

## AI of Things

# Technology for *smart agriculture*



Thanks to digitization technologies such as **IoT devices, drones, NB-IoT connectivity, Cloud platform, Artificial Intelligence or Blockchain**, we have developed **Smart Agriculture Solutions** that contribute to **more efficient, sustainable and competitive production**.

## PRECISION IN AGRICULTURE

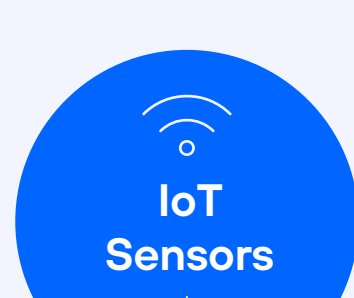
### Precision Agriculture Solutions

These solutions make use of data from IoT devices and data from other information sources and apply Cloud technologies and Artificial Intelligence to generate information **that improves decision-making to reduce resource use and help increase crop productivity in a sustainable way**.



### How do the solutions work?

They capture and measure weather, soil and crop related data.



Weather forecasts or multi-spectral aerial, satellite or drone images.

### Cloud Platform

These data is incorporated into a **Cloud platform** that integrates **Artificial Intelligence** capabilities offering **agronomic management and crop condition monitoring functionalities**.

### What are the benefits?

1. Having a **better knowledge** of the state of the crops, environment and soil.
2. Efficiently **planning field work and the use of resources to save costs and increase yield and efficiency**.
3. **Preventing pests** or avoiding crop diseases thanks to Artificial Intelligence algorithms.
4. **Optimising resources such as irrigation water** by following recommendations generated by mathematical algorithms.
5. **Applying fertilisers and phytosanitary products** accurately and selectively.
6. **Optimising management time** thanks to tools such as the field notebook.
7. **Acting with agility** and adapting production processes to adapt and react to unforeseen events and changes in the environment.



## SMART IRRIGATION

### Smart Irrigation Solutions

IoT devices make it possible to deploy **telemetry and remote-control solutions for smart irrigation management**. Smart irrigation solutions enable the **automation and optimisation of crop irrigation**, with prior knowledge of water stress or soil moisture.



### What are the benefits?

1. **Optimising water management** based on knowledge of needs, crop water stress or soil parameters.
2. **Saving costs and increasing productivity** by making more efficient use of water resources.
3. **Reducing the consumption of water and energy** and travel within the farm, saving resources, time and fuel, avoiding pollutant and CO2 emissions.
4. **Anticipating the risk of leaks** and acting immediately in the event of breakages or leaks.



## VERTICAL FARMING

### Vertical Agriculture Solutions

Vertical Agriculture allows **crops to grow in enclosed and digitally controlled spaces** using IoT technologies, managed connectivity, Artificial Intelligence and cloud platform.

### What are the benefits?

1. **Allowing greater production per unit of surface area** thanks to the vertical arrangement of the plants.
2. **Reducing the environmental impact by being free of phytosanitary products and recovering irrigation water**.
3. **Increasing the number of disease and pest-free harvests per year** by controlling the environment and its conditions.
4. **Reducing CO2 emissions** associated with conservation and transport as food is produced in proximity and even "Km 0".



## BLOCKCHAIN FOR AGRICULTURE

### Blockchain Solutions for Agriculture

Applied to the agricultural sector, our **TrustOS platform** facilitates the use of Blockchain technology to **enable the traceability of agri-food products throughout the entire chain**, from production in the field until it reaches the consumer, to **ensure its authenticity and safety**.



### What are the benefits?

1. It **registers and certifies** from the place and date of production to the use of phytosanitary products and the phases of cultivation.
2. **It allows to monitor and register the origin** and, using IoT sensors, also the storage and transport conditions.
3. **It allows accrediting organic production**.
4. Through a label on the product, you have access to the **entire Blockchain registry of production and distribution**, and to certifications such as authenticity and denomination of origin.



## Why Telefónica Tech | AI of Things?

Incorporating the potential of technology in agriculture will increase value throughout the entire value chain, ensuring productivity, efficiency and improving your decision-making processes.



Discover how our *Smart Agriculture* solutions can help you!

For further information **visit our website**

