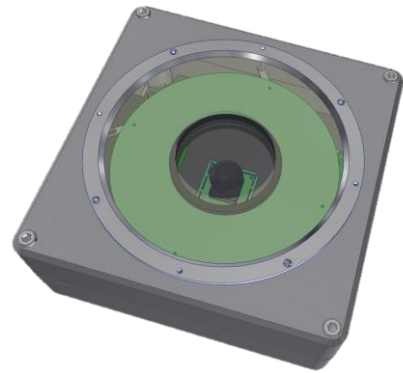


Smart **EYE**
for olives inspection

Smart-Agro
Industrial Solution

This solution allows automatic control and selection of olives, through Computer Vision Technology, showing information in real time.

The Smart-EYE device is a smart device with cloud connectivity that allows to scan any flow of materials/products and classifies them depending on some fixed parameters. This is effect of a Computer Vision System designed to be used in aggressive environements, turning it into a robust and efficient solution for AGRO factories.



CHARACTERISTICS

- Captures images of the product flow iteratively with scan cycles of up to 1 second.
- Local and remote configuration modes.
- Wifi and Ethernet connectivity.
- Connection to the Isr-Cloud for storage of the captured spectral information.
- Intelligent and "on the fly" generation of calibration curves through supervised learning.
- Local and remote visualisation of measurement results.
- Self-learning to determine new parameters.

PROCCESING

In addition to taking measurements, the Smart-EYE is able to process the data in real time, thanks to its integrated 64-bit CPU with a 1.2GHz processor and 1GB of RAM. The different configurations and real-time results are stored in its 64GB of internal memory. The ability to run different processes means that the system is also responsible for managing communications via wireless connection. In addition, thanks to its cloud-based maintenance programme, the system remains calibrated at all times regardless of the weather conditions of the season or type of crop.



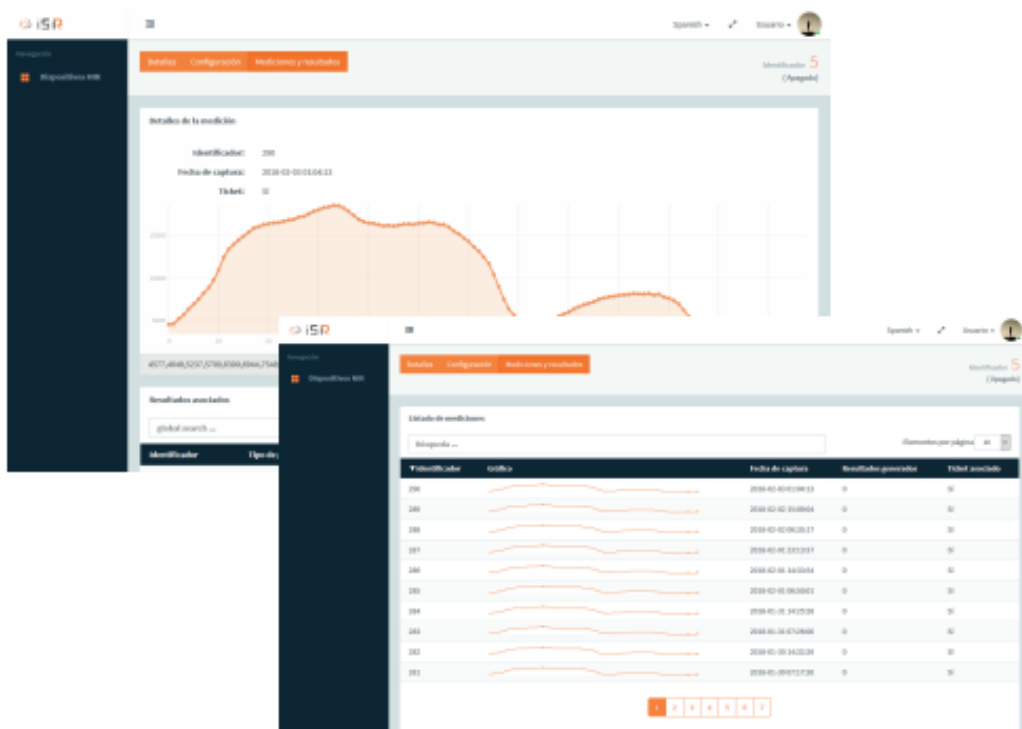
ALWAYS CONNECTED

ISR IoT Platform is the cloud platform that allows to organise, monitor and manage thousands of devices with different purposes distributed geographically. It is capable of receiving huge volumes of data, processing them and updating the status of the devices with high security measures.

Its biggest competitive advantage lies in the high capacity of Big Data analysis to draw conclusions, make decisions on the data in real time and guarantee the quality of the final product.

The platform offers a service interface that allows integration and communication with the customer's software platforms. It is therefore possible to extrapolate the data to the company's systems.

The platform contains a specific module for managing SmartEYE devices that offers functionalities such as configuration and parameterisation of the devices, displaying the collected data in detail and generating reports of results in the time intervals considered of interest.



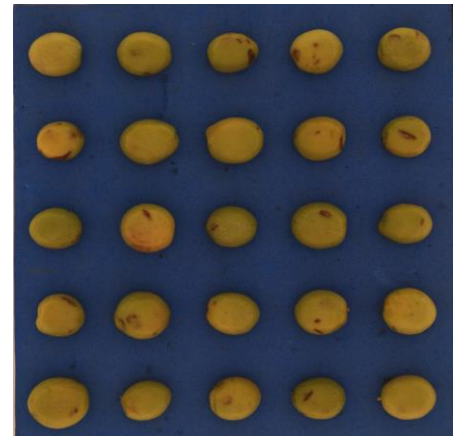
USE SCENARIO: INCOMING OLIVES CLASIFICATION

One of the applications of the SmartEYE device is the automatic and instantaneous determination of the olive class, depending on different parameters like: colour, size, maturity, dirt, etc. This can be useful not only to know what kind of variety of olive it is received, but also to fix an objective buying's price to the farmer.



SUPERVISED LEARNING

During the first days after the installation of the SmartEYE device, it is necessary to carry out a calibration procedure in which samples of different olives passing through the measurement point will be analysed. This procedure is part of the maintenance tasks of the device and will always be carried out by the iSR technical team.



AUTOMATIC DETERMINATION

After the calibration process, the Smart-EYE device automatically determines the quality and class passing through the measuring point. During the validation tests of the equipment, the values obtained by the Smart-EYE were compared with the determinations of the almazara's master.



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