



BLOG

IOT SENSORS BOOST AGRICULTURE INDUSTRY

Agriculture is one of the most important industries in the global economic dynamic.

The increasing demand of consumers and the quality control processes evolution became the activity more and more demanding for the producers.

The regular increasing of global population pushed up the agriculture products consumption numbers to historical levels, prompting a strong bet in the sector and the increasing competition to answer to the population food needs.

The use of sensors, data transmitters and IoT platforms has been the basis of improved efficiency and production in several processes allied to the industry.

In order to maximize the competitiveness of agricultural industry, the environmental variables monitoring influence crop growth and development. For example: temperature, carbon dioxide (CO₂) and humidity.

The lack of temperature control in the agricultural process can influence the growth and developments of plants. Humidity levels monitoring helps to prevent the appearance of fungus, which can cause disease in the plant and affects its liveliness. The CO₂ values in agriculture, which oscillate with photosynthetic activity, should be monitored so that crops can present a favourable grow.

Tekon Electronics has in its portfolio of monitoring solutions, the **DUOS Wireless System** products family, that allows the monitoring, recording and visualization of temperature, CO2 and humidity variables in real time.

The solution ecosystem has as its constituent elements the data collection and transmission devices, the gateway and IoT platform.



Graphic created on the IoT platform by collecting temperature, humidity and CO2

As far as data collection devices are concerned, the portfolio has four references with complementary values: **DUOS CO2**, **DUOS TEMP**, **DUOS HYGROTEMP** and **DUOS DI+TEMP**.

The **DUOS CO2** wireless system enables the carbon dioxide levels measurement, complementing the reading with the temperature value. In addition to the variable monitoring, this capability allows the equipment auto-calibration, reducing the reading error.

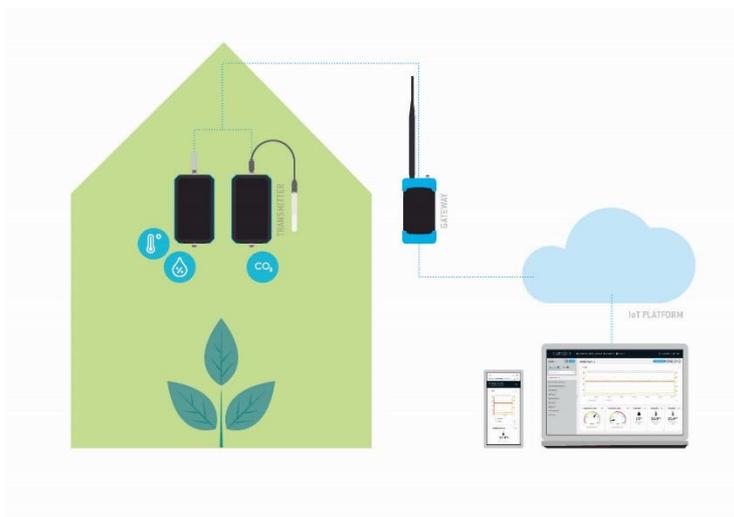
For an exclusively temperature measurement, the technology present in the **DUOS TEMP** wireless system enables monitoring the environment temperature.

Humidity as a key index can be measured by the **DUOS HYGROTEMP** wireless system, which due to its main features, returns humidity and temperature values.

In the **DUOS DI+TEMP** wireless system, added to temperature monitoring, it is possible to connect a digital input that allows to detect the status of an event. As practical example, it would be possible to detect if the irrigation system would be on or off.

Tekon IoT Platform technology completes itself with **DUOS GATEWAY IoT**, which collects data from the ecosystem in real time and makes it available

on a cloud-base system, which can be accessed through the platform from different devices.



To ensure that there are no interruptions in the data transmission of variables that can be quantified by the **DUOS** wireless system, this products array is characterized by the monitoring of batteries condition, which are only and exclusively reliant on their energy supply.

Benefits directly related to the use of IoT technologies in Agriculture:

- Reduction of production operational costs;
- Increasing production and production quality;
- Reduction of human error factor;
- Remote monitoring;

FINAL CONCLUSIONS

It is important to realize the **IoT** role in the present and future of agriculture. The use of IoT platforms reinforces the creation of a more responsible and profitable agriculture. Farmers are now part of a global network that aims to improve processes and reduce risks.

Tekon Electronics **DUOS** solutions provide the technological development needed to support the intensive production in agricultural industry. They influence the assembly of good and quick decisions. The data flow can be studied to be in continuous improvement and always achieve the best return in the all aspects of the business and, in the end, guarantee the final customer satisfaction.

Find out more about **DUOS** array of products [here](#).