

**Service ID** S00249



**Location** At user's premises, Spain

## Assessment of agricultural equipment connectivity through private 5G/N

### Provider service

Gradiant Technologies

### Link to content

<https://www.agrifoodtef.eu/services/assessment-agricultural-equipment-connectivity-through-private-5gnb-iot-network-deployr>

### 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 service provides a comprehensive assessment of the connectivity of agricultural equipment, such as sensors and actuators, through private networks. By offering in-depth visibility into the network's operation, it enables accurate troubleshooting, ensuring optimal connectivity for these kinds of devices. The service can handle the connection of multiple devices, making it suitable for validating the development of custom connectivity modules or testing agricultural equipment with built-in commercial modules. This allows for early detection of connectivity issues, fine-tuning module and network configurations, and ensuring smooth equipment operation. By deploying private networks, it is possible to implement configurations that simulate adverse conditions in deployment, such as successive outages, excessive packet loss, remote access failures to access the hardware, and more; practices that would be unthinkable in public networks. Furthermore, although the preference is for the deployment of cellular networks like 5G, 4G, or 3G, other communication technologies could be supported, like NB-IoT.

## **How can the service help you**

Using this service to assess the connectivity of your manufactured agricultural equipment can optimise the communications of these devices by providing detailed visibility into the network, facilitating the identification and resolution of issues. It allows manufacturers to validate the performance of their product with customised connectivity modules, ensuring they are optimised before field trials or market launch. For example, if a customer has developed agricultural equipment that monitors temperature and sends it through the network, they will receive a report after the service detailing the results of the behavioural and performance tests conducted on the module's connectivity.

## **How the service will be delivered**

GRADIANT can adapt the configuration and deployment of its private networks to meet the needs of different agricultural connected devices. The preferred deployments are focused on cellular networks (5G, 4G, 3G), but the service can also be adapted to support NB-IoT and even NTN. Lastly, the series of tests that will validate the system's performance can be tailored and agreed upon based on the client's requirements.

## **Service customisation**

The main idea is to provide the service from GRADIANT'S headquarters in Vigo, Spain. The client would either travel to this location or send the equipment there, where the GRADIANT team would receive it and deploy a private network compatible with the device under test. As convenient to the client, a thorough series of tests would be defined to certify the behaviour and performance of the equipment, producing a report of the results. In special cases with proper justification, there is an option for GRADIANT to travel to the company's location, as GRADIANT has a portable network solution. Regarding the reception of the service results, the duration will be related to the complexity of the communication modules to be tested and the thoroughness of the tests agreed upon with the customer.