

Service ID S00062



Location At user's premises, Poland

Assisting in Testing and Data Collection of AI-Driven Robotic Solutions

Provider service

Lukasiewicz Poznanski Instytut Technologiczny (L-PIT)

Link to content

<https://agrifoodtef.eu/catalogue-of-services/assisting-testing-and-data-collection-ai-driven-robotic-solutions>

Type of Sector

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

Accepted type of products

Data, Design / Documentation, Physical system, Software or AI model

Type of service

Collection of test data, Desk assessment, Provision of datasets, Test design, Test execution, Test setup

Description

Our service provides end-to-end support for testing and data collection processes involving robotic or AI-driven systems. We assist in planning and conducting tests to ensure compliance with defined methodologies and objectives. Services include verifying system configurations, monitoring operations, managing technical infrastructure, and ensuring seamless data exchange. If necessary, we can provide access to modern agricultural machinery, such as advanced tractors or field robots equipped with Agriculture 4.0 systems, various sensors, and data recording systems. Additionally, we supply skilled operators to facilitate testing. Our service can also leverage our specialised physical infrastructure, including carrier frames, measurement wheels, and components for rapid prototyping and servicing, ensuring smooth testing operations. Collected data can be processed, documented, and provided in formats suitable for further analysis, enabling you to optimise your solutions effectively.

How can the service help you

Before using our service, testing AI-driven systems can be a complex and resource-intensive task. After partnering with us, you gain access to tailored methodologies, professional expertise, and the necessary infrastructure to validate and optimise your solutions. By utilising our advanced machinery and robotic systems equipped with cutting-edge sensors and data logging technologies, combined with our specialised physical infrastructure for prototyping and testing, you can ensure comprehensive testing under real-world conditions. This ensures your systems meet functional and performance requirements, providing actionable insights and reliable results for decision-making.

How the service will be delivered

As part of the service, we offer the development of a methodology in accordance with the guidelines from commonly applicable documents (standards, directives, etc.). Based on it, we plan and carry out physical tests of tested objects, devices, and systems and their functional tests combined with the analysis of fast variable processes controlled by AI-based systems.

The realisation of the runs of the entire tests can also be recorded on digital media and then given to photogrammetric analysis. It is important to know that bringing a selected crop of plants to the appropriate, required phase of development will require a certain period of time from the time-of-service acceptance.

In the case of field tests, it is also important to think about unexpected, sudden weather phenomena, which may make it necessary to postpone the tests or make them necessary again. We require a fully functional prototype and complete technical documentation. There are limitations regarding the dimensions and weight of the devices, and some tests may require prior resource reservations. All information is treated confidentially, with the option to sign a Non-Disclosure Agreement (NDA).

Service customisation

Our service is designed to provide the technical support necessary to conduct testing of prototypes or solutions on an existing test field.

The following describes how the service can be realised:

- **Supplementary Technical Support:** If the client has a functional prototype, we provide additional components to enable effective testing.

This could include measurement wheels, cameras, motion tracking systems, or data recording devices to monitor and evaluate the processes during testing.

- **Comprehensive Integration Support:** For more complex needs, we offer the installation of the prototype onto specialised measuring frames provided by us. We also handle the aggregation of the client's solution with advanced tractors or field robots equipped with Agriculture 4.0 systems. This ensures full compatibility and optimal testing conditions.