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SMART FARM & AGRI-ENVIRONMENTAL BIG DATA VALUE



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About AgriDataValue

Targeting the new Common Agricultural Policy (CAP) implementation, AgriDataValue will drive developments in Smart Farming, Precision Farming, Agri-Environmental monitoring and strengthen the Agricultural Digital Transformation at European Level. The project will implement a specialized digital platform for upscaling (real-time) sensor data for EU-wide monitoring of production and agri-environmental conditions. Beyond storage efficiency and semantic interoperability, the multi-technology platform will combine state of the art Big Data/Artificial Intelligence frameworks and Data-Spaces' Technologies (BDVA/IDSA/GAIA-X) with agricultural knowledge, agri-environment policies and farmers' engagement campaigns.

AgriDataValue: Project At A Glance

23 Pilots in 9 countries

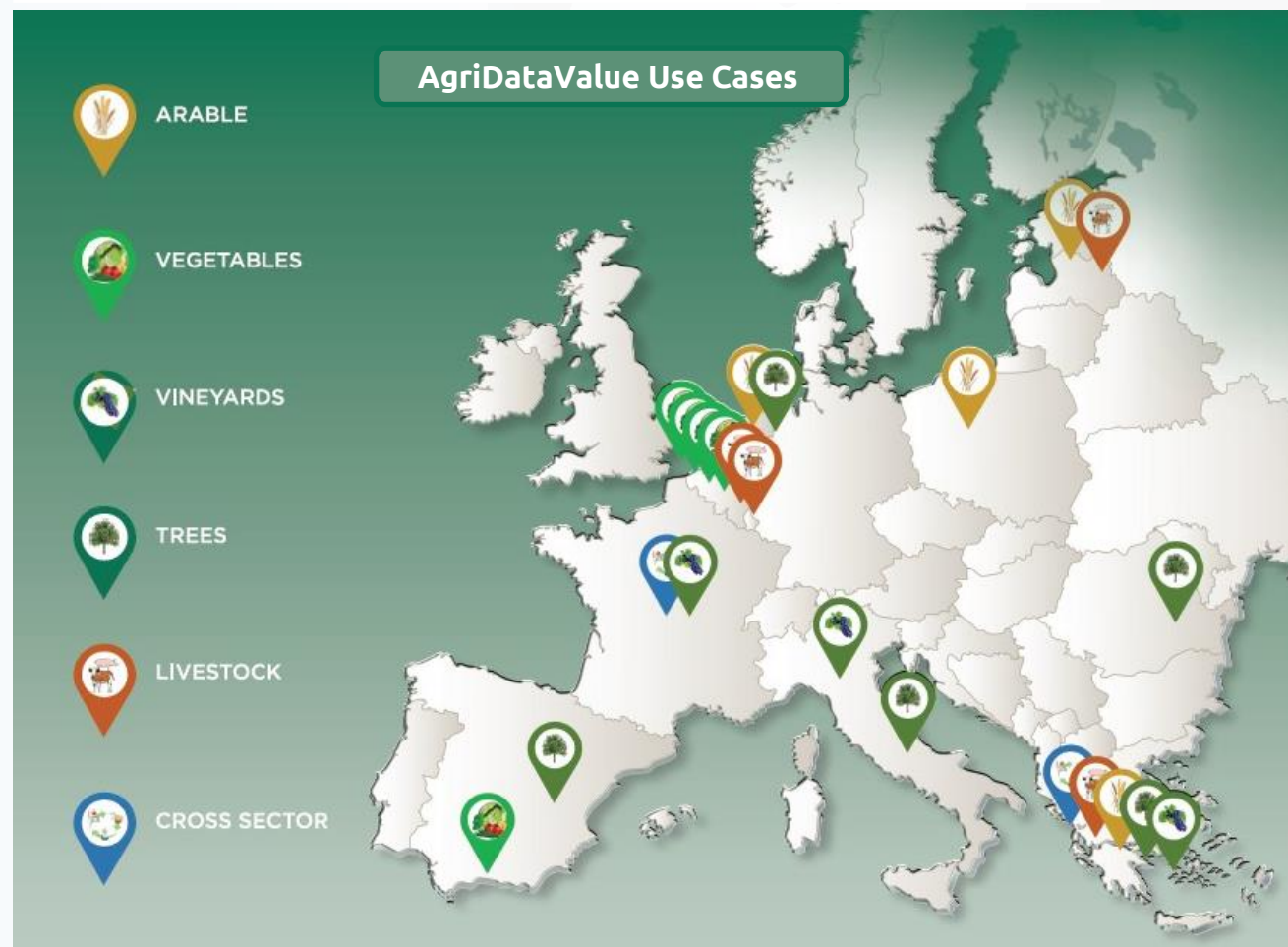
30 partners from 14 countries

Representing more than 181,000ha

25 Types of crops that span from South-West to North-East Europe

More than 2,000 animals of 5 types

More than 4,500 additional IoT sensors will be installed



AgriDataValue Use Cases:

Use Case Cluster 1, Sector: Arable Crops

Optimize the quality and quantity of the crop production and increase the environmental sustainability. Reduce the wasted irrigation water, fertilizers, pesticides, energy. Involve different technologies and data platforms such as IoT sensors, edge cloud, drones/satellite visual/multispectral images and AI models.

Use Case Cluster 2, Sector: Vegetables

Precision irrigation/ fertilization, harvest /diseases prediction for vegetables/arable crop increased production. Involve IoT sensors, edge cloud, radiation/clorofile/pH metering, multiple data platforms with geotagged photos alone with drones/satellite multispectral imagery.

Use Case Cluster 3, Sector: Trees/Vineyard

Protect the health and quality of fruit trees and vineyards crop. Increase quality and quantity, avoid diseases with less pesticides, foresee and mitigate frost. Involve IoT weather/soil sensors, edge cloud, diverse geotagged photos' datasets, drones/satellite multispectral imagery.

Use Case Cluster 4, Sector: Livestock

Use edge cloud and real-time IoT sensor data (e.g. neck collar, feeders, emission sensors) together with GPS location data to monitor the cattle/pig health, activity, feeding and calving, proactively control milk and meat quality, reduce the greenhouse gas emissions and nitrogen deposition.

Use Case Cluster 5, Sector: Cross Sector

Validate cross domain use cases (fruit, vineyards, livestock, milk, oil, biogas, manure, energy) and address both supply and demand sides of the supply chain, including interoperability and traceability of platforms, electricity production and waste management.

Use Case Cluster 6, Sector: CAP Realization

Focuses on CAP realization tools/applications and aims to assess and manage risk through modern ML with the aim of reducing the use of pesticides, fertilizers and antibiotics. Promote modern crop monitoring technologies. Benchmarking eco-scheme monitoring tools to support the new CAP towards fair income, land use and environmental protection.

Use Case Cluster 7, Sector: Climate Monitoring

Climate monitoring plays a vital role in agriculture by providing valuable information about weather patterns, climate variability, and climate change impacts on crop growth, pests, diseases, and water availability. It involves collecting data from weather stations, satellites, remote sensing technologies, and climate models.