

Case Study:

Bayer Significantly Improves Crop Monitoring Efficiency



Cupix Impact:

10x

site visits with virtual access

5x

faster data collection

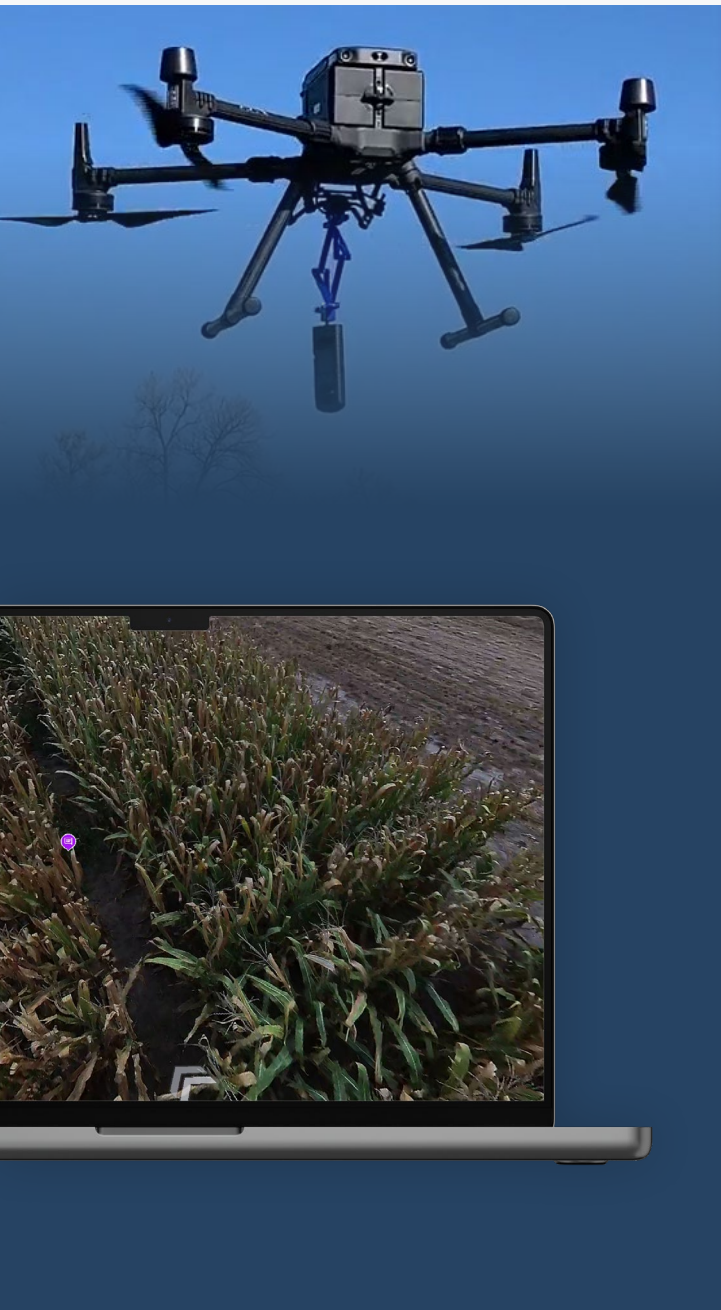
Overview

Bayer's Crop Science division stands at the forefront of agricultural innovation, leveraging cutting-edge technology and industry-leading crop research to revolutionize crop management and sustainability. As a global leader in agricultural sciences, they are committed to developing agriculture solutions for today and tomorrow.

This case study delves into how Bayer is integrating and utilizing new technologies to optimize crop monitoring practices.

Background and Challenges

Bayer faced significant challenges in monitoring extensive crop fields efficiently. Traditional methods of crop monitoring involved labor-intensive processes, such as manual scouting. The COVID-19 pandemic further exacerbated these challenges by restricting physical access to fields, leading to reliance on less efficient methods like raw video recordings from drones, which were time-consuming to review and lacked detailed spatial context.



CupixWorks Implementation

To address these challenges, Bayer implemented CupixWorks, a cloud-based collaboration solution that enables panoramic image capture and 3D spatial data integration. This initiative began with the idea of creating a Google Street View-like experience for their crops, allowing for immersive and detailed visualization of field conditions. They initially experimented with several different technologies but found them inadequate for outdoor usage due to their limitations in large-scale field applications.

The breakthrough came when Bayer discovered CupixWorks' capabilities in handling panoramic images efficiently and its adaptability to different data capture methods, including drones. They developed a process to integrate CupixWorks with their existing drone fleet and internal applications. This integration allowed for rapid capture of high-quality panoramic images and their subsequent 3D visualization in a user-friendly interface, enabling detailed inspection of crops at various growth stages.



Results and Impact

The implementation of CupixWorks at Bayer significantly improved crop monitoring efficiency for both field teams and scientists. Key results include:

- **Empowering Field Teams**

Allowing them to create 'digital twins' of crops, tracking growth and changes throughout the season in an immersive way.

- **Enhanced Crop Monitoring**

With the panoramic views provided by CupixWorks, they can monitor crop growth stages, identify issues like nitrogen deficiency, lodging and compare crop conditions at different times more effectively.

- **Time and Cost Savings**

The new system reduced the time required for field monitoring. Previously, manual scouting and video analysis could take hours; now, panoramic images provide immediate and comprehensive insights.

- **Remote Access and Collaboration**

During COVID-19, when physical access to fields was restricted, CupixWorks would have allowed scientists and decision-makers to virtually walk through the fields, facilitating continued monitoring and decision-making.

- **Efficiency and Accuracy**

Cupix implementation has significantly improved crop monitoring efficiency by reducing the need for time-consuming manual analysis and enabling targeted management actions.

- **Standardization Across Teams**

Bayer aimed to create an enterprise-level solution applicable across various CupixWorks offered a standardized platform for all teams to access and analyze field data efficiently.



Future Plans

Bayer plans to further integrate CupixWorks into their operations by:

- **Expanding Use Cases**

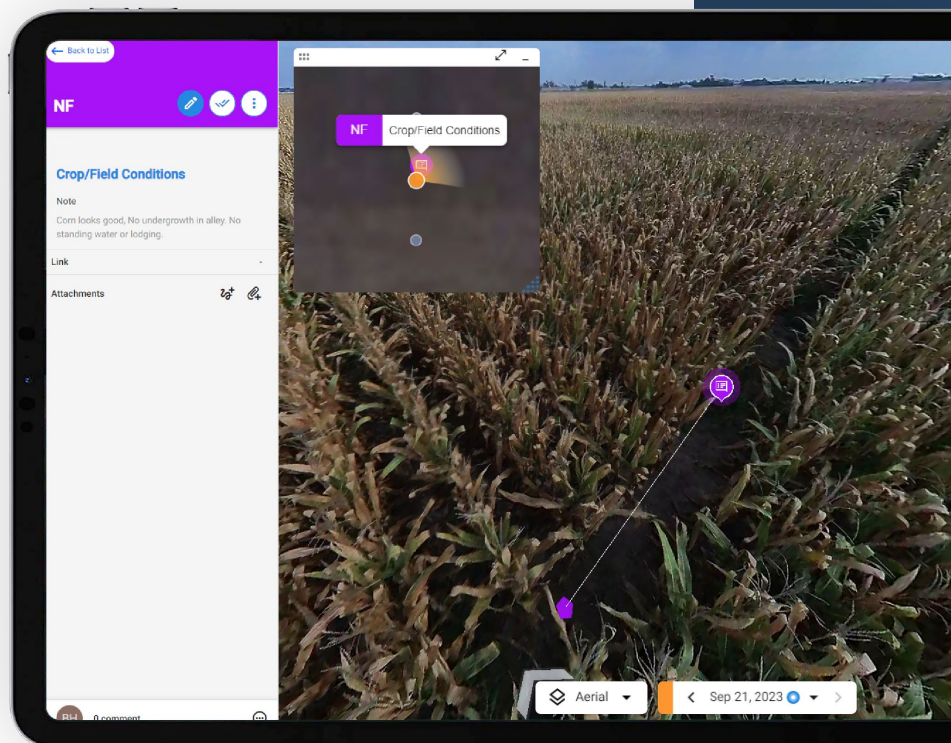
Exploring additional applications of the technology in different areas such as controlled environment monitoring

- **Data Integration**

Integrating panoramic data with other forms of crop data, like weather and soil conditions, for more comprehensive analysis.

- **Enhancing User Experience**

Continuously improving their platform capabilities to leverage CupixWorks to make crop management even more efficient and user-friendly.



Conclusion

The integration of CupixWorks into Bayer's operational framework has marked a significant leap forward in agricultural technology and crop monitoring. By harnessing the power of digital twins and immersive panoramic captures, the company has not only overcome previous challenges but has also set a precedent for the future of digital agriculture. The planned expansion and continued refinement of this technology hint at a future where monitoring and efficiency are at the forefront of agricultural practice.

“Partnering with Cupix has enabled a streamlined capture process that is ahead of the competition. This allows our field teams to quickly capture and view imagery from a central internal application. Scientist and leadership can easily collaborate on field conditions and increase the agility in decision making.”

Bryan Holley
Product Manager

