THE INTERNET OF THINGS (IOT)

The IoT offers limitless possibilities for smart farming practices, enabling farmers to monitor their farm's operations remotely through connected devices. This way, farmers can, for example, use their smartphones to monitor livestock and crop from their living room while simultaneously collecting valuable data and information that help them make more informed decisions.

Water Conservation

Soil- and weather-related sensors optimise water usage.

Reduced Operational Costs

Automation reduces resource consumption, overall costs, and human error.

Increased Production

Optimised crop treatment directly affects production rates.

Increased Production Quality

Data analysis helps farmers adjust their processes to increase production quality.

Equipment Monitoring

Equipment can be managed based on production rates, failure prediction, and labour effectiveness.

Remote Monitoring

With the IoT, farmers can make real-time decisions from anywhere in the world.

Smart Farming Ideas

Smart farming connected with innovation. Indian agriculture is facing huge challenges these days. There is an urgent need to accelerate agriculture by smart farming ideas. Around the last 10 years, huge growth noticed in agriculture technology investment. In the last 5 years, investment was $6.7 billion, and in the last year alone, it was $1.9 billion. These investments take place to enhance farming methods in India

- ***Indoor Vertical Farming***

  Indoor vertical farming is the procedure of growing plants in closed and controlled environments. With this method, plants mounted vertically, and it takes less land space to grow compared to traditional farming. Vertical farms don't require soil for plants to grow, and in this method, the labour force reduced too. It is the best and the first smart farming technique in India.

- ***Farm Automation***

  Farm automation is the up gradation in farming machines and equipment. To accomplish this, companies are working on this. They are working on autonomous tractors, automatic watering, develop drones, robotics innovation, and seeding robots. The companies not only provide quality innovative machinery but make these machines affordable for the farmers.

- ***Livestock Farming Technology***

  Livestock provides much needed products, and in our country, livestock is the most ignorant part of farming. New innovations over the 8 to 10 years created huge changes and improvements to the industry. It helps in managing and tracking livestock easily and comfortably. These technologies come in genetics, nutritional technologies, digital technology, and more.

- ***Modern Greenhouses***

  Indian agriculture witnessed an increase in the greenhouse in large scale. It is urban centred and capital infused. As the market demand increases dramatically, the trend of the greenhouse is increasing in recent years. A modern greenhouse is now becoming automated control systems, tech-heavy and using LED lights for growing environment.

- ***Precision Agriculture***

  Recent precision agriculture companies are introducing technologies that permit Indian farmers to boost production. It is done by controlling pest stress, micro-climates, moisture levels, and soil conditions. In precision agriculture, farmers get appropriate techniques for growing crops and planting that enhance efficiency and income.

- ***Blockchain***

  Blockchain used to resolve important issues, including food traceability, supply chain inefficiency, safety recalls, and food fraud in the food system. It creates a market for premium products with verification and transparency. This verifies transactions that are securely shared with every seller or not. It helps in creating transparency in the marketplace and food supply.

- ***Artificial Intelligence***

  With the increase in digital agriculture and technologies, opportunities for the farmers increased too. Farmers can gather 24 hours of information by UAVs, satellites, and remote sensors. All these technologies can monitor the health of plants, temperature, soil condition, humidity, etc. Now farmers can get a better understanding of the ground of innovative technologies. These can help them to improve productivity.