



MAGDA

INNOVATIVE SENSING FOR FARMING

Meteorological Assimilation from Galileo and Drones for Agriculture



**Check our
Website!**

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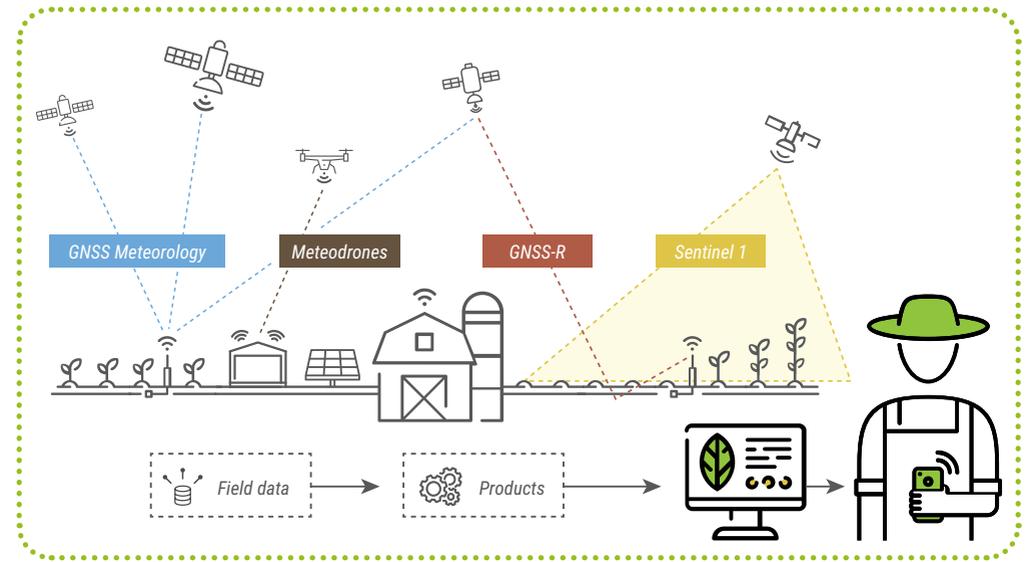
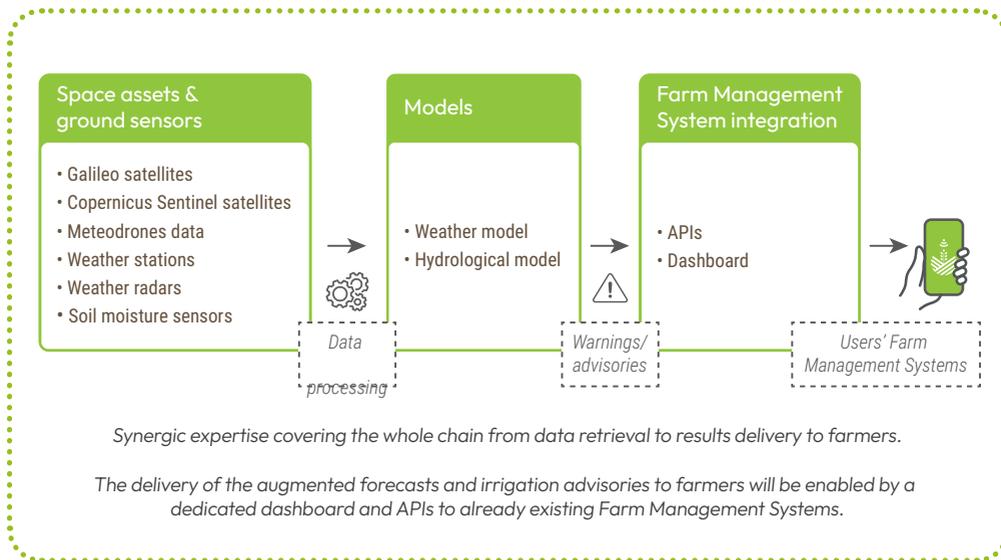


Project Background

The overall objective of the MAGDA project is to provide valuable weather and irrigation information directly to farmers and agricultural operators, by exploiting the strengths of atmosphere and soil sensing technologies.

MAGDA Objectives

MAGDA aims at developing a toolchain for atmospheric monitoring, weather forecasting and severe weather / irrigation / crop monitoring advisories, with Galileo, Copernicus and drone data at its core.



MAGDA Demonstrators



EXPLORE the untapped potential of assimilating GNSS-derived, drone-derived, Copernicus EO-derived datasets, and in-situ weather sensors

DEPLOY sensors, GNSS and drones, to monitor atmospheric variables at high spatial resolution in the vicinity of large farms and cultivated areas

DEVELOP high-resolution and short-range numerical weather forecasts and hydrological models for irrigation performance and water accounting

VALIDATE very-short range nowcasting systems for the prediction of severe weather in support of precision agriculture activities

PROVIDE valuable information about severe weather and irrigation operations directly to farmers and agricultural operators

INCREASE awareness and impact through effective and measurable communication and dissemination activities

ENABLE augmented short-term weather forecasts and irrigation advisories to farmers by a dedicated dashboard and Application Programming Interface

EXPLOIT high-potential solutions developed within MAGDA by harnessing the strengths of the implemented toolchain to support agricultural operators in multifaceted scenarios

Demo sites for the MAGDA system have been selected at 3 agricultural sites, with different types of crops, weather, and irrigation needs.

At each site, 3 Galileo-enabled low-cost dual-frequency GNSS stations have been deployed, together with 1 meteodrone base and in-situ sensors (weather stations, soil moisture sensors). Copernicus Sentinel data, together with all the required additional GNSS and weather data needed for the models, were procured for each site.



PROJECT FACTS

Duration
11/2022 to 04/2025

Programme
Horizon Europe

Reference
101082189

Coordinator
GReD

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