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Services offered by the AgroTechnoPôle Platform

IN BRIEF

The AgroTechnoPôle platform supports stakeholders in developing Agro-equipment solutions towards agro-ecological transition.

INRAE-TSCF-AgroTechnoPôle is a partner of The European Testing and Experimentation Facilities for Agrifood Innovation - **AgrifoodTEF**, a network for designing and implementing AI testing and experimentation methodologies.

AgroTechnoPôle proposes in 2023 six tests available via AgrifoodTEF (2023 – 2027).



FIRST AVAILABLE TESTS

AgroTechnoPôle has developed several Agricultural Robotic Performance Assessment Tests, known as **ARPA***, to evaluate **Safety functions** and other **task performance**. Most of the protocols are already available in our website scanning the QR code.



ARPA test are **performed under controlled and reproducible conditions**.

* ARPA : Agricultural Robot Performances Assessment focussed on Safety functions, identified as ARPA n (n: 1, 2, 3...) for safety tests or ARPA XX for other task performance tests.

ARPA 1 verifies the safety devices of agricultural machines in open field with ISO reference obstacle.

ARPA 2 evaluates perception systems in harsh environmental working conditions

Parameter	Value
ISO 15849 standard obstacle	120,0 ± 0,4 mm
Robot nominal trajectory	271 ± 2mm
Robot width	515 ± 2mm
Robot length	383 ± 2mm

The test assesses the robot's ability to detect and stop when it encounters a reference obstacle in its detection zone

It verifies that the sensors operate correctly and maintain their safety behavior during fog, rain, or night conditions

ARPA 3 assesses the security of geofencing devices (physical or virtual)

ARPA 4 evaluates safety devices for people detection and collision avoidance in an agricultural context.

The test determines a robot's ability to respect the integrity of its work area

It determines the robot's ability to detect human-shaped obstacles and stop it when it encounters them

ARPA PC1 evaluates execution accuracy of robots trajectories in field production

ARPA PC2 evaluates execution accuracy of robot trajectories for livestock production (in-door & out-door mobility)

The test verifies the accuracy of execution of a proposed path, incorporating different types of perturbations

It verifies the accuracy of execution of a proposed path in a «farmyard» environment, incorporating different types of perturbations

REGULATION ON MACHINERY

The new regulation on « Machinery products » was adopted in June 2023, with a transitional period until January 2027, when it will make mandatory a third-party conformity assessment for high-risk machines (6 categories). The AgrifoodTEF network enables companies (start-ups, SME) to benefit from very attractive conditions when it comes to covering the costs of test services to qualify robotic devices incorporating Artificial Intelligence modules.

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