Service ID

Location   Italy, Remote

Support in interconnecting systems to AgrifoodTEF's computational test

Provider service

Politecnico di Milano (POLIMI), Università degli Studi di Milano (UMIL)

Link to content

https://agrifoodtef.eu/catalogue-of-services/support-interconnecting-systems-agrifoodtefs-computational-test

Type of Sector

Arable farming, Food processing, Greenhouse, Horticulture, Livestock farming, Tree Crops, Viticulture

Accepted type of products

Design / Documentation, Software or AI model

Type of service

Test execution, Test setup

Description

Digital testing requires interaction among several different components which have to reliably cooperate to enable the testing activities and to ensure that their outcomes reliably reflect the system's capabilities. When digital testing of customer systems leverages agrifoodTEF's computational infrastructure, integration between the infrastructure and the systems to be tested is needed before the tests/experiments can be executed. If the customer does not possess the technical expertise – or does not want to devote resources – to perform the integration, this service can support them in the process. Help is provided by a team of expert engineers.This service concerns the integration of the customers' system and/or data used for testing with the agrifoodTEF digital testing infrastructure. In particular, integration is crucial to ensure smooth and uninterrupted communication between the system and the infrastructure that produces, collects and/or processes test data.This service also includes the development of any custom components needed to ensure a two-way integration between the system and the reference infrastructure (e.g., software components to format data or to perform transcoding).

How can the service help you

Interconnecting a complex system with an external infrastructure is a difficult task, especially when the infrastructure has not been developed by the system developer and is not dedicated specifically to that system.

However, for companies developing advanced AI- and robotics-based products, having their system interact with an external infrastructure is often indispensable to perform testing; for many companies it is impossible, in fact, to have such an infrastructure internally available.

This service enables customers to make use of agrifoodTEF's advanced infrastructure without forcing them to perform themselves all the necessary activities and therefore strongly reduces the time needed to arrive at an effective interaction between the system under test and the testing infrastructure.

How the service will be delivered

This service description is intentionally generic. Every instance of this service is, in fact, customised to adapt it to the needs and requirements of the specific customer. The following is an example of a service instance.

Example service: The customer wants to validate the capability of a computer vision model to discriminate weeds from crops on soybean crop data that have been previously collected by our team and are currently hosted in the agrifoodTEF dataspace.

To ensure tests can run effectively on these target data (e.g., within a virtual environment defined via Service S00176 and preconfigured through Service S00180), our team will take care of connecting the agrifoodTEF dataspace with the test environment and with the systems provided by the customer. We will also ensure that any data loading scripts currently used in the customer's system are opportunely modified to run with the data format exposed by the agrifoodTEF dataspace.

Service customisation

The first phase of this service involves discussing with the customer what elements of the agrifoodTEF infrastructure they need to be integrated with and what activities will be performed after integration. Often, but not necessarily, the customer of this service will also be using service S00180 (Preparation of digital test environment).

The output of this initial phase (which may take 2-4 weeks and proceeds via meetings, either in person or remote) is an integration plan, defining the activities to be performed by agrifoodTEF (and possibly by the customer) to enable integration and any missing element that agrifoodTEF may need to generate (e.g., communication or data transcoding software).

AgrifoodTEF will subsequently proceed to prepare its infrastructure to be ready to interface with the customer's systems, also implementing the specified missing elements; at the same time agrifoodTEF will be available to the customer to support their own internal integration efforts.

The time distance between service initiation and completion of the integration work heavily depends on the complexity of the operations to be executed and will be specified in the integration plan after being agreed upon between agrifoodTEF and the customer.