

Service ID S00314

Location Spain



Validation of irrigation AI models through soil sensors and climatic data

Provider service

University of Cordoba (UCO)

Link to content

<https://agrifoodtef.eu/catalogue-of-services/validation-irrigation-ai-models-through-soil-sensors-and-climatic-data>

Type of Sector

Arable farming, Horticulture, Tree Crops

Accepted type of products

Data, Physical system, Software or AI model

Type of service

Collection of test data, Data analysis, Performance evaluation, Test design, Test execution, Test setup

Description

This service focuses on the validation of intelligent irrigation systems through the recalibration of the model based on data obtained from soil sensors, and evaluation with other data sources. It includes physicochemical parameters of the soil, and variable distribution of water and supplies. Observations are systematic and cover different conditions and crops to verify model accuracy and the effectiveness of site-specific input distribution.

How can the service help you

The validation of the service, developed by the customer, addresses the critical needs for optimised water distribution and improved agricultural efficiency. Before using this service, companies may struggle with inconsistent irrigation models, leading to either over- or under-irrigation, which can negatively impact crop health and yield. By extracting and analysing data from soil sensors, the service ensures that water and inputs are distributed accurately based on real-time conditions, crop types, and soil properties. After implementing the service, companies benefit from improved system accuracy, and enhanced productivity through tailored water and nutrient application across different crops and conditions.

How the service will be delivered

The service will be customized according to customer needs (model, irrigation system, crop, season...), and can be extended over the entire crop cycle, including extensive crops such as corn, wheat, or barley, as well as woody crops like olive or almond trees.

Service customisation

The service is conducted at the Rabanales Experimental Farm facilities in Rabanales. To ensure accurate efficiency analysis, it is tailored to the crop cycle under evaluation. The crop must be one of those grown in the plots where the irrigation system being tested is installed. The customer is required to provide the mathematical irrigation model, and upon completion, will receive a comprehensive final report detailing the results of the service.