



## ERA-NET Cofund on ICT-enabled agri-food systems

01/10/19 – 31/03/25

### Objectives, impact and future perspectives

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# Objectives

ICT-AGRI-FOOD is an European Research Area NETwork of national and regional funding organisations promoting and funding European research on ICT-enabled agri-food systems, offering innovative opportunities for the entire food chain. The project is co-financed within the framework of the research and innovation programme Horizon 2020 of the European Union. The EU funding amounts to € 5 million, the national budget so far is about € 22.4 million.

The overall objective of “ICT-enabled agri-food systems” is **strengthening the cooperation in research, development and innovation** between EU Member and associated States to **foster, verifiably and perceptibly, the use of smart digital technology to make European food systems more sustainable, resilient and transparent**.

In addition to joint call announcements for the promotion of transnational R&I projects, **other joint activities** are also carried out in this thematic area, e.g. to promote cooperation and exchange with other thematically related initiatives and actors, such as conferences, SRIA, thematic Workshops.

With the European Space Agency **ESA**, ICT-AGRI-FOOD signed a MoI in July 2021 and has already organised 1 conference and 5 calls for RDI projects.



# Vision

The vision of ICT-AGRI-FOOD is 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**.

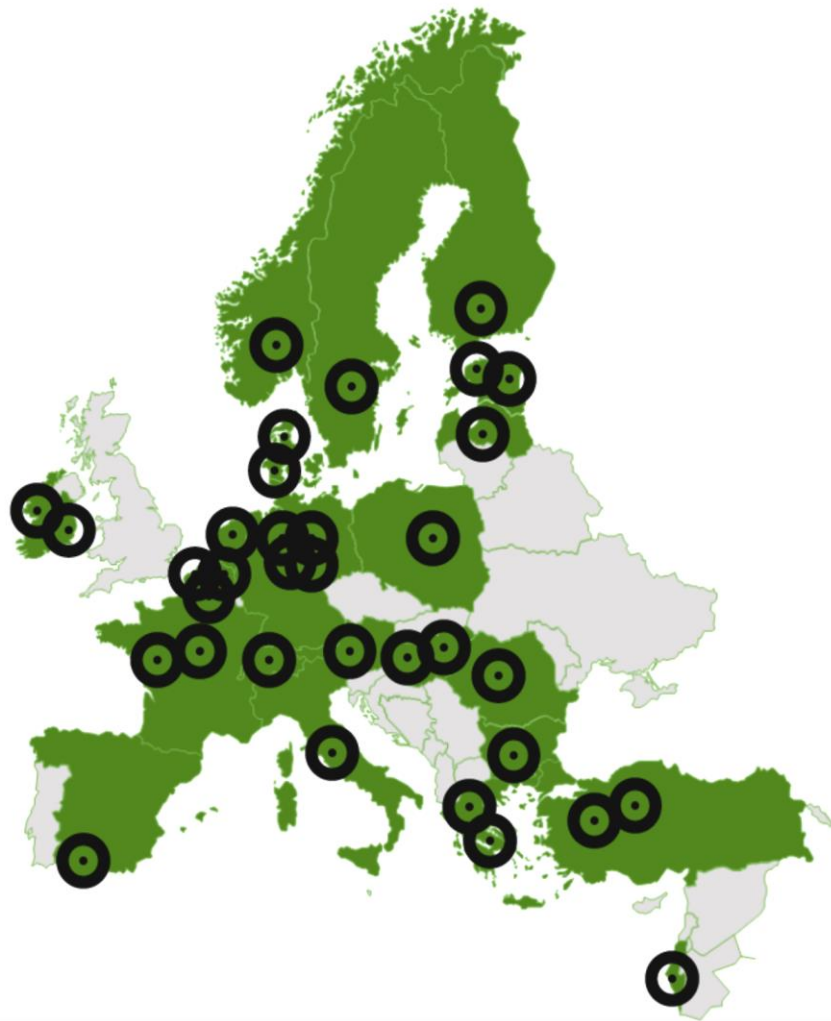
**Use of data from all across the food chain** to deliver benefits for the society as a whole.

This will lead to **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.



# Partners



The **34** ICT-AGRI-FOOD consortium partners from **22** countries are a broad and diverse community and the main pillar of the project’s successful history. Many countries have already been present from the predecessor ERA-NETs ICT-AGRI and ICT-AGRI 2 since 2009. In this ERA-NET we were happy to welcome also some new partners. Other funding organizations wishing to join are welcome!

The project is lead by the German Federal Office for Agriculture and Food (BLE) as coordinator, and the Danish Agency for Science and Higher Education (DASHE) as deputy coordinator.



# Joint Calls for research



Total budget 16.7 Mio. €

## COFUNDED CALL FOR TRANSNATIONAL, COLLABORATIVE, TRANSDISCIPLINARY RESEARCH PROJECTS ON ICT-ENABLED AGRI-FOOD SYSTEMS (2019)

Since spring 2021, the **19 projects** of the **2019 Joint Cofunded Call** started and are addressing the challenge of transforming the European agri-food systems into sustainable, resilient, transparent and fair systems.

The call is funded by 28 institutions from 22 countries, 3 European regions and the European Commission, and has an overall budget of more than 20 Mio Euro.

**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 actors from the data collected throughout the agri-food chain** (including e.g. research infrastructure, administrative authorities and policy makers).

**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.

## Projects from 2019 Cofunded Joint Call

Project title	Project acronym	Coordinator	Countries involved
Advanced Digital Solutions for Professional Food and Nutrition Catering Services	<b>ADCATER</b>	FFX FoodproFix ltd (IL)	<b>IL, RO, DE, IT</b>
A Data-Driven Platform for Site-Specific Fertigation	<b>ADDFerti</b>	UGent Faculty of bioscience engineering, Ghent University (BE)	<b>BE, GR, TR</b>
Multimodal sensing for individual plant phenotyping in agriculture robotics	<b>ANTONIO</b>	AUTH-AESA Laboratory for Alternative Energy Sources in Agriculture, (GR)	<b>GR, IT, DE, CH</b>
Understanding and anticipating mechanisms of honeybee colony mortality with connected beehives	<b>BeeConnected</b>	UMR EGCE; IRD, CNRS, Univ. Paris-Saclay (FR)	<b>FR, DE, GR</b>
Fast and INTuitive Data Retrieval	<b>FINDR</b>	EMI Fraunhofer Institute for High-Speed Dynamics, Ernst-Mach-Institut, EMI (DE)	<b>DE, NL, PL</b>
A smart-sensing AI-driven platform for scalable, low-cost hydroponic units	<b>GOHYDRO</b>	SCiO - Big Data Analytics in Food Systems (GR)	<b>GR, DK, RO, DE</b>
Innovative ICT tools for targeted monitoring and sustainable management of the brown marmorated stink bug and other pests	<b>HALY.ID</b>	Università degli Studi di Perugia (IT)	<b>IT, IE, DE, RO, GR, NL</b>
Integrated Model and digital Platform for Harvest Prediction of Canned Peaches	<b>IMPPEach</b>	Agrostis Agrostis (GR)	<b>GR, DE, NL</b>
Enhancing environmental sustainability of livestock farms by removing barriers for adoption of ICT technologies	<b>LivestockSense</b>	AgHiTech AgHiTech Ltd (HU)	<b>HU, EE, AT, IL, PL, DK, SE</b>
Multiscale Sensing For Disease Monitoring In Vineyard Production	<b>MERIAVINO</b>	INSA CVL (FR)	<b>FR, RO, GR</b>
Unlocking data-driven innovation for improving productivity and data sharing in mushroom value chain	<b>MUSHNOMICS</b>	HS Holisun SRL (RO)	<b>RO, DK, HU, IE</b>

## Projects from 2019 Cofunded Joint Call

Project title	Project acronym	Coordinator	Countries involved
sPectraL tools and digitalization for the development of sustAinable structured food with plaNt Proteins	<b>PLAN P</b>	ADRIA ADRIA Développement (FR)	<b>FR, DK, GR</b>
Potential of selective harvest based on mycotoxins content assessment in cereal crops	<b>POSHMyCo</b>	UGent Faculty of bioscience engineering, Ghent University (BE)	<b>BE, GR, SE, LT, ES</b>
Sunburn and heat prediction in canopies for evolving a warning tech solution	<b>SHEET</b>	ATB, Leibniz Institute for Agricultural Engineering and Bioeconomy (DE)	<b>DE, IT, HU</b>
Implementation of soil compaction risk assessment system – end-user's evaluation of potentials and barriers	<b>SoCoRisk</b>	Department of Agroecology (DK)	<b>DK, IT, CH, NO, SE</b>
Agrifood quality estimation using spectral techniques	<b>SPECTROFOOD</b>	Laboratory of Machines and Automation (GR)	<b>GR, IE, DE, BE</b>
Releasing the potential of ICT for sustainable milk and beef cattle value chains	<b>SustainIT</b>	nstitute of Economics and Social Sciences (EE)	<b>EE, FI, SE, DE</b>
An ICT-based real-time advisory tool to minimise tail biting in fattening pigs	<b>TailBiteAdvice</b>	Department of Biosystems, Division of Animal and Human Health Engineering (BE)	<b>BE, IE, DK</b>
aUtomaTed Open PrecIision fArming Platform	<b>[UTOPIA]</b>	Intelligent Autonomous Mobility Center (NL)	<b>NL, TR, BE</b>

# Additional joint calls without EC co-funding



Up to **3** additional Joint Calls will be organized & implemented during ICT-AGRI-FOOD's lifetime until 2024, subject to commitments from funders.

- 2020 & following years:

The **European Space Agency** (ESA) and ICT-AGRI-FOOD collaborate with the aim of promoting the emergence of innovative and commercially sustainable service in the Agritech sector making use of space. Kick-Start activities elaborate the business opportunity and the technical viability of new applications and services that exploit one or more space assets (e.g. Satellite Communications, Satellite Navigation, Earth Observation, Human Space Flight Technology). The call "**Responsible Agritech Kick-Start activities**" was published in October 2020 and will be relevant for companies that intend to develop space-enabled AgriTech applications and services. There were 2 further calls: "**Call on the analysis of service to detect and prevent Food and Beverage Fraud**" (closed February 2021) and "**Call on Sustainable Synergies: Interconnected Systems for Positive Impact**" (closed may 2023).

- 2021:

The 4 ERA-NET Cofunds SusAn, SusCrop, ERA-GAS and ICT-AGRI-FOOD have published in 2021 a **Joint Call** with the title "***Circularity in mixed crops and livestock farming systems with emphasis on climate change mitigation and adaptation***". Research proposals currently under evaluation, projects will start by the end of 2021.

- 2022:

ICT-AGRI-FOOD 2022 Joint call "MORE TRANSPARENT AGRI-FOOD SYSTEMS FOR CONSUMERS AND OTHER STAKEHOLDERS ALONG THE FOOD VALUE CHAIN BASED ON ICT TECHNOLOGIES" → [7 projects starting right now](#)

- 2023/2024:

A further call is envisaged for launch in end of 2023/early 2024.

Total budget 5.7 Mio. €



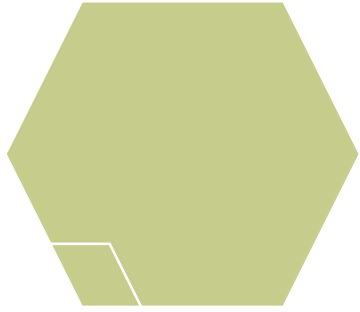
## Projects from 2022 Joint Call

Project title	Project acronym	Coordinator	Countries involved
From vineyard to bottle – trace sustainable practices in wine-growing under full transparency	<b>Oenotrace</b>	Hochschule Geisenheim University, Germany	<b>DE IE IT RO DK</b>
Development of a practical data management system with embedded sensors for improved environmental management and transparency of dairy farming	<b>ET4D</b>	Leibniz Institute for Agricultural Engineering and Bioeconomy, Germany	<b>DE HU DK EE IL PL TR FI</b>
Proposing a Satellite Controlled Incentive System for Sustainable Sugar Beet Production	<b>SCI for Sustainable Sugar</b>	Agrovisio OÜ, Estonia	<b>EE TR IL</b>
Giving Smell sense To Agricultural Robotics	<b>STAR</b>	Politecnico di Bari, Italy	<b>IT IL DE</b>
Artificial Intelligence application for Farming	<b>APP4FARM</b>	University of Brescia, Italy	<b>IT DE IE</b>
Transparency and sustainability in the potato processing chain from F2F through innovative data sharing	<b>SusPot</b>	Agristo, Belgium	<b>BE TR PL</b>
Trustable and Sustainable Open Platform for Smart Honey Value Chains	<b>Top4HoneyChains</b>	Kadir Has Üniversitesi, Turkey	<b>TR PL AR LV</b>

### **TOPIC 3 – Development and impact estimation (if applicable: evaluation) of data-driven reward and incentive systems to support sustainable and resilient farm management practices**

These systems should involve and consider food value chain feedback loops and detecting actors that are willing to bear part of the cost of the engagement for strengthening ecosystem services (including carbon sequestration, biodiversity protection, soil fertility maintenance, protection of water bodies, avoidance of antibiotics, promotion of pollinators etc.).

Projects should elaborate targeted advice and digital tools for new policies and regulatory frameworks or other incentive and reward systems.



# Additional non-funding activities

Such as → Events such as Workshops, Conferences, Webinars, Publications, Knowledge Incubator Programme

## Young Researchers Workshop Winter 2021/2022

About 20 early career scientists meet in relaxed atmosphere and were be coached by a senior scientist from ICT-AGRI-FOOD's research area.



## Update of our Strategic Research and Innovation Agenda 2024

The SRIA from 2019 is available on our website.

An update is currently under construction and will be published in 2024.

# Knowledge Incubator

The ICT-AGRI-FOOD Knowledge Incubator will set up a **virtual space** and will be a **global network of researchers, stakeholders, businesses and funding agencies** interacting with & connecting to each other with the **aim of sharing knowledge, guidance, data, and tools** to ensure better cooperation and use of resources in the area of digital agri-food research, development and innovation.



The main aim of developing a Knowledge Incubator is related to the **need to stimulate a continuous mutual learning process** based on an iterative learning environment with a continuous interaction among actors of innovation. Challenging but rewarding to coordinate the work (ideas, ambitions and outputs) of different ERA-NET Actions, which are working on similar tools, with the aim of integrating them in a **unique** platform for knowledge and innovation sharing at EU level.

The work of the Knowledge Incubator will be **facilitated and animated through an online communication platform** that will **offer a portfolio of innovations** on the ICT-AGRI-FOOD domain and it will allow Start-ups, SMEs, researchers and funders to interact both individually, e.g. through messaging services, and in groups, e.g. through webinars and online meetings.



The KI has multiple functions for different stakeholders:

- Start ups and SMEs interested in developing or using ICT tools in the AGRI-FOOD sector will have the opportunity for **networking, building partnerships for products and project proposals development, market analysis, understanding of innovation needs** of the agri-food sector and the potential demand for ICT technologies.
- Farmers, food sector, advisors and civil society working in rural areas will have the possibility to **share their needs** with the ICT sector through an interactive innovation model.
- Researchers and Research Institutions will have the opportunity to **interact with practitioners** coming both from the ICT industry and from the AGRI-FOOD sector, to understand the **research needs** and the **main trends** of both sectors, and learn about **funding opportunities**.
- Funding bodies and policy makers will have the opportunity to understand the **key topics** that need to be funded and to **encourage the valorization** of the research developed with their resources.



About Calls Joint actions Knowledge Incubator (KI) News and Events



### INTRODUCTION

FACILITATE THE EXCHANGE OF KNOWLEDGE TO INSPIRE PEOPLE IN DEVELOPING IDEAS!

The online platform has different sections, one focusing on list of innovations, one focusing on list of projects from different ICT-AGRI and ICT-AGRI-FOOD calls and one with the possibility to create a forum and to interact with other researchers and developers. Together with the platform, different events will be organized by ICT-AGRI-FOOD in order to build a community of researchers and stakeholders and learn together how to organize the information on project results in order to make it accessible to actors within and outside the research community.



[www.ictagrifood.eu](http://www.ictagrifood.eu)



# “Successor” of ICT-AGRI-FOOD hopefully EU Partnership Agriculture Of Data (AgData)

What is the partnership about?

Supporting sustainable agriculture in Europe and monitoring and implementing policy by utilising the opportunities offered by digital and data technologies in combination with environmental monitoring and other data.

How will the partnership achieve this goal?

By developing innovative data-driven solutions and services for the private and public sector through the capitalisation of data (geographically and from innovation to application).

Total budget 300 Mio. €



# Overview of AgData

## 62 partners from 22 countries



## Distributed along six Work Packages

WP no.	WP Title	Lead	PM's
1	Coordination and Management	DAFA	271
2	Communication, Dissemination and Outreach to Stakeholders – Networks & Uptake by Society and Policy	EV-ILVO	431
3	SRIA Update, Foresight and Vision	UCPH	32
4	Transnational Research and Innovation Activities	FZ Juelich	129
5	Common data enablers across multiple systems for sustainable agriculture, policy monitoring & data ethics	CNR	763
6	Monitoring and follow-up of funded projects	UEFISCDI	67

## Motivation and goals

- We believe that agricultural production in Europe needs to become more sustainable
- We aim to support the sustainable transition as well as to strength policy monitoring and evaluation capacities with data-based solutions
- We aim to develop data-based use-oriented tools and services that are able to deliver ready-to-use solutions in many areas that have a direct or indirect impact on the sustainability of the agricultural production

## Budget

**Two Year Budget:**  
The total indicative budget for the topic in 2023-2024 is EUR 40 million

**Seven Year Budget:**  
The total indicative budget of the AgData Partnership is EUR 100 million



**Thank you -  
Let's connect!**

**[www.ictagrifood.eu](http://www.ictagrifood.eu)**







**Overall goal:** strengthening European research on digitisation in the agri-food system and organizing international research calls to pool the fragmented human and financial resources over the boundaries of the participating countries, in order to improve both the efficiency and the effectiveness of Europe's research efforts in food systems.



**Our vision is ambitious:**

We will bring together actors from across the entire agri-food system including primary producers, SMEs (i.a. technology providers), food processors, food retailers, consumers and the public sector (e.g. funding agencies and regulatory bodies) in a multi-actor approach. We will make use of data from all across the food chain to deliver benefits for all actors. We will enable digital technology solutions for a real transformation towards transparent, sustainable and resilient agri-food systems. Empowered citizens & actors will make smarter, healthier more climate-friendly and fair food choices, as they can better take into account data regarding environmental impact, origin, nutrition, production conditions, safety and integrity.



Postmodern agriculture  
 Law and policies  
 Incentive  
 Rewarding  
 Connecting alternative crop producers with processors  
 Digital twins  
 Crop rotation, beneficial organisms, soil fertility...  
 Short transports  
 Transparency  
 Cities, rural areas  
 Consider Habits and Culture  
 Energy demand of data use