



JST France

SMART FARMING



ENVIRONMENTAL ISSUES

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Connected agriculture, or **smart farming**, is a management concept focused on providing the agricultural sector with an infrastructure to leverage advanced technologies, including **big data**, the **cloud** and the Internet of Things (IoT), for **tracking**, **monitoring**, **automating** and **analyzing operations**.

Today's agricultural sector faces a major challenge: producing enough to feed the world's ever-growing population, while :

- Reducing **environmental impact**
- Reducing **costs**
- Using resources more **efficiently**

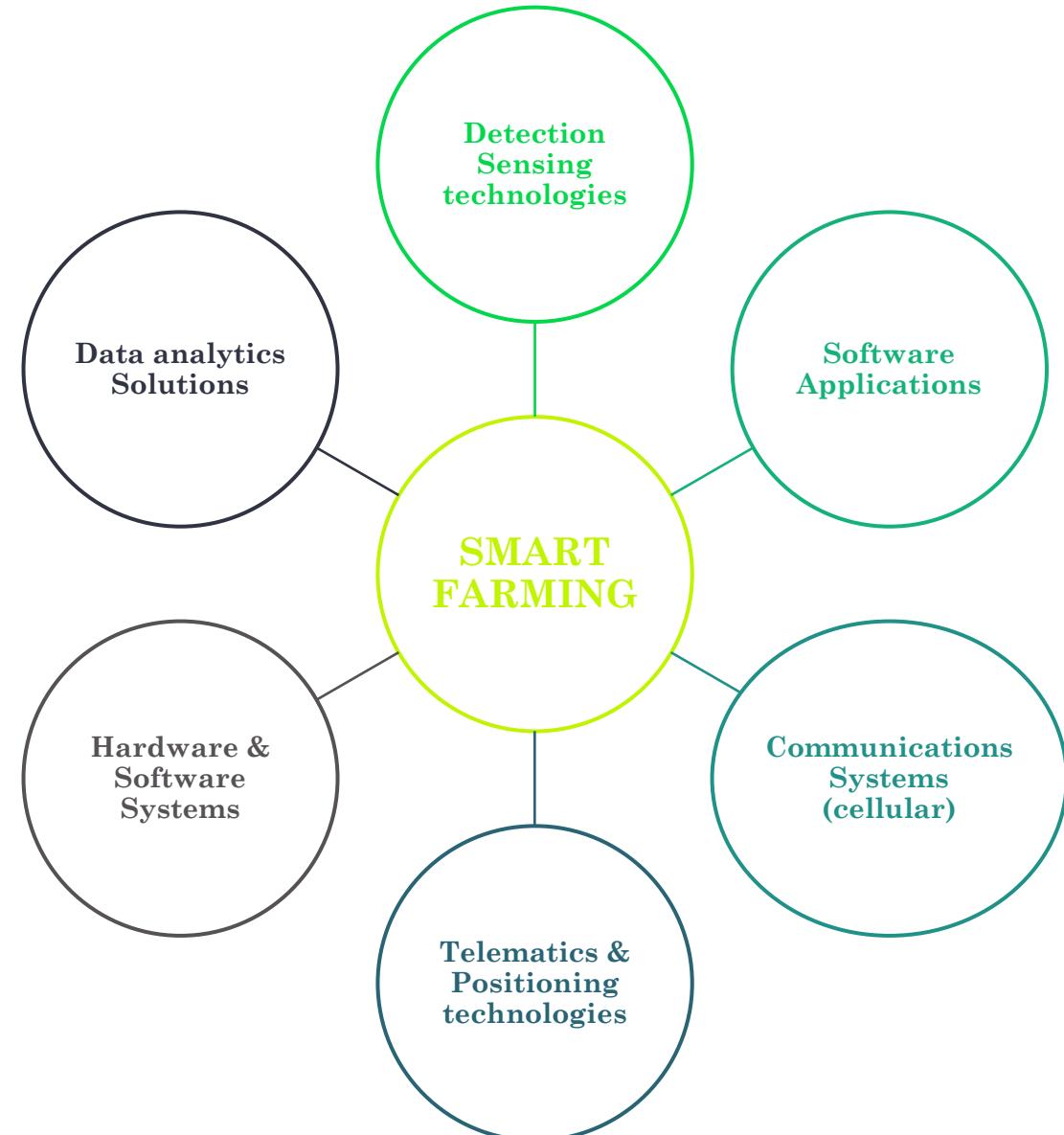
Smart farming integrates digital technologies to optimize all agricultural operations, such as:

- Optimized **irrigation** management
- Precise application of fertilizers
- Predicting **weather conditions**
- Diagnosing **plant & animal diseases**...

These solutions are designed for farmers, whatever the size of farms.

The goal is to **optimize resources and reduce costs**, to improve operational **efficiency** and **productivity**.

But also, to promote **more sustainable agriculture**, meeting consumer expectations for high-quality and environmentally-friendly food.





NEW TECHNOLOGIES FOR FARMING



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Innovation is also omnipresent when it comes to new agricultural technologies (to help the farmers); to automatically transfer data from their sensors.

This data can then be analyzed and transformed into useful information, enabling farmers to develop effective farming strategies.

- The sensors

Sensors provide real-time information on a crop's condition: soil temperature, humidity level, water status, precise analysis of soil quality, watering requirements, ...

The aim is to optimize the use of inputs (contributions to a plot of land designed to increase yields), herbicides and phytosanitary products, by processing geolocalized data.

- The applications

The digitization of agriculture is making farm management more practical and modern.

- The laser

It will offer many new possibilities for its use, such as: scare birds; determine the best time to harvest without damaging the crop; weeding with laser sensors & beams; biological stimulation with laser-induced breakdown spectroscopy: soil element analysis, land levelling, etc.

- Drones

These are used to gather information on plots, such as vigor, water status, irrigation deficits, presence of pests, application of phytosanitary treatments, biomass mapping, ...

- Robotics

Enables to limit the consumption of chemical inputs (reduce the impact on the soil); improve the workload for farmers and the animal welfare (milking robot).

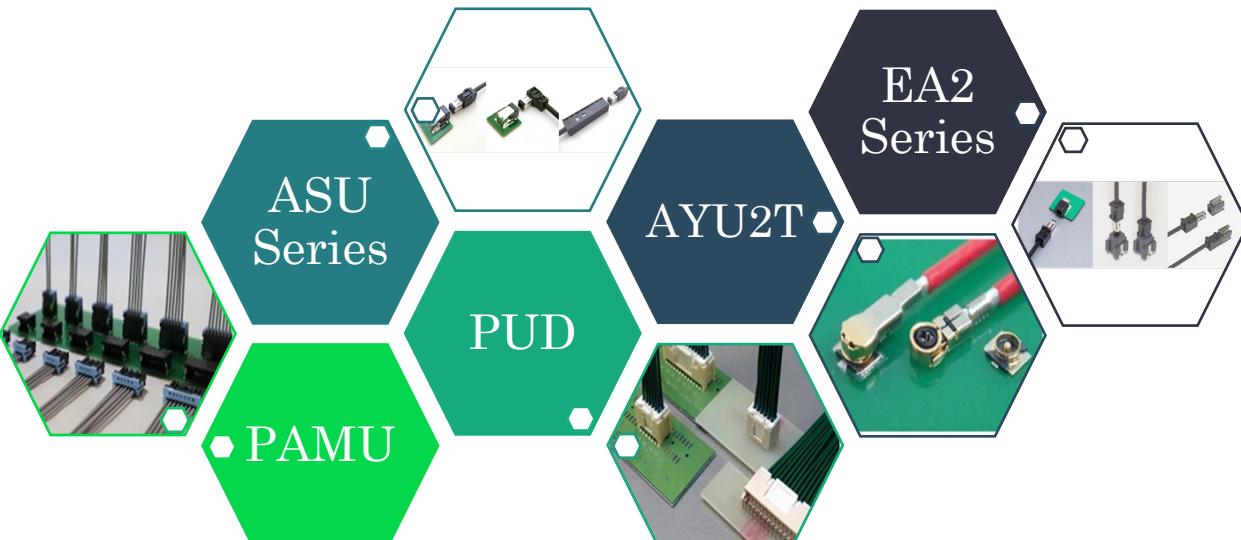
But also, for sowings (properly dose the fertilizer); harvestings (for example, an autonomous tomato-picking robot); packaging, palletizing, crop maintenance, ...



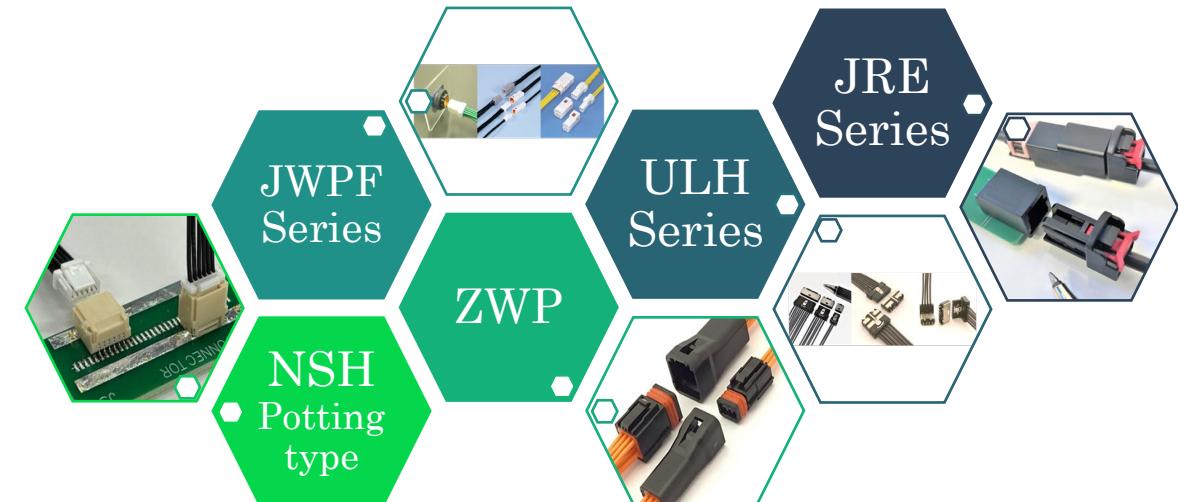
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JST WIRELESS TRANSMISSIONS & POWER SUPPLY FOR AUTONOMOUS SYSTEMS

{ Wireless transmissions }



{ Power supply for autonomous systems }



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