

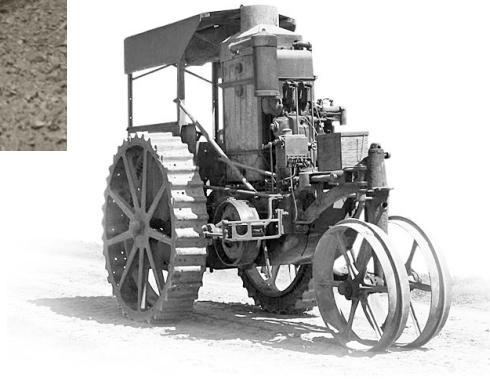


Professional Services for Farmland Owners and Investors

Technology and AI in Agriculture

Secure Your Farm's Future | Summer 2026

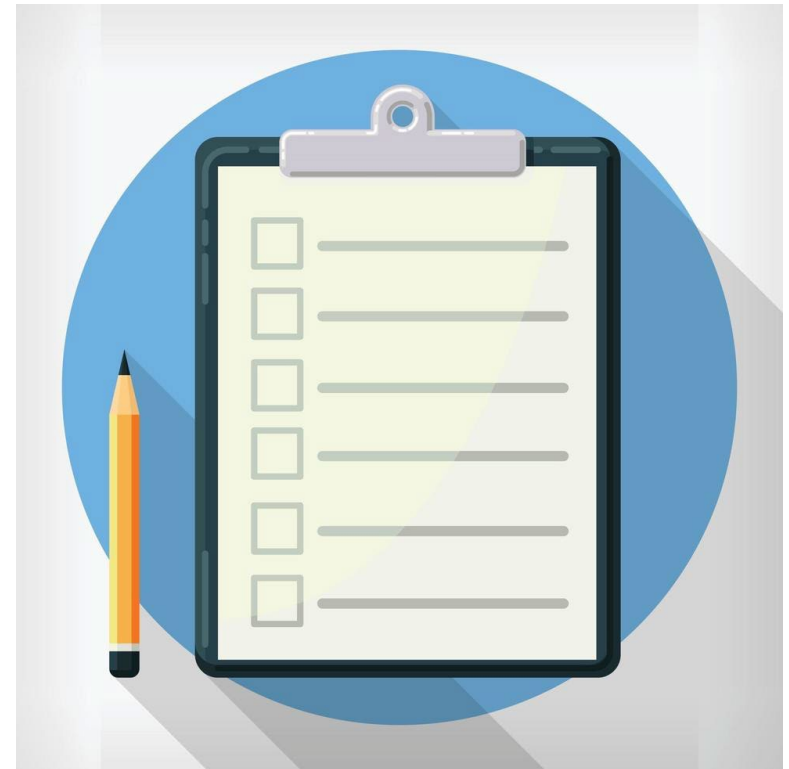




Agenda

3

- Benefits
- 7 Key Tech/AI Applications
- Implementation Challenges
- Key Takeaways



What is AI in Agriculture?

4

- Machine Learning
- Computer Vision
- Robotics
- IoT+ Analytics



Why Agriculture Needs AI

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- Population Growth
- Climate Variability
- Resource Constraints
- Labor Shortages



Overall Benefits of AI

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- Higher Yields
- Lower Costs
- Improved Sustainability
- Better Decisions
- Labor Shortages



Application 1: Automated Weed Control

AI distinguishes crops from weeds for precision treatment.

Case Example - Precision Spraying:

- Targets only weeds
- Reduced Herbicide Usage
- Lower Operating Costs



John Deere See & Spray

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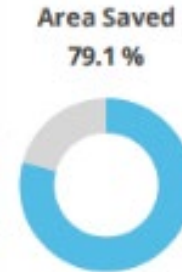
Source: EIA

www.Hertz.ag



Work Totals

Area Type	Area	% of Area	Applied Rate	Applied Total	Target Rate	Target Total
Area Worked	225 ac	100 %	4.31 gal/ac	969.1 gal	20 gal/ac	4,500 gal
Area Applied	47 ac	20.9 %	20.64 gal/ac	969.1 gal	0 gal/ac	0 gal
Area Saved*	178.1 ac	79.1 %	---	---	20 gal/ac	3,561 gal



*This is the area the machine worked but did not spray. The "Target Rate" and "Target Total" represent the product saved by using See & Spray technology.

Map: Applied Rate



**79.1% Reduction
in Post
Application**



Application 2:

Crop Disease Detection

Cameras identify diseases early using images and sensors.

Benefits:

- Earlier Intervention
- Reduced Crop Loss
- Lower Pesticide Usage



The Process



1

ACQUISITION

We cover millions of acres of leaf-level data with submillimeter resolution and at optimal timing



2

ANALYTICS

AI and Machine Learning deliver actionable crop insights at scale



3

ACTION

Engage with growers and drive input decisions both in-season and post-season planning



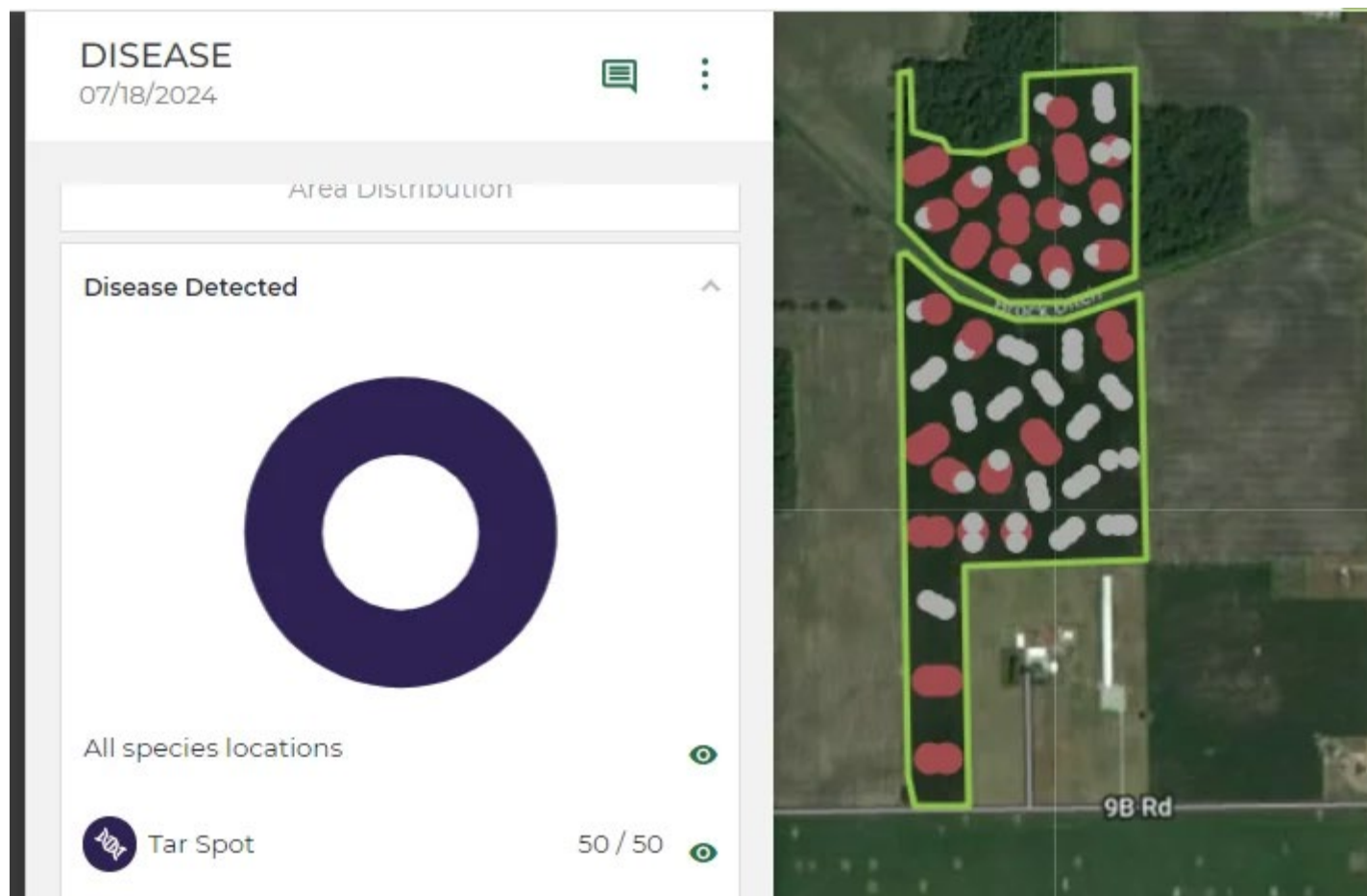
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AG ASSISTANT™

Industry first Ag LLM, multimodal data sources, generates comprehensive agronomic recommendations

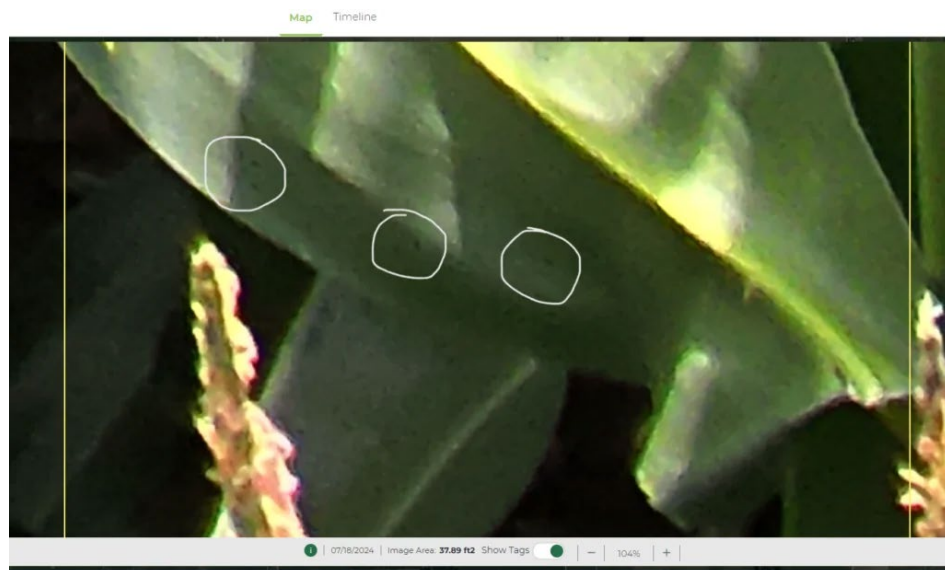


The Problem



Recommendation

Drone Photo



Crop Advisor



Application 3:

Nutrient-Use Efficiency Management & Robotics

- Variable Rate Application
- AI in Agronomy
- Real-Time Sensors
- Autonomous Field Scouting/Application



Source: Tanner Clementz



Source: Liang Dong, Iowa State University



Looking Ahead



Image Source: [upsiderobotics.com](https://www.upsiderobotics.com), [deere.com](https://www.deere.com),
[greenfieldincorporated.com](https://www.greenfieldincorporated.com)
www.Hertz.ag

Application 4:

Predictive Yield Analysis

- Forecasts crop yields all season long
- Uses weather, soil, and real-time field condition data
- Optimize fertilizer, irrigation, and other inputs
- Improves harvest logistics, storage, and marketing decisions
- Real-time results

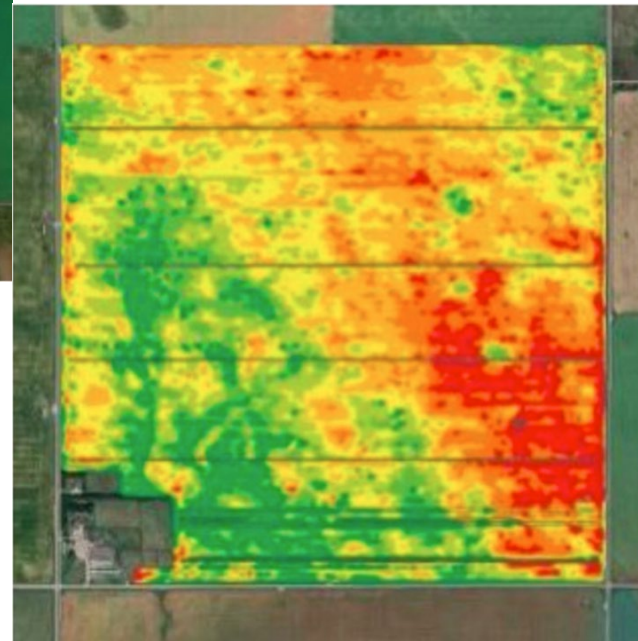
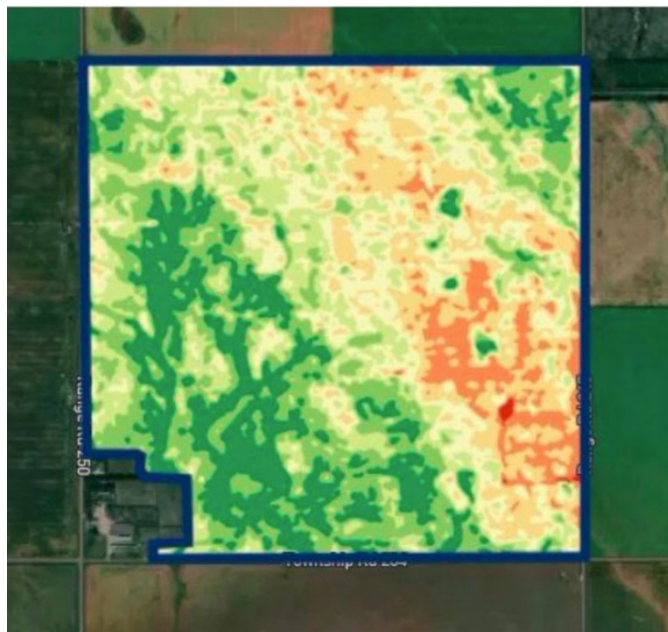


Image Source: geopard.tech

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Real-time Predictive Yield

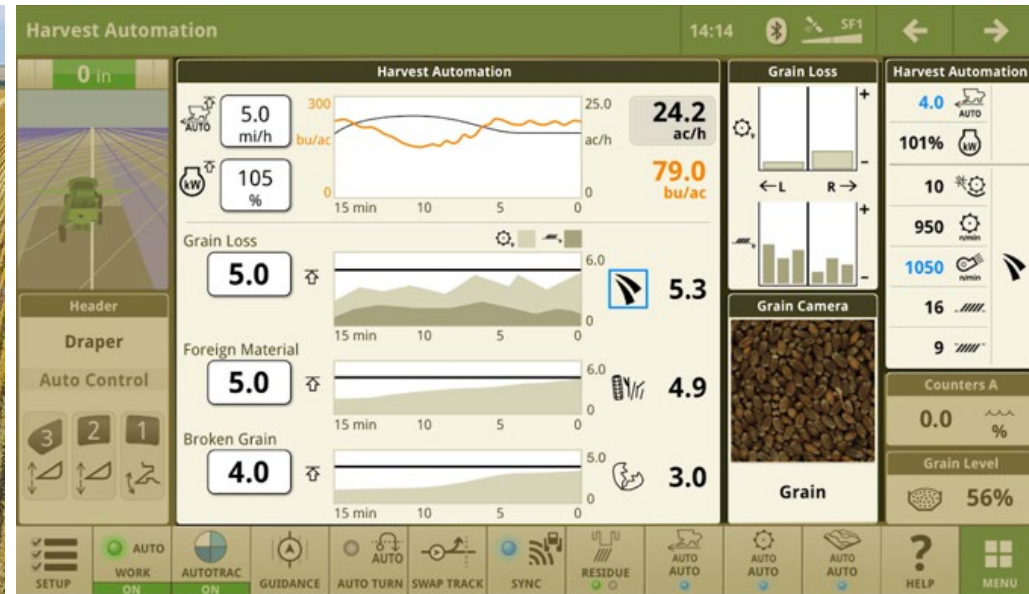


Image Source: deere.com

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Application 5:

Supply Chain Forecasting

Predict demand and optimize agricultural logistics.

Benefits:

- Reduced Waste
- Improved Inventory Management
- Higher Profitability

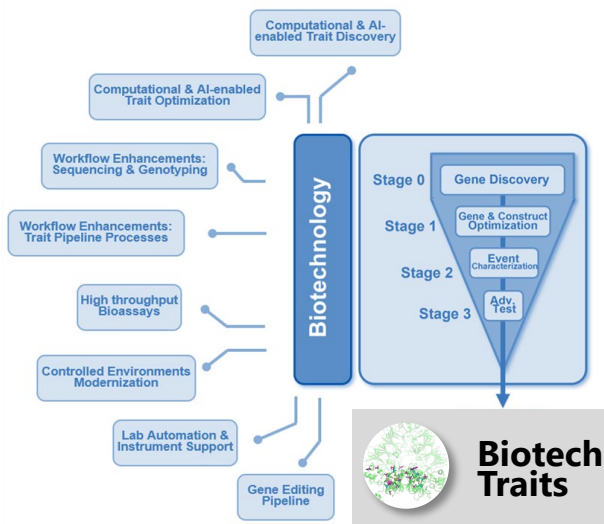


AI has a long history of use in the Seeds R&D Pipeline

Select examples show how AI increased the scale of Seeds R&D and shortened timelines to deliver products

DISCOVERY

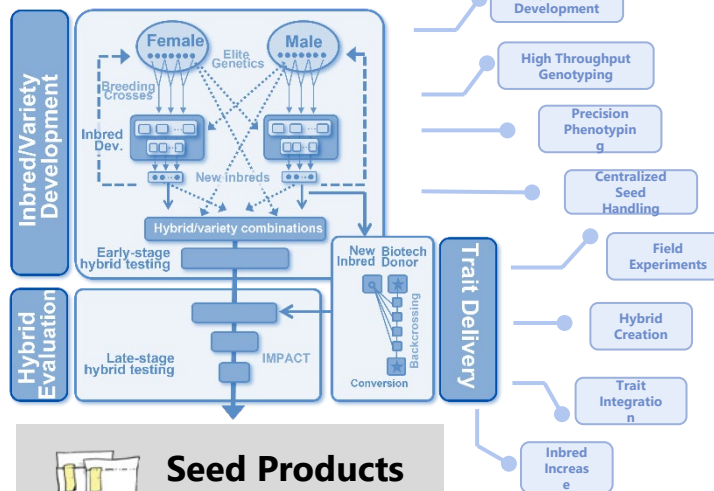
12X Increase in speed from traditional to AI-driven discovery



For Example: increase in key soy amino acid content with GenAI designed gene edits

30-40%

>90% of germplasm candidates disqualified prior to field testing



Seed Products

are delivered 1-2 years faster

DEVELOPMENT

>85 M data points generated through AI-based field sensing pipeline

94% Reduction in cotton plot costs by using AI with drone imagery instead of harvesters to measure yield

>40% Increased throughput at R&D Seed Handling facility with optimization algorithms

>4.5 bu/ac Yield lift by using models to predict the best corn hybrid for a customer field

Application 6:

Precision Irrigation

Optimize water use efficiency through Variable Rate Irrigation.

Benefits:

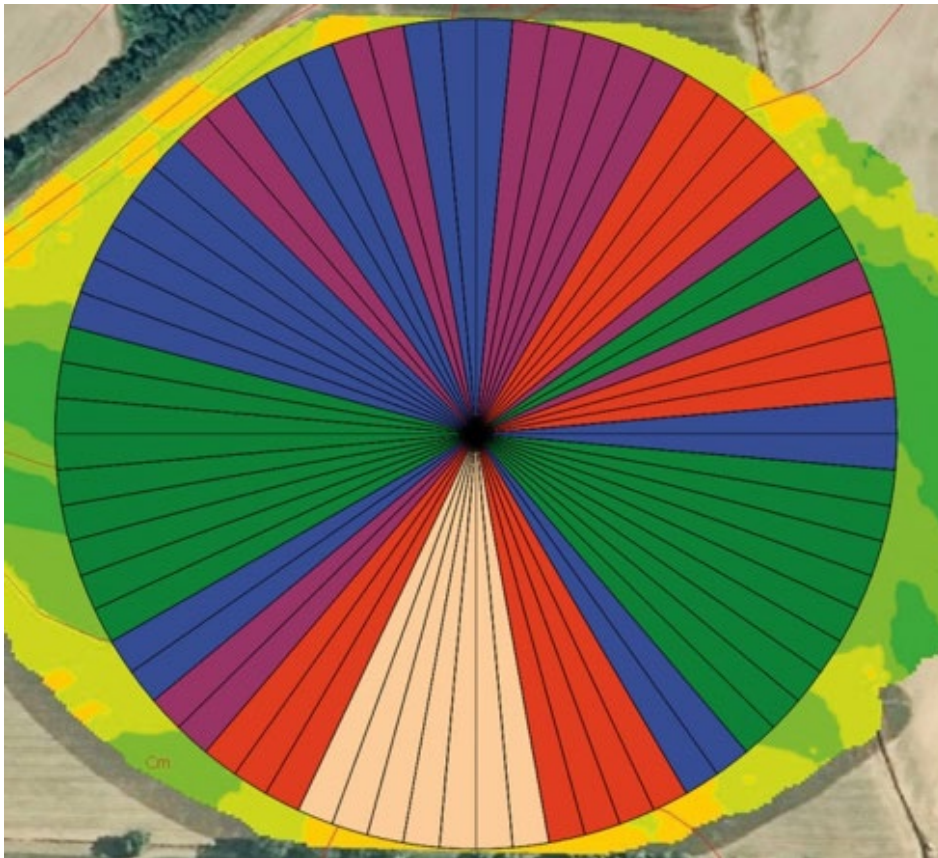
- Improved Water Use Efficiency
- Application Timing
- Application Rate



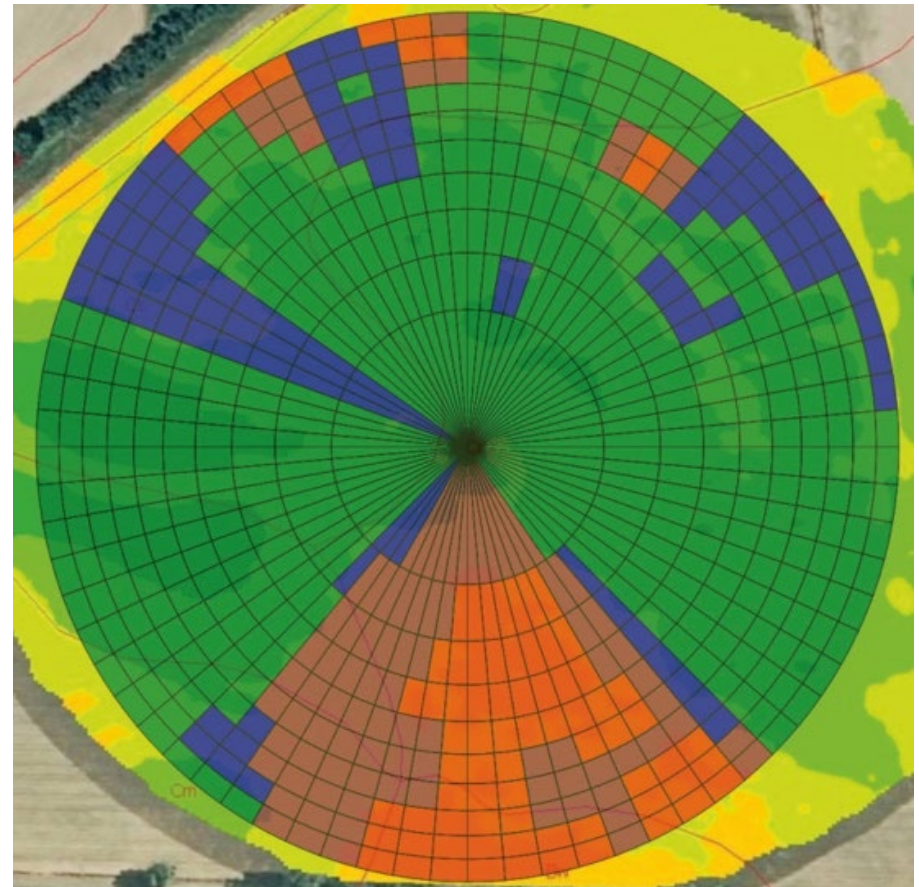
Examples of Variable Rate Irrigation

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Speed Control

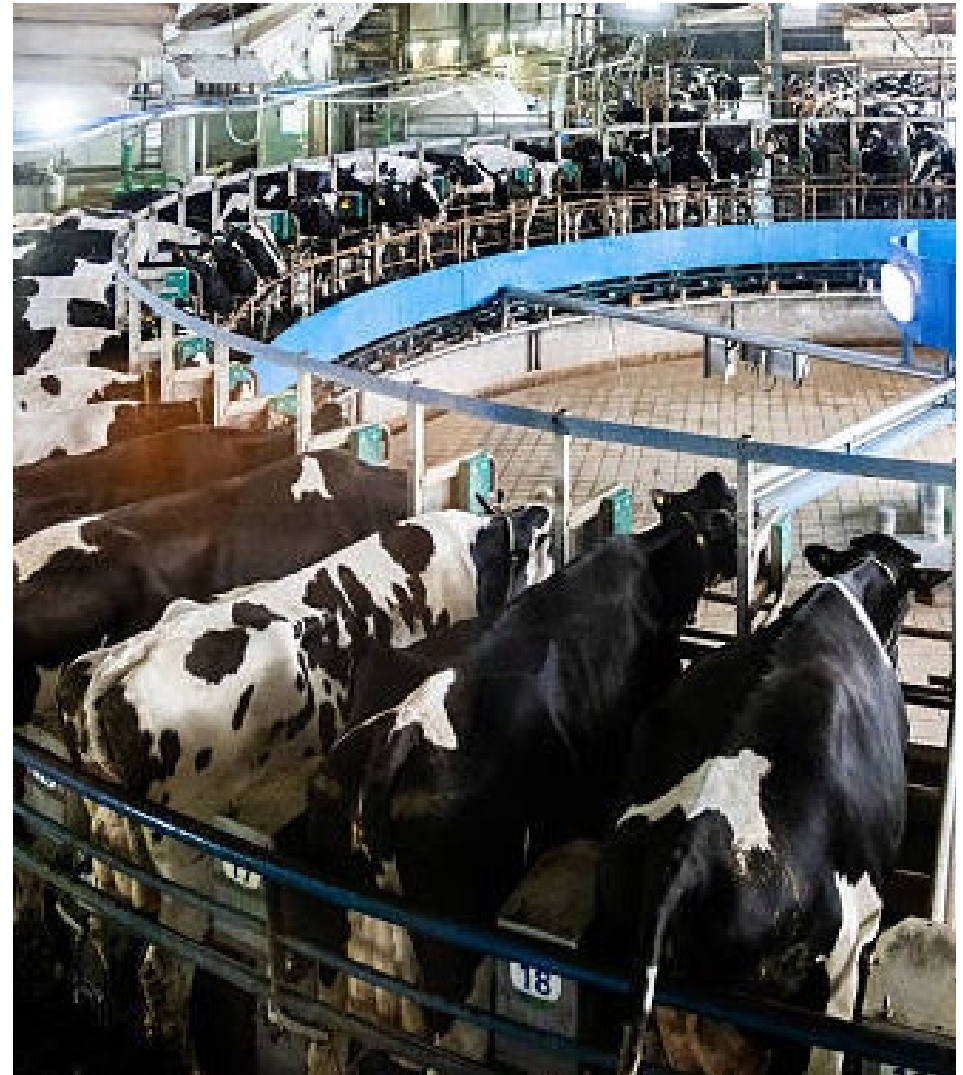


Zone Control

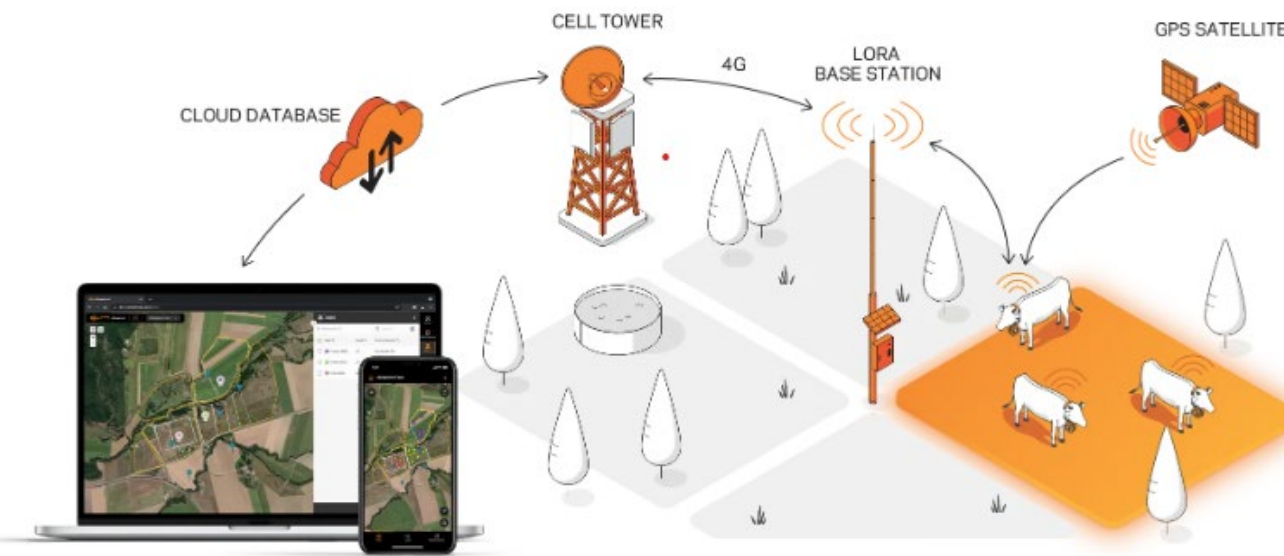


Application 7: Livestock Monitoring

- Wearables, cameras, and sensors track animal health.
- **Benefits:**
 - Higher Productivity
 - Improved Welfare
 - Lower Veterinary Costs



Virtual Fencing



Implementation Challenges

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- Cost
- Connectivity
- Data Quality
- Skills Gap



Key Takeaways

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- Technology is evolving at a rapid pace.
- Adoption will continue, but challenges remain.
- Education and continued evaluation.



Questions & Discussion

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