

**Service ID** S0113

**Location** Italy



## Collection of test data during physical testing

### Provider service

Politecnico di Milano

### 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 provide specialised technical systems (both hardware and software) and expertise for collecting relevant data during testing. The scope of the data collected can vary, encompassing information generated by the agrifoodTEF technical infrastructure (e.g., through the installation of IoT sensors), data from the system under test, and ground truth data for system evaluation. If needed, this service can facilitate the interconnection between agrifoodTEF's data collection systems and the customer's systems. In addition to the raw data collected, we will supply customers with comprehensive documentation detailing the logged features, conditions of the testing environment at the time of testing, and any parameter values, variation ranges, and specifics necessary for reproducibility. When required, data collection and documentation activities may involve field experts such as engineers and agronomists. Please note that annotation and labeling of collected data, if necessary, can be provided through service S00115.

## How can the service help you

Conducting tests on a physical system (such as a machine) is significantly more effective for defining its performance and understanding its limitations when quantitative data is collected for subsequent analysis and interpretation. Collecting this data requires expertise in determining what data to gather, how to collect it, and how to prepare it for future use.

This service allows agrifoodTEF to manage data collection during the testing process. The collected data is then prepared by agrifoodTEF and provided to the customer for further analysis and application.

## 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).