

## Agriculture 4.0 and IoT technology

The new era in modern agriculture uses Internet of Things (IoT) technology to improve crop efficiency and productivity. By taking advantage of connectivity, it creates a more accurate, sustainable and profitable agricultural production system.

IoT technology enables farmers to collect real-time data on environmental conditions, crop health and livestock welfare, allowing them to make informed and timely decisions to maximize their crop yields. Let's learn more about the context of its importance:

By 2050, the world's population is expected to reach

### 9,7 billion

and the world faces the great challenge of meeting demand with increasingly limited resources.



In fact, to feed that number of people, the agricultural industry will need to generate **70% more food** with only 5% more land.



Given this scenario, the use of **technology** is essential to guarantee production in line with the needs of each country.

Agribusiness 4.0 enables the organization of resources and processes in the stages that are managed during the agricultural production chain, transforming this activity to make it **more efficient, sustainable and produce quality food**.



In 2021, many Latin American countries, agricultural crops contributed significantly to **GDP**:

- Colombia 7.43%**
- Peru 6.97%**
- Chile 3.28%**
- Ecuador 9.41%**
- Brasil 6.89%**
- Argentina 7.13%**

85% of farms in the USA have already implemented precision farming.



It is expected to be one of the most influential trends in the short and medium term.

By 2023, the global Smart Farming market is expected to reach

### \$13,500 millones



## HIGHER PROFITABILITY FOR ENTREPRENEURS AGRICULTURE

IoT technology has proven that it can reduce operating costs by 10% to 15%

The use of sensors and monitoring tools allows us to measure environmental variables that are critical to soil productivity, such as:

- Temperature
- Humidity
- Nutrients
- Wind speed
- Pests and diseases
- Crop yields
- Seeding density
- Soil electrical conductivity
- pH
- Atmospheric pressure
- Carbon dioxide
- Luminosity



This is thanks to soil moisture sensors.

Pests destroy up to **40%** of the world's crop production every year.



They generate several losses, but there is a way to prevent it. This brings losses to the agribusiness sector of more than **\$200 billion dollars**.

Thanks to IoT sensors, in pest control, it reduced pesticide use by **80%** and increased crop yields by **50%**.



It also contributes to the care of the environment, since using IoT sensors helps reduce the amount of greenhouse gas emissions by 12%.



This is thanks to improved efficiency in the use of resources.

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