Telefónica Tech

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.**
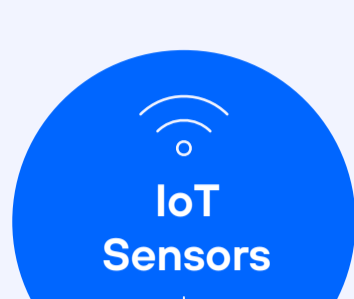
PRECISION IN AGRICULTURE

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. → **IoT Sensors** → • • • → **Other sources of information** → Weather forecasts or multi-spectral aerial, satellite or drone images.

Cloud Platform

These data are incorporated into a **Cloud platform** that integrates **Artificial Intelligence** capabilities offering **agronomic management and crop condition monitoring functionalities.**
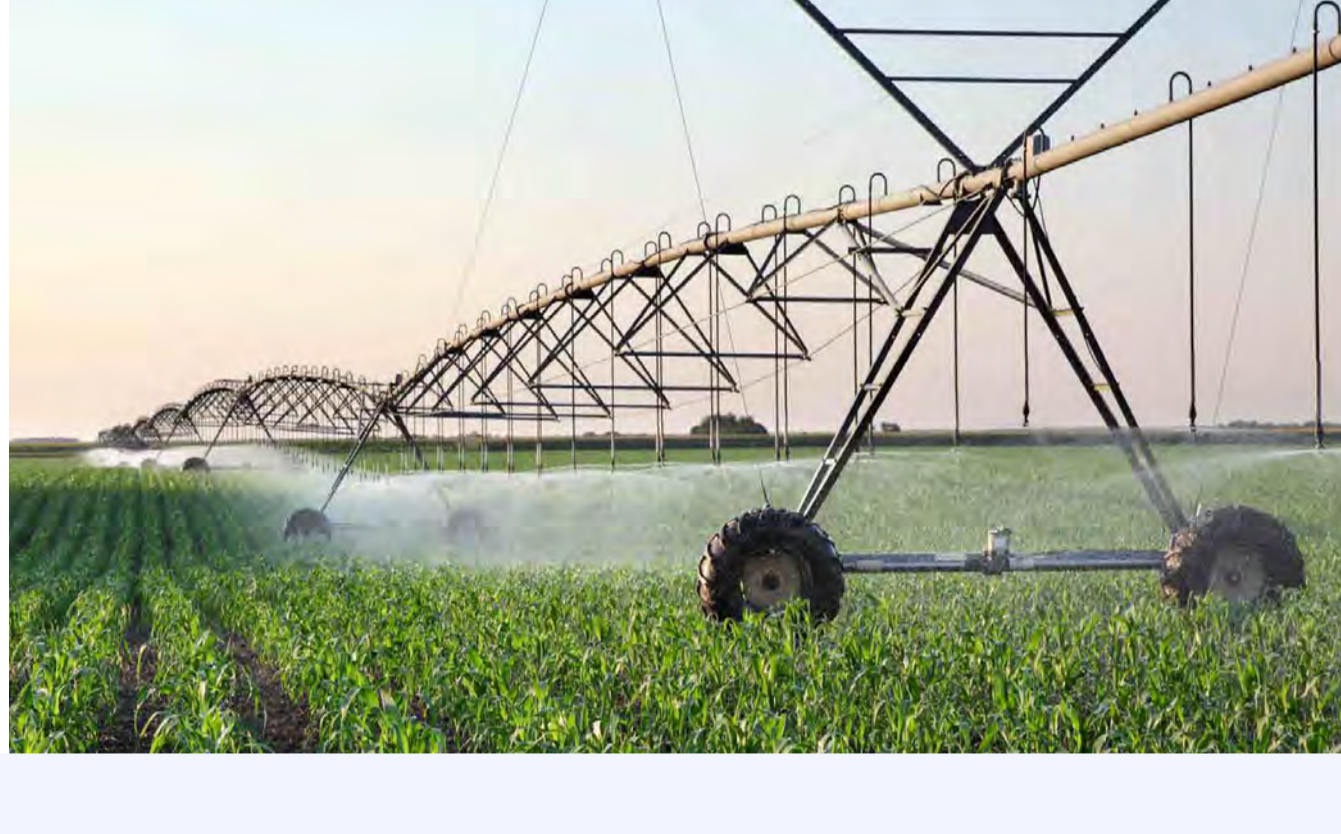
What are the benefits?

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 CO_2 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 CO_2 emissions** associated with conservation and transport as food is produced in proximity and even "Km 0".

TRACEABILITY FOR AGRICULTURE

Traceability 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!