

**Service ID** S00199

**Location** Poland



## **Benchmarking & Testing Suite for Edge Hardware Systems**

### **Provider service**

Lukasiewicz Poznanski Instytut Technologiczny

### **Link to content**

<https://agrifoodtef.eu/services/benchmarking-testing-suite-edge-hardware-systems>

### **Type of Sector**

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

### **Accepted type of products**

Physical system

### **Type of service**

Collection of test data, Desk assessment, Performance evaluation, Test design, Test execution, Test setup

### **Description**

The Benchmarking & Testing Suite for Edge Hardware Systems delivers a set of tests designed to evaluate the performance, reliability, and functionality of edge hardware and its components under various operational conditions. The tests can be compared to specific industry standards or the performance of other solutions available on the market. Examples of tests offered as part of the service: - Environmental tests: Assessing devices' resistance to extreme conditions, such as temperature, humidity, and vibrations. - Signal tests: Evaluating devices using GNSS signal generators, testing their resilience to interference or false signals. - Network tests: Evaluate device performance within a prototype 5G network infrastructure. - Functional tests: Assessing the capability of devices, such as remote PTZ (pan, tilt, zoom) cameras, to perform operational tasks in field conditions. - Integration tests: Examining the cooperation of edge devices with sensors, AI systems, and their responses to data input failures. - Accuracy tests: Measuring the precision of sensors and control systems. Test results can be compared to specified standards or the performance of competitive solutions, enabling customers to better understand their devices' capabilities.

## How can the service help you

Our service allows customers to:

- Evaluate the performance and reliability of their devices under realistic operational conditions.
- Compare test results with specific standards or market solutions, supporting decision-making for further device development.
- Identify areas for improvement, such as performance optimisation or compliance with market requirements.

## How the service will be delivered

Our service offers extensive customisation options to meet the specific needs of each customer. We can conduct tests that simulate various environmental conditions, such as temperature, humidity, or vibrations, as well as perform long-term performance analyses of systems and their components. Field tests can be carried out at locations specified by the customer, ensuring realistic and relevant testing scenarios. Additionally, test results can be compared with existing market solutions or standards, providing valuable insights into the device's performance and competitiveness.

To ensure accurate and reliable testing, customers must provide a functional prototype and complete technical documentation. If necessary, tests can also be conducted at the device's operational location, subject to prior agreement. We treat all results with strict confidentiality, with the option to sign an NDA. It is important to note that there is a risk of prototype damage during endurance tests, and any tests requiring compliance with specific industry standards must be agreed upon in advance.

## Service customisation

The service delivery process includes:

- Customer needs analysis: Determining the scope of tests and device operational parameters.
- Test plan preparation: Developing a detailed test plan, including methodology, schedule, and requirements for devices and testing infrastructure according to required standards.
- Test execution: Tests are conducted in controlled laboratory conditions and/or field environments using professional measurement equipment.
- Results comparison: Test results are analysed and compared against specified standards or competing solutions.
- Results delivery: Customers receive detailed test data in an agreed format, with the option to relate it to standards or market solutions.