-FOOD a pivotal point linking new research to existing platforms and the outputs of existing and previously funded projects, and connecting all actors along the food chain to ensure maximum impact.

Further objectives of the ERA-NET Cofund

1. Design, coordinate and implement a **joint co-funded call** between Member States, Associated Countries and the European Commission to fund research and innovation projects aimed at achieving the vision outlined above.

2. Organise one to three **additional joint calls** without EU co-funding to fund research and innovation projects aimed at achieving the vision outlined above.
3. Enhance research and innovation capacity and ensure better use of resources in the use of digital technologies in agri-food systems by:
a) developing a **research and innovation ecosytem**, seeking synergies with other ERA-NETs and with EIP-AGRI and interregional partnerships under the Research and Innovation Strategies for Smart Specialisation (RIS3)
b) promoting coordination between EU, national and regional funding sources
c) promoting coordination with international funding partners

4. Organise **additional joint activities** to make best use of synergistic effects between thematically related initiatives and to develop the self-sustainability of the ICT-AGRI-FOOD network for its continuation and maintenance.

5. Engage with, and foster collaboration between, all actors along the food chain (conventional and organic) taking a **multi-actor and systems approach**.

6. Fund projects that **take advantage of, integrate with and complement the outputs of already-funded projects** in the ICT sector and integrate with existing digital platforms and technologies to **reduce duplication of effort**.

7. Fund projects which, using a multi-actor and a systems approach, lead to the development of ICT and digital platforms and solutions that make use of data from across the food chain to **open up possibilities for new business models** that deliver benefits for all actors. Benefits include improved resource use efficiency, reduced environmental impacts, avoiding losses and waste, reduced inputs and emissions.
Moreover, the projects will lead to a more transparent food system with empowered consumers, **encouraging the adoption of digital technology**, increased adoption rates and, ultimately, a transition of the agri-food systems towards increased sustainability and resilience.

The first (cofunded) call

The ERA-NET Cofund ICT-AGRI-FOOD will strengthen the transnational coordination of research programmes and ensure better cooperation and use of resources in the area of digital agri-food research, development and innovation. In ICT-AGRI-FOOD 28 funding organisations from 22 countries and 3 European regions take part. The scope of this co-funded call covers the entire value added chain of the agri-food sector from farm to fork and puts a special focus on the sustainability and transparency of the sector.

TOPIC 1 - Data-driven ICT platforms and solutions to improve the sustainability of agri-food Systems

This topic relates to the development and/or application of data-driven ICT platforms and solutions that derive value for multiple actors1 from the data collected throughout the agri-food chain (including e.g. research infrastructure, administrative authorities and policy makers), considering the following aspects:

- Possible technologies that should be developed for use in the agri-food system which may include for example the Internet of Things, Artificial Intelligence, Big Data technologies, Remote and Local Sensing, Distributed Ledger Technologies/Block chain technologies, Distributed Databases.
- Projects may foresee new approaches to data management and storage reduction, data compression, data redundancy and data presentation.
- Data regarding sustainability, environmental impact, origin, nutrition, safety, integrity, underpinned by the concept of transparency and existing certification systems should be used in order to empower stakeholders (e.g. farmers, advisors, processors, consumers, policy makers and public authorities) to make smarter, more sustainable, healthier and more personal choices.
- The optimisation of resource efficiency through by-/co-products across the value chain, such as wastes, losses and residues management is a relevant issue. Projects could focus on how ICT can be applied to valorise by-/co-products, facilitating the use of more integrated approaches across value chains and operations.
- Integration of results and data of already funded and successfully concluded projects in this area are also favoured.

TOPIC 2 – Identify and address barriers for adoption of ICT technologies in the agri-food systems

This topic relates to identify and address institutional, economic and social barriers on the application of ICT technologies for achieving sustainability of the agri-food systems. The following aspects need to be included:

- Integrating social science research to understand social and cultural practices within e.g. farming, food processing, distribution and consumer behaviour aimed to identify mechanisms and models for enhanced adoption of technological solutions and data sharing within agri-food systems.
- Understanding how digitalisation affects structures and behaviour of actors: identifying successful value chains and business models, looking at governance, leadership and organisations within new innovation arenas (e.g. from start-ups to large companies) of digitalised agri-food systems.
- Identifying solutions to develop more user-friendly technologies and services, such as ethical nudging tools (for e.g. direct marketing and shopping experience), information tools (e.g. social media, apps), gamification approaches, co-design etc.
- Stepping further from barriers identification towards concept solutions, including for example standard development (if applicable).

Additional calls

- Calls with ESA (European Space Agency)

- Coopetition/"Challenge" call

Research teams work on the same challenge and **learn from** AND **compete with** each other in contests

→ The Topic will be a huge challenge where a real breakthrough, a disruption is hard to achieve.

- Joint calls together with other ERA-NETs

Additional non-funding activities

On the events you can exchange with your peers on your "Innovation story"

Task 7.3 Development and running of a **“Knowledge Incubator”**
Task Leader: MIPAAFT
Contributors: BLE, EV-ILVO, All partners

This task develops and implements a **“Knowledge Incubator”**
for researchers, start-ups and SMEs funded within ICT-AGRI calls (previous calls, the 1st call and the additional calls) and further stakeholders, with a special focus on the multi-actor approach within ICT-AGRI-FOOD.

The “Knowledge Incubator” will be created in the form of
a) A series of events during the lifetime of the Cofund. A series of activities (kick-off meetings, workshops, brokering events, etc.) will be planned that will animate the communities and will emphasize the importance of the “Knowledge Incubator”. A kick-off event will link the communities. This event will initialise and feed the “Knowledge Incubator”.
b) The webpage will provide a **pivotal point of knowledge connecting researchers with the private sector and stakeholders.** There will be a dedicated webpage-section for the “Knowledge Incubator” offering **services to exchange ideas and data.** The webpage will connect to the Commissions’ Open Science Cloud to make the knowledge of the funded research and innovation projects available to stakeholders and researchers.

Additional non-funding activities

Task 7.1. **Network development using multi-actor approach**
Task Leader: EV-ILVO
Contributors: all partners involved

The idea of this task is to emphasize the potential connection between the ICT-AGRI-FOOD Cofund, a wide range of relevant stakeholders and the role of EIP-AGRI. In particular, EIP-AGRI could give added value to the network activities through the involvement of their stakeholders.
The link could allow and facilitate the transfer of innovation: a **"Fast track to innovation"** will be organised (integrated into the knowledge incubator) on innovative ideas developed by **groups of stakeholders** (start-ups, associations of farmers like Copa-Cogeca, advisers, researchers, businesses, NGOs and others).

Contacts will be made with the **Thematic Smart Specialisation Platform on Agri-food** (TSSP-AF/S3P Agri-Food), which aims to accelerate the development of joint investment projects in the EU by encouraging and supporting interregional cooperation in thematic areas based on smart specialisation priorities defined by regional and national government linked to agriculture and food.
The aim of the workshop will be to set-up a network to valorize the RDI from ICT-AGRI-FOOD and facilitate the implementation of digtal solutions on a broader scale. Further workshops and maybe education and training programmes will be provided. This will ensure a long-term strategic cooperation and exchange, e.g. between ICT-AGRI-FOOD and S3P Agri-Food.

Thank you for your attention & have a nice event!

Stay updated on: www.ictagrifood.eu

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Internet of things

Nudging, Education

Transparency

Law and policies

Habits and culture

Labelling

Energy demand of data use

Short transports

Satellites, greening measures

Cities, rural areas

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