India Smart Farming Market Size and Share Outlook - Forecast Trends and Growth Analysis Report (2025-2034)

Market Report | 2025-06-28 | 122 pages | EMR Inc.

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Report description:

The India smart farming market was valued at USD 785.40 Million in 2024. The industry is expected to grow at a CAGR of 21.40% during the forecast period of 2025-2034. Farmers can boost productivity and yield by leveraging technology. This will help them in optimizing resource usa, monitoring crop health and making data-driven decisions, leading to profitable and more sustainable agriculture in India. This in turn is expected to push the market ahead to attain USD 5461.07 Million by 2034.

India Smart Farming Market Report Summary

Description

Value

Base Year

USD Million

2024

Historical Period

USD Million

2018-2024

Forecast Period

USD Million

2025-2034

Market Size 2024

USD Million

785.40

Market Size 2034

USD Million

5461.07

CAGR 2018-2024

Percentage

XX%

CAGR 2025-2034

Percentage

21.40%

CAGR 2025-2034 - Market by Region

North India

24.6%

CAGR 2025-2034 - Market by Region

West India

22.9%

CAGR 2025-2034 - Market by Application

Precision Farming

24.4%

CAGR 2025-2034 - Market by Offereing

Service

26.1%

2024 Market Share by Region

North India

32.4%

India Smart Farming Market Overview

Smart farming in India is experiencing a shift with the adoption of 5G technology and digital innovations. The Digital India Initiative by the government has brought more than 270 million people online with mobile internet, paving the way for 5G adoption. This technology enables real-time data collection using IoT devices, drones, and sensors, allowing accurate monitoring of climatic conditions, soil health, and crop status. The agri-stack program complements this environment further by bringing together agricultural data, delivering farm-specific advisories to the farmers, thus driving the India smart farming market expansion. Further, AI-based solutions such as the Rice Crop Manager app present field-level suggestions and optimize the use of resources while improving yields. These all put together strive to enhance productivity, induce sustainability, and enable the farmer in India.

India Smart Farming Market Growth

Two key drivers are fueling the growth of the India smart farming market- increasing access to digital technology and diminishing fertile land. The fertile land figure has come down from 45.4 million hectares in 1981 to 36.4 million hectares in 2021, and this is driving the adoption of precision farming. At the same time, better mobile internet penetration and affordable digital technology enable farmers to implement IoT, AI, and analytics. These technologies aid in making the best use of resources, increasing yields, and achieving food security.

Key Trends and Recent Developments

The market is bolstered by the usage of drones, AI and ML, vertical farming technologies, and blockchain that aids in increasing productivity, transparency, and sustainability, thus shaping the India smart farming market dynamics and trends.

April 2025

The Government of India India announced ambitious plans, with a target of achieving 500 GW of Smart Farming capacity by 2030. High-scale ventures like the Gujarat Hybrid Smart Farming Park and the Bhadla Solar Park are a reflection of this growth, contributing heavily to the national grid.

September 2024

The Indian government has launched an INR 6,000 crore initiative to promote precision agriculture under the Smart Precision Horticulture Programme of the Mission for Integrated Development of Horticulture (MIDH). This was rolled out from 2024-25 to

2028-29, and now the scheme is aiming at 15,000 acres and 60,000 farmers.

April 2024

FMC India launched the Arc Farm Intelligence platform, a digital platform aimed at helping farmers achieve maximum crop yield and sustainability. Utilizing real-time data and predictive analytics, the platform helps farmers track field conditions and pest pressure, thus enabling them to employ targeted crop protection products effectively.

June 2022

The Indian Council of Agricultural Research (ICAR) has?launched?the e-Crop based Smart Farming Facility, an AI and IoT-integrated?system that will?increase?agricultural productivity.?The?scheme?uses information and communication technology (ICT) to?provide?real-time information?regarding?crop?health, soil?condition, and climate, which will?assist?farmers in decision-making.

Using drones for surveillance and mapping

Indian agriculture is significantly making use of drones for multiple applications, such as precision spraying of fertilizers and pesticides, crop monitoring, soil testing, and irrigation control. This drone technology promotes efficiency, cost savings, and environmental protection through the accurate application of resources and early detection of problems, thereby bolstering the India smart farming market growth.

Using AI and ML in agriculture

?ML and AI are transforming the Indian farming scenario by paving the way towards precision farming, maximizing resource usage, and optimizing crop yield. These two enable farmers to monitor soil quality in real time, weather patterns, and infestation by pests to make proper decision-making. Incentives like the AI4AI program as well as apps like KissanAI's Dhenu 1.0 cater to voice-driven, multilingual support, opening knowledge availability for smallholder farmers.

Vertical farming in urban regions

Vertical farming in India is gaining significance in urban regions because of limited land availability and increasing food demand. It allows for year-round production through technologies like hydroponics and controlled environments, saving up to 90% water and enhancing yield efficiency, particularly in metro cities, thus boosting the India smart farming demand.

Blockchain to boost transparency

Blockchain technology is revolutionizing Indian agriculture by improving supply chain transparency, guaranteeing food safety, and empowering farmers. It facilitates end-to-end traceability of produce, eliminating fraud and creating consumer confidence. Projects such as Punjab's seed potato traceability program demonstrate its potential.

India Smart Farming Market Trends

Seed farming and fertilizer technology are two popular trends in the market that are attracting the manufacturers. Hybrid or genetically modified seeds, high-yielding seeds, climate-tolerant seeds, etc., are being employed by agro-manufacturers to achieve greater productivity. For instance, hybrid seeds offer farmers more reliable crop production since they can flourish in any kind of environment. Genetically modified seeds are gaining significance for their ability to be drought tolerant and pest resistant, thus shaping new trends in the India smart farming market. Secondly, the use of high-tech fertilizers is enhancing crop yields and

soil enrichment. Without any use of common chemical fertilizers, applications such as IFFCO's nano urea ensure targeted nutrient application.

India Smart Farming Market Opportunities

Growing food demand, growing internet and smartphone penetration in rural areas, and supportive government initiatives like the Digital Agriculture Mission. Scalable solutions like IoT, AI, drones, and precision irrigation can boost productivity, reduce waste, and improve efficiency. Factors as these can turn out to be significant opportunities in the India smart farming market. Smart farming technology and practices have enormous potential to change Indian agricultural scenario, raise the income of farmers, and improve food security with the growing interest of agri-tech startups and foreign investments.

India Smart Farming Market Restraints

A lack of consciousness among small farmers, heavy initial investment and inadequate digital infrastructure in rural India are some of the challenges looming over India's smart farming industry. Significant obstacles in the India smart farming market are also arising owing to fragmented land holdings which impede the smooth integration of technology adoption. The proper integration of technology in farming practices is further limited by data privacy issues, a lack of standardization, and insufficient farmer training. There are still a majority of farmers in India who rely on traditional methods of farming as they find it quite challenging to use the new technological things.

India Smart Farming Industry Segmentation

The EMR?s report titled ?India Smart Farming Market Report and Forecast 2025-2034? offers a detailed analysis of the market based on the following segments:

Market Breakup by Type

? Precision farming
? Livestock monitoring
? Smart greenhouse
? Others

Market Breakup by Offering

? Hardware
? Software
? Service

Market Breakup by Farm Size

? Small and medium
? Large

Market Breakup by Region

? North India
? South India

? East India
? West India

India Smart Farming Market Share

Market Analysis by Type

Precision farming is becoming popular in the country owing to widespread use of GPS-based tools, soil sensors, and drones that enhance productivity and cut expenses. As per India smart farming market analysis, livestock tracking is mostly being used to monitor animal health and maximize dairy output. Smart greenhouses are gaining popularity in peri-urban locations based on climate control technologies. Other technologies such as automated irrigation and crop monitoring tools are facilitating wider tech adoption.

Market Analysis by Offering

The India smart farming market is experiencing robust traction in offerings like hardware, software, and services. Hardware products such as IoT sensors, drones, and automated irrigation are gaining traction as they directly influence productivity. As per India smart farming industry analysis, farm management, weather forecasting, and data analytics software platforms are equipping farmers with real-time information. Services such as training and remote monitoring are vital for smallholder farmers. Collectively, these services are strengthening decision-making, enhancing yields, and propelling the overall digitization of Indian agriculture.

Market Analysis by Farm Size

Adoption of smart farming in small and medium farms is increasing due to government schemes, mobile-based platforms, and cost-effective innovations such as AI-driven advisories. These farms comprise the majority of India's agricultural base and gain from tailored solutions, thus boosting the India smart farming market revenues. Big farms, in general corporatized or export-focused, are bringing in end-to-end smart systems such as automation, precision irrigation, and AI-based crop health diagnostics. These are the key adopters of next-generation tech leveraging improved access to capital, creating innovation that trickles down to smaller farms.

India Smart Farming Market Regional Analysis

2024 Market Share by

Region

North India

32.4%

East India

XX%

West India

XX%

South India

XX%

North India Smart Farming Market

North India is dominating the Indian industry for smart farming by adopting climate-sensitive and precision agriculture. Haryana has introduced sustainable measures in 1,669 villages, encouraging micro-irrigation, solar pumps, and wastewater irrigation. Punjab is making use of mechanization and digital technologies such as GPS tractors, drones, and satellite-based monitoring to enhance productivity. Corporates like Farmonaut help this transition through AI-based crop advisory systems. These initiatives are pushed towards increasing crop yields, preserving resources, and boosting farmer incomes while catalyzing sustainable, technology-led change in northern farm landscapes.

South India Smart Farming Market

Tamil Nadu is at the forefront of smart farming with biochar projects in South India. These initiatives are turning farm waste into biochar, which makes the soil more fertile, retains water, and sequesters carbon. Farmers experience better yields and climate resilience. Organizations such as Grow Billion Trees and ISAP India encourage biochar implementation, whereas the Salem Biochar Carbon Sequestration Project is concentrated on green practices and carbon credit generation. These projects collectively seek to increase productivity, reduce waste, and promote environmental sustainability in the area.

East India Smart Farming Market

East Indian states like Odisha have collaborated with the Gates Foundation to encourage climate-smart agriculture. The multi-year initiative aims at AI-driven precision farming, productivity in dairy and fisheries, and adoption of climate-resilient methods through the newly established Climate Smart Agriculture Alliance Odisha. In West Bengal, farmers are implementing technologies such as rice transplanters and zero tiller machines to conserve water and cut labor costs, resulting in improved productivity. Efforts by organizations like Satmile Satish Club O Pathagar have made training and access to machinery available for thousands of farmers. ?

West India Smart Farming Market

?In West India, states like Gujarat, Maharashtra, and Rajasthan are adopting smart farming practices to increase agricultural productivity and sustainability. Technologies like the Nano Ganesh system allow farmers to control irrigation pumps remotely through mobile phones, enhancing water management and minimizing labor. Digital platforms such as Farmonaut provide satellite crop monitoring and artificial intelligence advisories, which contribute to effective management of farms. Moreover, practices of regenerative cotton farming are being promoted for enhanced soil health and minimal chemical use, for the cause of environmental preservation as well as improving farmers' livelihoods.

Competitive Landscape

Key India smart farming market players are concentrating on combining innovative technologies such as IoT, AI, and data analytics to drive agricultural productivity and sustainability. Their goals include integrating precision farming solutions, providing real-time crop tracking services, and supplying data-based insights to maximize resource efficiency. These efforts will help equip farmers with new-age solutions, increase the quality of yields, and help India's agricultural sector become advanced.

Cropin Technology Solutions Private Limited

Founded in 2010 and based in Bengaluru, India, Cropin Technology Solutions Private Limited provides AI and data-driven agri-tech solutions that can help facilitate predictive analytics, farm digitization, and real-time monitoring. Its intelligent farming platform enables traceability, weather forecasting, and advisory services for enhanced farm productivity and resource utilization worldwide.

John Deere India Private Limited

Established in 1998 with its head office in Pune, India, John Deere India Private Limited offers precision farming equipment such as smart tractors, harvesters, and connected software platforms. It uses IoT and GPS technologies for effective field mapping, yield monitoring, and machine automation, equipping Indian farmers with data-driven insights and increased productivity.

Mahindra & Mahindra Ltd.

Mahindra & Mahindra Ltd., founded in 1945 and based in Mumbai, India, provides intelligent farming solutions such as precision tractors, telematics, and crop management. Its Krish-e platform provides agronomic advisory, digital soil testing, and mechanized services to support sustainable agriculture and enhance smallholder farmer revenues in India.

Wolkus Technology Solutions Private Limited (Fasal)

Wolkus Technology Solutions Private Limited (Fasal), established in 2018 and headquartered in Bengaluru, India, deals with IoT-based precision agriculture. Its platform provides farm-level information through climate and crop monitoring sensors, which allows optimized irrigation, pest management, and yield forecasting, thus aiding horticulture farmers to increase productivity and lower costs.

Other key players in the India smart farming market report are Ninjacart Pvt. Ltd., Stellapps Technologies Private Limited, Shivrai Technologies Pvt. Ltd. (FarmERP?), and Green Agrevolution Pvt. Ltd. (DeHaat), among others.

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