Service ID S00286

Location Poland, Remote

Testing of plant health assessment tools for high-value crops

Provider service

Lukasiewicz Poznanski Instytut Technologiczny (L-PIT)

Link to content

https://agrifoodtef.eu/catalogue-of-services/testing-plant-health-assessment-tools-high-value-crops

Type of Sector

Arable farming, Greenhouse, Horticulture, Tree Crops, Viticulture

Accepted type of products

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

Type of service

AI model training, Data analysis, Test design, Test execution, Test setup

Description

The service is intended to provide the client with technological and intellectual support for the improvement of plant health assessment tools for high-value crops. Support will be provided through testing of optical technology solutions, image analysis pipelines, and AI systems. The proposed testing and analysis will provide a wealth of feedback on the relevant tools and the quality and utility of the crop health data they collect. It may lead to changes in components, tools, and the choice of software and algorithms and general suggestions to ensure safe and effective work with sensitive crops.

How can the service help you

Our service provides expert assistance in the application of AI technology based on machine learning methods to assess plant health in high-value crops, using the example of grapevines, which can provide information that allows future conservation measures to be targeted even on individual plants without having to be carried out on the entire plantation. Such measures lead to the optimisation of cultivation costs. There is also an environmental dimension, as it leads to a reduction in the environmental load through, for example, the spot application of lower doses of active chemicals.

Testing will provide valuable feedback on the equipment and data acquisition techniques used (photos, videos, etc.) and the equipment used for this purpose. It will also allow an indication of the size of data stores suited to the size and type of plantation and the necessary quantities of records to be collected. These activities will help to determine the scope of improvements prior to the implementation of the technology. As a result, this will lead to improvements in the overall reliability and the increased efficiency of the data recording and analysis tools.

How the service will be delivered

Our service offers customised performance, quality of work, and reliability testing for AI-based systems. We offer long-term testing focused on specific components or AI integration, with the ability to expand measurement equipment and apply advanced data analysis techniques. Test reports are personalised and can be complemented with workshops and training for your team. We require a fully functional prototype and complete technical documentation. All information is treated confidentially, with the option to sign a Non-Disclosure Agreement (NDA). Please be aware of the risk of prototype damage during testing. If the tests need to comply with specific industry standards or regulations, kindly inform us in advance.

The timeframe and costs are determined individually based on the scope and complexity of the tests. We ensure flexibility and professional support at every stage of the testing process. Please feel free to contact us to discuss the details and tailor the service to your unique needs.

Service customisation

Our service is based on a structured process of thorough evaluation of an AI-integrated system:

- You provide a functional prototype or research model of your solution, along with any previous analysis of its performance, to help identify critical capabilities of its operation.

- A comprehensive analysis of the system is conducted, taking into account specific guidelines and expectations. This allows us to identify the necessary materials and testing methods, focusing on the artificial intelligence algorithms being used or to be used.

- A detailed test plan is developed, defining the scope, methodology, and schedule of activities. This plan is discussed with the client and approved prior to testing.

- Comprehensive testing of the solutions is conducted.

- The data provided by the client is analysed using artificial intelligence algorithms to assess changes in health and plantation status and to indicate directions for optimisation.

- The provided data is analysed in detail using advanced methods.

- A comprehensive report is prepared with test results, analysis, and recommendations for system optimisation. The report