

Service ID

Location Italy



Collection of test data during physical testing

Provider service

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

Link to content

<https://agrifoodtef.eu/services/collection-test-data-during-physical-testing>

Type of Sector

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

Accepted type of products

Design / Documentation

Type of service

Collection of test data

Description

Through this service, we offer dedicated technical systems (hardware and software) and expertise for the collection of relevant data during testing. The scope of data collected can range from data generated by the AgrifoodTEF technical infrastructure (e.g., through the installation of IoT sensors) to the collection of data generated by the system under test to the generation of ground truth for evaluating the system. If necessary, service S00111 may be leveraged to take care of the interconnection between AgrifoodTEF data collection systems and the customer's systems. In addition to the raw collected data, we will also provide customers with complete documentation describing the logged features and conditions of the testing environment at the time of testing, as well as any parameter values, variation ranges and specifics required for reproducibility purposes. Where necessary, data collection and documentation activities can require the involvement of field experts (e.g., engineers, agronomists). Note: annotation and labelling of collected data, if needed, can be provided via service S00115.

How can the service help you

Tests on a physical system (e.g., a machine) are much more useful to define the performance of the system and to understand its limitations if quantitative data are collected during the test for subsequent analysis and interpretation.

Collecting data requires expertise about what data to collect, how to do the collection and how to prepare the data for subsequent use. This service lets AgrifoodTEF take care of data collection during the execution of tests; data are then prepared by AgrifoodTEF and provided to the customer for subsequent use.

How the service will be delivered

Example Service: The customer requires data to train a computer vision model for recognising *Matricaria* and bean plants, as well as for detecting the emergence of other spontaneous weed species. We collect the necessary data using a teleoperated robot within cultivated bean plant rows infested with *Matricaria chamomilla*, while also including wild mustard plants as confounding species.

In addition to the collected data, we provide a supplementary report that details the content and definitions of each annotated field, along with the testing conditions at the time of data collection. This report includes information such as the time of day, weather conditions, image resolution, camera model and parameters, and class statistics.

Service customisation

The duration of this service averages three weeks for preparation, in addition to the time required for actual data collection, which occurs while the customer's system undergoes testing to produce the data.

The preparation phase involves one or more interviews where the customer details the tests to be executed and the specific data they wish to extract from these tests. Additional information (such as machine specifications and documentation for any interfaces used for internal data acquisition) may be requested, and this will be handled under NDA if the information is confidential.

At the conclusion of the service, the customer receives data files in a suitable format, along with all associated documentation needed to effectively utilize the data (including format specifications and information about the data collection process).