Service ID S00288

Location At user's premises, Poland

Technology advancement and readiness assessment

Provider service

Lukasiewicz Poznanski Instytut Technologiczny (L-PIT), Poznan Supercomputing and Networking Center (PSNC), Wielkopols

Link to content

https://agrifoodtef.eu/catalogue-of-services/technology-advancement-and-readiness-assessment

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

Conformity assessment, Data analysis, Desk assessment, Test design, Test execution, Test setup

Description

This service helps you understand where your AI-powered product, system, or software stands in terms of technological maturity. We conduct a basic, yet structured evaluation of your solution—including physical testing of selected components and general system behaviour—to identify its current development stage and key areas that need improvement. We also assess the quality of documentation, system architecture, and software implementation. For example, when evaluating an apple-picking robot, we assess the readiness and integration of its core subsystems: the gripper mechanism, robotic arm kinematics and control, and the vision system responsible for detecting ripe fruit. We analyse areas where current solutions can be improved or require some redesign and whether the robot as a whole can effectively perform "scene "cleaning"—removing ripe apples while preserving unripe ones and the plant structure. Based on our findings, we prepare a clear roadmap and a development plan with recommendations for the next steps, which may include further testing or refinement through other agrifoodTEF services. As part of the process, we also confirm the current Technology Readiness Level (TRL) of each major component. The outcome helps you focus your R&D work and understand what is still required to move your solution closer to full deployment and commercial readiness.

How can the service help you

Before using this service, customers often don't know how advanced their AI-based product or prototype truly is, or what needs to be improved to move toward market readiness. After the assessment, they receive a clear picture of the current technological maturity of each component along with practical recommendations and a development roadmap. This helps them focus their efforts, avoid costly mistakes, and plan the next steps, including which tests or improvements are required. The service also helps identify other agrifoodTEF services that can support more advanced validation, if needed. As a result, companies gain confidence in how to move forward efficiently and increase their chances of successful deployment or funding.

How the service will be delivered

The service is adaptable to the customer's solution type and development stage. Depending on the focus area, the assessment may concentrate on the physical device, software, system architecture, or the accompanying documentation and conformity.

The scope and methodology are defined based on the available inputs and the technological maturity of the product. To carry out the assessment, the customer must provide access to a working prototype (in the case of hardware), full technical documentation, and, where applicable, access to the source code.

The evaluation may include simplified tests of selected components or system behaviour, especially when integration or subsystem functionality is in question. The service outcome—including the report format, level of detail, and scope of recommendations—can be customised based on the client's expectations and needs. Follow-up consultations or workshops can also be arranged to support the implementation of proposed next steps or further development via other agrifoodTEF services.

Service customisation

The service is delivered in a flexible way depending on the type of solution. In the case of a hardware product, the assessment typically involves a hybrid model:

 physical testing of hardware components (e.g., gripper and robot arm) combined with remote analysis of software, system logic, and sensor integration.

Multiple expert teams may assess the robot's individual subsystems in parallel. We begin with building or sourcing a basic test environment to evaluate repeatable performance.

This setup allows us to test individual modules (e.g., in the case of apple-picking robot gripper endurance, fruit removal dynamics) as well as system-level behaviours (e.g., picking trajectory, stability of the base during operation).

The process may include, i.e.,- Physical tests of the gripper: how many picking attempts the plant can withstand, risk of damaging the plant, and effectiveness of removal.