Seeds for the World:

Cropin Cloud Enables Global Seed Production Company to Manage Diverse Multi-country Operations on a Unified Platform

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Overview

This is the journey of a single seed – destined to become a juicy tomato or a vibrant beetroot. For a leading seed company with a global footprint, this journey must be meticulously managed to ensure consistent quality and diverse varieties for farmers worldwide. However, managing seed production across eight countries from the US to Australia, encompassing everything from controlled greenhouses to sprawling fields, presented a logistical nightmare.

A Seed Company with a Global Vision

This prominent European Agri-enterprise is a leader in vegetable seed breeding, production, and sales. Its extensive portfolio encompasses over 1,000 varieties across 40 different crops. It operates in over 30 countries and has a workforce of 2,200 employees. Driven by a commitment to sustainability, the company ensures growers worldwide have access to high-quality seeds for generations to come.

However, their expansive operations, spanning developed and developing nations such as Argentina, Guatemala, the Netherlands, France, Italy, and Vietnam, provide a unique blend of regional and developmental diversities. While this allows the company to cater to a wide range of global agricultural needs and challenges, it also presents a different challenge—fragmented field data and a lack of centralized visibility of their multi-country operations.

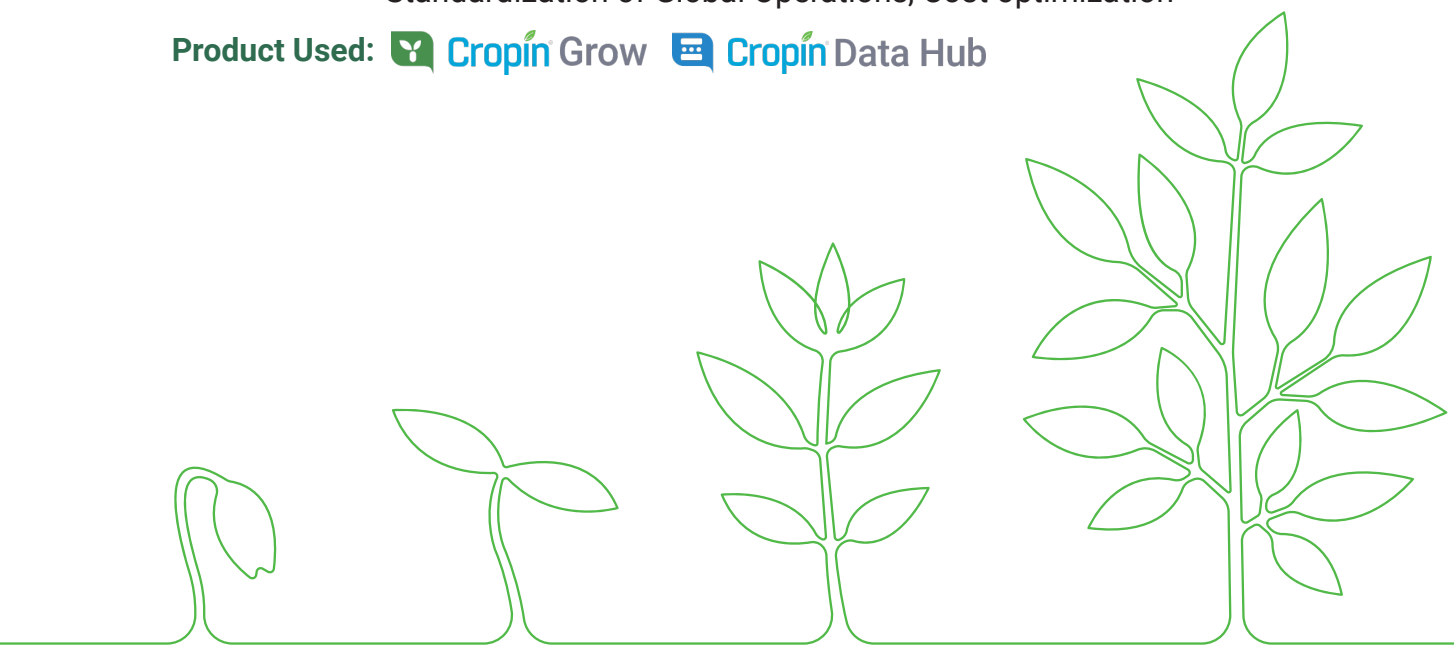
Industry: Seed production company

Location: The Netherlands, United States of America, Australia, Argentina, Guatemala, France, Italy, and Vietnam

Crops: Horticulture crops like cabbage, beetroot, onion, carrot, tomato, cucumber, cauliflower

Solution Area: Digitization; Data Integration; Single-platform view; Standardization of Global Operations, Cost optimization

Product Used: Cropin Grow Cropin Data Hub



Feature	Before Cropin	After Cropin
Standardize Global Operations	Inconsistent processes across regions, manual data entry, with a potential for errors.	Standardized global operations while allowing for regional customizations. Simplified and digitized field data collection that reduced inconsistencies.
Data Integration	Generating comprehensive reports was challenging as data was siloed from different regions and different softwares were being used across departments.	Centralized data repository, seamless integration of data, and effective management of both on-field and off-field data across multiple locations with interoperability between solutions. This enabled on-demand access to data for business reporting and analysis.
User-friendly	Complex interfaces required software knowledge and training for effective use.	An intuitive mobile and web application interface with easy to configure and use features is accessible to personnel with varying technical skills.
Single Platform View of Production	Fragmented view of production operations across regions, difficulty in identifying trends.	A holistic view of production data from all locations, enabling better decision-making.
Cost Optimization	Manual data collection was cumbersome and expensive. It took a week to gather and report crop insights impacting decision-making.	Near real-time data and reports on crop insights with a significant reduction in time spent, better inventory management, faster data processing, minimal audit errors, etc., led to cost optimization.

The Challenge: Scattered Seeds of Information

As the business expanded through acquisitions, integrating diverse processes within its sprawling operations became a growing challenge. Maintaining efficiency across this complex landscape necessitated a centralized and unified platform.

The company sought a platform that could address the following challenges:

- Standardize global operations across regions
- Single view of data from production activities
- Integrate data from multiple systems
- Digitize the cumbersome data capture process for field staff
- Provide near real-time data insights
- Improve visibility of field staff activities

- Monitor crop growth and development throughout the lifecycle
- Track germination rates and manage nursery operations efficiently
- Streamline scouting for diseases and pests
- Gain insights into pollination success rates
- Ensure adherence to the prescribed Package of Practices (PoP)
- Monitor and optimize chemical input usage

Planting the Seeds of a Solution

Prior to implementing the Cropin Cloud Platform, the seed major explored various digital tools. However, these were not user-friendly and lacked the intuitiveness and adaptability necessary for widespread adoption within their diverse workforce.

In contrast, Cropin's comprehensive farm data management and agri-intelligence cloud platform is designed to digitize, monitor, and streamline all processes leading up to harvest. It provides a centralized platform for tracking, managing, and monitoring every step – from sowing the seed for germination to execution and finally harvest - fostering efficiency, improved traceability, and predictable output.

Cropin Cloud: Cultivating Efficiency Across the Globe

The successful implementation began with a pilot project in the Netherlands. Today, Cropin Cloud platform seamlessly integrates the company's seed production business, encompassing a vast array of 40 crops like cabbage, beetroot, onion, carrot, tomato, cucumber, cauliflower, etc., and hundreds of unique varieties. Cropin's solution has not only addressed major challenges faced by this seed producer but has also proven itself remarkably user-friendly.

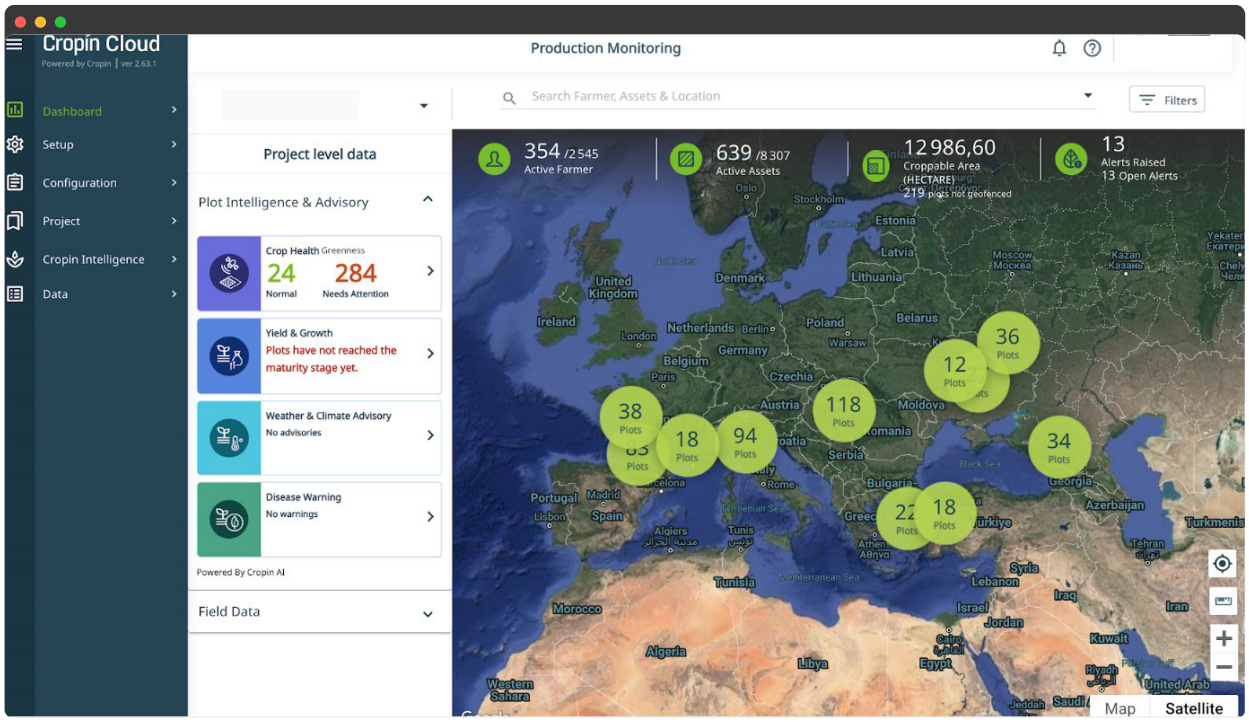


Figure 1: A dashboard view showing the spread of the main field in a region

On the Cropin platform, the company seamlessly manages seed cultivation for its crop varieties across diverse small and large farms as well as specialized nurseries. This integrated platform effectively fulfills all the company's objectives, ensuring optimal management of its seed production business.

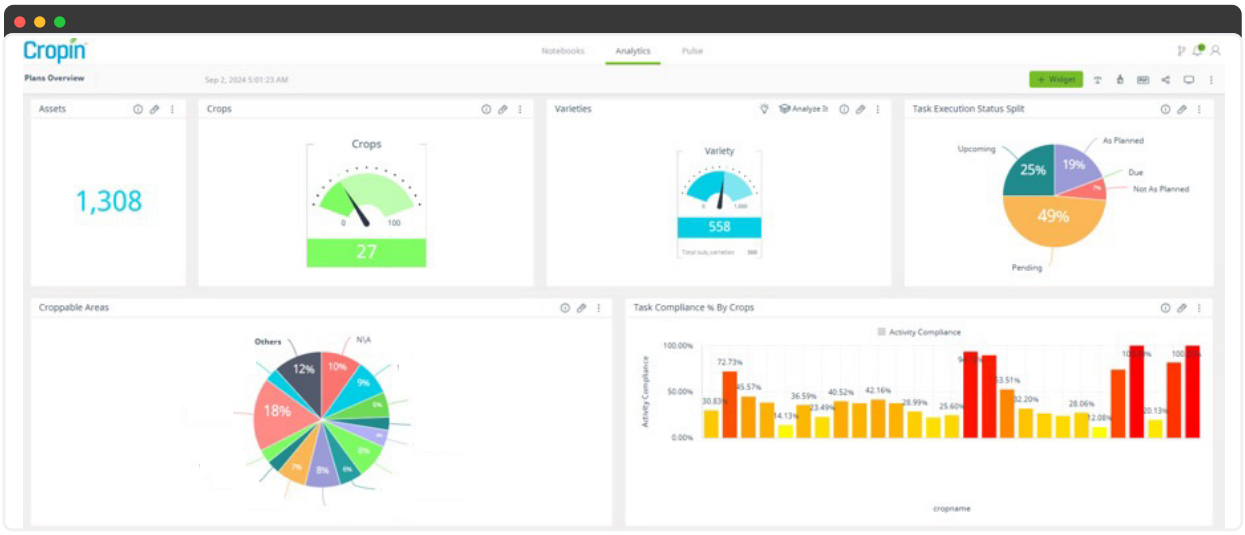


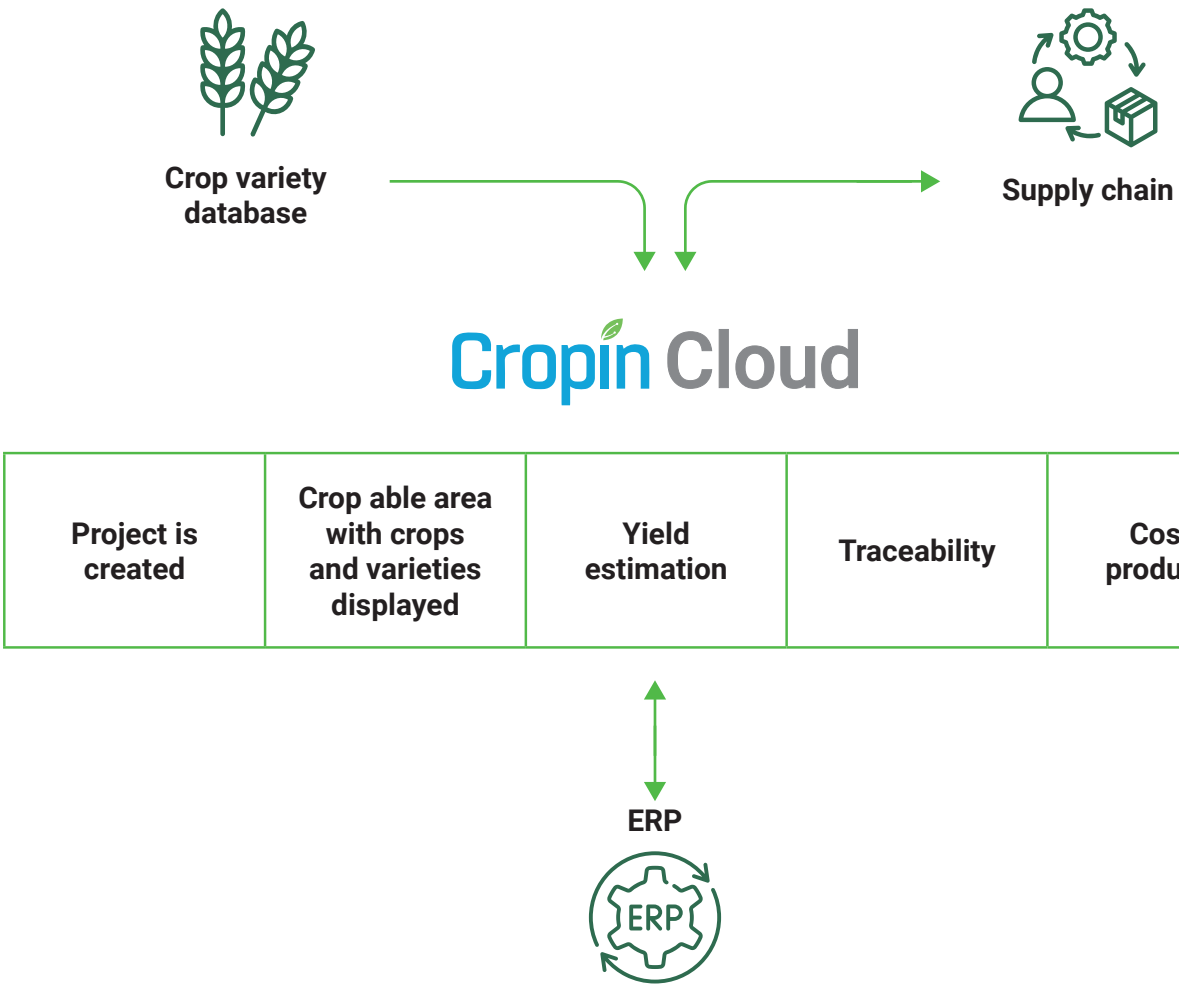
Figure 2: A Plan Overview dashboard of the company's Operations in a region

Integrating Diverse Data: A Challenge Met

The company aimed to centralize and integrate complete seed operations, from placing a seed order to arriving at the cost of seed production. To achieve this, it initially sought to integrate three key applications within the Cropin Cloud platform: an ERP system, a supply-chain planning tool, and a comprehensive crop variety database. This integration addressed a longstanding challenge in the agri-industry – effectively managing both on-field and off-field data.

Cropin Cloud platform proved to be the ideal solution. It utilizes an "agri -object model" to structure and organize agricultural data. By combining data from enterprise systems, agronomic practices, and field operations. Cropin enabled the seed major to:

- **Standardize Global Operations:** Cropin Cloud enabled standardization across geographically dispersed operations while maintaining regional differences, ensuring seamless data management and streamlined workflows.
- **Single Platform View of Seed Production Across All Regions:** The company gained real-time insights into production activities across all locations, facilitating informed decision-making.



Democratizing Data: Empowering Field Staff, Integrating Data, Streamlining Operations

Cropin Cloud, a comprehensive multi-farm management solution, was configured meticulously to cater to the specific needs of each user within the company's production operations. The simplicity of the Cropin platform delivered seamless customization, ensuring a perfect fit for the client's extensive existing processes across multiple geographies. The user-friendly interface, coupled with user training through a structured customer success program enabled by Cropin's team, eased user adoption rates. Regardless of their technical background, field staff could quickly grasp Cropin Cloud's functionalities and capture granular and multi-format data within the application. This included both planned and unplanned tasks, notably streamlining the previously laborious data collection process.

The benefits extended beyond the field team. Managers gained real-time visibility, enabling them to make data-driven decisions and optimize workflows. Additionally, users across various departments and levels could seamlessly access farm-level data on the centralized platform. Cropin Cloud improved operational efficiency by democratizing timely access to critical information for efficient decision-making while maintaining clear hierarchy-based secure access controls.

Cropin Cloud facilitated:

Real-Time Data: Capturing data in real-time, from germination to pest sightings, directly on the app effectively eliminated delays and inaccuracies.

Enhanced Process Transparency to Identify Areas for Intervention: The seed producer gained complete transparency, allowing for timely intervention and course correction when needed.

Improved Visibility of Field Staff Activities: Real-time tracking provided insights into field staff activities and facilitated proactive management and resource allocation.

Figure 3: Task management dashboard

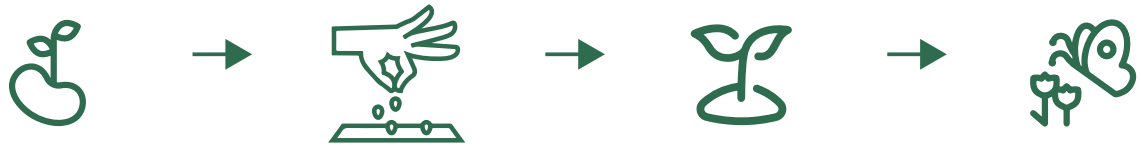
This illustrates a comprehensive breakdown of task management, highlighting the most completed tasks, user activity, and the monthly distribution of task completion both by user and activity type

Precise Monitoring from Seedling to Harvest

The company managed its seed production process through two distinct projects:

1. **Stock Seed to Young Plant:** This initial stage focused on converting stock seeds into young plants within controlled environments.
2. **Young Plant to Commercial Seed:** Once seedlings are ready, they are either transplanted to greenhouses for further growth or distributed to farms for field cultivation.

Cropin Cloud empowered the seed producer to effectively manage every stage of production, from ordering the seeds from the central system to germination in trays and then harvest. This comprehensive approach ensured meticulous tracking of crucial direct and computed data points, including:



Germination Rates: Monitored the success rate of stock seeds sown in trays to optimize planting strategies.

Seedling Survival: Tracked seedling health and growth patterns to identify and address any potential issues early on.

Planting Dates: Recorded the precise dates of female and male plant introductions at both greenhouses and fields.

Pollination Stages: Accurately captured the beginning and end of the pollination window to ensure optimal pollination.

Cropin Cloud empowered the company to optimize seed production processes by providing real-time data and streamlined monitoring functionalities, ensuring consistent quality and minimizing disease risk.

- **Tracking of Input Chemical usage:** Record and monitor all chemicals used throughout the production cycle, ensuring compliance with the PoP prescribed for each seed variety across nurseries, greenhouses, and farms.
- **Pest and Disease Scouting:** Seed production requires rigorous scouting for pests and diseases daily or on alternate days. If pests are identified, the observations are promptly documented on Cropin Cloud, enabling swift intervention and minimizing losses.

Other notable features:

- Multi-lingual support in regional languages and multi-locale settings eased communication with users in their language of choice.
- Data security and privacy are ensured with enterprise-grade encryption and well-defined user access controls.
- Offline mode guaranteed data collection even in remote locations with no internet access.

The Impact

Beyond Efficiency: The Ripple Effect of Cropin's Adoption

Adopting Cropin's technology has created a ripple effect across the company's operations. Here is an overview.

Cost Optimization: The Cropin Advantage

A McKinsey study underscores the transformative potential of digital agriculture, highlighting productivity boosts of 10-15% and cost reductions of 15-25%. This seed producer's experience with Cropin is a compelling case, demonstrating the tangible benefits of digital transformation in the seed industry.

Digitizing seed production is complex, requiring extensive configurations and customization to accommodate diverse processes and seed varieties. Such a tool's development and implementation cycle can be lengthy, often spanning 12 to 24 months, leading to significant opportunity costs. Cropin's dedicated development and maintenance team accelerates this process, providing a substantial advantage over in-house development, which can be up to 10 times more costly. Additionally, eliminating redundant software infrastructure, such as servers, maintenance, and licenses, further reduces the cost.

Data collection and management were historically cumbersome processes for agronomists and farm managers during crop stage evaluation. The manual approach was time-consuming, prone to errors, and hindered visibility into seed production. Cropin Cloud streamlined these processes, centralizing data collection and improving storage, retrieval, and decision-making.

The impact on efficiency and work-life balance was substantial. Agronomists and farm managers experienced significant reductions in time spent on data collection and reporting, freeing them to focus on more strategic tasks.

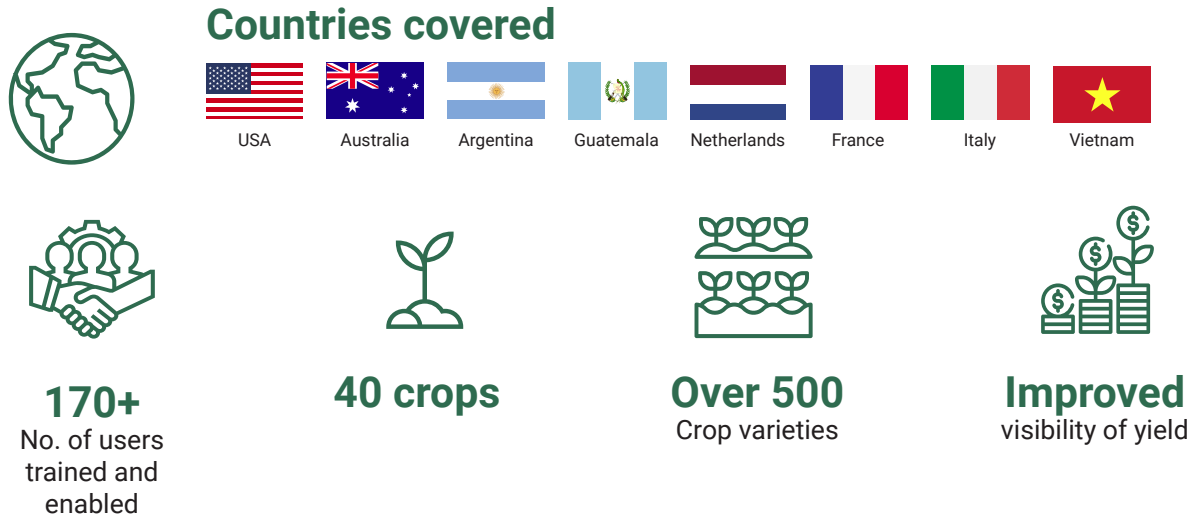
- **Agronomists** spend just about 10% of the time they spent earlier gathering and reporting crop-stage insights from farm managers.
- The time **farm managers** spend manually consolidating information during crop-stage evaluation is estimated to be reduced below 10%.

To put this into perspective, consider an agricultural operation spanning nearly 2,000 hectares, managed by a team of 24 agronomists and field agents, each paid approximately Euro 25 per hour. By leveraging Cropin Cloud, a significant reduction in operational costs was achieved. Through streamlined processes, agronomists and field agents saved a substantial 72 hours of labor, translating to a cost savings of over EURO 21 per hectare. This translates to a remarkable 115% return on investment. When considering the benefits across the organization and functions, including supply-demand forecasting, improved visibility of yield, and unquantified benefits net saving is further enhanced and return on investment is expected to surpass 150%.

A key advantage of Cropin Cloud was the elimination of data delays. Previously, data captured by field teams was often available to decision-makers **with a lag of about a week.** Cropin captures and stores data on a centralized system, allowing for **near real-time access and processing and reduced** audit errors. The availability of near real-time data, along with data integration from multiple sources, has significantly eased decision-making.

Beyond the financial benefits, Cropin's platform offers a wealth of operational advantages. The company's experienced team, specializing in project implementation, customer success, and data science, has a proven track record of addressing the unique challenges faced by seed producers. With over 14 years of experience, Cropin's platform has evolved into an intuitive, user-friendly, and robust solution that effectively addresses the adoption challenges of the workforce's diverse technical skill sets. The company observed widespread adoption and user satisfaction, driving collaboration across teams and locations. Cropin's structured customer success efforts eased the transition by providing necessary assistance.

Global Scalability: Cropin platform is uniquely poised to be globally scalable. It easily standardized operations while allowing for regional nuances for this seed major, as depicted below.



Report Generated & Insights Gained

Cropin's expertise in the seed industry also extended to report generation capabilities. The platform's ability to quickly configure custom reports tailored to specific needs has streamlined decision-making processes and reduced the time and effort previously invested in report generation.

Key reports and their value: Thirty-seven business-critical custom reports were enabled for the company. These include:

Scouting Reports: Monitor seedling and plant health for damage.

Biological Controls Deployment Reports: Ensure transparency in chemical usage.

Pollination Reports: Track pollinator introduction, addition, removal, and end-of-pollination details.

Stock Seed, Germination Rates, and Survival Count Reports: Provide essential information for seed management.

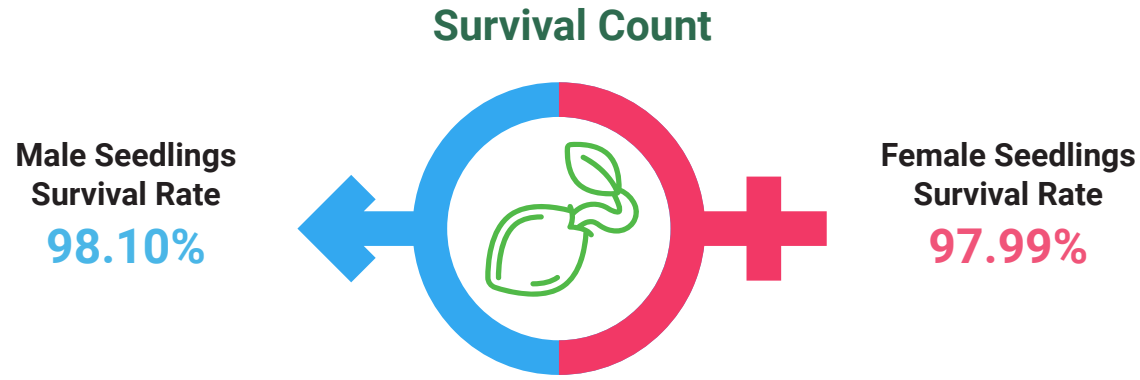
Real-time Monitoring for Proactive Action: Reports on crop health are triggered daily, and managers receive alerts. This proactive approach empowers them to take corrective measures as needed, minimizing potential risks.

Expanding Our Offerings: Our commitment to innovation drives us to develop new reports that support informed decision-making continuously. We're actively working with the client to expand our report library and enhance its value in decision-making.

A Complex Task, Simplified: Creating a comprehensive report that connects nursery and field data across projects is no easy feat. Cropin's platform excels in this area, capturing the entire journey from seed to bulb and bulb to seed. It ensures complete traceability of the seed production process.

Operational Impact:

Some of the early signs of impact recorded include improved germination rates and survival count for the client. Here is an example of impact in one region:



As they continue to standardize and scale other processes and operations, they expect considerable impact on both top-line and bottom-line metrics.

By partnering with Cropin, this seed major not only realized significant cost savings but also gained a powerful tool for driving operational efficiency, improving data management, and making informed decisions.

The Way Forward: Data-Driven Insights: The Next Frontier

Climate change has significantly impacted agricultural production, with losses rising from 2% to 8% in the past 5-10 years. The fluctuating nature of these impacts underscores the need for agile and data-driven decision-making. With a robust data-capturing process firmly established, this seed producer's focus now shifts to harnessing this valuable information in decision-making.

Conclusion

With a focus on user-friendliness, Cropin empowers a diverse workforce, fostering standardization and seamless data integration of seed production. Our single platform view grants unparalleled visibility across the entire seed cycle. This democratization of data empowers informed decision-making driven by precise real-time monitoring.

Cropin isn't just a technology partner; it's a catalyst for continued success in the Seed Industry. By embracing the Cropin Cloud platform, you can, too, achieve a new level of operational efficiency.

We deliver an experience of excellence. Connect with us to know more

Integration of diverse data and near-real-time monitoring for a single platform view of your multi-regional seed operations with our platform

Book an Appointment Now!

About Cropin

Founded in 2010, Cropin is the world's most advanced AI Platform for Food and Agriculture. Cropin Cloud, the world's first industry cloud for agriculture, has computed 10% of the world's cultivable lands. Implemented by over 250+ enterprises, Cropin empowers stakeholders to make informed decisions that enhance farming efficiency, productivity, and sustainability.Our teams are spread across India, The United States, Italy, The Netherlands, and Brazil. We have digitized 30 million acres of farmlands and positively impacted over 7 million farmers worldwide. Our crop knowledge graph, spanning 350 crops and 10,000 varieties in 103 countries, powers the Cropin Cloud. We are at the forefront of uniting agribusinesses, development agencies, international organizations, and governments to leverage Agtech systems to transform global food systems and attain climate goals. Cropin is backed by Google, Bill & Melinda Gates Foundation, ABC Impact, and Chiratae Ventures, among other notable investors.

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