



EU CAP Network workshop ‘Sensing the future: practical applications of proximal and remote sensing for farmers and advisors’

Valencia, Spain
27-28 January 2026



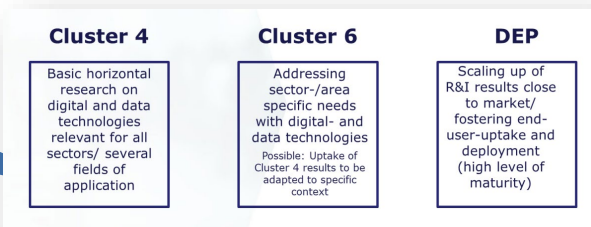
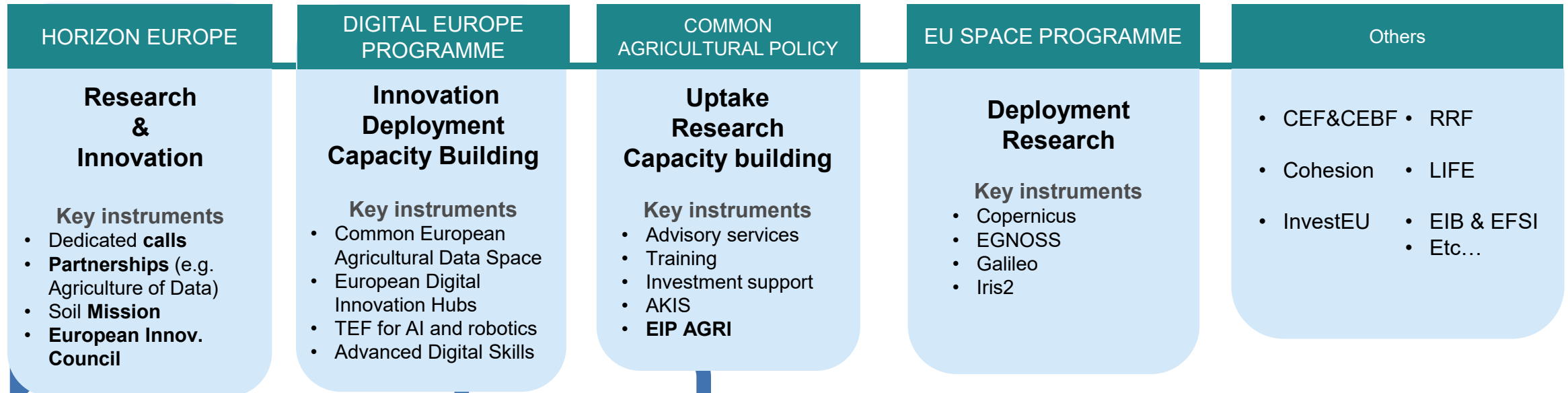
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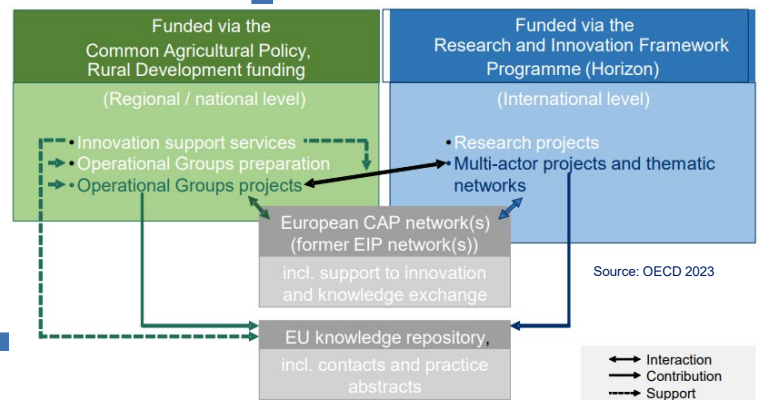
Digitalisation and data for farmers, foresters and rural actors: the role of EU R&I

Francesco Iadecola
DG AGRI, Unit F.2 Research and innovation, European Commission

Digital technologies for agriculture: complementarity of EU programmes



Interplay of HE clusters and DEP



Interplay of HE and CAP

EU Space Programme support to agriculture

Galileo, EGNOS and Copernicus support:

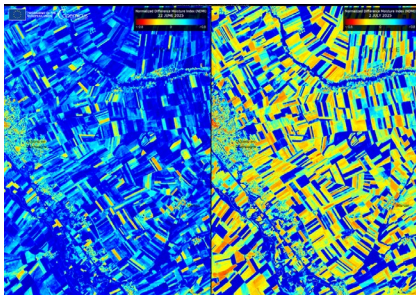
- Variable rate applications
- Manual and auto guidance
- Carbon capture and content assessment
- Organic farming
- Yield and biomass monitoring
- Livestock tracking
- Virtual fencing
- Post-harvest pick-up
- Field measurement and boundary mapping
- Asset management
- Precision irrigation
- Vegetation and soil monitoring



The EU Space Programme's direct benefits to farmers

- Optimise crop yields and increase productivity
- Save time and increase profit margins
- Eliminate waste and the over-application of fertilisers and herbicides by relying on Copernicus service, EGNOS corrections and Galileo's highly accurate signals to support variable-rate technology.
- Extend equipment lifetime by optimising its use
- Reduce environmental impact and comply with EU policies

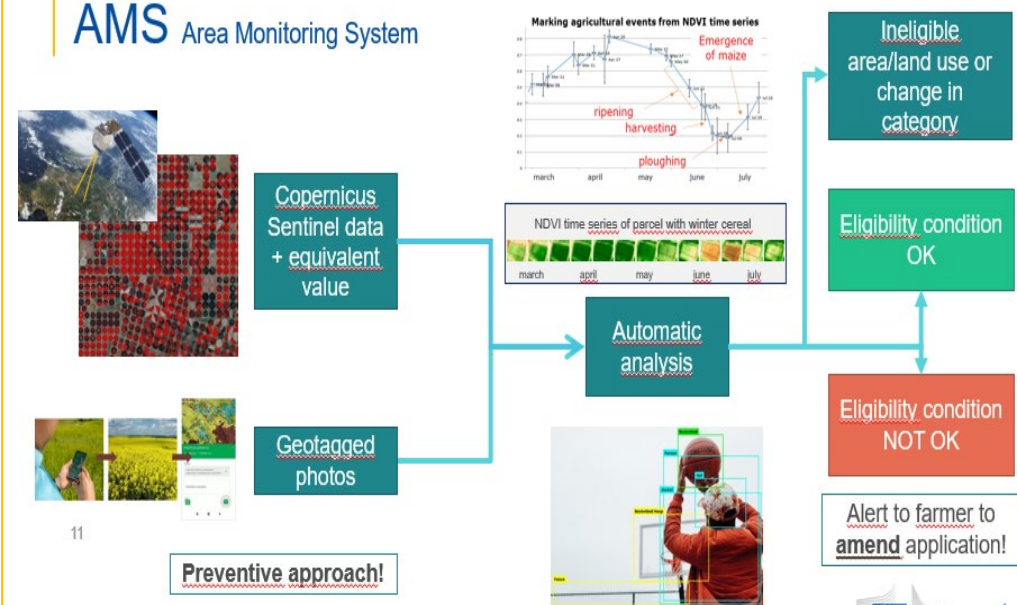
Data from Copernicus Earth Observation satellites and combined satellite navigation services from Galileo and EGNOS enable a wide range of precision farming applications.
Credit: European Union.



Credit: European Union, Copernicus Sentinel-2 imagery.

Copernicus data helps track key agricultural metrics, such as soil moisture, crop conditions, and land use changes.

These Copernicus Sentinel-2 images from 22 June and 2 July 2025 show the impact of the heatwave on soil moisture in the agricultural landscape surrounding Châlons-en-Champagne in northern France.

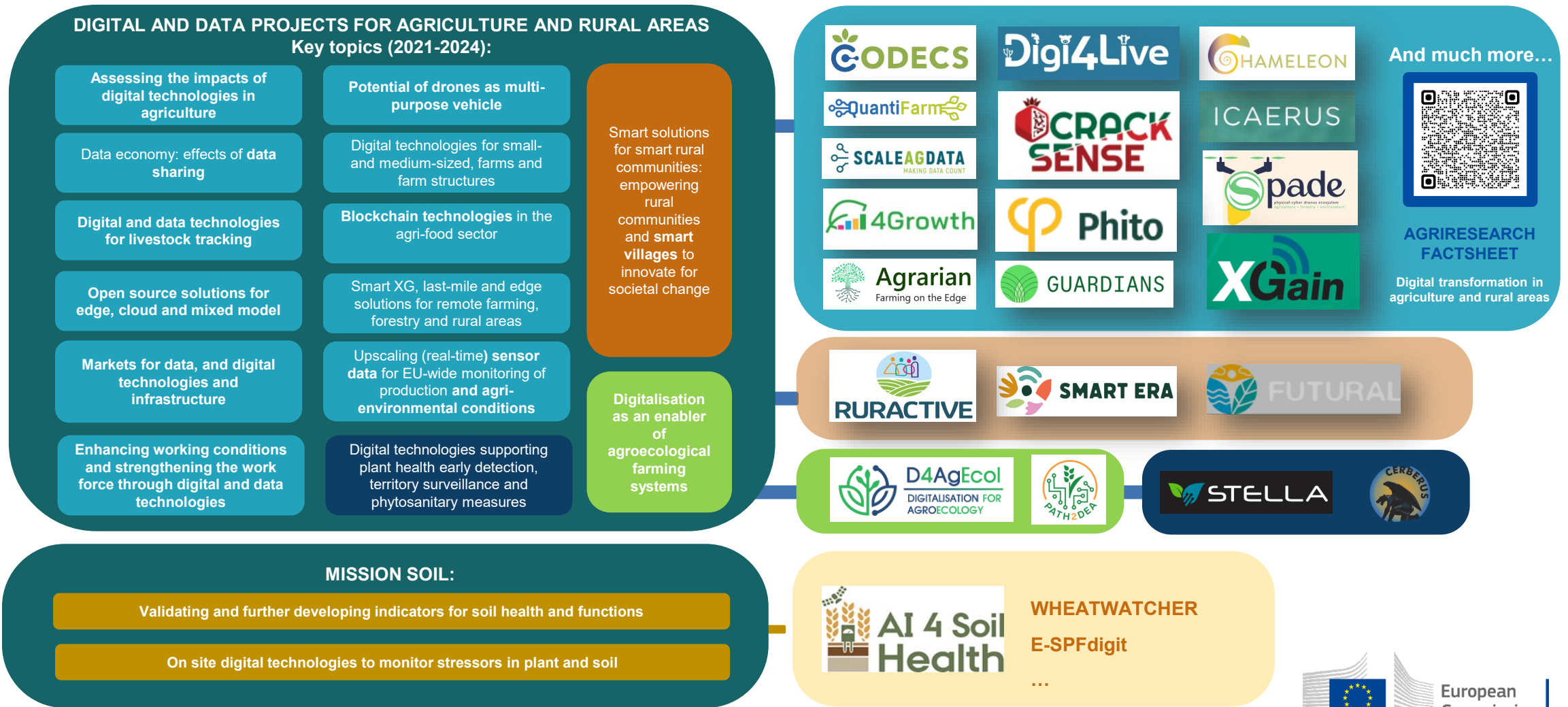


The Common Agricultural Policy (CAP) is a big user of EO!

- The Integrated Administration and Control System (IACS)
 - Main civil user of Copernicus Sentinel data
 - covers 77,9% of CAP expenditure (43bn € annually)
 - 3 main systems :
 - Identification System for Agricultural Parcels
 - Geo-Spatial Application System
 - Area Monitoring System (AMS)
- Evaluation of policy impacts
- Crop/Yield forecast

Innovation and digital technologies in agriculture and rural areas

Horizon Europe **Cluster 6** fosters research and innovation in food, agriculture, rural development, environment and the bioeconomy.



Horizon Europe project example (I)



- **Duration:** 1 July 2022 - 30 June 2026
- **Objective:** explore the multi-purpose application potential of drones in agricultural production, forestry and rural communities through five specific drone applications
- **Website:** icaerus.eu

UC
Crop
Monitoring

Terragona
ES

Tech components and data

- Multirotor drone
- Thermal camera – thermal imagery
- RGB camera – RGB imagery
- Hyperspectral camera – hyperspectral imagery (for specific disease detection)
- Lidar sensor – point cloud data
- IoT weather station – environmental and soil data.



01

Combined analysis of thermal, RGB and hyperspectral data for disease identification and weed detection.



02

Development of 3D monitoring protocol for drones' movement within vineyards.



03

Map creation model for spot-specific spraying of 3D crops



04

Dashboard with: repository for drone captured data, a visualisation tool and a decision-support tool for optimum spot-specific spraying.

Horizon Europe project example (II)



- **Duration:** 1 June 2023 - 1 May 2027
- **Objective:** empowering small- and medium-sized farms and farm structures with a set of digital innovative solutions that will help them to bridge the current technological gap between small and large farms.
- **Website:** <https://guardians-project.eu/>

UC
Resource
Efficiency

Leon,
ES

Site Description: Farms are located in the region of León. They have between 4 and 11 Ha for growing: potatoes, common beans, maize, sugar beet, alfalfa and soft wheat.



DRY LAND CROPS



IRRIGATED CROPS

Motivation: They lack specialised users to access external data sources and perform analyses to improve the environmental and economic performance of the farm. Thus, it is hard for them to deal with CAP requirements.

Technology to test: SATIVUM (tech.#1), a free integrated app that allows farmers to manage information at agricultural plot level and gives agronomic advice based on agricultural parcels from the EU IACS (Integrated Administration and Control System) with satellite, soil and climate data.

#1 SATIVUM

Expected Outcome: Optimization of resources and reduced use of fertilisers.

Horizon Europe candidate partnership Agriculture of Data

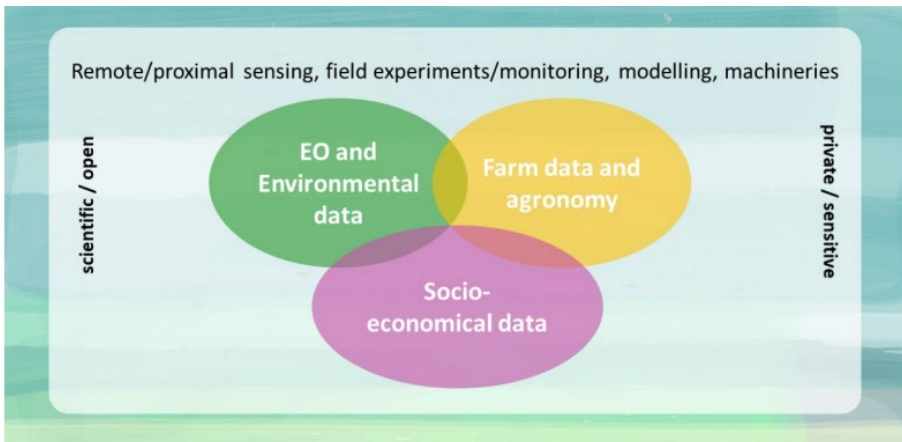
European Partnership Agriculture of Data

What: Support sustainable agriculture in Europe as well as policy monitoring and implementation by using the possibilities offered by digital and data technologies in combination with environmental observation and other agricultural data

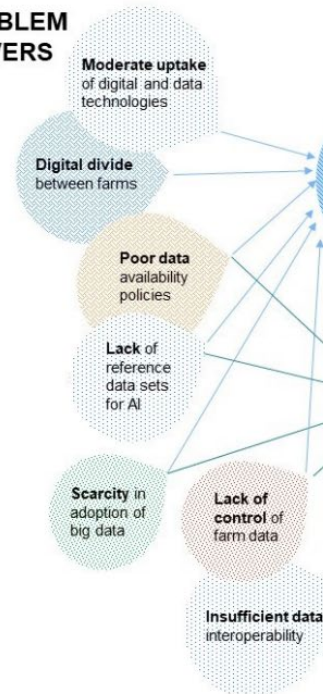
Who: Co-funded by EU, with Member States and Associated Countries, involving ministries, funding organizations, research organisations, and key stakeholders

How: Capitalisation of data through the development of innovative data-based solutions and services for the private and public domain, and scaling them up

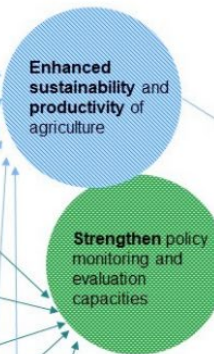
When: 1st October 2025; 7-10 years duration



PROBLEM DRIVERS



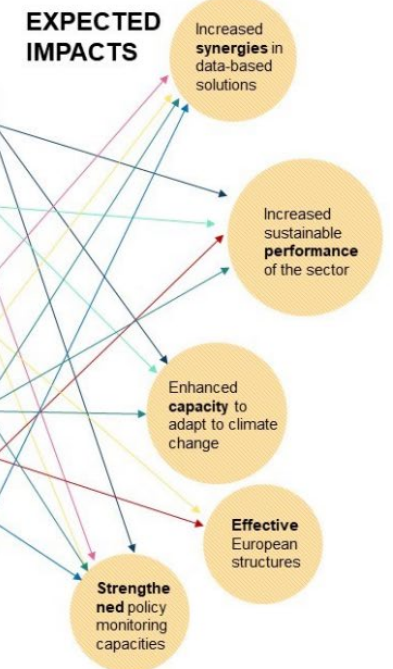
GENERAL OBJECTIVES



SPECIFIC OBJECTIVES



EXPECTED IMPACTS



EU level actions for agricultural digitalisation and data valorisation

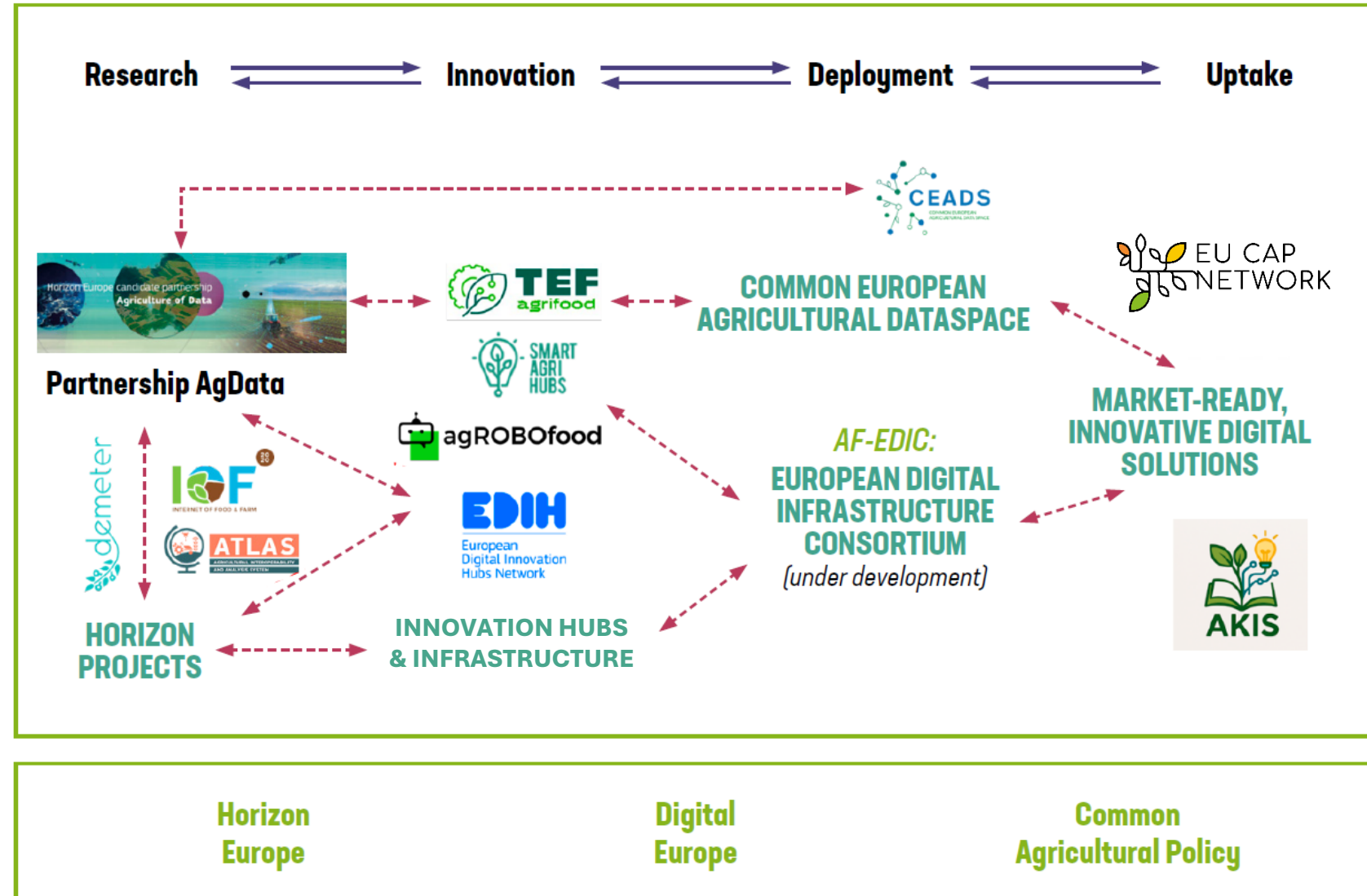


Figure adapted from the thematic report «assessing digitalisation under the CAP Strategic Plans», November 2025.

Fostering interactive innovation model

CAP

EIP-AGRI operational groups
= innovation projects at local level



Horizon transnational
multi-actor R&I projects at EU level

*“We do not only do R&I **for** practitioners,
but also **with** practitioners.”*

– Commissioner Janusz Wojciechowski

Multi-actor approach = practitioners (end-users) are put at the center of the R&I activities all over the whole course of the project.

- ✓ *their **practical expertise** is used to co-create innovative solutions;*
- ✓ *it makes them **co-owner** of the results;*
- ✓ *they **implement** them in practice;*
- ✓ *they **share** them in peer-to-peer meetings*

In this way we can achieve much quicker and bigger impact in practice!

New EU agricultural Research and Innovation (R&I) Strategic Approach



The new **EU agricultural Research and Innovation (R&I) Strategic Approach** was announced in the European Commission's [Vision for Agriculture and Food](#), presented in February 2025, which aims to secure the long-term competitiveness and sustainability of the EU's farming and food sector. The new EU agricultural R&I strategic approach will help achieve the competitiveness, sustainability, resilience, and fairness objectives of the Vision. It will update and replace the [current strategic approach for agricultural R&I](#), which dates back to 2016.

A **survey** was launched (closed on 25th of January 2026) to **collect feedback from all relevant stakeholders** (researchers, innovators, farmers, foresters, rural communities, cooperatives and associations, advisors, businesses and private sectors, NGOs, etc.). This will enable the co-creation of an EU agricultural R&I strategy. This stakeholder feedback opportunity forms an integral part of the preparation of the **New EU strategic approach to research and innovation to foster the competitiveness, resilience and sustainability of agriculture, forestry and rural areas**. Sharing your reflections on new opportunities arising from today's policy context will help identify priority R&I thematic areas, bolster the uptake of new knowledge and innovation by farmers, foresters and rural actors and revamp the whole innovation journey from research to start-ups and scale-ups for the benefit of the wider EU economy.

Role of R&I and digitalisation role for agriculture, forestry and rural areas

R&I involving directly end users has pivotal role to play to boost effectiveness, acceptance, and uptake of innovation and digital technologies, including remote and proximal sensing for instance by:



Increasing **cost-effectiveness** of digital solutions



Enhancing **performance assessment** opportunities



Developing technical solutions **adapted to specific needs**

Data from remote and proximal sensing is instrumental to achieve environmental and socio-economic sustainability ambitions for agriculture, forestry, and rural communities for instance by:



- Drive precision agriculture technologies
- Effective and targeted elimination of weeds
- Targeted irrigation
- Selective application of pesticides
- Early detection of pests and diseases
- Collect information on soil health
- Support decision-making and territorial planning
- Prediction of weather patterns
- Assessment of livestock health conditions and behavior
- Predict yield
- Improve policy monitoring and evaluation capabilities
- Reduce administrative burden

Thank you

Francesco Iadecola

Francesco.IADECOLA@ec.europa.eu



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All information on the workshop is available on the event webpage:

<https://eu-cap-network.ec.europa.eu/events/eu-cap-network-workshop-sensing-future-practical-applications-proximal-and-remote-sensing>

