

# AgTIVE 2.0

## AgTech Innovations for Viable Enterprise

A CII NABCONS Publication



We would like to acknowledge the contribution of Ms. Roli Pande and Mr. Veergandham Pavan Kumar from CII's Food and Agriculture Centre of Excellence (FACE) in putting together this publication.

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# FOREWORD



India has emerged as the 3rd largest ecosystem for startups globally. These startups are solving problems in as many as 56 diverse industrial sectors with 13% from IT services, 9% healthcare and life sciences, 7% education, 5% agriculture and 5% food & beverages, as per Invest India's estimates.

Within the agriculture sector, focused initiatives such as NABARD's \$100 million venture capital fund for equity investments in agricultural startups are providing the needed support to boost innovation. Government initiatives like RKVY RAFTAAR and the Atal Incubation Mission are actively supporting innovation and entrepreneurship in agri space.

Several Incubators and Venture Capital Firms are active in India today, and their footprint is increasing in terms of financing support, technical assistance, business mentorship, etc. This study covers a snapshot of key Incubators and Accelerators that are actively handholding the startups in the sector. The role played by them and the services they offer have been studied and presented for future entrepreneurs who aim to transform the sector.

CII National Council on Agriculture believes that technology-led growth is an imperative to create sustainable, market efficient solutions for Indian agriculture.

In this backdrop, CII's Food and Agriculture Centre of Excellence (FACE) in partnership with NABARD

Consultancy Services (NABCONS) presents AgTIVE 2024 (Ag-Tech Innovations for Viable Enterprise). The study is an attempt to understand, analyze, and draw new insights to assist the rapidly evolving agri-technology innovation ecosystem in the country.

The study is in two parts. The first part of the study provides qualitative and quantitative analysis covering global, regional and domestic trend analysis, technology analysis, funding and revenue, geographic segregation and the overall Ag-Tech ecosystem in India.

The second part of the study comprises detailed Case Studies on 20 Indian ag-tech ventures. Each Case Study covers key aspects such as the technology being deployed, intellectual property possessed by the venture, challenges faced, business models, key partnerships market penetration, financial analysis and the requirements enabling rapid scaling up.

With a unique founding team at its heart, every venture follows a distinctive business model which caters to different segments of customers ranging from businesses, industry, government, end-consumer, and the farmers.

I hope this study provides you with rich insights into the Ag-tech innovation ecosystem in the country today.

**S Sivakumar**

Chairman, CII National Council on Agriculture  
Group Head – Agri & IT Business, ITC Ltd

# FOREWORD



India remains a predominantly agricultural economy, with nearly half of its population involved in farming. More than 58% of rural households rely on agriculture as their main source of livelihood, yet they remain vulnerable to unpredictable weather, gaps in the supply chain, and limited market connections. This makes agriculture unprofitable and often the least attractive sector for rural youth. Recently, however, many well-qualified young people with ambition and a drive to innovate have entered the rural sector, introducing disruptive technologies aimed at transforming the industry.

Youth-led agri startups are crucial in offering tailored solutions and products that make agriculture more profitable. They have introduced modern technologies in areas like precision farming, crop management, supply chain logistics, value addition, market access, institutional credit, crop insurance, traceability, organic certification, integrated nutrient and pest management, and IoT-based irrigation, along with Blockchain, AI, and ML applications. These innovations are gradually transforming Indian agriculture, making it more profitable, sustainable, and scalable.

Since 1993, NABARD has been a driving force behind agricultural startups, providing innovation support, funding, and strategic guidance. Through initiatives like the Agriculture and Rural Enterprises Incubation Fund (AREIF), the Rural Innovation Fund (RIF), and its investment arm NABVENTURES, NABARD has contributed grants for setting up Agri-Business Incubation Centres (ABICs) and offered equity grants through the Catalytic Capital Fund, significantly boosting the agri-startup ecosystem. To encourage grassroots innovation, NABARD has mindfully established incubation centers in tier II and III cities. Recently, it launched AgriSURE, a 750 Crore blended capital Alternative Investment Fund in partnership with the Government of India. This fund aims to revolutionise agriculture in India by

supporting technology-focused, high-risk, high-impact startup ventures.

NABARD Consultancy Services Ltd. (NABCONS), a wholly owned subsidiary of NABARD, is focused on building collaborative partnerships among FPOs, MSMEs, and agri-startups to maximize value chain profitability and improve price realisation. NABCONS recognizes that supporting these innovative technologies and entrepreneurial initiatives is vital to creating a resilient, inclusive, and sustainable agricultural ecosystem.

With financial support from NABCONS, Confederation of Indian Industry (CII) created AgTIVE 2024, to showcase a dynamic array of AgTech enterprises that are not only improving productivity and sustainability but also empowering farmers with practical, data-driven tools. This publication serves as an important resource for understanding the potential of technology to address longstanding challenges in agriculture, from crop advisory to sustainable farming and post-harvest management to market access.

NABCONS nurtures such initiatives that foster rural entrepreneurship and support the ambitions of young innovators dedicated to transforming Indian agriculture. By bridging the gap between conventional farming practises and modern agriculture technology, NABCONS aim to empower smallholders, elevate rural incomes, and strengthen the agricultural value chain across the nation.

NABCONS extends its sincere appreciation to CII's Food and Agriculture Centre of Excellence (FACE) for their efforts in assembling this comprehensive resource and hopes to inspire both established businesses and emerging startups to pursue impactful, sustainable innovations. This document is designed to serve as a guide for fostering collaborations, attracting investments, and supporting policies that will advance India's journey toward an AgTech-driven future.

**Dr. Y Haragopal**  
MD, NABCONS





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# PART I

## Trends and Analysis

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# 1.1 Introduction



As we journey deeper into the digital era, every facet of life is being reshaped by technological advancements. Industries like healthcare, biotech, telecommunications and energy have harnessed these innovations to surge head. Now, agriculture is beginning to follow suit, integrating tech solutions to keep pace.



Innovation today is not confined to the most developed economies or solely to technology-driven industries. It has become a worldwide phenomenon affecting every sector including agriculture.

Agricultural growth plays a key role in ensuring food security and also drives poverty reduction while fueling economic development in many developing nations. As the global population increases by 71 million annually <sup>[1]</sup>, and arable land diminishes, the demand to produce more with fewer resources intensifies. Further, climate change is disrupting typical weather patterns, making agriculture even more susceptible to risks.

Technology innovations allow farmers to transition from input-intensive to knowledge-based agriculture. There is a clear link between using technology and increased crop productivity, as it saves time and labour, reduces effort, lowers production cost over time, minimizes post-harvest loss, and enhances crop yields and farm income.

The challenges in securing the global food supply for today and the future will keep driving the agricultural sector toward technological innovations, especially as sociocultural shifts impact both food production and demand.

Over the last 15 years agricultural innovation has accelerated due to breakthroughs in genomics, software, communication, logistics and technology. This surge in innovation has been driven by a shift in corporate research and development towards software, advanced hardware, and service-based solutions. The integration of embedded software and sensors into farm machinery, soil and livestock coupled with enhanced network connectivity between all agricultural stakeholders via cloud-based platforms and shared analytics, offers great potential for boosting productivity. These advancements are driving substantial improvements

in crop yields, resource efficiency and sustainability which are essential for meeting the growing global food demand.

AgTIVE 2024 (Ag-Tech Innovations for Viable Enterprises) aims to explore and map the innovative ecosystem in the country.

The study presents 20 case studies on startups within the Indian agri-value chain. It examines established ventures, emerging innovations, and cutting-edge technologies offering detailed insights into the technology used, business models, funding sources, challenges faced, and the key factors needed for scaling these initiatives.

## 1.1.1 Objective

The study was undertaken with the objective of:

- Mapping the AgTech innovation ecosystem in the country
- Providing comprehensive analysis of AgTech ventures.
- Mapping the operational geographics accessed by Indian Ventures.
- Presenting an investment guide for VCs and impact investors with revenue.

## 1.1.2 Methodology

The data for this study is gathered through online surveys and in-depth interviews with the founder or representatives of the ventures. The information is collected from different categories like IoT, drones, precision agriculture, supply chain, carbon market etc. The collected information has been interpreted and analysed to extract insights which have been used to draft comprehensive case studies that make up part B of the study.

## Study Methodology

Promising AgTech Ventures identified and invited to participate in the study

Secondary research on published scientific journals, studies, reports

Comprehensive template designed to encapsulate multiple data aspects

Drafting of case studies and analysis-based part A

Interviews with founders to get primary data for part B

# 1.2 Trends in Agriculture Technology

## 1.2.1 Global Ag-Tech

Agriculture as a sector has experienced a surge in technological innovation, altering the entire value chain from farm to fork. Precision agricultural technology and data-based analytics are transforming farming into an insight-driven occupation.

Farmers and agribusiness now have a wide array of technologies at their disposal, including sensors, UAV drones, big data & IoT, Artificial Intelligence & Machine Learning, Robotics amongst others. These advancements are enabling the collection, analysis and interpretation of various operational aspects allowing for real-time adjustments thus enhancing control over farming activities and bringing greater precision to both crop and livestock management.

The AgTech sector globally is projected to reach \$79.7 billion with CAGR of 16.5% by 2030<sup>[2]</sup>. The farmers as well as agri-industry are embracing this transformation and using technology as a resource to make agriculture a sustainable and scalable sector.

Some of the key technology trends revolutionizing the sector in different ways are discussed below:

### Artificial Intelligence and Machine Learning

Artificial Intelligence & Machine Learning is applied across the entire agricultural value chain, largely helping analyze the vast amounts of data generated across the sector. These insights are helping improve the management of both on farm and post-harvest activities as well as allied sectors.

Artificial Intelligence has boosted productivity by enabling autonomous farming operations, selecting the best genetic traits for high yield seeds, and reducing post-harvest losses through robotics. It has also helped enhance risk mitigation by analysing satellite and drone imagery to identify stressed areas on farms offering guidance on corrective actions. Artificial Intelligence is also helping financial institutions and insurance service providers by providing insight that improves access to credit and expedite claim settlements. In the dairy industry, Artificial Intelligence has improved traceability making the sector more efficient.

### Unmanned Aerial Vehicles (Drones)

Farmers rely on visual inspections to observe and monitor their crops and for large farms aerial views are essential. Drones provide this capability offering farmers real time overhead perspective of the land.

These devices are increasingly used worldwide to assess crop health, monitor drought conditions, address pest infestations, evaluate soil quality and track other environmental factors.

The global agriculture drone market size was estimated at around \$4.98 billion in 2023, and it is projected to hit around \$6.11 billion by 2032, growing at a CAGR of 18.5% from 2024 to 2032.<sup>[3]</sup>

Drones collect real-time data, which is processed to create 3D maps of a farm, aiding in soil analysis and optimizing seed planting patterns. Equipped with hyperspectral and thermal sensors, drones can detect dry areas and recommend appropriate irrigation levels, identify zones affected by infections or pest attacks, and generate multispectral images to monitor plant health changes. By enabling early detection of threats like blight or drought, farmers can implement mitigation strategies to protect crops. The vegetation index derived from sensor data helps track farm health, facilitating precise farm management.

Drones equipped with ultrasonic devices and laser scanners are being used by farmers for early pest detection and crop monitoring. Additionally, heavy-payload drones play a crucial role in precision agriculture, handling tasks like planting seeds and spraying fertilizers, pesticides, and micronutrients. This technology reduces the need for manual labour while increasing accuracy and efficiency. Drones can cover hundreds of acres in just a few hours, precisely targeting areas for chemical application, which minimizes runoff into water sources and supports a more sustainable farming approach.

### Big Data and Internet of Things (IoT)

Big Data and IoT have the potential to revolutionize the entire agricultural value chain by offering valuable insights to stakeholders at various levels. IoT technology combined with sensors are being integrated into machinery, to enhance the efficiency of resource collection, inspection and distribution in agriculture. According to BIS Research report the global IoT in Agriculture market is projected to reach \$71.92 billion by 2033 from \$20.14 billion in 2023, growing at a CAGR of 13.57%.<sup>[4]</sup>

Insights derived from the collected data are leveraged to recommend input products and farming practices to farmers, aiding in productivity enhancement and increased farm efficiency. Companies utilize this data to create specific products and strategies. Big

data tools enable tracking and monitoring of goods throughout the supply chain, offering traceability for consumers and helping identify points of disruption in the business.

IoT enabled tagging and monitoring of the production and logistics chain provide data that allows tracking a product from its origin at the farm to its final destination in a household. This farm-to-fork connection helps producers maintain food safety and quality, while also offering consumers detailed insights into the source of their food and the inputs used such as fertilizers, pesticides, temperature control and antibiotics during its growth.

### Sensors

Advanced sensors strategically positioned across the land enable farmers to remotely monitor and manage their crops. These cutting-edge sensors incorporate technologies such as image recognition, soil moisture, nutrient analysis, and crop health monitoring. By generating real-time data that is processed through analytical software, they provide farmers with precise insights. This information help farmers make informed adjustments leading to increased yields, economic gains and a reduction in waste and excessive input usage. Additionally, sensors support water sustainability efforts by altering farmers to over irrigation and automatically regulating irrigation duration and quantity on the farm.

The global agricultural sensors market was valued at \$3,599.5 million in 2022 and is projected to reach \$7,598.6 million by 2027, with an anticipated compound annual growth rate (CAGR) of 16.12% from 2022 to 2027.<sup>[5]</sup>

The role of sensors is not limited to farms and livestock, they have become integral to agricultural equipment and machinery as well. Similar to the role on the farm, these sensors track machine health by analysing various parameters. They also enable machinery to navigate uneven terrain using navigating systems, map crop quantities for planting and harvesting, measure downtime, and alert farmers to any unusual activity or potential issues.

### Robotics

Automated robots integrated with AI are enhancing productivity leading to quicker and higher yields. These robots operate more quickly and accurately with the flexibility and manoeuvrability needed for various farm tasks. They are commonly employed for spraying, planting seeds, weeding, and harvesting across different types of farms.

The global agricultural robots market was valued at approximately \$11.57 billion in 2022, with an anticipated compound annual growth rate (CAGR) of 20.6% projected from 2023 to 2030.<sup>[6]</sup>

The “See and Spray” robots created by Blue River Technologies in the United States are capable of cutting agrochemical usage. Utilizing computer vision, these robots analyse crops along their path and apply chemicals with great precision minimizing the overuse that is common in traditional spraying methods. Additionally, the robot can identify and eliminate unwanted plants, thus reducing both labour and time demands by performing several tasks simultaneously.

Robots are now being utilised for harvesting not only staple crops such as paddy, wheat, corn etc. but also for specialty crops including fruits, nuts and vegetables. These specialty crops tend to be delicate and vary significantly in size and shape. Abundant Robots, based in the U.S., has created an automated apple harvesting robot that employs artificial intelligence and computer vision to identify apples that are ready for picking. The robot then uses a vacuum-equipped robotic arm to gently remove the apples from the tree branches.

### Blockchain

Blockchain technology is revolutionizing agriculture by enhancing transparency, traceability, and efficiency across the supply chain. Blockchain systems enable the secure and transparent recording of transactions, which reduces the risk of fraud, ensures the authenticity of products, and fosters trust among consumers and producers. This technology is being applied to various aspects of the agricultural sector including food safety, supply chain transparency and financial transactions for farmers. Blockchain can track the journey of produce from farm to the consumers table offering insight into its origin, production methods and quality standards. The global market size of blockchain in agriculture was valued at \$5.14 billion in 2022 and is projected to reach \$290.77 billion by 2036, with an anticipated compound annual growth rate (CAGR) of 36.4% projected from 2024 – 2036<sup>[7]</sup>.

Coffee industry, where blockchain is being employed to verify the authenticity of high-quality, ethically sourced coffee beans. IBM's Food Trust, a blockchain-based platform, enables retailers and consumers to scan a QR code on a product to trace its entire supply chain journey.

### Biotechnology

Biotechnology is revolutionizing agriculture globally by introducing advanced techniques to enhance crop productivity, improve resistance to pests and diseases, and promote sustainability. Through the application of genetic engineering, scientists are developing genetically modified organisms (GMOs) that are more resilient to environmental stresses such as drought, extreme temperatures, and soil salinity. This innovation is crucial in addressing the challenges posed by climate change and ensuring food security for a growing global population. Crops

like Bt cotton and genetically modified maize are widely adopted in countries like the United States, Brazil, and India, where they help reduce reliance on chemical pesticides and increase yields.

The global market size agricultural biotechnology was valued at \$151.06 billion in 2023 and is projected to reach \$346.61 billion by 2031 with an anticipated compound annual growth rate (CAGR) of 10.94% projected from 2024–2031<sup>[8]</sup>.

Beyond GMOs, biotechnology also encompasses advances in CRISPR and gene editing, enabling the development of crops with enhanced nutritional content, such as Golden Rice, which is fortified with Vitamin A to combat malnutrition in developing regions. Biotechnology is further enabling the creation of biofortified crops, improving food quality and shelf life, which reduces post-harvest losses. Additionally, the technology is promoting sustainable farming practices by developing bio-based fertilizers and pest control methods that reduce the environmental impact of agriculture.

### Carbon Market

The carbon market in agriculture is emerging as a powerful tool for addressing climate change by incentivizing sustainable farming practices that reduce greenhouse gas emissions and enhance carbon sequestration. Agricultural activities, such as crop cultivation, livestock management, and soil use, are significant contributors to global emissions, but they also hold immense potential for mitigating climate impacts through carbon capture in soils, trees, and plants. Farmers and landowners can now participate in carbon markets by adopting climate-

smart practices like no-till farming, cover cropping, agroforestry, and regenerative agriculture. These methods not only reduce emissions but also improve soil health and biodiversity.

The global market size of carbon offset market is estimated at value of \$414.80 billion in 2023 and is projected to reach \$1800.62 billion by 2030, with an anticipated annual compound growth rate (CAGR) of 23.3% from 2023–2030<sup>[9]</sup>.

Carbon tools, such as carbon calculators, are being developed to help farmers measure their carbon footprint and the impact of their practices on carbon sequestration. These tools provide actionable data, allowing farmers to quantify the carbon savings from their efforts and sell carbon credits to corporations or governments looking to offset their emissions. Platforms like “Nori” and “Indigo Ag” offer farmers opportunities to monetize their carbon storage through carbon credit marketplaces.

Globally, carbon markets in agriculture are gaining traction, particularly in regions like North America, Europe, and Australia, where governments and private players are establishing frameworks for trading agricultural carbon credits. The voluntary carbon market, driven by corporate sustainability goals, is rapidly expanding, and agriculture is becoming a focal point due to its potential to serve as both a carbon source and a sink. As demand for carbon credits grows, agriculture’s role in these markets is expected to increase, encouraging more widespread adoption of sustainable practices that align with environmental and economic goals.

### Investments <sup>[10]</sup>

- Bioenergy & Biomaterials category startups raised \$818 million across 37 deals.
- Ag Biotechnology category startups raised \$585 million across 67 deals.
- Farm Robotics, Mechanization & Equipment category startups raised \$389 million across 38 deals.
- Ag Marketplace & Fintech category startups raised \$365 million across 83 deals.
- Farm Management Software, Sensing & IoT category startups raised \$294 million across 101 deals.
- Novel Farming System category startups raised \$103 million across 33 deals.



## 1.2.2 Ag-Tech in India

The population of India is increasing day by day which has reached to 1.42 billion people and still counting. The growing population will intensify the demand in the agriculture sector to boost production. This increase can only be achieved through the extensive adoption of technology in the sector.

The sector currently employs more than half of the nation's workforce but faces several challenges including labour shortage, heavy reliance on the monsoon, declining groundwater levels, and pest and disease infestation. Technological innovations are being introduced to tackle these issues and enhance the sector's efficiency.

The rise of precision agriculture, incorporating a wide range of innovations like artificial intelligence, blockchain technology, drones, satellite imaging, sensors, robotics and other advanced technologies, is equipping the agricultural sector with the ability to address its challenges while benefiting all stakeholders involved.

One component of Precision Agriculture is satellite-based farming which involves using satellite imagery for targeted crop management. It also aids in monitoring droughts and potential flooding, providing farmers with guidance on shifting weather conditions.

Data collected from various sources is analyzed using machine learning models to provide valuable insights and accurate recommendations such as the optimal sowing time, the most suitable crop variety for specific soil types and regions, and the best timing for applying insecticides and fertilizers.

Despite significant advancements in agricultural technology, the adoption of innovations like specialized robots and automated machinery lags behind global trends. Challenges such as uneven terrain and high operational costs hinder effective implementation in the field. To offset these costs and encourage wider use, these technologies need to be applied in the cultivation of high-value crops. The domestic Precision Farming market is estimated at \$102.31 million in 2024 and is anticipated to grow at a CAGR of 6.12% between 2025-2030<sup>[11]</sup>.

Agtech is supported by government policies and a robust environment of incubators, accelerators and venture capital, AgTech innovations have immense potential to transform the agriculture sector. With emerging technologies and entrepreneurial drive, the entire value chain can be streamlined, addressing systematic issues and ultimately benefitting the most critical stakeholder in the sector – the farmers.

### Investments <sup>[12]</sup>

- Ag Marketplace & Fintech category startups raised \$162 million across 27 deals.
- Farm Management Software & sensing category startups raised \$18 million across 8 deals.
- Bioenergy and Biomaterials category startups raised \$14 million across 3 deals.
- Novel Farming Systems category startups raised \$10 million across 4 deals.
- Ag Biotechnology category startups raised \$4 million across 3 deals.
- Farm Robotics, Mechanization + Equipment category startups raised \$3 million across 9 deals.

### Technologies for Predictive Risk Management

Indian farmers face multiple risks both natural and human-induced, includes unpredictable weather, soil degradation, insufficient crop nutrition, pest attacks, crop diseases, and improper irrigation which can lead to crop failure. These challenges impact farms at various stages of the agricultural process. To address this issues numerous Indian companies are now employing advanced technology tools to forecast and reduce these risks.

To mitigate risks from unpredictable weather companies and startups are utilizing satellite imagery and remote sensing technologies to offer predictive solutions. **Skymet Weather** a leading player in this field employs satellite data,

remote sensing, and artificial intelligence to track weather patterns and generate forecasts. These insights help provide agricultural risk management solutions to both government agencies and private organizations. Another startup **Satsure Analytics** is a satellite image processing startup that leverages remote sensing technology for applications like soil moisture monitoring, disaster management and weather advisory services. The startup offers rainfall and weather forecast data which is utilized by financial institutions, input companies and research organizations both in India and abroad.

**Proximal Soilsens** and **Krishitantra** are the startups focusing on technology-driven solution that provides farmers with real-time soil health insights.

By leveraging IoT (Internet of Things) sensors and data analytics, Proximal Soilsens monitors critical soil parameters such as moisture content, pH levels, and nutrient availability. This enables farmers to make informed decisions about irrigation, fertilization, and crop selection, optimizing productivity while minimizing input costs. With its easy-to-use interface, farmers receive instant updates on soil conditions, ensuring that crops receive the precise care they need, promoting sustainable farming practices and improving yield quality.

Risk mitigation solutions are increasingly being delivered through the use of drones with several startups exploring practical application of the technology. One such Bengaluru based startup, **Aarav Unmanned Systems (AUS)** utilizes drones to gather data for monitoring farms. This data is analysed to provide farmers and business with early warning about potential pest infestation and diseases. AUS offers services such as assessing the impact of natural disasters like floods on agricultural land, generating insights that help banks and NBFCs ensure transparent and efficient insurance payouts to farmers.

### Technologies for farm and crop management

Farmers in India have traditionally relied on conventional methods to manage their farms and monitor crop growth. The absence of data-driven farming practices has often resulted in growing crops with low market demand or overusing chemicals leading to soil degradation. Accessing modern machinery that reduces labour and improves operational efficiency is difficult due to the high costs involved. However, various companies are now leveraging technology tools to tackle the challenges.

Startups like **NaPanta**, and **Gramophone** are utilizing various technologies to enhance farm management by continuously monitoring farm conditions and alerting farmers to any unexpected changes. By gathering data from multiple sources these technologies provide timely insights allows farmers to take action and address potential issues. The data-driven insights help farmers make informed decisions about how much to grow based on market trends reducing post-harvest waste.

**Cultivate** an agri-tech startup, is redefining precision farming through the integration of advanced technologies like IoT, AI, and data analytics. Their innovative approach focuses on creating smart farming solutions that enable farmers to monitor crop health, soil moisture, and weather conditions in real-time. By using satellite imagery, drones, and on-ground sensors, Cultivate provides actionable insights that help optimize irrigation, fertilizer application, and pest management.

**BigHaat** is a startup leveraging remote sensing, artificial intelligence, IoT and many other advanced

technologies to deliver real time, data driven insights to farmers. The startup provides recommendations on optimal crops, detailed farms plans covering the entire crop cycle and precise guidance on the quality and quality of chemicals are required. These insights are also utilized by banks, aggregators, input suppliers and the government for various applications. Other startups such as **Unnati Agri** is also into this segment.

**Freshokartz** is leveraging technology in artificial intelligence and machine learning to deliver real time, data driven insights to farmers. The startup provide advisory services on the crops, detailed farms plans covering the entire crop cycle and also support the farmers by providing the agricultural loans.

**Stellapps** is driving innovation in the dairy industry by utilizing IoT and big data analytics to offer comprehensive technological solutions. Their applications gather data through sensors to track milk production and monitor cattle health. They provide financial services including cattle insurance and an e-wallet. By equipping dairy farmers with farm management technology, stellapps enhances operational efficiency and boosts production in both quality and quantity.

**altM**, a cutting-edge agri-tech startup, is revolutionizing sustainable agriculture by leveraging precision fermentation and alternative proteins to create nutrient-rich, eco-friendly crop inputs. Their innovative approach focuses on producing bio-based fertilizers and bio stimulants that enhance soil health and plant growth without relying on chemical additives. This helps farmers achieve higher yields while promoting regenerative farming practices that restore soil biodiversity and reduce the carbon footprint of agriculture. Meanwhile, **Absolute** is pioneering the use of AI, data science, and biosciences to transform agriculture into a climate-resilient, sustainable ecosystem. Their proprietary platform, bioscience-based crop inputs, and precision farming techniques enable farmers to optimize resources like water and fertilizers while improving crop productivity. Absolute's solutions focus on increasing efficiency, enhancing soil vitality, and ensuring residue-free, organic produce that supports environmental conservation while boosting farmer profitability.

In India, agricultural spraying plays a vital role in ensuring the effective application of fertilizers, pesticides, and herbicides, which are essential for crop health and productivity. This process is increasingly hampered by labour shortages, a widespread issue in rural areas, particularly during peak farming seasons. To tackle this growing challenge, startups like **Trithi Robotics** and **Thanos** are leading the way in leveraging the advanced technology of drones, have the ability to cover vast areas of farmland in a fraction of time allowing for more efficient and timely application of agrochemicals.

## Technologies for Post-Harvest Management

The need for innovation and technology is most critical in the post-harvest sector, where inefficiencies lead to substantial losses. India faces an annual loss of over 20% of its total produce, primarily due to inadequate storage, poor transportation facilities, and inefficient processing methods. The lack of modern cold chain infrastructure, limited processing capabilities, and fragmented market linkages significantly hinder farmers' ability to maximize returns. By reducing post-harvest losses, the country could increase food availability, improve farmer incomes, and ensure better food security. Various startups and companies are now introducing advanced storage systems, blockchain for traceability, AI-driven quality assessments, and improved logistics to revolutionize the sector and minimize these losses.

**Carbon Mint**, a forward-thinking climate-tech startup, is transforming the way carbon emissions are managed and offset within the agriculture sector. By utilizing blockchain technology, Carbon Mint creates a transparent and verifiable platform for farmers and agribusinesses to generate carbon credits through sustainable farming practices such as agroforestry, regenerative agriculture, and reduced tillage. These carbon credits are then tokenized, allowing businesses to trade them on global markets while incentivizing farmers to adopt eco-friendly practices. Through this innovative model, Carbon Mint not only helps combat climate change by reducing carbon footprints but also provides farmers with an additional revenue stream, driving sustainability and profitability in the agricultural ecosystem.

In the realm of post-harvest value addition, **GreenPod Labs** has developed a groundbreaking bio-based packaging solution that extends the shelf life of fresh produce without the need for refrigeration or synthetic preservatives. The packaging uses natural plant-derived compounds that slow down the ripening process and prevent spoilage, making it ideal for farmers and distributors dealing with highly perishable items such as fruits and vegetables.

In the harvesting space, **GRoboMac**, an agri-tech startup, has developed advanced robotic solutions to automate labor-intensive tasks in agriculture, particularly focusing on harvesting and sorting. Their

AI-powered robots are capable of identifying, picking, and grading of cotton with precision, significantly reducing the time and effort required in manual processes. This technology ensures uniform quality and faster processing, while minimizing damage to the produce during handling.

**Vegrow** has pioneered a scalable, tech-enabled platform that optimizes the aggregation, grading, and distribution of fresh produce, specifically focusing on fruits. By leveraging data-driven insights and AI tools, Vegrow connects farmers directly with retailers, streamlining supply chain operations and reducing post-harvest losses. Their platform incorporates quality assessment technology, ensuring only high-grade produce reaches end consumers. Vegrow employs cold chain logistics solutions and predictive demand analytics, which help in reducing waste and improving profitability for farmers, making it an ideal partner for smallholders and large retailers alike who seek fresh, high-quality produce.

**Eggoz** is revolutionizing post-harvest value addition in the egg sector with its specialized focus on ensuring the freshness and quality of eggs from farm to consumer. Their innovative, farm-fresh approach includes temperature-controlled logistics and bio-secure packaging, maintaining the nutritional integrity and freshness of eggs without relying on artificial preservatives. By extending the shelf life and enhancing food safety, Eggoz provides a reliable solution for farmers and distributors to deliver high-quality eggs, meeting consumer demand for safe, fresh, and hygienically packaged eggs.

**Cornext** has pioneered a novel approach to post-harvest value addition, focusing on silage production to extend the usability of green fodder for livestock. Their technology provides a highly effective solution for preserving nutrients in green fodder, allowing it to retain its quality and nutritional value for extended periods. Cornext's silage solutions use fermentation processes that eliminate the need for artificial preservatives, supporting farmers and dairy producers in managing feed supply efficiently, even during off-season periods. This approach addresses storage challenges and reduces feed costs, making it especially valuable for smallholder farmers.



### 1.2.3 Business Model

Three business models were observed across the study

#### **Business to Business (B2B)**

The model focuses on providing services or products to businesses, some of which collaborate directly with farmers (B2B2F), or to businesses that utilize these inputs for creating their own products.

#### **Business to Customer (B2C)**

The model entails providing services or products straight to the end-users, which in this instance, are farmers.

The B2B model is more prevalent than the B2C model in the AgTech sector. In the B2C model, farmers are the end customers, but companies often find it challenging to engage directly with them due to factors like limited acceptance and scalability. Many ventures adopt a hybrid approach that incorporates both business models, serving both direct customers and business clients. This model entails providing services or products to businesses that interact with farmers (B2B2F) or to companies that utilize these inputs for their own products.



## 1.3 Incubators and Accelerators



India is currently experiencing a wave of innovation in agriculture, with the rapid commercialization of technology being crucial to transforming research into practical applications. One of the most challenging stages for startups in their growth journey is the period between receiving initial capital and establishing a consistent revenue stream often referred to as the Death Valley Curve. This phase is particularly risky, as many startups fail due to limited resources, lack of guidance, poor strategic planning, and difficulty in accessing the market among other factors.



While financing is undoubtedly the most crucial factor for an AgTech venture, other key elements also play a significant role in its success. These include technical support for product development, refining business plans, conducting feasibility analysis and providing access to physical workplaces and laboratories.

Technology-Business Incubators and Accelerators offer a wide range of support services to startups in their early stages. Incubators provide affordable office space and essential infrastructure, often at prices lower than market rates. They assist startups in securing funding and connecting with critical resources, including skilled personnel, marketing support and legal services for tasks like patent applications or business incorporation. Both incubators and accelerators engage a network of expert mentors – comprising senior industry leaders and entrepreneurs in residence with experience in building both successful and failed ventures – who guide and mentor startup ventures. These mentors help develop comprehensive business plans that are carefully simulated based on market conditions, competition, cost-benefit analysis and other factors to optimize the chances of success.

Several incubators have been set up with support from both government and industry. Prominent universities and businesses schools have also created entrepreneurship cells to encourage innovation and facilitate transfer of technology. Below is a brief overview of some of the key institutions that have played a significant role in incubating and accelerating numerous start-ups.

### **Agribusiness and Innovation Platform (AIP) of International Crops Research Institute for Semi-Arid Tropics (ICRISAT)**

Agribusiness and Innovation Platform (AIP) is a public-private partnership initiative by ICRISAT aimed at scaling up technological advancements and research outcomes by fostering agribusiness ventures. Its main goal is to identify and promote grassroots agricultural innovations while supporting entrepreneurs in establishing sustainable agri-enterprises. AIP acts as a bridge for technology

exchange between ICRISAT, its partners and both public and private sectors. Through its various programs, AIP incubates innovative ventures by offering services such as product development, access to infrastructure, market connections, funding and mentorship. Additionally, it operates an Intellectual Property Facilitation Cell that assists ventures in securing patents and licensing available technologies.

### **Association for Innovation Development of Entrepreneurship in Agriculture– National Academy of Agricultural Research Management (α-IDEA NAARM)**

α-IDEA, the Technology Business Incubator of ICAR-NAARM, is among the few TBIs specifically focused on agricultural technologies. It supports a wide range of innovations across the entire agriculture value chain, from production to consumption. The incubator aims to foster, develop, and scale technologies that enhance efficiency, boost productivity and benefit all stakeholders in the agriculture sector. Its key areas of focus include precision agriculture, innovative food technologies, sustainable inputs, supply chain technology, fisheries, soil, water and weather technology, IoT and ICT in agriculture, agri-biotechnology, post-harvest technology, farm mechanization, and vertical or urban farming.

### **Centre for Innovation, Incubation & Entrepreneurship (CIIE) – Indian Institute of Management Ahmedabad (IIM-A)**

The Centre for Innovation, Incubation and Entrepreneurship (CIIE), established by IIM Ahmedabad in collaboration with the Government of India and Government of Gujarat, serves as a platform to support ventures with the potential for large-scale impact. It focuses on fostering startups that use technology to address significant challenges in various sectors including agriculture. The centre offers services such as incubation, mentoring, training, knowledge sharing, seed funding and research on best practices, helping entrepreneurs transform innovative ideas into sustainable and scalable business.

### **Centre of Innovation and Agripreneurship (CIA) – National Institute of Agricultural Extension Management (MANAGE)**

The centre of Innovation and Agripreneurship is an initiative by MANAGE aimed at fostering innovation and entrepreneurship in the agriculture sector. It supports agripreneurs by offering incubation, mentoring and funding assistance for startups focusing on innovative agricultural solutions. The center aims to promote sustainable agriculture, empower rural communities and create employment opportunities by nurturing agritech startups and scaling up agri-business ventures.

### **Indian Institute of Technology Madras Incubation Cell (IITMIC)**

The Incubation Cell at IIT Madras is a Technology Business Incubator set up by Startup India, the Department of Industrial Policy & Promotion (DIPP) and the National Science & Technology Entrepreneurial Development Board (NSTEDB) under the Department of Science and Technology, Government of India. IITMIC supports technology and knowledge-based ventures during their startup phase, helping them grow into scalable businesses. The cell offers various services including space and infrastructure, access to business support, training, mentoring, and seed funding. It focuses on technologies developed either exclusively by IIT Madras or in collaboration with external institutions as well as startups mentored by IIT Madras members.

### **Indigram Labs Foundation (ILF)**

Indigram Labs Foundation is a Technology Business Incubator supported by the National Science & Technology Entrepreneurship Development Board (NSTEDB) under the Department of Science and Technology, Government of India. Its mission is to foster creativity and innovation across various sectors with a particular emphasis on agriculture. ILF supports innovative ideas by offering mentorship, infrastructure, technology assessment, business model refinement and funding services helping transform them into scalable businesses. The foundation also accelerates the growth of established startups by providing targeted mentoring and guidance to help them reach their objectives.

### **Pusa Krishi Incubator – Indian Agricultural Research Institute (IARI)**

The Pusa Krishi Incubator associated with the Zonal Technology Management and Business Promotion Development (ZTM-BPD) Unit at ICAR-IARI serves as a hub for agricultural innovation and business incubation. It provides entrepreneurs with technical and business guidance, access to government grants and funding opportunities along with expert mentorship.

The incubator offers multiple incubation programs throughout the year, specifically designed for early-stage agricultural startups. It features a

dedicated platform for startups that are at the pre-commercialization stage with a minimum viable product. The incubator offers various technologies developed by IARI which can be licensed by both established companies and startups. One distinguishing feature of Pusa Krishi Incubator is its dedicated Intellectual Property Facilitation Centre (IPFC) which offers affordable and efficient IPR services tailored specifically for Agri Startups and MSMEs.

### **Society for Innovation & Entrepreneurship (SINE) – Indian Institute of Technology Bombay (IIT B)**

The society for Innovation and Entrepreneurship (SINE) recognized as a 'Centre of Excellence' by the Department of Science and Technology (DST), Government of India is among the first technology business incubators founded within academic institution. SINE offers pre-incubation, incubation and acceleration support to startups at various stages of their development.

SINE offers a range of services to technology startups including mentoring, product development, testing and certification as well as infrastructure and technical support. It also provides financial assistance, connects startups with a vast network of business and technology leaders and helps boost exposure through seminars and media.

### **Startup Incubation and Innovation Center (SIIC) – Indian Institute of Technology Kanpur (IIT K)**

The Startup Incubation and Innovation Center (SIIC) at IIT Kanpur was founded in collaboration with the Small Industries Development Bank of India (SIDBI) with the goal of fostering technology – driven innovation and entrepreneurship. It includes 8 incubation centers and has a specialized Intellectual Property (IP) and Technology Transfer Cell.

The Center offers services of technology development and validation along with infrastructure, mentoring and funding support. It also organizes networking events and assists with securing patents and trademarks through its dedicated IP Cell.

### **Villgro**

Villgro is a social enterprise incubator based in India, with a strong focus on supporting innovations that address critical social environmental challenges. Their goal is to drive innovation in the agricultural sector by helping entrepreneurs create solutions that can be implemented on a large scale and have a significant transformative impact.

Villgro incubation efforts focus on empowering startups that are working to improve the livelihoods of smallholder farmers, enhance productivity and create sustainable agricultural practices.

The role of incubators and accelerators in India's agricultural ecosystem is pivotal in fostering innovation and scaling operations. These institutions

provide critical support in the form of mentorship, infrastructure, access to funding and strategic guidance helping entrepreneurs navigate the challenging early stages of development. By bridging the gap between innovative ideas and commercialization, they are helping transform the

agriculture sector, driving sustainable growth and addressing pressing challenges faced by farmers and consumers alike. The collective efforts of these incubators and accelerators are not only nurturing entrepreneurship but also contributing significantly to the modernization of India's agri-food value chain.



## 1.4 Challenges and Way forward



Building a sustainable business is never easy, but for agri-tech startups, the journey is compounded by vast geographical and socio-economic diversity, often making scaling and consistency challenging.



### 1.4.1 Challenges

Discussed below are some of the main challenges identified for startups in their journey

#### Ecosystem support

Despite significant government efforts to foster innovation and entrepreneurship, a gap persists between the needs of emerging AgTech startups and the resources available to them. At their early stages, many startups face challenges in accessing essential support, such as mentorship, facilities for product development, and expert guidance on market entry strategies. Incubation support is often limited or hard to access, making it difficult for these startups to gain the foundational assistance they require to scale and succeed. This disconnect can slow down the growth trajectory of these ventures, hindering innovation and the broader adoption of technology within the agriculture sector.

#### Funding needs

One of the most critical challenges for any startup is securing funding. In the AgTech sector, where success often hinges on unpredictable natural factors like climate and seasonal rains, attracting substantial investment was particularly difficult. Key stages, from technology development and hiring skilled experts to securing licenses and permissions, demand substantial financial input. AgTech startups often faced rapid cash burn rates outpacing their inflow, along with uneven cash flow due to reliance on non-digital payment methods and lengthy payment cycles. These financial dynamics can make investors cautious about committing to such ventures.

#### Availability of skilled manpower

A significant challenge faced by new ventures in agriculture is the difficulty in finding professionals who both understand the sector and possess the technical skills needed to work with advanced technologies, such as developing machine learning algorithms, analyzing drone data, mapping farms with sensor systems, or managing blockchain-based software. Many individuals with the required technical expertise are reluctant to join startups or early-stage ventures, often due to concerns over job security. This hesitancy is further fueled by a limited entrepreneurial culture, where working with startups is not widely seen as an opportunity for growth and innovation but rather as a risky career choice.

#### Barriers to technology adoption

Indian agriculture has long relied on manual labor across all operations, making technology-driven interventions relatively new and challenging for grassroots farmers to understand and adopt. Advanced technologies, like remote monitoring tools and digital farm management platforms, are emerging to enhance efficiency and productivity in the sector. However, these innovations are often met with skepticism by farmers who may worry about technology eventually misuse of their data, as collected by private entities. These concerns highlight the importance of building trust and demonstrating the long-term benefits of technology adoption for farmers livelihoods.

#### Policy and Regulation challenges

Advanced technologies are transforming the agricultural sector, but policy and regulatory frameworks have not kept pace with the rapid technological evolution. Developing agricultural drones and other cutting-edge equipment locally faces several challenges. For example, importing components like radio modules involves navigating through numerous permissions, which makes the process both complex and lengthy. Additionally, the high import duties for importing even a single unit, such as for prototyping, are equivalent to those for commercial-scale imports, making innovation costly. Furthermore, essential components like multispectral cameras and sensors, crucial for farm surveying, are categorized as 'Luxury Goods' and attract high import duties, further limiting accessibility for domestic developers and innovators in agri-tech.

### 1.4.2 Way forward

The ag-tech startup ecosystem in India shows significant promise. Government initiatives like RKVY-RAFTAAR and the Atal Incubation Mission are actively supporting innovation and entrepreneurship within the sector. At the same time, major industry players are increasingly open to partnerships with startups. Numerous incubators and venture capital firms are now active across the country, providing growing support in the form of financing, technical assistance, business mentorship, and more.

However, there are still several aspects that need attention to further empower the AgTech ecosystem

and fully leverage technological innovations to enhance India's agricultural growth path.

Data availability is essential for implementing advanced technologies like Artificial Intelligence, Blockchain, and Satellite Image Processing. Establishing a unified, centralized data authority is therefore critical to support tech ventures in scaling the development and deployment of these technologies.

Many startups highlighted in AgTIVE 2024 have noted that recruiting skilled professionals who grasp the agricultural sector's intricacies and can create technological solutions is challenging. To address this, engaging youth in agriculture through structured

initiatives, like specialized agricultural hackathons and symposiums, could spark interest in the field and provide alternative employment pathways.

Moreover, encouraging technology adoption by developing farmer-friendly platforms and raising awareness about the benefits of digital tools can drive sector-wide transformation. Addressing regulatory and policy bottlenecks by establishing a supportive framework for technology import, component sourcing, and intellectual property rights will further enhance innovation. These steps, collectively, will lay a robust foundation for India's AgTech sector, enabling sustainable growth and aligning it with global trends.







|||||

# PART II

## Spotlight on Innovation

|||||

# Absolute

Absolute has emerged as a pioneering force in sustainable agriculture, combining biotechnology with digital solutions to revolutionize farming practices. Through its core offerings like Ag Biologicals (Inera) and the digital platform (Upaj), Absolute is addressing critical challenges in modern agriculture, such as soil health, crop resilience, and farmers' market access.



## Product Description

Absolute suite of products is designed to drive sustainable innovation in agriculture through a combination of advanced biotechnology and digital solutions. The company offers a wide range of products and services that aim to improve crop health, enhance yield potential, and support farmers throughout the agricultural value chain.

1. **Inera (Ag Biologicals):** This line of climate-adaptive agricultural inputs is developed using proprietary bio-based technologies. The key products in this range include biofertilizers, biostimulants, and biocontrol solutions, all designed to enhance crop resilience and nutrient uptake while reducing the environmental impact. Inera products are powered by Absolute's STREAC™ technology, which ensures better nutrient delivery and stress resistance for plants. These bio-abled inputs help farmers improve productivity in a sustainable manner, across various agro-climatic conditions.
2. **Upaj (Digital Platform):** Upaj is a digital value chain platform that brings essential agricultural services to farmers' fingertips. It provides tools such as DIY crop insurance, soil reports, farm monitoring, and precision advisory services, helping farmers make informed decisions. The platform is designed to improve farm productivity, reduce risk, and provide access to financial and market opportunities, especially for smallholder farmers.
3. **Insoil (Soil Health Analysis):** Insoil is a proprietary rapid soil health analysis system that delivers nutrient recommendations based on 12 key soil health parameters in less than 20 minutes. This system helps farmers optimize soil conditions for better crop growth, improving both yield and sustainability by ensuring that only the necessary inputs are applied.
4. **Bioleather:** This eco-friendly material closely mimics the properties of traditional leather but is made using sustainable bio-based methods. Bioleather is an innovative solution for industries seeking to reduce their environmental footprint, offering a sustainable alternative to animal-based leather.
5. **Bio Ingredients:** Absolute also produces bio-based ingredients, including enzymes, proteins, vitamins, and alternative sweeteners, which are used in various industrial processes. These ingredients are developed in-house and aim to supercharge sectors such as food processing, pharmaceuticals, and biotechnology.
6. **Human Milk Proteins:** The company has also ventured into the development of human milk proteins like whey and casein for use in infant nutrition products. These proteins are designed to closely replicate the nutritional properties of human milk, providing a healthy and sustainable option for infant food solutions.

## Market Presence



Absolute has established itself as a significant player in the bioscience and agricultural technology space, particularly within India but with a growing international footprint. Since its inception in 2016, the company has strategically positioned itself in key agricultural markets by leveraging its dual strengths in biotechnology innovation and an extensive distribution network. Where it has a robust presence across 16 states, reaching millions of farmers. The company's Inera products are distributed through a network of over 1,200 channel partners, supported by 40,000 retail partners and more than 200 company-owned stores. This expansive reach ensures that farmers across the country can access bio-abled inputs and digital farming solutions, even in remote regions. Upaj, its digital platform, has also seen significant uptake, offering precision advisory, soil health services, and financial products like DIY crop insurance to Indian farmers.

## Key Partnership



Japan International Cooperation Agency (JICA), United Nations Development Programme (UNDP) – Grant Partner  
Peak XV, Tiger global, Alpha Wave Global – Funding Partners

## Financial Analysis



Absolute has shown robust financial growth, fueled by significant investments and a scalable business model focused on biotechnology and sustainable agriculture. In May 2022, the company raised \$100 million in a funding round led by Peak XV Partners (formerly Sequoia), Tiger Global, and Alpha Wave Global. This funding injection has been instrumental in scaling the company's operations, expanding its R&D capabilities, and supporting its global market expansion.

## Business Model



Absolute operates on a diversified business model that integrates biotechnology research, product development, and distribution to drive sustainable agricultural solutions. The company's core business revolves around the development and distribution of bio-abled agricultural inputs through its flagship product line, Inera, and its digital platform, Upaj. The Upaj digital platform serves as a key revenue generator by providing farmers with essential services like soil testing, insurance, farm monitoring, and precision advisory. Upaj also acts as a marketplace, offering financial products and connecting farmers with buyers for residue-free produce.

## Intellectual Property



Absolute has built a strong intellectual property (IP) portfolio, which is central to its innovation-driven business model. The company has secured 5 patents, with an additional 15 provisionally granted and 15 more in the pipeline. These patents cover a wide range of technologies critical to its core offerings, including soil analysis systems, microbial formulations, biostimulants, and other bio-abled agricultural inputs.

## Challenges faced



### Farmer Education and Adoption

Convincing farmers to switch from traditional chemical-based inputs to bio-abled solutions required significant educational outreach, demonstrations, and building trust in the long-term benefits of sustainability.

### Distribution and Logistics

Reaching smallholder farmers in remote areas and



maintaining product quality throughout the supply chain posed logistical challenges. Absolute built a vast distribution network to ensure efficient delivery.

### Funding

Ensuring ongoing investment in research and development to innovate and scale new biotechnology solutions remains a challenge in sustaining long-term growth and competitiveness.

## Requirement for Scaling Up



### Farmer Education and Training

For broader adoption of bio-enabled inputs and digital farming solutions, it is essential to invest in extensive farmer education programs. Demonstrations, workshops, and digital training can help farmers understand the long-term benefits of sustainable agriculture and new technologies like precision farming tools.

### Strengthening Global Partnerships

Collaborating with local agritech firms, research institutions, and governments in new markets will be

essential for smooth market entry and rapid scaling. Partnerships can facilitate technology transfer, co-develop solutions, and support market education.

### Regulatory Approvals

Scaling into new international markets involves navigating complex regulatory landscapes. Securing approvals for agricultural inputs and biotechnology products in different countries is a critical step for global expansion.

## Core Team Profile



Name	Designation	Qualification	Contact
Dr. Srinivasa Kumar Karavadi	President- Inera	Ph.D.	karavadi.srinivasakumar@inera.ag
Dr. Ajit Kumar	Senior Vice President - Agriscience	Ph.D.	ajit@inera.ag
Mr. Sourabh Bagla	Senior Vice President - Upaj	MBA	sourabh.bagla@absolute.ag
Dr. Prashant Khare	Vice President - R&D, Xenesis	PhD, Post Doc (USA)	prashant@xenesis.bio
Dr. Shivam Sharma	Director- Partnerships, CEO Office	Ph.D., MBA	shivam@absolute.ag



# altM

altM focuses on creating eco-friendly biomaterials and bio-chemicals from agricultural residues. By utilizing materials like rice straw and sugarcane bagasse, altM aims to reduce industrial carbon footprints across sectors such as beauty, personal care, textiles and packaging. The company uses its proprietary thermocatalytic process that deconstructs biomass and converts it into scalable, cost-effective, sustainable, and high-performance materials.



## Product Description

altM produces sustainable biomaterials and bio-chemicals using agricultural residues such as rice straw and sugarcane bagasse. These eco-friendly alternatives help industries reduce their carbon footprint across various sectors, including beauty and personal care, pharmaceuticals, textiles, construction, and packaging. Their proprietary thermocatalytic process deconstructs biomass into its core components—cellulose, hemicellulose, lignin, and silica—and then upgrades them into customized bio-based solutions. These materials are designed to be cost-effective, scalable, and high performing, providing industries with sustainable alternatives to conventional materials.

## Market Presence



altM is currently in its R&D phase for the first wave of its products, which are poised for commercialization starting early 2025. Their primary target market includes industries focused on sustainability such as beauty and personal care, pharmaceuticals, textiles, packaging and industrial chemicals.

## Key Partnership



- Bangalore Bioinnovation Centre (BBC) – Incubation
- ACT Capital Foundation for Social Impact – Grant Partner
- Omnivore – Funding

## Business Model



altM operates as a business to business (B2B) model, company focusing on the research and manufacturing of custom biomaterials and bio-chemicals. Their business model involves supplying these sustainable materials to industries. Revenue would be generated through long-term contracts with companies looking for cost-effective, eco-friendly alternatives to conventional materials.

## Intellectual Property



altM has applied for patents that cover its proprietary thermocatalytic process, which is used to convert agricultural residues into biomaterials and bio-chemicals. altM has secured trademarks to protect its brand identity and the names of key processes and materials they have developed.

## Financial analysis



altM is in the early stages of financial development and raised \$3.5 million in seed funding.



## Challenges faced



altM has been focused on stitching together the entire value chain—from supply chain management, R&D, and engineering, to production operations and sales—in a way that hasn't been done before in this industry. This is not viewed as an obstacle, but rather as necessary work to achieve the company's goals. Over the past two years, altM has worked hard to de-risk multiple aspects of the business, including staffing, R&D, intellectual property, and engineering, ensuring that the foundational elements are in place. With these milestones achieved, the focus is now on ramping up production with its teething pains over the coming year in order to deliver sustainable materials to its customers.

## Requirement for Scaling Up



In addition to fostering its existing industrial and academic partnerships, altM recognizes that solving complex engineering problems is key to aligning cost, performance, and production volumes. This is where a significant amount of engineering ingenuity will be required, and altM is well-positioned to tackle these challenges with its in-house R&D and engineering teams. The company is committed to innovating and refining its processes to ensure that its sustainable materials meet market demands while maintaining performance and cost competitiveness.

## Featured on Media



- From agri waste to industrial raw material – BusinessLine
- Biomaterials startup altM raises \$3.5 million in funding led by Omnivore – Economic Times
- Saint Gobain | Collaboration – LinkedIn
- ACT For Environment welcomes altM to its portfolio – ACT Grants

## Core Team Profile



Name	Designation	Qualification	Contact
Apoorv Garg	CEO & Co-founder	Master of Engineering, Industrial Engineering and Operations Research (UC Berkeley)	info@altm.bio
Yugal Raj Jain	COO & Co-founder	Master of Engineering (MEng), Advanced Manufacturing and Design (Massachusetts Institute of Technology)	info@altm.bio
Dr Harshad Velankar	Chief Scientific Officer	Ph.D., Life Sciences (University of Mumbai)	info@altm.bio



# BigHaat

BigHaat is a full stack agri digital platform to transform the agri value chain with the mission to transform the lives of farmers leveraging Science, Data & Technology. The platform aims to provide timely access to affordable input solutions to farmers.



## Product Description

BigHaat is digital platform that enables farmers to purchase a wide range of quality agricultural inputs, including seeds, pesticides, fertilizers, crop nutrition products, and farm implements such as tools and machinery.

BigHaat collaborates closely with leading Agri-Input companies to ensure that farmers receive high-quality products and at the same time by working with manufacturers, expands the reach of these products, making them more accessible to farmers.

Before partnering with an Agri-Input company, BigHaat's agronomy team conducts thorough due diligence on the product literature and reports. For organic products, the team verifies the organic certification. This rigorous process ensures that only vetted products are sold on the platform.

The platform also integrates technology and data to offer personalized crop advisory services to farmers, helping them boost productivity, yields, and income. As an engagement and advisory enterprise, BigHaat provides guidance to farmers throughout the cultivation process. To acquire customers, BigHaat initially targets tech-savvy champion farmers within a village. Once trust is established with these farmers, the platform gains traction through word of mouth, attracting more farmers. Farmers can access the BigHaat application via smartphones, or if they don't have one, they can give a missed call to the BigHaat helpline. The advisory team then contacts them to understand their needs and provide tailored solutions and product recommendations. BigHaat offers free farming advice to all farmers, regardless of whether they purchase products from the platform. The company leverages its extensive database, which includes information on regions, soil types, and seasons, to provide precise advisory services.

In the future, BigHaat plans to offer demand-supply-based advice, guiding farmers on what to grow and advising corporations on the quantity and location of produce. This will be powered by big data analytics.

## Key Features



BigHaat serves farmers through their application the "BigHaat App". Some of the key features of the app are

- Crop Doctor: Where the farmers can upload pictures of diseased plants on the app and get an instant reply on plant health management.
- Kisan Vedika- "A social media platform", that gives farmers an interface to engage among themselves and find quick responses to crop related issues which is also supported by the Agronomy advisory team.
- Kisan Bazaar that gives farmers a marketplace to buy/sell their agricultural produce or any other agri input.
- Kisan Sandesh a knowledge sharing platform where crop related issues are covered through blogs, video engagement etc.

The BigHaat has also partnered with large organizations to create a significant social and economic impact on farmers. They have collaborated with several leading last-mile delivery partners to assure on-time delivery of the agriculture inputs to farmers. AI-led personalized Agri services discovery model connects farmers at right time with

various service providers such as finance (loans), insurance, equipment rental and services agencies, warehousing/cold storages, logistics, and market linkages (buyers). This discovery is possible due to data points being gathered by the BigHaat platform on every engagement of the farmers on this platform.

## Business Model



BigHaat operates on a multi-faceted business model that focuses on both Agri-Inputs and Market Linkages. It follows an omnichannel distribution strategy, utilizing both direct-to-farmer (D2F) and business-to-business (B2B) models. Revenue is primarily generated through the sale of Agri-Inputs, where BigHaat partners with leading Agri-Input companies to bring quality products to farmers. Additionally, BigHaat is developing its Agrilytics platform, which will offer business intelligence and predictive analytics services to Agri-Input producers, creating another potential revenue stream by improving supply chain efficiencies and marketing strategies.

## Financial Analysis



The company has successfully raised \$25 million in funding to date, which has been instrumental in expanding its operations, enhancing its technology platform, and increasing its product offerings. With a focus on both Agri-Inputs and Market Linkages, BigHaat's revenue model is geared toward scaling rapidly in the agricultural sector. The company has set ambitious financial goals, with a target of achieving \$1 billion in revenue by 2028.

## Market Presence



BigHaat has established a strong market presence by becoming one of India's largest digital platforms for agricultural inputs. With its vast portfolio of products ranging from seeds and fertilizers to crop protection solutions and farming tools, BigHaat has catered to millions of farmers across the country. The platform serves over 20 million farmers, covering 70% of India's pin codes, and reaches even the most remote rural areas through its omnichannel distribution model. By collaborating with over 400 multinational brands and offering more than 10,000 products, BigHaat ensures that farmers have access to high-quality agricultural inputs and expert advice. Its unique ability to combine technology, data-driven insights, and agronomy expertise has allowed the company to carve a niche in the highly competitive agri-tech market. Through strategic partnerships, both with Agri-Input companies and logistics providers, BigHaat has created a seamless supply chain that delivers products efficiently to farmers, contributing to the platform's rapid expansion and sustained market growth.

## Challenges faced



### Farmers Trust

Building trust among farmers especially smallholder farmers was a major challenge. Farmers were often skeptical about digital platforms and hesitant to shift from traditional methods of procuring agricultural inputs to online solutions.

### Awareness and Adoption

Limited awareness of technology and digital tools among rural farmers posed hurdles. Many farmers were unfamiliar with smartphones or apps, making the adoption of the BigHaat platform slow in the beginning.

### Logistics and Infrastructure

Ensuring timely delivery of agricultural inputs to remote locations was difficult due to inadequate rural infrastructure and the complexity of managing last-mile delivery.

## Key Partnership



HDFC, Axis Bank - Funding

## Requirement for Scaling Up



### Adequate Capital

Expanding operations requires sufficient funding to invest in infrastructure, talent, and growth opportunities. Access to capital is critical for scaling production capacity and entering new markets.

### Technology and Product Scale Up

BigHaat is a digital platform, leveraging advanced technology is essential for enhancing efficiency, improving product quality, and optimizing the supply chain. Impactful resources to scale our product offerings to meet growing demand are vital while maintaining high standards.

### Conducive Government Policies

Supportive regulatory frameworks and government policies play a pivotal role in fostering a business-friendly environment. Incentives for innovation, sustainable practices, and streamlined regulations will accelerate our growth and competitiveness.

### Featured on Media

World Future Awards – 2024, Dun & Bradstreet – The Trailblazers, Quantic India –2023 – Top 10 CEO, Deloitte India Fast 50 – 2023

### Core Team Profile



Name	Designation	Qualification	Contact
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Sachin Nandwana	Director & Co-founder	BE, RGPV	sachin@bighaat.com



# Carbon Mint

Founded in 2022, Carbon Mint is focused on transforming agricultural operations through digital technologies and sustainable practices. Its flagship product, AgriOS, integrates various advanced technologies to streamline farming processes and enhance transparency and traceability.



## Product Description

Carbon Mint Smart Solutions' flagship product, "AgriOS", is an advanced digital platform designed to revolutionize agricultural operations through seamless integration of technology. It connects all stakeholders in the farming ecosystem, enabling efficient planning, execution, and real-time monitoring of activities. AgriOS leverages precision machinery, IoT, remote sensing, and AI-based analytics to streamline farm management and ensure high accuracy in crop health analysis and anomaly detection. The platform also employs blockchain technology for immutable traceability and transactions, ensuring transparency and proof of quality across the supply chain. Its modular design includes a mobile app for agronomy support, task execution, and land digitization, alongside a web app for enterprise resource planning (ERP), certification, and supply chain integration. AgriOS also offers unique features like token-based incentivization for environmental and social credits, smart contracts for financial transactions, and automated ESG scoring to reduce costs, improve farmer cashflows, and drive the transition to sustainable farming practices.

## Intellectual Property



Carbon mint has applied for the trademark, which reflects its commitment to brand protection and market differentiation.

## Market presence



Carbon Mint through its AgriOS platform, focus on digital agriculture, sustainability, and farm management. The company primarily targets agribusinesses, farmer producer organizations (FPOs), and certification bodies, offering a comprehensive platform that integrates precision agriculture, blockchain-backed traceability, and AI-powered ESG scoring. Carbon Mint has covered approximately 10,000 farmers and 25,000 acres of farmland and estimate to grow to a million acres by 2027.

## Business Model



Carbon Mint operates on a subscription-based business model for its flagship product, AgriOS.

The platform offers affordable subscription fees to agribusinesses, farmer groups, and certification bodies. This subscription provides access to AgriOS's suite of services, including farm management, traceability, and digital supply chain integration.

Carbon Mint generates revenue through the sale of QR codes used in supply chain tracking, which adds transparency and traceability to agricultural products. The company also offers a carbon farming service, enabling farmers to monetize environmental credits earned through sustainable and regenerative farming practices, such as reducing their carbon footprint.

Carbon Mint growth strategy involves strategic partnerships with input suppliers and public projects, as well as collaborations with agritech partners, to expand its market reach. The business also leverages pilot proof-of-concept (PoC) projects, often offered for free initially, before transitioning to paid services once the value of the platform is demonstrated to customers.

## Key partnership



CIMMYT (International Maize and Wheat Improvement Center) – Research Partner, IIRR (Indian Institute of Rice Research) – Research Partner, Praanadhaara Services (Farming-as-a-service), Microsoft and AWS – Grant Partners, Empower Panchayat, Aghub – incubator, IIM Visakhapatnam – accelerator, Impact hub – incubator, a-IDEA NAARM – incubator

## Financial Analysis

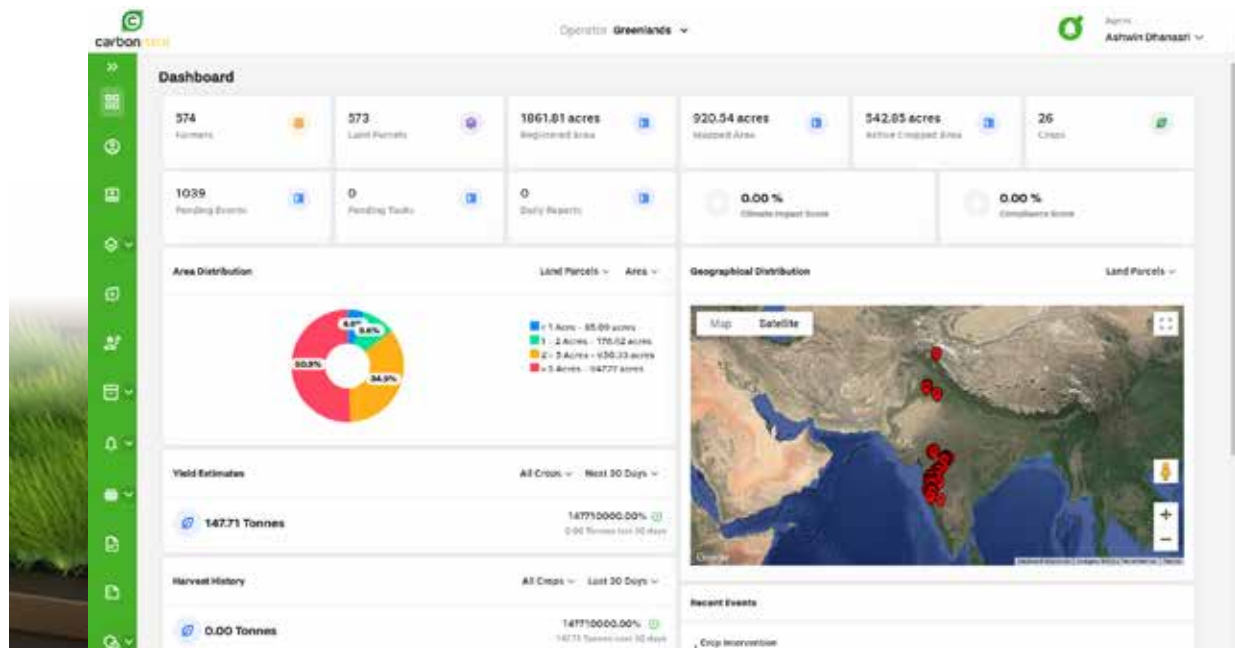


Carbon Mint is still in its early financial development stages, with a strong focus on scaling its operations and building a sustainable revenue model. The company projects annual revenue of INR 30 lakhs for the current year, with operational expenses of INR 80 lakhs, resulting in a significant operational deficit as it invests heavily in product development, market expansion, and partnerships. Carbon Mint has ambitious growth plans, forecasting annual revenues to reach INR 8 crore by 2028 while maintaining yearly expenses around INR 1 crore by that time.

## Challenges Faced



- **Digital Literacy:** A significant portion of the target audience, particularly smallholder farmers, faces challenges in understanding and adopting digital platforms like AgriOS. This affects the uptake of the technology and requires the company to invest in education and training.
- **Connectivity :** Poor internet connectivity in remote farming regions poses a major obstacle to the real-time monitoring and data integration capabilities of AgriOS. The lack of reliable infrastructure makes it difficult to fully leverage IoT and precision agriculture tools.
- **Farmer Convincing and Engagement:** Convincing farmer groups to adopt new technology, particularly blockchain and AI-based tools, was difficult. Traditional practices and skepticism towards modern technology often result in slow adoption rates.



## Requirement for Scaling up

### Improving Digital Literacy

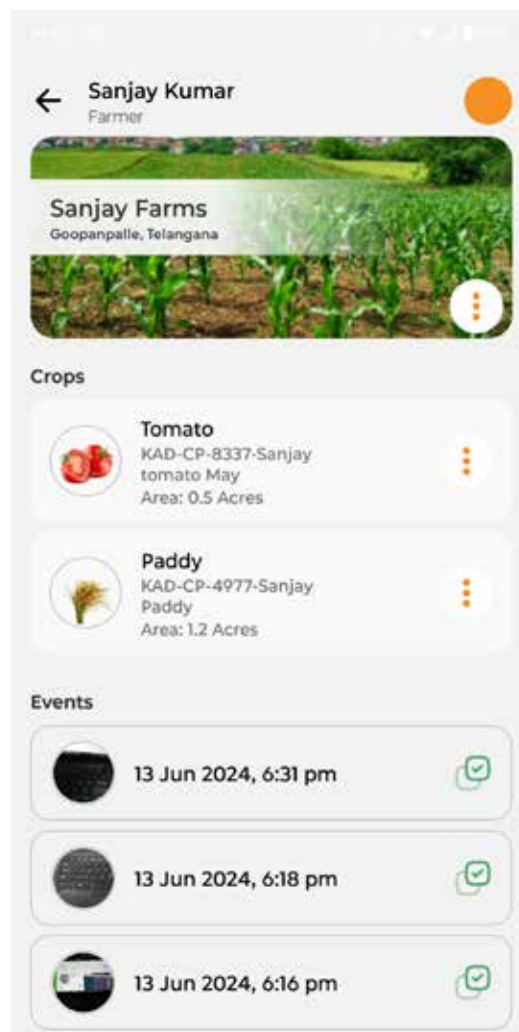
To drive widespread adoption of AgriOS among farmers, especially smallholders, Carbon Mint needs to invest in educational initiatives, workshops, and training programs. By empowering farmers to use digital tools effectively, the company can increase platform engagement and create long-term user retention.

### Strengthening Rural Connectivity

To overcome connectivity challenges in remote agricultural areas, Carbon Mint must collaborate with telecom providers and leverage government schemes aimed at improving internet infrastructure in rural regions. Reliable connectivity is essential for real-time monitoring, IoT integration, and efficient data processing on farms.

### Expanding Partnership

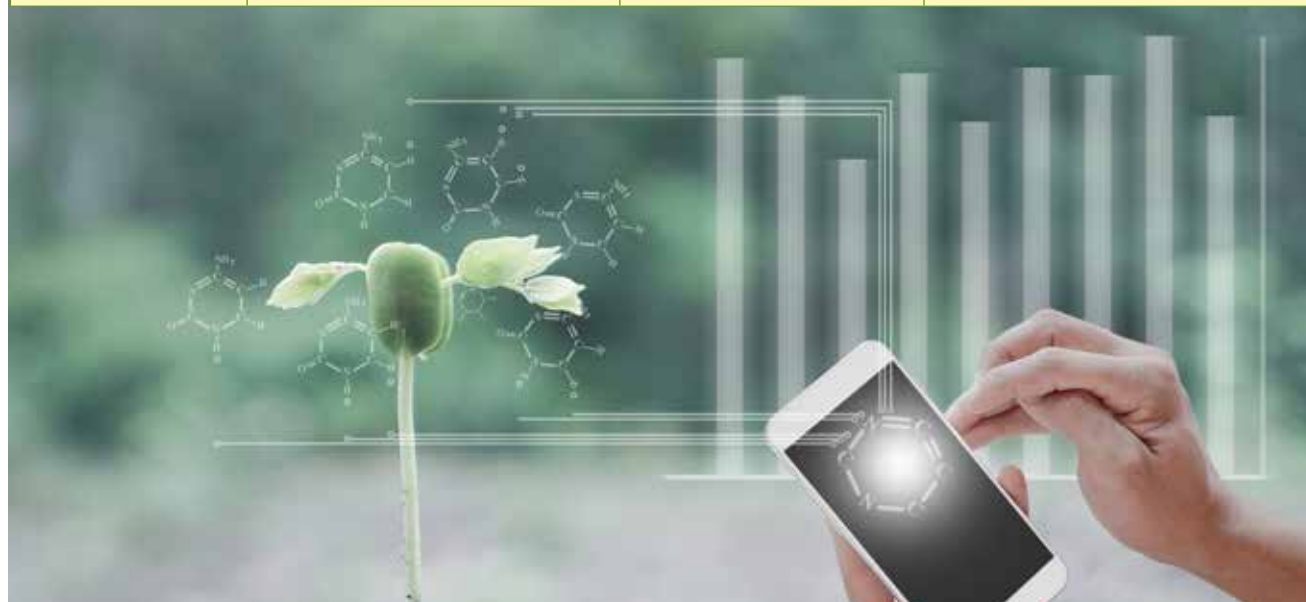
Building strong strategic partnerships with agribusinesses, certification bodies, FPOs, and government agencies will be crucial to scaling operations. Partnerships with global organizations and entry into international markets, particularly in Africa and South America, will also enable global growth.



## Core Team Profile



Name	Designation	Qualification	Contact
Prasanna Kondapaneni	CEO and Co-Founder	MS. Computer Science and Engineering – Auburn University, USA	prasanna@carbonmint.com
Venkat Pindipolu	Chief Business Development Officer and Co-founder	M. Tech – IIT Delhi	venkat@carbonmint.com



# Cornext

Cornext is a pioneering company in the dairy farming industry that addresses the country's fodder crisis. It manufactures Silage Balers and Silage Bales becoming the only company worldwide to do both. Cornext developed the MSB500 AT Pro an indigenously designed baler that produces smaller 50-60 kg bales.



## Product Description

Cornext specializes in providing innovative solutions for the dairy farming industry, focusing on addressing the critical issue of fodder availability. The company's flagship products are silage balers and silage bales, which are designed specifically to suit the Indian dairy farming context.

Cornext's silage balers compress and package forage crops into compact bales, preserving the fodder for up to 12-18 months. The company's indigenously developed baler, the MSB500 AT Pro, is the world's most cost-effective baler, producing 50-60 kg silage bales. These smaller bales are designed to be more accessible for small-scale farmers, resolving issues of storage and logistics that larger European balers could not address.

Cornext is the only company worldwide that manufactures both silage balers and the corresponding silage bales. This unique approach enables the decentralization of silage production by creating a network of "Fodder Entrepreneurs," reducing transportation costs and making the product viable for dairy farmers, cooperatives, and state institutions.

## Intellectual Property



Cornext has a design patent for its flagship baler, the MSB500 AT Pro, which was developed indigenously to meet the specific needs of the Indian dairy farming sector. The MSB500 AT Pro is the first machine of its kind to receive a patent in India, making it a pioneering piece of technology in the field. Cornext has applied for patents on its newest additions to the baler portfolio, with approvals awaited.

## Business Model



Cornext operates on a dual revenue stream business model that revolves around its core products: silage balers and silage bales, with a strong focus on decentralizing fodder production through partnerships with rural entrepreneurs.

- **Sale of Baling Technology:** Cornext manufactures and sells its cost-effective silage balers to Fodder Entrepreneurs. These entrepreneurs use the balers to produce silage, helping decentralize the silage production process. By selling balers, Cornext enables local production closer to the farmers, reducing logistical challenges and costs.
- **Supply of Silage:** Cornext either produces silage directly or procures it from its network of Fodder Entrepreneurs. The company supplies this silage to dairy cooperatives, dairy farmers, and other institutions. This model ensures a consistent supply of high-quality, affordable silage for the dairy farming industry, addressing the fodder shortage problem.

### Key Aspects of the Model:

- **Decentralized Production:** Cornext's approach of decentralizing silage production through Fodder

Entrepreneurs reduces transportation distances, bringing silage closer to the point of consumption. This makes the product more affordable and viable for small and marginal dairy farmers.

- **Buy-back Guarantee:** To further support Fodder Entrepreneurs, Cornext provides a silage buy-back guarantee, leveraging its connections with large dairy cooperatives. This ensures a quick return on investment for the entrepreneurs and secures a steady supply of silage for the market.

## Market Presence

### Domestic Presence (India):

Cornext has focused on serving the Indian dairy farming sector, particularly small and marginal farmers. With a decentralized production model, Cornext has built a network of 250+ Fodder Entrepreneurs across the country, who produce and supply silage locally. This approach helps reduce logistics costs and makes silage accessible to a larger base of dairy farmers. The company has significant partnerships with major dairy cooperatives like AMUL, SUMUL, BANAS, MILMA, and KMF, which procure over 30,000 metric tons of silage per year. Cornext's balers and silage products are widely used across regions with a significant dairy farming profile. The company's ability to scale and deliver affordable baling technology and silage has led to its rapid growth in rural areas.

### International Presence:

Cornext has extended its market presence to more than 25 countries across regions like Africa, South America, ASEAN, and the Indian subcontinent, all of which have similar dairy farming conditions. The company's affordable and locally suited baling technology has attracted interest from countries with marginal and small-scale dairy farmers, making Cornext's products particularly well-suited for emerging economies.

By offering baling solutions that are up to 1/10th the cost of European balers, Cornext has enabled these countries to adopt silage technology more easily. The company continues to expand its presence in these international markets by targeting countries with similar dairy profiles and scaling its Fodder Entrepreneur network.

### Future Expansion Plans:

Cornext aims to expand its domestic network of Fodder Entrepreneurs by 10,000 units over the next five years, further strengthening its position in India. Additionally, the company is exploring new export opportunities in territories neighbouring its current international markets to increase its global footprint.

## Key partnership

Omnivore- funding partner

## Financial Analysis

Cornext has demonstrated strong financial growth, driven by its innovative business model and expanding market presence. In FY 2023-24, Cornext achieved a revenue of INR 27.4 crore, with a profit after tax (PAT) of INR 12.5 lakh. Despite its capital-intensive nature, the company maintained profitability, keeping total expenses at INR 27.2 crore. This financial performance indicates efficient management of costs, even as Cornext continues to invest in its network of Fodder Entrepreneurs and scaling operations.

Cornext projects significant growth for FY 2024-25, forecasting revenue of INR 50 crore with a projected PAT of INR 4.2 crore, signalling a substantial increase in profitability. The company also anticipates total expenses to rise to INR 45 crore, driven by its expansion plans and scaling operations. This growth will be supported by its recent funding, including an institutional investment of USD 2.3 million in 2024 from Omnivore, which provides the necessary capital for continued expansion and technological development.

## Challenges faced

### Support from Government

Cornext has worked with the Indian government to get its balers included under the AHIDF scheme for a 50% subsidy, the company is facing challenges in navigating government policies and securing faster approvals. The long approval processes are delaying the establishment of new production units, which is essential for the rapid scaling of operations.

### Skill development and Product literacy

Cornext faced initial challenges in raising awareness about the benefits of baled silage among dairy farmers, many of whom were unfamiliar with this technology. The company had to invest in educational campaigns and workshops to demonstrate the advantages of silage in increasing milk yields and profitability. There was a need for skill development among Fodder Entrepreneurs to ensure they could operate the technology efficiently.

### Logistics

Logistics have been a significant hurdle in making silage affordable. Transporting large, bulky silage bales over long distances is expensive, especially in rural areas where infrastructure may be underdeveloped. To address this, Cornext has focused on decentralizing production through its network of Fodder Entrepreneurs, which has helped to reduce transportation distances and costs.

## Requirement for scaling up



### Financial Support

Cornext aims to add 10,000 new entrepreneurs over the next five years, which will require substantial financial support from both government schemes and private investments. Faster processing of subsidies under programs like the Animal Husbandry Infrastructure Development Fund (AHIDF) is essential to encourage more rural entrepreneurs to adopt Cornext's baling technology.

### Logistics

Logistical improvements are necessary to further reduce transportation costs, particularly in rural areas where infrastructure may be lacking. Cornext's strategy of decentralizing production is key to mitigating these costs, but it will need continuous expansion of its localized production units to cover more geographical areas.

## Featured on Media



National Best Startup Award in the field of Agriculture and Allied Sectors by the Government of India, Animal Husbandry Startup Grand Challenge Award



## Core Team Profile



Name	Designation	Qualification	Contact
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# CultYvate

CultYvate is a precision agriculture company that uses Artificial Intelligence, Internet of Things (IoT), and Satellite Imagery to develop farming solutions for smart irrigation and smart fertigation. The solutions aim to optimize the water consumption of a farm to increase the quality and yield. CultYvate's solutions mitigate the losses and reduce the expenditure on inputs and water consumption



## Product Description

CultYvate's offers a smart automated irrigation system that leverages IoT and AI technologies to provide precise irrigation management for water-intensive crops like paddy, sugarcane, and oranges. The system is built around their Alternate Wetting and Drying (AWD) technology and integrated weather stations. CultYvate's solution uses IoT sensors to collect real-time data on soil moisture and weather conditions, which is then analysed to offer irrigation advisories via mobile alerts.

This approach allows farmers to optimize water use, thereby conserving resources and reducing methane emissions. The technology is accessible through a digital dashboard and app, enabling farmers to monitor and control irrigation remotely.

CultYvate's system also supports carbon credit generation, offering farmers a way to earn through sustainable practices. CultYvate's solutions also include features like Digital MRV (Monitoring, Reporting, and Verification) for transparency and compliance, making it a comprehensive solution for both smallholder farmers and larger agribusinesses focused on sustainability and water conservation.

## Market Presence



CultYvate has established a strong market presence in India, particularly in regions with high water usage, such as Punjab, Uttar Pradesh, Haryana, Tamil Nadu, and Karnataka. CultYvate has impacted over 3,400 farmers, digitizing more than 17,000 acres and saving substantial water and electricity resources.

## Business Model



CultYvate operates on a diversified B2B business model that includes subscription fees, product sales, service charges, and carbon credit monetization. CultYvate's pricing strategy includes a tiered subscription model that offers affordability and flexibility, with options starting at Rs 499 per acre annually.

## Key Partnership



- **Incubators involved:** IIMB & NSRCEL
- **Grant Partners:** Elevate, MSME, CISCO, Villgro, ITC, NITI Aayog, DCM Shriram
- **Market partners:** Bayer, ITC, Fortune, CIPT, TATA Trust, EID Parry
- **Investors:** Sirius one, The Chennai angels, Lets venture

## Financial Analysis



CultYvate has demonstrated steady financial growth since its founding in 2016, for the fiscal year 2023-24, the company earned Rs.3.19 crore in revenue but incurred expenses totalling Rs.4.09 crore, resulting in a loss of Rs.90 lakhs. CultYvate have raised a funding of Rs.6.75 crore and grant funding of Rs.1.33 crores and a loan of Rs.70 lakhs. CultYvate aims to double its revenue to Rs.7 crore in the upcoming year and projects reaching Rs.15 crore by 2026.

## Intellectual Property



CultYvate holds a patented technology centered around its innovative Alternate Wetting and Drying (AWD) irrigation system, which is integral to its smart automated irrigation solutions. This technology utilizes IoT sensors and predictive analytics to optimize water usage for crops, particularly those that are water-intensive, such as paddy and sugarcane.

## Requirement for Scaling Up



### Funding

CultYvate needs access to additional capital to support expansion initiatives, including technology development, marketing efforts, and operational scaling. Securing venture capital, grants, and partnerships with financial institutions can provide the necessary resources for growth.

### Strategic Partnership

Forming partnerships with local agricultural organizations, government bodies, and NGOs will facilitate market penetration and enhance credibility. Collaborating with farmers' cooperatives and producer organizations will help build trust and drive adoption among target users.

## Core Team Profile



Name	Designation	Qualification	Contact
Mallesh T	CEO	B.E Industrial and Production Engineering	mallesh@cultyvate.com
Bhavana M	Director Strategy and Growth	M.S Consultancy Management	bhavana@cultyvate.com
Sudarshan B S	Chief Technology Officer	M.Sc. Information Technology	sudarshan@cultyvate.com

## Challenges faced



### Technology Deployment

Ensuring effective implementation of their IoT and AI-driven solutions was complex among smallholder families. CultYvate navigates technical hurdles related to sensor deployment and data accuracy while also ensuring that the technology is user-friendly for farmers.

### Funding Access

Securing sufficient funding for scaling operations and further developing technology was a significant challenge. While CultYvate raises considerable capital, ongoing funding is crucial for sustaining growth and innovation.



# Eggoz

Eggoz is a consumer brand startup that sells branded eggs & egg-derived products as well as it offers end-to-end technology solutions to poultry farmers.



## Product Description

Eggoz offers a range of high-quality egg products designed to cater to health-conscious consumers. Their flagship product is farm-fresh eggs, produced using 100% herbal hen feed, free from antibiotics, and delivered fresh to market. These eggs undergo 11 safety checks, ensuring cleanliness, freshness, and a distinct orange yolk that is rich in nutrients like Vitamin D and lutein.

In addition to eggs, Eggoz provides innovative egg-based snacks, such as egg momos, baked egg patties, and egg nuggets. These products are made from whole eggs, and designed to offer a healthy, protein-rich alternative to traditional snacks.

## Market Presence



Eggoz has established a strong market presence across 10 top Indian cities ie. Delhi-NCR, Bengaluru, Mumbai, Hyderabad, Chennai and nearby cities. The company reaches its customers through a diverse range of distribution channels, including general trade outlets, modern trade stores, e-commerce platforms such as Amazon, Flipkart, and BigBasket, as well as quick-commerce platforms like Blinkit, Zepto, and Swiggy Instamart. With significant market share in the NCR and Bengaluru egg markets, Eggoz has become a recognized brand among health-conscious consumers. Their strategic use of both online and offline marketing, along with a robust distribution network, has enabled them to grow rapidly and capture significant market share in urban areas.

company utilizes a value-based pricing strategy, ensuring that consumers receive the best value for money while also maintaining fair compensation for farmers.

Eggoz leverages a multi-channel distribution approach, including general trade (distributors, dealers, and wholesalers), modern trade stores, e-commerce platforms, and quick-commerce apps. Their strong digital presence helps them acquire customers efficiently, supported by digital ad campaigns, product ads, and offline sampling activities. This blend of online and offline strategies enables Eggoz to build brand awareness while optimizing customer acquisition costs (CAC).

The company integrates proprietary technology like an Order Management System (OMS) and Enterprise Resource Planning (ERP) system to streamline its supply chain, optimize inventory management, and reduce operational costs. Their focus on innovation, coupled with data-driven decisions, allows them to scale effectively and retain a strong competitive advantage in the market.

## Business Model



Eggoz operates on a transaction-based revenue model, delivering high-quality, fresh eggs and innovative egg-based snacks to consumers. The

## Key Investors

Ivycap Ventures, Nabventures, Avaana capital, Rebright Partners.

## Financial analysis

Eggoz reported total revenues of INR 75 crore in FY24, a notable achievement in the competitive egg industry. Eggoz has ambitious financial projections, aiming to achieve INR 1,000 crore run rate in next 5 years.

## Challenges faced

### Resource planning and optimization

Eggoz especially working with limited funds is the major challenge, balancing budget allocation while scaling the business is a critical task, particularly in a competitive and relatively unorganized market like the egg industry.

### Supply chain management

As eggs are delicate products requiring careful handling to prevent breakage and maintain quality. Partnering with the right suppliers, particularly farmers, and optimizing the end-to-end process to reduce damages have been crucial issues, especially during expansion.

## Featured on Media

- Forbes India select 200 Companies with global potential,
- ET - Leaders of tomorrow award in 2020,
- Elets Awards 2024 in the category of - Brand of the Year.
- Entrepreneur India "Food Startup of the year" 2024.
- Hurun India "Future Unicorn Index" 2024.

## Core Team Profile

Name	Designation	Qualification	Contact
Abhishek Negi	Co-Founder & CEO	BTech Electrical Engg, IIT Kharagpur	abhishek@eggoz.in
Aditya Singh	Co-Founder & CBO	MTech + BTech Agriculture & Food Processing, IIT Kharagpur	aditya@eggoz.in
Uttam Kumar	Co-Founder & COO	MTech + Btech Biotechnology, IIT Kharagpur	uttam@eggoz.in

## Intellectual Property

Eggoz owns intellectual property for its unique processes and technologies, which give it a competitive advantage in the egg and egg-based snack industry. These patents cover innovations such as their Order Management System (OMS) and Enterprise Resource Planning (ERP) system, which streamline inventory management, order processing, and supply chain efficiency. Eggoz has also developed proprietary IoT devices and smart sensors used on farms to monitor conditions and optimize egg production, ensuring the highest quality eggs.

## Requirement for scaling up

### Geographical Expansion

Eggoz plans to expand into more Tier 1 and Tier 2 cities beyond its strongholds in current and future cities. This requires replicating their existing business model in new regions, supported by consumer insights and a local distribution network.

### Farmer partnership

Expanding operations means onboarding more farmers and strengthening existing relationships to maintain a steady supply of high-quality eggs. Ensuring proper training and equipping farmers with the right technology to maintain standards will be essential.

### Technology Advancements

Eggoz plans to continue enhancing its ERP and Order Management Systems to reduce operational errors and improve efficiency. Investing in IoT devices and AI-driven predictive analytics will help optimize inventory, forecast demand, and streamline farm management.



# Freshokartz

Freshokartz focuses on providing comprehensive agricultural solutions to farmers with the help of Artificial Intelligence and Machine Learning. It offers a wide range of services, with a network of 10,000 village level micro-entrepreneurs called Saarthi to reach more than 2,00,000 farmers primarily in the rural areas of Rajasthan. Freshokartz provides real-time quality assessments of agricultural products and data-driven crop recommendations helping farmers increase yields by 20-30%.



## Product Description

Freshokartz offers an integrated platform that provides essential agricultural services and products to farmers, helping them streamline both input procurement and output sales. The company facilitates the efficient purchase of agri-inputs like seeds, fertilizers, and pesticides, and ensures farmers get better market access for selling their produce. Freshokartz also provides tailored financial solutions and crop advisory services using data-driven insights, mainly collected through its network of Village-Level Micro-Entrepreneurs, known as "Saarthi."

The company uses advanced AI and ML technologies for real-time quality assessment of agricultural outputs and offers traceability throughout the supply chain. Its services include soil-data-based crop recommendations, which can improve farm yields by 20-30%, enhancing farmer income. Additionally, Freshokartz operates physical centers in rural areas, making it a one-stop shop for all farmer needs, from agri-inputs to financial and crop advisory services.

## Market Presence



Freshokartz has established a significant market presence in the Indian agricultural sector, particularly in Rajasthan, where it serves over 200,000 farmers. Through a strong network of more than 10,000 "Saarthi" micro-entrepreneurs, Freshokartz is expanding its reach across rural regions. The company is now actively pursuing expansion into neighbouring states to widen its footprint.

By providing a seamless platform for buying agri-inputs and selling produce, Freshokartz caters to a diverse customer base, including small and marginal farmers, agri-input retailers, and corporate buyers. Its ability to offer both physical and digital services has enabled it to build relationships with various stakeholders across the supply chain. This approach helps the company maintain a competitive edge in the rapidly growing Indian agritech market.

## Business Model



Freshokartz operates in both business to business and business to farmers (customers) model. The model integrates agri-input sales, supply chain management, and financial services to streamline both the procurement of inputs and the sale of the outputs for farmers. On the input side, Freshokartz sells seeds, fertilizers, and pesticides directly to farmers through its physical centers and digital platform. For agri-outputs, Freshokartz facilitates direct sales of farm produce to corporate buyers, leveraging its AI and machine learning tools for real-time quality assessments. The key component of Freshokartz's model is its integration of supply chain finance through the First Loss Default Guarantee (FLDG) model. This enables seamless financial support, offering instant payments and credit facilities to farmers for purchasing inputs and immediate liquidity when selling their produce. This financial integration enhances trust and promotes loyalty among farmers, boosting productivity and securing Freshokartz's supply chain.

## Key Partnership

Rajasthan Venture Capital Fund – Funding

## Challenges faced

### Supply chain disruptions

Freshokartz operates in rural areas where infrastructure, especially transportation and storage is inadequate. This often leads to logistical delays, increased cost and challenges in maintaining the quality of inputs and outputs, particularly for perishable products.

### Adoption of Technology

Freshokartz incorporates AI and digital tools, many farmers particularly in rural areas are reluctant to adopt new technologies. Resistance to change and a lack of digital literacy among the target audience has limited the impact of company's tech driven solutions.

### Geographical Expansion

Expanding into new regions requires understanding of local agricultural practices, crop patterns and regional challenges. Tailoring products and services to meet the diverse needs of farmers across different states was a challenge for scaling operations.

## Core Team Profile

Name	Designation	Qualification	Contact
Rajendra Lora	CEO & Co-founder	B.Tech. CSE, IIT	rajendra.lora@freshokartz.com
ChandraKanta	COO & Co-founder	MBA, PhD	ck@freshokartz.com

## Financial Analysis

Freshokartz has demonstrated strong financial growth since its inception in 2016, with revenue reaching Rs.55 crore in 2023-24. The company projects a significant increase in revenue to Rs.150 crore in the financial year 2024-25, with a projected Profit After Tax (PAT) of Rs.10 crore.

The company raised \$1.4 million in seed funding in 2020 and continues to attract investments, securing \$307 thousand in 2022 and \$37 thousand in 2023 from angel investors.

## Requirement for scaling up

### Partnership and Collaboration

Strengthening partnerships with local agri-input retailers, farmers producer organisations and corporate buyers will be key for increasing market reach and building trust with new stakeholders. Collaborating with governmental programs and institutions will help to scale operations faster by leveraging existing networks.

### Financial resources

Funding support is needed for expanding the product line, improving the infrastructure and for increasing the market reach. Continued investment from venture capital and private equity firms, along with the access to government grants and loans will provide the financial banking necessary for expansion.



# Gramophone

Gramophone is a digital platform designed to provide real-time crop management techniques, pest and disease management solutions, market price information, etc. It enables the farmers to make informed decisions for agriculture-related problems. The real-time information in farmers' hands empowers them to make informed decisions to reduce their cost reduction by up to 15% and productivity enhancement by 30%

## Product Description

Gramophone is an Indian Agri-tech platform that provides farmers with personalized agronomic advice, quality farm inputs, and market linkages to enhance their productivity and profitability. Through its mobile app, Gramophone offers crop-specific recommendations based on real-time data, weather forecasts, and soil health. The platform connects farmers with nearby Gramophone Agri Retailers from whom they can buy a wide range of products such as seeds, fertilizers, pesticides, and farm equipment, sourced from trusted suppliers.

### Gram Salah

Gram Salah provides farmers with the latest farm management techniques. It addresses the issue of information asymmetry by offering personalized agronomic insights, weather updates, and market prices. Farmers can register their farms on the Gramophone platform, where our recommendation engine ensures they receive timely alerts on seed selection, fertilizer application, disease prediction, treatment, and more, tailored to each crop's growth stage. We're proud to serve thousands of farmers who have subscribed to Gram Salah's paid farm management services as a SaaS product.

#### Features

- Personalized Agri-advice
- Disease Prediction and Cure Advisory
- Higher crop yield by 30-40%
- Seed, Fertilizer and Nutrition Advisory
- Saving on Agri-input cost by 5-10%
- Regional Language Support



### Gram Bazar

Gram Bazar serves as a comprehensive platform for farmers to purchase a variety of Agri-input products. Farmers can conveniently order top-brand inputs, including seeds, pesticides, crop nutrition, supplements, and agricultural hardware, through the app, call center, or Gram Uday Centers, with doorstep delivery. Gramophone Gram Bazar guarantees the timely availability of a wide range of products, introduces innovative offerings, and ensures that farmers receive only authentic and high-quality products.

#### Features

- Wide range of Agri-input products.
- Quality and Authenticity
- Reasonable Prices
- Free Home Delivery

### Gram Sabha

Through Gram Sabha, farmers can engage with peers and experts, enriching their knowledge and enabling the adoption of improved farming practices. This shared Agri-knowledge fosters a community well-versed in modern farming techniques.

#### Features

- Meet fellow farmers
- Share a Pic & find answer
- Learn & help farmers
- Real time expert connect
- Agri-machinery hacks

## Market Presence



Gramophone operates primarily in central and northern India, including states such as Madhya Pradesh, Rajasthan, Uttar Pradesh, and Chhattisgarh. These regions are known for their diverse agricultural activities, ranging from cereal crops to horticulture. Gramophone works with 2Mn+ farmers, guiding them throughout the crop life cycle, from seed selection and sowing to efficient use of Agri-inputs, 5000+ Input retailers, 100+ input brands, and 3000+ product SKUs on the platform. It has partnered with a wide range of input suppliers and manufacturers, providing farmers with access to trusted, high-quality agricultural products. These partnerships have strengthened its supply chain and allowed it to offer a wide variety of farm inputs.

## Business Model



Gramophone has both Business to Farmer (Customer) and Business to Business model present. The company is working on a customized advisory model as well which will leverage satellite imagery to provide personalized advice to the farmers.

In the B2B model, Gramophone works with Agri-Input companies and uses the Internet of Things and Big Data Analytics to provide location focused data on crop pattern and quantity, pest attacks, etc. Companies use these to articulate their marketing strategy.

## Featured on Media



Forbes 30 under 30, ET 40 under 40, Best Agritech Startup by Entrepreneur, Recognised by Hon. Prime Minister of India.

## Core Team Profile



Name	Designation	Qualification	Contact
Tauseef Ahmad Khan	CEO & Co-founder	MBA from IIM-A, B-Tech from IIT-KGP	tauseef@gramophone.co.in
Nishant Vats Mahatre	Co-founder & Head of Finance	MBA from IIM-A, B-Tech from IIT-KGP	nishant@gramophone.co.in
Harshit Gupta	Co-founder & Head of Brand Business	MBA from IIM-A, B-Tech from HBTI-Kanpur	harshit@gramophone.co.in
Navneet Singh	Co-founder & Head of Sales	MBA from IIM-A, B Tech from COT, Pantnagar	navneets@gramophone.co.in

## Key partnership



Infoedge, Saina Capital, Asha Ventures, Z3 Partners - Funding

## Financial Analysis



Gramophone has demonstrated strong financial growth since its founding in 2016, raising \$20 million in equity funding to date.

## Challenges faced



### Creating Awareness and Building Trust

Creating awareness among farmers about digital solutions was a major challenge. Many farmers particularly in rural areas are skeptical of adopting new technologies and digital platforms making it difficult to build trust and encourage usage of the platform.

### Regulatory and policy

During its expansion, Gramophone encountered regulatory challenges, including differences in state-level agricultural policies, data privacy regulations, and financial rules, particularly when offering fintech services.

## Requirement for Scaling Up



### Infrastructure and Logistics

To serve a larger number of farmers, Gramophone needs to invest in improving its logistics network, especially in remote and rural areas. This involves building a more efficient supply chain for delivering farm inputs and ensuring timely access to services. Partnering with local distribution centers and improving transportation links will help mitigate the logistical challenges posed by scaling.

# GreenPod Labs

GreenPod Labs focuses on an active packaging technology that significantly extends the shelf life of fruits and vegetables. The product is designed in sachet form, uses natural plant extracts to activate the defense mechanism within produce, slowing the ripening process and reducing microbial spoilage at ambient temperatures.



## Product Description

The product developed by GreenPod Labs is an active packaging sachet designed to extend the shelf life of fruits and vegetables. This innovative solution utilizes natural plant extracts that trigger a defense mechanism within the produce, effectively slowing down the ripening process and minimizing microbial attacks at ambient temperatures. The sachet releases these active compounds in a sustained manner, helping to preserve the freshness and quality of the produce without the need for cold storage. What sets this product apart is its plant-based biochemical approach, as it addresses the root causes of spoilage by influencing the internal ripening mechanisms of the fruits and vegetables. The technology can be customized for various types of produce, providing a highly flexible and scalable solution that works across different stages of the supply chain. Designed in a simple sachet form, it can be easily integrated into crates and containers used during transportation and storage.

## Market Presence



GreenPod Labs has successfully launched four products in the market, targeting the fruits and vegetables supply chain, particularly traders and exporters handling long-distance transport. The company's solution is designed to be highly scalable, leveraging nanotechnology and contract manufacturing to meet market demands efficiently. With a direct B2B sales model, GreenPod Labs engages directly with its customers, focusing on building partnerships with key players in the industry.

## Business Model



GreenPod Labs operates on a direct B2B product sales business model. The company focuses on delivering value to its clients—primarily traders and exporters of fruits and vegetables—through its innovative active packaging solutions that extend the shelf life of fresh produce. The pricing strategy is value-based, ensuring that the cost-effectiveness of the product is highlighted in comparison to traditional preservation methods like cold storage.

## Financial Analysis



GreenPod Labs' revenue primarily comes from the direct sale of its patented packaging sachets. The company's plan to expand its customer base through B2B partnerships and its scalable nanotechnology-based manufacturing process positions it for higher sales volumes and profitability in the coming years.

## Intellectual Property



GreenPod Labs has secured six patents for its proprietary technology, which uses natural plant extracts to activate the defense mechanisms in produce, slowing down the ripening process and minimizing microbial spoilage.

## Challenges faced



### Regulatory Approvals

Each country has its own set of regulations governing food safety and packaging materials, and obtaining approvals can be time-consuming and costly. This delays the company's market entry into new regions and adds complexity to scaling operations globally.

### Market Adoption

Many stakeholders, such as traders and exporters, are used to traditional methods of preserving produce, such as cold storage. Convincing them to shift to GreenPod Labs' active packaging solution, even though it is more cost-effective, requires significant awareness-building and education efforts.

## Featured on Media



Shell Foundation "Post-harvest loss" Award;  
Biomimicry Institute "Ray of Hope" Prize

## Core Team Profile



Name	Designation	Qualification	Contact
Deepak Rajamohan	Founder & CEO	Master's in food science	deepak@greenpodlabs.com
Vijay Anand	CBO	Bachelors in EEE	vijay@greenpodlabs.com
Dr. Shankar	R&D Director	Ph.D and Post Doc in Plant Bio Tech	shankar@greenpodlabs.com
Vinoth Raj	Director of Operations	Bachelors in Mechanical Engineering	vinoth@greenpodlabs.com

## Requirement for Scaling Up



### Access to funding

Scaling up GreenPod Labs' production and market reach will require significant financial investment. The company needs continuous funding to expand its manufacturing capacity, invest in R&D, and enter new markets.

### Strengthening Partnership

GreenPod Labs is looking for collaborations with key exporters, traders, and market distributors to ensure that its active packaging solution is adopted at a large scale. Partnerships with logistics providers can help improve the distribution process and reduce transportation costs.



# GRoboMac

GRoboMac, now a division of Zentron Labs, is a precision agriculture robotics startup focused on boosting productivity in labor-intensive farming operations. The company aims to solve the challenge of labour shortages particularly during peak demand periods like harvest season. Currently they are developing a solution for cotton harvesting which is labour-heavy process often plagued by high labour cost, a shortage of skilled cotton pickers and crop waste due to the harvesting of non-bloomed or partially bloomed cotton plants.



## Product Description

The company has developed an autonomous robotic cotton harvester using indigenous technology. The machine features a 3D vision camera that in coordination with machine learning algorithms identifies and pinpoints cotton ready for harvesting.

The camera captures live image feeds which are then processed by specialized image processing software. The machine is equipped with robotic arms designed to mimic human hand movements allowing them to carefully dislodge the cotton. A vacuum system then transports the harvested cotton to a sterile storage compartment ensuring it remains clean and undamaged. Multiple robotic arms, each capable of operating independently can be mounted on the machine. These arms work efficiently as it moves between plant rows, performing the tasks of several human hands with increased speed, precision and effectiveness.

The software can be tailored to selectively harvest cotton based on its maturity, while filtering out debris as well as semi-bloomed or unbloomed cotton. Both the robotic arms and the software are developed in-house and proprietary though they utilize a commercially available 3D camera system. This entire system – comprising the camera, software and robotic arms – can be mounted on an electric powered vehicle with a diesel – powered option currently in development. The system is compatible with tractors or other farm vehicles but for optimal performance the vehicle should have high maneuverability to allow efficient operations of the arms and camera. While a standard tractor is suitable for large-scale farms, smaller tractors can deploy the system in greenhouse or small farms. The company offers configurations of 4, 5 or 8 robotic arms depending on the vehicle used and the specific needs of the customer.

## Market presence



The company's target market in India includes the cotton growing states like Gujarat, Maharashtra, and Telangana. Once it has successfully established a presence in India, GRoboMac plans to expand its focus to major cotton growing countries.

## Key Partnership



- Villgro – Incubation and Funding
- Startup Karnataka Program by Government of Karnataka – Funding
- Pusa Krishi – Incubation and Funding

## Business Model



GRoboMac follow business to business (B2B) model aiming to sell or rent its machines to companies offering Farming as a Service (FaaS) or to large-scale commercial farming enterprises. The company in discussions with key players in the cotton farming sector such as seed producers and textile manufacturers to implement its solutions in the field. GRoboMac is seeking partnerships with established tractor manufacturers to create a controllable vehicle for deploying its system. This collaboration would accelerate its market entry by avoiding the need to develop its own vehicle while also saving time and cost related to securing approvals and licenses for new one.

### Financial Analysis



The product is still not commercial and will start generating revenue from 2026.

### Intellectual Property



GRoboMac has filed for three patents that cover different aspects of the technology. It is in the process to get company name trademarked as well.

### Challenges Faced



#### Access to Funding

GRoboMac is a agri mechanical startups specialized in advanced robotics products. Developing and testing their technology requires substantial capital and the return on investment (RoI) period is longer compared to software-based products. Due to this extended RoI timeframe the company faces challenges in securing funding with limited capital resources being a significant hurdle for GRoboMac.

### Core Team Profile



Name	Designation	Qualification	Contact
Manohar Sambandam	CTO	ME	manohars@zentronlabs.com
Krishnan Ramabhadran	CEO	BE	krishnanr@zentronlabs.com



# Krishitantra

Krishitantra is an innovative agritech startup focusing on soil technology and farm data acquisition. The company's mission is to empower sustainable agriculture through advanced technology.



## Product Description

KrishiTantra offers a range of innovative, tech-driven products designed to enhance soil testing and improve agricultural productivity. These solutions focus on providing rapid, accurate insights to farmers, allowing for better soil health management and sustainable farming practices. Here's an overview of the key products:

### Krishi-RASTAA:

This flagship product is a portable, state-of-the-art soil testing device that delivers comprehensive soil analysis reports in just 30 minutes. The reports include detailed soil health data along with actionable insights, such as precise fertilizer recommendations. Designed for ease of use, the reports are presented in a digital format with easy-to-understand emojis for better comprehension by farmers. This rapid soil analysis system helps in real-time decision-making, improving crop yields and reducing unnecessary use of fertilizers.

### Farm360:

Farm360 is a customizable soil technology platform developed to offer soil testing services to farmers through enterprises. It uses QR codes and missed calls for seamless access, and enterprises can offer farmers a white-labeled mobile app under their brand. This platform provides a detailed soil health management system, helping farmers receive precise, actionable data to optimize their soil use and overall farm productivity.

### Soil Testing projects

KrishiTantra also undertakes large-scale soil testing projects across various regions in India. These initiatives are focused on improving soil health and advancing farming practices. The company has been involved in significant projects, such as the creation of a nutrient map for the state of Telangana, reducing fertilizer consumption by 18% through targeted crop-specific fertilizer recommendations.

## Market presence



KrishiTantra has rapidly expanded its market presence, establishing itself as a key player in the agritech sector across multiple regions. With operations in over 1,500 locations spanning three countries, the company serves a wide range of agricultural stakeholders. This includes collaborations with major corporations such as ITC, Coromandel, JIO, DeHaat, and the Bayer Foundation, all of whom utilize KrishiTantra's soil testing technology to improve farming practices and enhance crop productivity.

Beyond India, KrishiTantra is actively exploring international markets, particularly in regions with similar agricultural challenges. Its expansion strategy focuses on countries in Africa and Southeast Asia, where smallholder farmers face significant soil health issues. KrishiTantra's technology has the potential to significantly improve farming outcomes in these regions, offering scalable, tech-based solutions for sustainable agriculture.

## Business Model

Krishitantra operates a multifaceted business model that combines product sales, service contracts, and strategic partnerships to advance soil health technology in agriculture. Its primary revenue stream comes from the sale and deployment of Krishi-RASTAA devices, which provide instant soil analysis for farmers, government projects, and agribusinesses. These devices are sold directly to customers and are also incorporated into large-scale government programs like the Soil Health Card scheme, where Krishitantra is responsible for maintaining the portal and mobile applications, generating consistent service revenue. Additionally, the company provides customized soil testing solutions through its Farm360 platform, which allows enterprise clients to offer branded soil health services via QR codes or missed calls.

## Challenges faced

### Market Awareness and Adoption

Educating smallholder farmers about the benefits of advanced soil testing technologies remains a challenge. In regions where traditional farming practices dominate, convincing farmers to invest in or use advanced soil analysis tools required substantial effort in awareness-building and outreach.

## Featured on Media

**IOT MATRIX 2020** awards for Most Promising IoT Startup – Scalability Category

**EMERGING AGRI INNOVATOR** awarded by FICCI Agri Startups Summit & Awards consecutively in the year 2021 & 2022

**DIGITAL INDIA AWARD 2023** has been presented for the Digital Initiatives for “Smart Nutrient Management of the Soil” along with the Telangana State’s start-ups category and was presented by Honourable President of India Shri Droupadi Murmu.

## Core Team Profile

Name	Designation	Qualification	Contact
Sandeep Kondaji	CEO & Co-founder	BE	sandeep@krishitantra.com

## Key Partnership

Himedia Laboratories – manufacturer and distributor of Krishi – RASTAA devices.

IIRR – Incubation

NabVentures, Omnivore – Funding

## Intellectual Property

Krishitantra holds a robust intellectual property portfolio centered around its proprietary soil testing technologies. The flagship product, Krishi-RASTAA, is patented in both India and Israel, showcasing the company’s commitment to securing exclusive rights over its rapid soil analysis technology.

## Requirement for scaling up

### Enhanced Manufacturing and Distribution Capabilities

Expanding the production of Krishi-RASTAA devices to meet rising demand requires scaling the current manufacturing setup. Strengthening the partnership with Himedia Laboratories or engaging additional manufacturing partners could ensure a steady supply chain. Efficient distribution channels, supported by logistics partnerships, will also be necessary to reach remote rural areas and new international markets.

### Strategic Partnerships and Alliances

Building partnerships with multinational agribusinesses, local distributors, and agricultural extension programs can significantly accelerate Krishitantra’s expansion efforts. These partnerships can provide on-ground support, foster market credibility, and enhance customer trust as the company enters new regions and markets.



# NaPanta®

NaPanta®, established in 2017, is a pioneering multi-stakeholder digital agricultural platform designed to provide real-time data-driven crop advisory services including crop management techniques, pest and disease management, real-time market information, pest and disease advisory, agri dealer network info etc. This real-time information in farmers hand empowers them to make informed decisions can help to reduce their crop expenditure and boost their profitability by up to 30%.



## Product Description

NaPanta® is a digital agriculture platform that provides comprehensive information for various crops, including pest and disease management, pesticides, fertilizers, and more. It also facilitates buying and selling, offers dealer details, cold storage options, and agri-equipment rentals etc. Currently, NaPanta® operates at a district level, offering the following services:

- **Farm Management:** Farmers can manage all their farm-related activities through the platform.
- **Agri M-Commerce:** Enables farmers to purchase agricultural inputs digitally.
- **Equipment Rentals:** Allows farmers to search for and rent agricultural equipment available in their local area, optimizing resource utilization and reducing individual investment costs.
- **Agri-Input Management:** Allows tracking and monitoring of inputs to aid both farmers and agri-businesses in making quicker decisions and sourcing quality inputs.
- **Chemical Products Database:** Offers detailed information on over 6,500 labelled chemical products (Pesticide Products), including usage recommendations and alternatives.
- **Expense Tracking:** The app allows farmers to record expenses related to each crop, helping them optimize resource usage and control costs.
- **Yield Management:** Tracks harvest data, helping users assess crop performance and resource efficiency.

## Core Concept



At NaPanta®, we understand that the first step towards crop profitability relies on timely and accurate actions at field. We are here to keep informed about all the requirements throughout your crop's life cycle. Successful implementation of these practices ensures the best results for our farmers.

## Market presence



Earlier, NaPanta® was only present in Andhra Pradesh and Telangana but now it is also available in all other states like Uttar Pradesh, Madhya Pradesh, Maharashtra, Haryana, Karnataka, Bihar etc. The company has impacted over 3,00,000 farmers and it deliver 25+ critical services across the crop life cycle.

## Business Model



NaPanta® operates on a multifaceted business model designed to provide both accessible and scalable digital solutions for farmers while ensuring sustainable revenue streams. The platform primarily follows a Farming-as-a-Service (FAAS) model, delivering critical agricultural advisory services throughout the crop life cycle. NaPanta® uses a freemium subscription model, where basic services are available for free, and premium, advanced features are offered at affordable rates. Subscription plans range from Rs.99 for a quarterly subscription to Rs.299 annually, with the half-yearly Rs.199 plan being the most popular.

## Key partnership



AIP ICRISAT – Incubation and Mentoring, SBI YONO – Agri Advisory, BAJAJ ALLIANZ – Agro Advisory, MANAGE – Incubation and Mentoring, T-hub – Scaling and growth support. NaPanta® has key collaborations with Govt of Telangana, with ADeX (Agricultural Data Exchange) by IISC, Bangalore and with International organizations like CABI (Centre for Agriculture and Bioscience International).

## Challenges faced



### Localization across diverse regions

India's agriculture is highly diverse, with different crops, climates, languages, and farming practices across states. Challenges in agricultural advisories include the difficulty of obtaining accurate and up-to-date information within the ecosystem. Different systems utilize varying approaches and methodologies, leading to discrepancies in the advice provided. Additionally, farmers often rely on their own experiences accumulated over the years, making it challenging to create a unified advisory that addresses their specific issues.

Scaling NaPanta® effectively will require localizing content and advisory services for each region, which can be resource-intensive and challenging to manage across a vast, diverse country.

Despite these complexities, NaPanta strives to deliver practical advisory solutions by aligning with the guidelines of Central Government policies, label claims, and recommendations from State Agricultural Universities. This approach helps ensure that the advice given is as accurate and relevant as possible, although achieving a one-size-fits-all solution remains a significant challenge.

### Regulatory and policy

During the expansion, NaPanta® facing regulatory hurdles, such as varying state – level agricultural policies, data privacy laws, and financial regulations (especially when offering fintech services)..

### Farmers trust and Engagement

Building and maintaining trust with farmers was challenging, especially during the platform scaling. Demonstrating clear value through testimonials, success stories, and updated service delivery was crucial for maintaining farmer engagement.

## Financial Analysis



NaPanta® went live in 2017 and have started generating revenue from April 2019 onwards. By 2028, NaPanta® aiming to cross 50 Cr gross revenue.

## Intellectual Property



NaPanta® has licensed the technology for its platform and has trademarks for the company name.

## Opportunity



### Base of 140 million farmers in India

In India, digital agriculture is still in its early stages, presenting a significant opportunity for platforms like NaPanta®. With a farmer base of 140 million, NaPanta® is well-positioned to capitalize on this emerging market by offering low-cost, high scalable services. The growing awareness of digital solutions, driven by both state and central government initiatives, further enhances the potential for widespread adoption. Given these factors, NaPanta® is highly optimistic about its future growth and its ability to drive positive change in the sector.

## Plans for Scaling



### B2B and B2G Expansion

Scaling partnerships with agro input suppliers, agribusinesses, and government bodies for large-scale service delivery, such as offering personalized farm advisories, farm data insights, market access, and crop insurance to corporate and governmental clients which are additional revenue streams for NaPanta®.

### Subscription-Based Model Growth

With its low-cost subscription plans, NaPanta® can continue to grow its base of paid users. By adding premium services like advanced analytics, customized crop advisories, and exclusive marketplace access, NaPanta working towards increase its Average Revenue Per User (ARPU) and encourage existing users to upgrade their plans.

### Data Monetization

As the platform collects a wealth of data on farming practices, crop health, and market trends, NaPanta® can monetize this data by offering insights and analytics to agribusinesses, governments, and financial institutions for research, product development, and policymaking.

### Corporate Social Responsibility

NaPanta® is seeking collaboration with Industry. Companies can partner with NaPanta® as part of their Corporate Social Responsibility (CSR) activities and adopt a village/district or take farmers in an area under their umbrella and help them get information and analytics to increase their yield and raise their income.

## Featured in Media



Dr. R.S Parida Young Researcher Award - 2023 from RICAREA (Retired ICAR Employee Association); Dr. IV Subbarao Rythu Nestam - 2023 Award in recognition of the exceptional Agricultural Extension Services provided; Winner of South Asia 2019 "mBillionth" award under Agriculture & Environment Category for data-driven & smart farming advancements for data-driven & smart farming advancements; Top 10 Most Innovative and High Potential Startup from Telangana by Microsoft; Receiver of KARMAVEER CHAKRA (B) and REX KARMAVEER GLOBAL FELLOW instituted by ICONGO and the UN; Winner of HMTV Business Excellence Award - 2019 as Best Agri/Food Processing company(startup) from Andhra Pradesh and Telangana

## Core Team Profile



Name	Designation	Qualification	Contact
Naveen Kumar V	Founder & Managing Director	MBA, PGDM	Naveen.v@napanta.com



# Proximal Soilsens

Proximal Soilsens is an advanced soil sensing technology designed to enhance precision agriculture. It provides real-time monitoring of key soil parameters like moisture, temperature, pH, and conductivity, enabling farmers to optimize crop management. With its user-friendly mobile interface, it offers actionable insights to improve resource efficiency and increase yield. This innovative tool empowers farmers to make data-driven decisions for sustainable farming practices.



## Product Description

Proximal Soilsens' flagship product, Nutrisens, is an innovative, compact soil testing device designed for precision agriculture. Comparable in size to a glucometer, Nutrisens provides farmers with rapid, on-site analysis of essential soil health parameters such as nitrate (N), phosphate (P), potassium (K), pH, organic carbon, and electrical conductivity (EC). This robust device requires no electricity or external battery, functioning instead through mobile connectivity, allowing farmers to receive real-time soil data from virtually any location.

Nutrisens is especially suited for small and large farmers alike due to its portability, ease of use, and affordability. By instantly transmitting soil health information to the cloud, it provides actionable insights accessible through a user-friendly app and dashboard, where farmers receive tailored recommendations on water and fertilizer application. Validated by Tamil Nadu Agriculture University for over 80% accuracy compared to lab results, Nutrisens empowers farmers to make informed decisions, reduce input costs, and enhance yield while promoting sustainable agricultural practices. Its proven impact includes reducing fertilizer usage by 40% and lowering costs, making Nutrisens a practical, cost-effective solution for modernizing soil health management.

## Market presence



Proximal Soilsens Technologies has established a substantial market presence both in India and internationally. Domestically, the company operates across ten Indian states, including Maharashtra, Kerala, Karnataka, Tamil Nadu, Assam, Orissa, Jharkhand, Uttar Pradesh, Madhya Pradesh, Andhra Pradesh, Telangana, and Rajasthan. Internationally, Proximal Soilsens has expanded its footprint into six countries—Costa Rica, Burkina Faso, Uzbekistan, Tanzania, Mozambique, and Indonesia—underscoring the global appeal and effectiveness of its soil testing solutions.

## Business Model



Proximal Soilsens Technologies operates on a primarily B2B business model, targeting agricultural enterprises, NGOs, government agencies, Farmer Producer Organizations (FPOs), and research institutions. This model enables the company to deploy its soil testing solutions at scale through partnerships with entities that have a broad reach among farmers, thereby maximizing its impact and market penetration. Proximal Soilsens has engaged in B2C transactions by offering its Nutrisens devices directly to individual farmers, particularly those with high-value crops who seek precise soil data for better crop management.

## Key partnership



Syngenta, ITC – Market Connect  
IIT Bombay, IIT Jodhpur, Tamil Nadu Agriculture University (TNAU) – Incubation

## Financial Analysis



Proximal Soilsens Technologies has seen a promising trajectory in its financial performance, supported by strategic partnerships, a diverse business model, and a strong market presence in India and internationally. From April 2023 to March 2024, the company generated revenue of ₹45 lakhs, showcasing a steady growth trend driven by both B2B and B2C sales of its Nutrisens device and related services.

## Challenges faced



### Adoption Barriers

Many farmers, especially in rural and under-resourced areas, are unfamiliar with technology-based farming methods. Convincing them to adopt Nutrisens and shift from traditional, intuition-based practices to data-driven approaches has required extensive on-ground demonstrations and partnerships with local organizations.

### Navigating Regulatory and Market Dynamics

Soilsens's ambition to expand internationally required navigating complex regulatory environments and intellectual property protections. Securing patents across different countries, including the USA, China, and Australia, was both time-consuming and resource intensive. Additionally, the competitive nature of the precision agriculture market demands continuous innovation to maintain a competitive edge.

## Featured in media



- Selected for the Meity STPI Leap Ahead Acceleration Program and IDFC First Leap to Unicorn Program.
- Honored as a Buddha Fellow.
- Recognized by SheThePeople, receiving the Digital Women Award 2023 in the Disruption category.
- Awarded the Digital Women Award by Republic India.
- Celebrated as an Inspiring Women Leader by Outlook India.

## Core Team Profile



Name	Designation	Qualification	Contact
Dr. Rajul Patkar	CEO	Ph.D, IIT Bombay	rajul@soilsens.com

## Intellectual Property



Proximal Soilsens Technologies has a robust intellectual property portfolio, including patents and trademarks that protect its innovative soil testing technologies. The company's flagship product, Nutrisens, is safeguarded by patents filed across multiple key markets. Proximal Soilsens Technologies is extending its patent protections to the USA, China, Australia, and Indonesia.

## Requirement for scaling up



### Enhanced Financial Investment

Scaling up production, expanding distribution channels, and increasing research and development efforts require substantial funding. Investments would support manufacturing scale-up, expanding partnerships, and reaching new regions domestically and internationally. Financial resources would also enable Soilsens to make its products even more affordable for smallholder farmers through subsidies or financing options.

### Regulatory Compliance and Market Expansion

Expanding to new regions, particularly internationally, involves navigating complex regulatory frameworks for agricultural technology. Soilsens would need resources dedicated to understanding local regulatory requirements, securing approvals, and obtaining patents in target markets. Establishing a dedicated regulatory team would streamline the process and facilitate quicker entry into new markets.



# Samudra Network

Samudra Network is an AgTech startup with a goal to digitize the agri value chain around Farmer Collectives (Producer Organizations/ Companies (FPOs & FPCs)/ Federations/ Co-Operatives) and relevant ecosystem players like agri buyers, input suppliers and agri finance institutions.

The company provides online and mobile based apps on their VarunaStar digital platform which helps Agri value chain stakeholders and Producer Groups (FPOs) track business transactions, farmer membership, ecosystem partnerships and activities, increasing ease of business efficiency, business tracking and reducing chances of manual error and fraud in reconciliations. The VarunaStar platform also has a digital market network which provides FPOs with better market connect opportunities through web presence and online catalog capabilities linking with different stakeholders like agri buyers, agri-input-businesses, financial providers, and logistics players.



## Product Description

### VarunaStar's AGRI CLOUD CAPABILITIES

VarunaStar digitizes the Agri-Value chain keeping FPOs & Farmers at the core of the new organised landscape

#### FARMER FOCUSED

Enable multi-pronged Omni-Channel Engagement & Market Information for the FPO farmers

#### FPO FOCUSED

Digital Operations, Marketing & Automation capability to enable successful business transactions at both ends of the FPO Business

#### CEBO FOCUSED

Easy Digital mentoring of organisation's FPOs towards successful business practices and farmers towards sustainable practices.

#### INPUT INDUSTRY FOCUSED

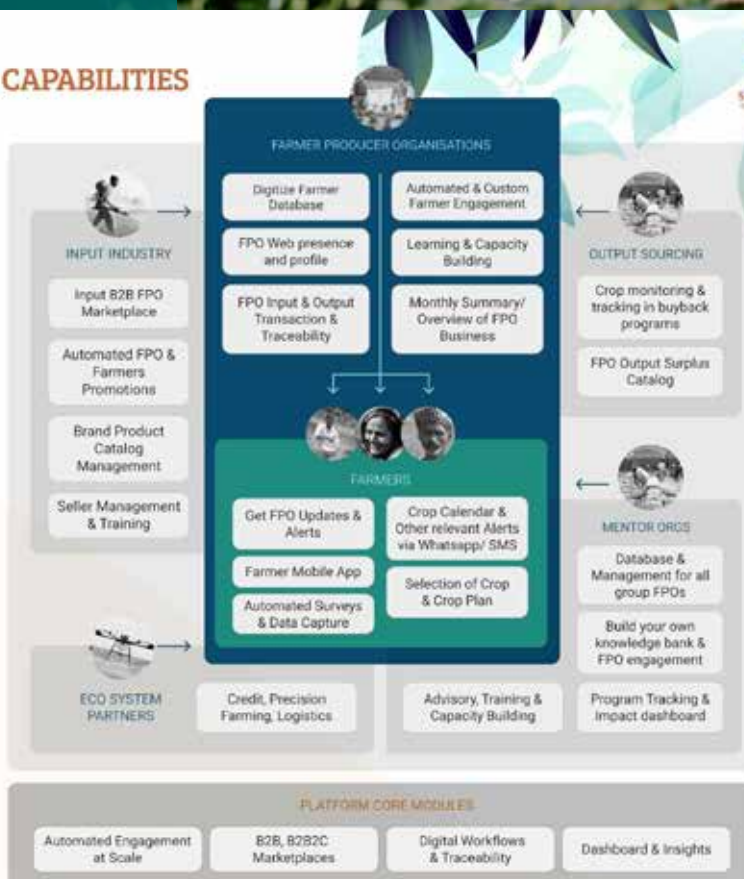
Agri Input Brand Product Catalog, Product Listing and Geo Based Mapping to the right sales team with Price Management, Lead generation & management.

#### OUTPUT SOURCING FOCUSED

Visibility into FPO crop monitoring for specific farmer buy-back program, Yield predictability & traceability, FPO Surplus Output Catalog for reach.

#### ECOSYSTEM PARTNERS FOCUSED

New innovative solutions & products brought to FPOs and farmers to unlock access to modern technologies & credit linkages.



Samudra Network offers the VarunaStar digital platform to all stakeholders in the agri value chain which

includes various modules designed for each stakeholder. For Producer Groups, the platform offers a mobile first application that is used for digitization of every activity taking place in an FPO. It is based on a cloud-based ERP platform with an aim to leverage technologies like AI for analytics and process automation, blockchain for tracking and traceability in the agri value chain.

The application is downloadable on Android-based smartphones and in addition to the mobile application, Samudra Network gives the users access to dashboards where all the information, analytics and insights can be accessed.

The application can be used by FPO members to manage their Farmer Member database, record all transactions during the buying and selling process of farm produce, which in turn helps in generating buyer and farmer-side insights on the dashboards. FPOs aggregate farm inputs and sell them to their member farmers; the application helps with cataloging & inventory management for these inputs and tracks purchase indents, sales, credit outstanding, and many other aspects. The application also helps FPOs to communicate & interact with their member base via smart notifications and info messages. Some of the key capabilities are detailed as below:

### Omni Channel Farmer Engagement:

Deepen the Farmer to FPO connections. Increase FPO Brand Value to ensure they can leverage the benefits of aggregation by automated, DIY digital tools between FPO & their shareholder Farmers.

**Crop Selection & Crop plan:** By leveraging digital tools and technologies, FPO farmers can make more informed decisions about crop selection and crop planning, optimize resource allocation, improve yields, and ultimately enhance their agricultural productivity and sustainability.

**Automated engagement messages:** Based on farmer crop, package of practices and geography, automation of timely alert messages including crop stage-based action reminders, input advisory, protection & prevention measures.

**FPO Related updates to farmers:** Cover wide broadcast audience in a single stretch. Keep farmers notified on FPO happenings to collectively improve farmer check-ins and enhance FPO business.

**Farmer app:** Mobile-based app for FPO farmers which will provide a 360 view of the FPO, its members and activities.

**Farmer surveys:** Gather information about farmers' crops quickly and easily – how they were grown, what fertilizers were used and when, and where and whom crops were sold.

### Digital Levers for FPO Success

**Digitise farmer database:** FPOs can digitally capture the data of their farmer base. The platform is made accessible for FPO staff to register new farmers and capture their essential information along with maintaining shareholder registry.

**Learning & Capacity building:** FPOs' CEO and staff can access knowledge base, digital learning content and assessments to enhance their abilities.

**FPO web profile & presence:** Showcase achievements to establish credibility and market presence is automated and maintained via the platform.

**FPO Input Business ERP & traceability:** FPO CEOs and staff capture transactions of the FPO farmers from both field transactions at farmgate. Digitise end-to-end input operations of the FPO.

**FPO Output Business ERP & traceability:** Digitizing FPO output business processes can improve the way these organizations operate, making them more efficient. It helps them to monitor and maintain the agricultural outputs more effectively, enabling traceability.

**FPO Financial ERP & traceability:** Digital tools to record financial operations can help FPOs manage transactions, track income and expenses, and access financial services more conveniently.

**Monthly summary/overview of FPO Business:** Offer insights on turnover, profits, sales, and other key metrics over different time frames that can empower FPO managers to make informed decisions, optimize operations, and drive the organization's success.

### Agri Input Organization Focus:

**Input B2B Marketplace for FPOs:** Showcase of products to FPOs and be able to promote to farmers. Use the Digital Brand Catalog to keep the info about products latest across all teams internal & external.

**Seller management & Training:** Onboard sales teams to the digital marketplace to ensure the right products and price info for each FPO can be managed in a distributed manner.

**Input promotional campaign via Engagement:** Create an omni-channel experience for FPOs and farmers via engagement messages, branded catalog, in-app knowledge & content.

## Agri Commodity Organisation Focus

**Crop monitoring & tracking in buyback programs:** Strengthen organized market linkages for high value crops using digital crop monitoring capabilities. FPOs offer services of monitoring, spray tracking, yield estimations.

**FPO Output surplus catalog:** FPOs can put their surplus and push automatically to the public catalog. Platform enables corporates to buy directly from the FPOs across India. Buyers can find new relationships with FPOs, thereby working sustainably with the farmers. The Varuna Star platform also includes a market network capability that can create an agri social network platform like LinkedIn where companies and individuals can discover and search for other stakeholders in the agri ecosystem, a marketplace platform like Amazon where farmers, FPOs and other ecosystem players can trade, buy, and sell different commodities, and a workflow management platform like Salesforce where the FPOs and other players can run a complete workflow of

all the marketplace transactions. Samudra Network is combining these three distinct capabilities into a single market network dedicated to the agricultural sector as part of the VarunaStar platform.

The company plans to bring together the ecosystem of FPOs presently using the Digitization Solution along with the buyers, sellers and agri finance companies involved with them. It projects a network effect where buyers, sellers, and FPOs would bring other stakeholders to the platform and would interconnect to form different linkages. The company aims to create a data driven agricultural marketplace with a systemwide approach of creating linkages between Agri-businesses, input suppliers, buyers, banks and insurance companies, logistics companies, among others. The platform would enable users to discover and leverage previously inaccessible resources within the vast agricultural ecosystem. The network would be able to leverage technologies like the blockchain framework which will allow complete transparency, permissioned control, traceability and tracking of all transactions.

**TIMELY ADVISORY TO FARMERS** | **BUSINESS ERP** | **SHAREHOLDER MANAGEMENT**  
**YIELD ESTIMATION** | **KNOWLEDGE & LEARNING** | **ECOSYSTEM CONNECT**

### DIGITAL LEVERS FOR FPO SUCCESS

A digital transformation platform for FPOs from a 360 perspective from managing their social connects, access to new agri players, marketplaces, Farmer Engagement & SaaS tools for farmer transaction traceability. Collective aggregation & connection with market partners made easy.

**DIGITISE FARMER DATABASE**  
 FPOs can capture digitally the data of their farmer base & shareholder registry. This is made accessible to automated engagement tools, FPO staff & farmers themselves to engage & keep informed about practices, latest news, important price and FPO info.

**LEARNING & CAPACITY BUILDING**  
 FPOs CEO and staff are access knowledge base, assessments and digital learning content to enhance their knowledge, abilities on best business practices for the FPO to gear up for success in B2B relationship and company building.

**AUTOMATED & CUSTOM ENGAGEMENT**  
 FPOs can promote their inputs shop & services to farmers in their database. Crop calendar based alerts are automated for the FPOs so that they can bring reliable information to the farmers.

**FPO INPUT & OUTPUT BUSINESS ERP & TRACEABILITY**  
 FPO CEOs and staff capture sales transactions of the FPO farmers from both field transactions at farmgate and POS at the input Shop along with various solutions such as digital inventory management, Unique ids/QR codes for products, Digital catalogs, manage input sellers etc., and ensure efficient access to agricultural inputs. Systems helps to monitor and maintain the agricultural outputs more effectively, enable traceability, allowing FPOs to track the origin of the produce, access broader markets and connect with potential buyers.

**FPO BUSINESS ERP & TRACEABILITY**  
 Monthly summary offers insights on turnover, profits, sales, and other key metrics over different time frames that can empower FPO managers to make informed decisions, optimize operations, and drive the organization's success. Farm level financial & produce traceability digitised.

Interested to manage your FPOs & FPO farmers?  
 Contact [info@samudranetwork.com](mailto:info@samudranetwork.com)

Public Catalog & Share to FPO enquiry

Crop Record & Yield Spray Tracking

FPO Messages via SMS & Whatsapp

sms

WhatsApp

Samudra Network

## Intellectual Property



The company would be looking to apply for relevant IP protection for the unique way of using the data and technology.

## Challenges Faced



**Business Model Optimization** – After developing a solution that was relevant for the rural economy and usable by the agri value chain, the company decided to work with the farmer collective model of co-operatives, federations and FPOs to bring its solutions in an assisted manner closer to the farm. The company has adopted an approach to bring a full ecosystem of enablers to the Farmer Collectives, thereby helping to drive success for these institutions where farmers have a direct share of the success. The company is working on ways to optimize the business model by working with Resource Institutions, Corporates, Industry bodies and with the wider agri ecosystem, so as to reduce any costs related to digitization towards the farmer collectives and supply side.

**Skilled Manpower to drive adoption** – The company needed professionals with a good understanding of rural development and the agricultural sector as well as those who could work in the rural areas to help with the digitizing of client FPOs. Finding such workforce at scale was a major challenge for the company. It adopted an approach to partner with Resource Institutions and NGOs with skilled workforce working in the rural areas with proven credibility in the farmer community & to partner with Academia & train students to interact and add information on behalf of the farmers. Both these partners in the field are trained by the Samudra Network & periodic refresher courses are conducted.

**Data Resource** – Unavailability of an extensive and centralized data stack that has information on growing patterns, value chains, staples and cash crops, cropping pattern across the country, is a constant challenge that the company still faces. This is circumvented by doing on ground primary research backed by secondary research from segregated sources. Additionally the platform enables the FPOs, input and output companies & service providers to digitally share at scale their best practices and guidance.



## Business Model



The company follows a Business to Business (B2B) model and works with GOV & CSR supported CBBOs, NGOs & Corporates subscribe to the platform to get a wholistic picture of all the FPOs & Co-Operatives they mentor, guide and transact with.

The company is exploring a subscription revenue stream model for the Market Network product. The product has a transaction based model for the catalog based leads and transactions on the platform. Using these multiple models, the company offers flexibility and economic offerings.

## Market Presence



Samudra Network is headquartered in Bangalore with presence in Gurgaon.

Since Inception in 2018, Samudra has worked with over 35 FPOs in a deep manner and over 200 FPOs in a free model, and has reached over 1 Lakh farmers. FPOs working in different value chains from Staples to Spices have leveraged the VarunaStar platform across various states in India.

The company has also started working with wholesale buyers to bring market linkages to the FPOs and also enables FPOs to share their business opportunities and performance with these stakeholders via dashboards.

## Key Partnerships



Being the winners of the Agri Grand Challenge – Ministry of Agriculture, Samudra Network is in the process of being incubated at KIIT-TBI at Bhubaneswar. Samudra Network was also featured as a Case Study in NASSCOM's Agritech Trends Report for India 2019.

The company has strategically partnered with Confederation of Indian Industry (CII) Initiatives for Development Foundations (IDF), TATA Trusts Foundation LENOVO and other corporates.

## Financial Analysis



The company has conducted several paid pilots since January 2018 and has commercially implemented the solution in 35+ FPOs since December 2018. It is in the early stage of revenue generation.

## Requirements for Scaling-up



**Partnership Needs** – Samudra Network is actively working to build partnerships with CBBOs, FPO Resource Institutions, Industry bodies and corporates to enable the VarunaStar platform in their network of FPOs. Further for the market network the companies is engaging Agri Buyers, Agri Finance and Input supplier players for supporting the network of FPOs, Federations and Co-Operatives. The company is actively looking to partner with more governmental bodies like NABARD and SFAC that work with a large number to FPOs across the country to implement Digitization tool under them as part of a pilot program which can further be scaled. In focused value chain effort, the company seeks to work with FPOs & Organisations working with Spices.

**Data Needs** – Considering the advent of advanced technologies and data driven analytics, a centralized governmental hub of agricultural data is the need of the hour to boost startups like Samudra Network to work better and more effectively help the agri ecosystem solve the demand and supply imbalance thereby creating more sustainable revenue streams for farmers. The needs range between authenticity, GI tagging and changing information needs in the thick of climate change based economic uncertainty.



# Stellapps

Stellapps is a pioneer in dairy technology, offering a comprehensive suite of solutions that revolutionize the industry. Stellapps empowers stakeholders with tools for efficient operations, enhanced transparency, and improved profitability. Stellapps' commitment to sustainability is evident in its focus on reducing GHG emissions through digitalization and promoting responsible farming practices. By providing access to loans and insurance, Stellapps supports farmers' financial well-being. Additionally, Stellapps' DFP (Direct farmer payment) platform enables farmers to get the right price for their milk in a transparent manner directly in their bank account.



## Product Description

### Direct Farmer Payments (DFP)

The Direct Farmer Payments (DFP) system enables dairy cooperatives and private dairies to make timely and secure payments directly into farmers' bank accounts. By eliminating intermediaries, this system ensures that farmers receive their earnings promptly, empowering them with greater financial control and reducing the risk of payment delays or losses. A key feature of DFP is the dynamic calculation of final payments. Based on farmers' purchases, loan EMI deductions, government subsidies, and any bonuses offered, the system calculates the net payment to be disbursed directly to farmers' accounts. This streamlined approach ensures transparency and accuracy in financial transactions.

### smartFarms (Farmer's App)

smartFarms is a comprehensive mobile app designed to empower dairy farmers and operators. Beyond its core functionalities of tracking milk pouring, managing payments, and accessing financial services, smartFarms offers a host of features.

#### Key features for Dairy Farmers:

- **Farm Supply Marketplace:** Access a wide range of agricultural and dairy products, including cattle feed, veterinary supplies, and farm equipment.
- **Value-Added Tools:** Utilize features like a cattle feed calculator, live weather forecasts, and expert advisories to make informed decisions and enhance productivity.
- **Income and Expense Tracking:** Manage finances effectively by tracking income and expenses related to farming activities.

#### Key features for mooMark Operators (Agents)

- **Milk Passbook:** The reports in the milk passbook help the collection center agents track the quantity and quality of milk collected from each farmer, ensuring transparency in transactions.
- **Commission Tracking:** Enables agents to track their monthly earnings and ensure transparency in commission payments.

### mooON (Herd Management Solution)

The profitability of dairy farming is closely tied to timely management practices such as insemination, pregnancy detection, and vaccinations. Stellapps' mooON™ solution addresses these challenges by providing a comprehensive herd management app that facilitates efficient task management and data tracking. With mooON™, farmers can record and monitor critical events in their cattle's lives, ensuring optimal husbandry practices and maintaining an ideal inter-calving period. This proactive approach is vital; delays in insemination can lead to reduced milk yields and increased costs. The ActiTrak feature alerts farmers when cattle are in estrus, ensuring timely action. Additionally, mooON™ includes ration balancing for cattle, helping farmers optimize nutrition based on individual needs. This not only enhances milk production but also supports the overall health of the herd. For dairy processors, mooON™ enables effective planning and coordination. It

provides insights into daily tasks and routes that align with productivity goals, fostering collaboration with extension teams to promote sustainable dairy practices. By consolidating cattle health and productivity data in one place, mooON™ empowers medium to large-scale farmers to view their cattle as valuable assets. This holistic management approach not only improves productivity but also opens doors to additional services such as cattle loans and insurance. Overall, the mooON™ solution is a game-changer for farmers and dairy processors.

#### smartAMCU (Milk Procurement Device)

Smart Automatic Milk Collection Unit (AMCU) integrates Advanced Analytics and Management Information System to enable real-time recording of milk procurement data which is stored in the common cloud and made available to the user. SmartAMCU makes milk procurement simple for both farmers and collection centers.

#### ConTrak (Cold Chain Management Application)

ConTrak, the Cold Chain Management application uses sensors and web-based monitoring and reporting for Bulk Milk Coolers, Silos, and Cold Rooms. The ConTrak devices control the cold unit and report any change in the quantity of milk stored.

### Market Presence



Stellapps Technologies is an IIT Madras incubated, Bangalore-based, Internet of Things (IoT) startup with a primary focus on data acquisition and machine learning. Stellapps is a leading farm-to-consumer dairy digitization service provider, improving farm productivity, and milk quality and bringing in supply chain traceability for the largest crop in the world – in India alone, pre-harvest and post-harvest of the dairy value chain is a \$240b market (or approximately 7.6% of India's GDP). It leverages advanced analytics and artificial intelligence through its full-stack IoT platform to enable dairy ecosystem partnerships (financial and insurance institutions, veterinary services, etc.) to drive significant value for each stakeholder including smallholder farmers. Stellapps currently digitizes 14Mn Liters of milk daily and impacts 3.5 million dairy farmers in 41,000 Indian villages. Stellapps is helping farmers shift their orbit from backyard dairy farming to entrepreneurship. With multiple services ranging from market linkage, banking services, and quality inputs. Through mooPay in just three years, Stellapps have facilitated direct farmer payments exceeding Rs.1200 crores across 12 dairies, reaching over 3000 villages and 165,000 farmers. Stellapps have sanctioned more than 26,000 farmer loans to 13k farmers, amounting to over Rs. 44 crores, and ensured cattle valued at over Rs. 5 crores. This dramatic transformation demonstrates their commitment to redefining conventional financial practices for rural farmers, ushering them into a new era of economic empowerment. Over 150,000 cattle & 80,000 registered farmers accessed via 360,000 liters of milk procurement / chilling capacity deployed.

### Business Model



Stellapps generates revenue through several key avenues. It facilitates traceable and high-quality milk procurement for dairy companies and private players seeking premium products. Stellapps offers value-added products like curd, paneer, and ghee to partners focused on traceable and high-quality dairy. Stellapps also collaborates with banks to provide financial services, including loans and insurance for dairy farmers. Its software solutions, such as smartFarms and mooON, along with hardware devices like smartAMCU, ConTrak, and ActiTrak, are offered to other dairy businesses on a subscription model. This diversified approach enables Stellapps to effectively support the dairy industry while driving its own growth.

### Key Partnership



#### Incubation

IIT Madras Incubation Cell (IITMIC) incubated Stellapps and provided a part of Pre-Seed Funds.

#### Pre-Series Investor

Omnivore Capital Management Advisors Private Limited

#### Series A Investor

Binny Bansal, Venture, Highway Blume Venture, 500 Startups, Beenext, Arun Seed

#### Series B Investor

The Bill and Melinda Gates Foundation, ABB Technology Ventures, Qualcomm Ventures, IndusAge Partners

#### Market Presence

Hatsun Agro Product purchases the entire product range, giving Stellapps their first measure market presence

## Financial Analysis



Stellapps recorded a phenomenal revenue growth, which grew at a Compounded Annual Growth Rate (CAGR) of 56.41% between 2019– 2024. In FY 2023–2024, stellapps achieved a revenue of Rs. 35664.51 lakhs.

## Challenges Faced



### Language Barrier:

While Stellapps offer the app in five regional languages, language barriers can still be a challenge for some farmers.

### Limited Internet Access:

Rural areas often have poor or unreliable internet connectivity, making it difficult to use tech-based solutions.

### Support:

Farmers require adequate training and support to utilize technology effectively. However, providing support is a resource-intensive activity.

### Migration:

All the hardware devices developed prior supported only 2G. Upgrading from 2G to 4G for better performance incurred high costs.

## Requirement for Scaling Up



Scaling up the dairy supply chain through government initiatives and technological advancements directly benefits Stellapps and the wider dairy ecosystem. Mandatory traceability standards, blockchain adoption, and data-sharing platforms will enhance Stellapps' core solutions like smartFarms and mooON, improving transparency across the supply chain. Efforts to reduce GHG emissions through carbon pricing and clean energy subsidies will support Stellapps' sustainability-focused technologies, such as ConTrak and ActiTrak. Additionally, direct farmer payments initiatives align with Stellapps' goal of improving farmer livelihoods by ensuring timely, transparent payments and reducing costs. By integrating these measures, Stellapps can further solidify its position as a leader in digitalizing and optimizing the dairy supply chain while promoting sustainability and supporting farmers.

## Featured on Media



Awarded "Technology Pioneer" by World Economic Forum, 2020; Winner in Better Life category by United Nations World Food Forum (the only Indian company from over 50 nations); Winner at BAI Global Innovation awards in Innovation in financial inclusion category (the only Indian company); CII SR Emerging Entrepreneur, 2017; National Startup Awards, Animal Husbandry, 2021; NABARD Promising Agribusiness Startup, 2019

## Core Team Profile



Name	Designation	Qualification	Contact
Ranjith Mukundan	CEO, Managing Director and Co-founder	MS. (Telecom and Software Engineering) – Illinois Institute of Technology, Chicago	ranjith.mukundan@stellapps.com
Ravishankar G Shiroor	Co-founder and COO	Masters in telecommunications, IIT Madras	ravi.shiroor@stellapps.com



# Thanos

THANOS Technologies is a specialized drone manufacturing and services startup that specializes in UAV applications in the agricultural domain. It designs, tests, and provides services for drones in the Nano, Micro, Small and Medium categories (as per DGCA classification). Building drones that have high endurance and heavy payload is its specialty. Its primary focus in the agri space is drone based spraying and it also offer mapping and surveying services to make the spraying process efficient.



## Product Description

### Agri-Spraying Drone (ASD)

THANOS Technologies' primary product is its Agri-Spraying Drone (ASD), which is fully designed and manufactured in-house. While some components are imported, others are locally produced or created using a 3-D printer. The drone boasts one of the longest flight durations in the industry, exceeding 20 minutes, and can carry a payload of around 10 kilograms. Weighing 24.5 kilograms, it falls under the DGCA's 'Small Drone' category (2-25kg). A key factor in achieving these impressive capabilities is THANOS's custom-built battery packs, designed to minimize the need for frequent landings and recharging. To extend flight time while carrying a heavy load, the company developed a unique cooling system for its lithium-ion battery packs. The ASD addresses the inefficiencies of traditional chemical spraying methods, which often require large amounts of water, leading to droplets rolling off plants and entering the soil and water streams. In contrast, the ASD uses much less water, producing smaller droplets that stay on the plant surface, thereby improving chemical absorption and addressing the issue of under-dosage.

### Designing and Repair Services

THANOS specializes in designing custom drones tailored to client needs, offering features such as specific payload capacities, customizable attachments, and desired flight durations. The company provides repair and maintenance services for both its own indigenously built drones and other commercially available models. The revenue generated from these services supports the development of their agricultural division. In the future, THANOS aims to establish a dedicated division focused solely on agricultural services.

## Market presence



Thanos Technologies is a prominent player in India's agri-tech sector, primarily focusing on manufacturing agricultural drones. They have successfully sold over 300 drones since 2021 and secured a significant contract with IFFCO to facilitate the aerial spraying of fertilizers over an extensive 10 lakh acres of farmland, encompassing regions in Telangana, Andhra Pradesh, Gujarat, Madhya Pradesh, and Tamil Nadu. The products cater to various agricultural needs, emphasizing innovation and technology to enhance farming practices. Their market extends across India, especially in the agricultural sector, with future plans to expand through external funding.

## Business Model



Thanos technologies operate on Business to Business (B2B) model and Business to Customer (B2C) model catering to a diverse client base that includes farmers, agricultural cooperatives, agribusiness and government departments. The company generates revenue primarily through the sale of agricultural drones.

## Key Partnership



- CIE-IIT Hyderabad – Incubation and Mentoring
- AIP-ICRISAT – Incubation and Mentoring
- Surge Impact Foundation (SIF) – Technology evaluation and feedback

## Financial Analysis



Thanos Technologies was bootstrapped with an initial funding of ₹1.5 crore. As of the last financial year, the company reached a revenue of ₹20 crore. They are now preparing for their first external funding round to scale their operations further. With consistent growth in revenue and product sales, Thanos Technologies has solidified its position as a key player in the agricultural drone market.

## Intellectual Property



Thanos Technologies, drone technology is protected through combination of patents, copyrights and trademarks ensuring that the cutting-edge technologies remain exclusive. Hardware Patents safeguard the unique designs of the drones, including innovations like enhanced battery life and load-carrying capabilities, essential for agriculture in remote areas. Software Copyright protects the proprietary algorithms that drive autonomous navigation and real-time data analytics. Branding and Trademarks play an equally important role. The name Syena-H10i and the Thanos brand represent reliability and innovation in agri-tech.

## Requirement for Scaling Up



### Expanding Market Reach

Thanos aim to increase market penetration by working with agricultural cooperatives, government, and local influencers. By partnering with organizations like IFFCO and state agricultural bodies, can reach more farmers and build trust in drone technology.

### Access to Financing

For many farmers, the initial cost of drones remains a barrier. Thanos are exploring financing partnerships with banks and NBFCs to make drones more accessible. Government subsidies and incentives for adopting tech-driven solutions in farming will also play a vital role.

## Core Team Profile



Name	Designation	Qualification	Contact
Pradeep Palelli	CEO & Co-founder	B. E	pradeep@thanos.in
Prathyush Akepati	CTO & Co-founder	BPT, MBA	prathyush@thanos.in

## Challenges Faced



### Adoption Hesitancy

Many Indian farmers are unfamiliar with advanced technology and often prefer traditional methods. This lack of awareness and trust in drone technology made it challenging to promote at large scale.

### Regulatory Complexities

The regulatory environment surrounding drones in India is still evolving and navigating airspace restrictions and obtaining necessary clearances is time consuming and complicated.

### Infrastructure

The areas where the drones are most needed have poor infrastructure including unreliable electricity, inadequate internet access and difficult terrain. These factors hindered smooth deployment and after sales support.

## Featured in Media



# Trithi Robotics

Trithi Robotics focuses on drone-based solutions for agriculture and industry. The flagship product of startup is Droneer series which includes crop spraying drones with capabilities ranging from 15 to 50 litres, multispectral and hyperspectral drones and lidar sensor drones for data collection and processing. With a strong emphasis on rapid charging and an industry-leading maximum takeoff weight of 90kgs.



## Product Description

Trithi Robotics Pvt Ltd offers a range of advanced drones and sensor-based solutions, primarily focused on agriculture and industrial applications. Their flagship product line, the Droneer series, includes crop-spraying drones with capacities ranging from 15 liters to 50 liters. These drones are equipped with high-precision multispectral and hyperspectral sensors, and lidar sensors, providing comprehensive data collection capabilities. The Droneer series is engineered for quick deployment with an industry-best maximum takeoff weight (MTOW) of 90 kg and under 15 minutes of fast charging, ensuring minimal downtime during operations.

The company's product range serves diverse needs—from precision crop care to industrial data acquisition and processing. Their drones not only facilitate efficient spraying of crops but also deliver actionable data insights, enabling farmers and industries to make informed decisions swiftly. The combination of cutting-edge hardware and software allows for accurate, on-demand services, making Trithi Robotics a key player in the drone-based technology landscape. Their products are scalable, cost-effective, and accessible, aimed at revolutionizing agriculture and infrastructure industries through drone and data-driven innovations.

## Market presence

Trithi Robotics has a notable presence in the Indian drone and data analytics market and it is also present in other various countries. It plans to expand operations to 4000 talukas by 2028.

## Business Model

Trithi Robotics operates on a flexible and scalable business model, offering both pay-per-use services and direct sales of its drone systems and related technologies. The company's diverse pricing strategy caters to a wide range of clients, with costs ranging from Rs.499 for basic services to Rs.4.9 crore for advanced solutions and sensors. This allows them to serve small-scale farmers, cooperatives, and large agro-industries, ensuring that their technology is accessible to various market segments.

## Key Partnership

Niti Aayog's Atal Innovation Mission – Grant partner

## Financial Analysis

Trithi Robotics has demonstrated impressive growth achieving a year-on-year increase of 50% since 2017 with the exception of the two years impacted by the COVID-19 pandemic. The operational team to manage 6000 acres per season cultivating more than 30 crop types which has enabled the company to generate substantial service revenue which is projected to reach Rs. 12.5 crore by 2025.



## Intellectual Property



Trithi Robotics holds multiple patents related to the design and functionality of their drones and sensor technologies. These patents cover innovations in hardware, drone mechanisms, and data processing systems that enable high-precision agricultural and industrial applications. This ensures that their proprietary technology is protected from imitation by competitors. The company has trademarked various aspects of its product designs, brand names, and service processes.

## Challenges faced



### Technology Development

As a pioneering company in drone-based agricultural solutions, the team faced challenges in developing cutting-edge drone technology that could meet the specific needs of Indian agriculture. Creating drones that could handle diverse crop types, weather conditions, and terrain required significant R&D efforts.

### Market Adoption

Convincing farmers and agricultural enterprises to adopt drone technology was initially challenging. There was skepticism about the practicality and cost-effectiveness of drones for smallholder farms. Educating the target market on the benefits of precision agriculture and data-driven insights required time and consistent effort.

## Requirement for Scaling Up



### Regulatory Compliance and Advocacy

As the company scales, ensuring compliance with drone regulations and advocating for favorable policies will be vital. Trithi Robotics need to stay ahead of regulatory changes and work with government bodies to facilitate smoother operations and wider adoption of drone technology in agriculture.

### Partnership and Collaboration

Forming additional partnerships with agricultural institutions, cooperatives, and industries will be important for scaling. Strategic alliances with chemical firms, seed producers, and other agri-input providers can help broaden our market reach and enhance service offerings.

## Featured on Media



Winner of Agriculture Grand Challenge 2018 – Ministry of Agriculture GOI, Winner of Grant-In-Aid by AIM-ANIC 2019 – Niti Aayog GOI.

Featured By 2021 Select CaseStudies, Food & Agriculture Organisation of United Nations.

## Core Team Profile



Name	Designation	Qualification	Contact
Jutika Bhat	Founder Director	BE	team@3thi.com
Sumanta Bhat	Founder Director	E&C Engineering	team@3thi.com
Vasant Bhat	Founder Director	Commerce Dropout	team@3thi.com
Wg Cdr P Vaidya	Training & Operations	Ex IAF	team@3thi.com
RaajKumar C	Assembly & Engineering	Aerospace Engineering	team@3thi.com
Shashank KA	Operations & Client Support	E&C Engineering	team@3thi.com



# Unnati

Unnati is a leading agri-inputs company in India, leveraging its digital platform to provide top-quality services to farmers across 8 states. Through its uStore platform, Unnati reaches over 60,000 retailers, supporting their complete lifecycle needs. To address the challenges of ensuring the availability of quality products, Unnati has launched the Trucide range of plant protection products, Ozas seeds, and Oxsol nutrients.



## Product Description

Unnati uses its advanced digital platform to revolutionize the agricultural supply chain by making high-quality farm inputs easily accessible to retailers across India. The platform offers a broad range of products, including agrochemicals, seeds, fertilizers, and farm equipment, simplifying procurement and enabling retailers to source everything from one place. Through its mobile app, Unnati allows retailers to place orders, manage stock, and comply with government regulations effortlessly, providing an efficient solution to the challenges of agricultural retail.

Key to their product offering is the Agri Value Chain Finance (AVCF) model, which facilitates credit access for farmers and FPOs. The platform also features Unnati's uStore, a network designed to help farmers and retailers procure agricultural inputs conveniently, with better pricing and timely delivery.

### Market presence



Unnati is engaged with 7,50,000+ farmers offering 1500+ products having 1800+ partner centres. Unnati serves farmers across several Indian states which includes Uttar Pradesh, Bihar, Madhya Pradesh etc.

### Key Partnership



NABVENTURES – Funding, ORIOS Venture Partners – Funding, Incofin – Funding

### Business Model



Unnati operates both Business-to-Farmer (B2F) and Business-to-Business (B2B) models. The company is also developing customized advisory services for farmers. In its B2B model, Unnati collaborates with agri-input and finance companies to provide farmers with agricultural inputs and financial services. The company generates revenue through margins on traded products and interest from working capital loans and Kisan Credit Card (KCC) facilities.

### Financial Analysis



Unnati went live in 2019 and have started generating revenue. It projects break even by 2027.

### Challenges faced



#### Working Capital

In its early stages, Unnati faced challenges with working capital availability, which limited inventory procurement, slowed down operations, and delayed payments to partners, hindering the company's expansion.

## Requirement for Scaling Up



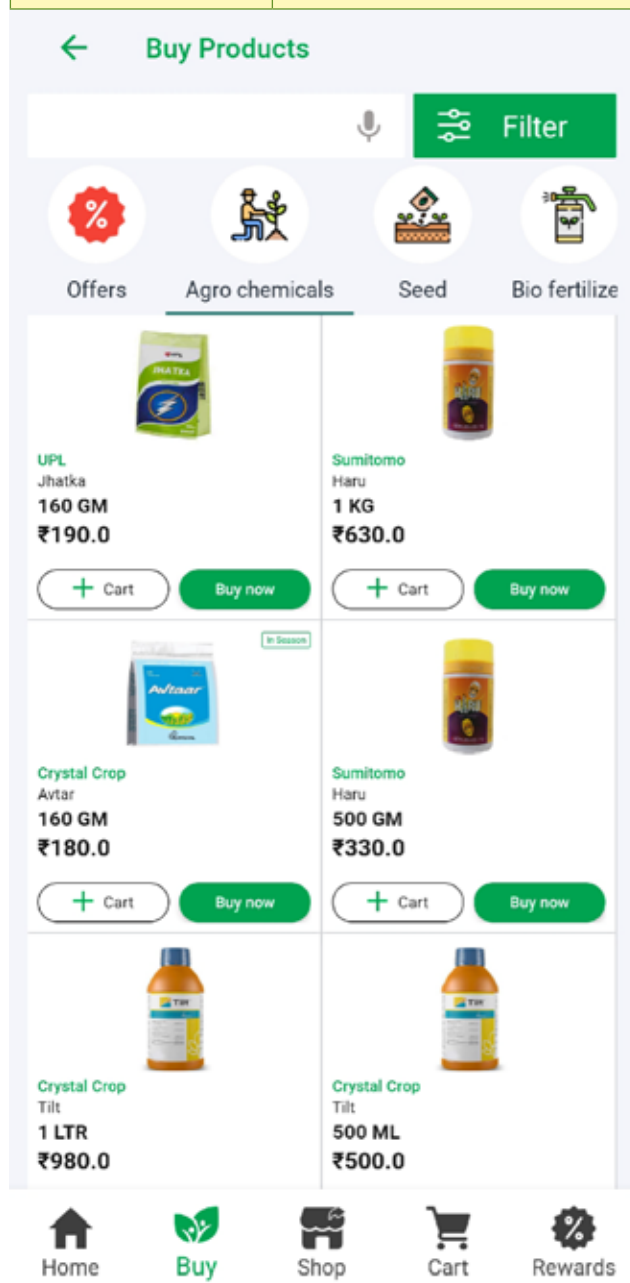
### Partnership

The company is seeking partnerships with NBFCs, banks, input suppliers, and output buyers to enhance its services. These collaborations will enable Unnati to offer a more comprehensive range of solutions, from credit facilities to output channel sales.

## Core Team Profile



Name	Designation	Qualification	Contact
Ashok Prasad	CEO	M.S Software-PITS Pilan, Ex. MBA - IIFT	ap@unnatiagri.com
Amit Sinha	COO	B.tech (Mining) - IIT Dhanbad, MBA - IIM C	amit@unnatiagri.com



**Buy Products**

Offers, Agro chemicals, Seed, Bio fertilize

UPL Jhatka 160 GM ₹190.0

Sumitomo Haru 1 KG ₹630.0

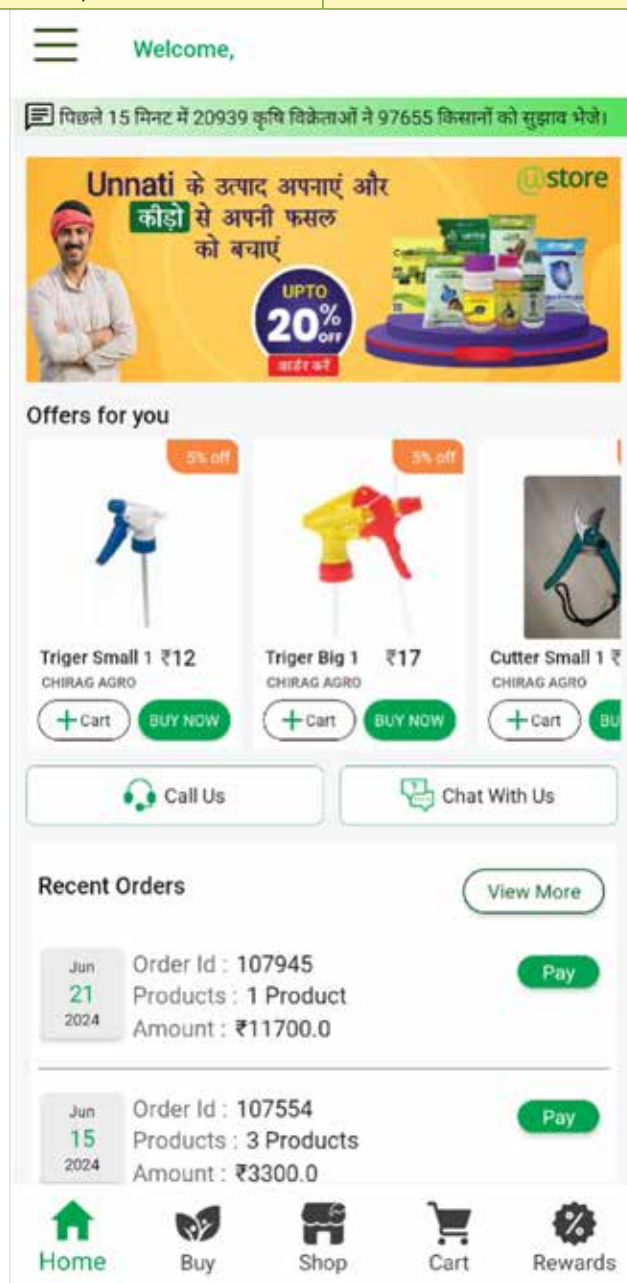
Crystal Crop Avtar 160 GM ₹180.0

Sumitomo Haru 500 GM ₹330.0

Crystal Crop Tilt 1 LTR ₹980.0

Crystal Crop Tilt 500 ML ₹500.0

Home Buy Shop Cart Rewards



Welcome,

पिछले 15 मिनट में 20939 कृषि विक्रेताओं ने 97655 किसानों को सुझाव भेजे।

Unnati के उत्पाद अपनाएं और कोड़ी से अपनी फसल को बचाएं

UPTO 20% OFF

Offers for you

Triger Small 1 ₹12 CHIRAG AGRO

Triger Big 1 ₹17 CHIRAG AGRO

Cutter Small 1 ₹ CHIRAG AGRO

Call Us, Chat With Us

Recent Orders

Order Id : 107945, Products : 1 Product, Amount : ₹11700.0

Order Id : 107554, Products : 3 Products, Amount : ₹3300.0

Home Buy Shop Cart Rewards

# Vegrow

Vegrow has emerged as a leading player in India's agricultural technology landscape. Vegrow operates as a B2B full-stack platform and managed marketplace, disrupting the fruit supply chain by digitizing processes and enhancing market access for both suppliers and customers.



## Product Description

Vegrow offers a comprehensive B2B platform tailored to optimize the fruit supply chain in India, enabling seamless connections between suppliers (farmers and aggregators) and buyers (wholesalers, semi-wholesalers, and exporters). By using technology to streamline operations, Vegrow provides services such as pre-season advisory for crop planning, market access for all quality grades of fruit, instant payments to improve farmer cash flow, and end-to-end logistics and packaging solutions. Through its AI-powered image processing, Vegrow ensures accurate grading and pricing of produce, delivering high-quality, consistent supply to its customers while maximizing revenue for farmers.

### Market presence



Vegrow has established a strong market presence within the Indian fruit supply chain by building a tech-enabled platform that addresses major inefficiencies and provides direct benefits to both suppliers and customers. Its operations span multiple regions across India, ensuring the availability of fruits from various production zones. Vegrow's platform supports the domestic trade flow of fruits and has ventured into the global market, targeting international buyers and exporters.

### Financial Analysis



Vegrow has shown robust financial growth since inception, largely driven by demand for reliable, quality-assured fresh produce among retailers and food service providers. Vegrow has attracted venture funding, with a Series B round of \$25 million in 2022, led by Prosus Ventures, marking investor confidence in its scalable model and potential for high returns. Vegrow has raised US \$46 million in 2023 led by GIC.

### Business Model



Vegrow operates as a Business to Business (B2B) managed marketplace, connecting suppliers (farmers and aggregators) with buyers (wholesalers, semi-wholesalers, and exporters), with a focus on delivering high-quality produce at scale.

### Intellectual Property



Vegrow's intellectual property is centered around its proprietary technology and algorithms, designed to optimize the fruit supply chain.

### Key Partnership



GIC, Prosus, Lightspeed, Matrix, Elevation, Ankur Capital, Titan Capital – Funding



## Challenges faced



### Market Access and Competition

The company faced competition from traditional distributors and larger corporations with well-established supply chains and relationships with retailers, making it harder to penetrate the market.

### Access to Financing

Although there was growing interest in agri-tech, Vegrow struggled with securing sufficient funding to grow its operations, invest in technology, and expand

its market reach. Raising capital remained a major hurdle.

### Quality Control

Maintaining consistent fruit quality, especially when sourcing from multiple farmers across different regions, proved tough. Vegrow had to implement rigorous quality checks to meet market standards, increasing operational complexity.

## Requirements for Scaling up



### Supply Chain Infrastructure

Build a more robust supply chain, including expanding the farmer network and improving logistics, particularly cold chain systems, to reduce spoilage and handle higher volumes.

## Core Team Profile

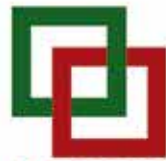


Name	Designation	Qualification	Contact
Praneeth Kumar	Co-Founder	B.Tech & M.Tech, IIT Madras	praneeth.kumar@vegrow.in
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Kiran Kumar Naik	Co-Founder	B.Tech, IIT Madras	kiran.naik@vegrow.in



## Annexures

- [1] [https://www.worldometers.info/world-population/world-population-by-year/#google\\_vignette](https://www.worldometers.info/world-population/world-population-by-year/#google_vignette)
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- [12] [https://www.omnivore.vc/wp-content/uploads/2024/04/AGF\\_India\\_2024\\_F.pdf](https://www.omnivore.vc/wp-content/uploads/2024/04/AGF_India_2024_F.pdf)



**NABCONS**

*Wisdom Beyond Business*

## NABARD CONSULTANCY SERVICES (NABCONS)

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NABARD Consultancy Services (NABCONS) is a wholly owned subsidiary of National Bank for Agriculture and Rural Development (NABARD), Government of India (GoI). NABARD's mission is to promote sustainable and equitable agriculture & rural development through participative financial and non-financial interventions, innovations, technology, and institutional development for securing prosperity. Taking the mission forward and to provide much needed consultancy & advisory services in the agriculture and rural development sector, NABCONS was set-up in November 2003.



### Capabilities



Adapting to business challenges and client requirements, NABCONS has aligned its business areas to the ever-changing dynamics of niche sectors under its nine major verticals



NABCONS offer Project Management Consultancy, Third Party Monitoring & Evaluation, Technical Support Agency, Project Implementation Agency, Preparation of Detailed Project Reports (DPRs), Feasibility Reports, Diagnostic Reports, Carbon Credits, Climate Resilient Planning, NRM, International Visitors Programmes, Capacity Building, ESG Framework, IT Consultancy, Skills and Livelihoods development and many more.

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## NOTES



## NOTES





"NABCONS, a wholly owned subsidiary of NABARD (a Government of India promoted Direct Finance Institution) is India's premier consultancy and Advisory Service provider with focus on strategic spheres and sectors such as Agriculture, Animal Husbandry & Fisheries, Banking & Finance, Food Processing and Storage, Civil Engineering & Water Resources, Socio Economic Studies, Third Party Monitoring & Infrastructure, Skills for Livelihood, International Business & Climate Change, Information Technology, Data Analysis & Statistics etc.

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Confederation of Indian Industry

The Confederation of Indian Industry (CII) works to create and sustain an environment conducive to the development of India, partnering Industry, Government and civil society, through advisory and consultative processes.

For more than 125 years, CII has been engaged in shaping India's development journey and works proactively on transforming Indian Industry's engagement in national development. CII charts change by working closely with Government on policy issues, interfacing with thought leaders, and enhancing efficiency, competitiveness and business opportunities for industry through a range of specialized services and strategic global linkages. It also provides a platform for consensus-building and networking on key issues.

In the journey of India's economic resurgence, CII facilitates the multifaceted contributions of the Indian Industry, charting a path towards a prosperous and sustainable future. With this backdrop, CII has identified "Globally Competitive India: Partnerships for Sustainable and Inclusive Growth" as its Theme for 2024-25, prioritizing 5 key pillars. During this year, it would align its policy recommendations, initiatives, and activities with this overarching framework to facilitate strategic actions for driving India's global competitiveness and growth through a robust and resilient Indian Industry.

With 70 offices, including 12 Centres of Excellence, in India, and 8 overseas offices in Australia, Egypt, Germany, Indonesia, Singapore, UAE, UK, and USA, as well as institutional partnerships with about 300 counterpart organizations in almost 100 countries, CII serves as a reference point for Indian industry and the international business community.



FACE is CII's Centre of Excellence dedicated to building efficiencies across the agricultural value chain from farm to fork. FACE is charged with the mission of improving competitiveness of India's agriculture and food sector by catalyzing innovation, building capacity and enhancing productivity across the value chain. FACE works with farmers, companies, development institutions and the government to

- Improve on and off-farm productivity through the dissemination of best practices and technological innovation
- Invest in capacity building initiatives and skill development for supply chain participants across the value chain
- Strengthen linkages across the value chain through market access initiatives, thereby reducing losses and increasing farmer incomes

FACE's service portfolio comprises commodity specific value chain assessments and supply chain advisory services for food and agri businesses, training and consulting services in the area of food safety, and sectoral research across different market segments. FACE also works on projects in PPP mode, to develop business models that are scalable and replicable across geographies.

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