

## **SMARTFARMER - IOT ENABLED SMART FARMING APPLICATION**

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Team ID	PNT2022TMID43471
Project Name	Project – IOT enabled smart farming application
Maximum Marks	4 Marks

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# **IDEATION**

## **Precision Farming**

Precision farming, or precision agriculture, is an umbrella concept for IoT-based approaches that make farming more controlled and accurate. In simple words, plants and cattle get precisely the treatment they need, determined by machines with superhuman accuracy. The biggest difference from the classical approach is that precision farming allows decisions to be made per square meter or even per plant/animal rather than for a field.

By precisely measuring variations within a field, farmers can boost the effectiveness of pesticides and fertilizers, or use them selectively.

## **Automation in Smart Greenhouses**

Traditional greenhouses control the environmental parameters through manual intervention or a proportional control mechanism, which often results in production loss, energy loss, and increased labor cost.

IoT-driven smart greenhouses can intelligently monitor as well as control the climate, eliminating the need for manual intervention. Various sensors are deployed to measure the environmental parameters according to the specific requirements of the crop. That data is stored in a cloud-based platform for further processing and control with minimal manual intervention.

## **Agricultural Drones**

Agriculture is one of the major verticals to incorporate both ground-based and aerial drones for crop health assessment, irrigation, crop monitoring, crop spraying, planting, soil and field analysis, and other spheres.

Since drones collect multispectral, thermal, and visual imagery while flying, the data they gather provide farmers with insights into a whole array of metrics: plant health indices, plant counting and yield prediction, plant height measurement, canopy cover mapping, field water pond mapping, scouting reports, stockpile measuring, chlorophyll measurement, nitrogen content in wheat, drainage mapping, weed pressure mapping, and so on.