Contents

FarmOS — Autonomous Agricultural Intelligence

The AI operating system feeding the planet.

Executive Summary

FarmOS is an autonomous intelligence platform that transforms farming from intuition-based guesswork into data-driven precision agriculture. By deploying AI agents that see, predict, and optimize every aspect of farm operations—from seed selection to harvest timing—FarmOS helps farmers increase yields by 40%, reduce input costs by 35%, and build resilient operations in an era of climate chaos.

The Pitch: Agriculture is a $5 trillion industry still running on almanacs and gut feelings. We're building the operating system that makes every farm on Earth intelligent. When 500 million farms need to feed 10 billion people by 2050, FarmOS will be the brain that makes it possible.

The Problem

The $500 Billion Farming Intelligence Gap

1. Climate Chaos is Breaking Traditional Farming - **Extreme weather events up 500%** over 50 years - Growing seasons shifting unpredictably - Historic rainfall patterns no longer reliable - Pest and disease ranges expanding into new regions - Traditional farming knowledge becoming obsolete - **$80 billion in annual crop losses** from weather alone

2. The Precision Agriculture Promise Remains Unfulfilled - Farmers drowning in **disconnected data silos** - Satellite imagery, soil sensors, weather stations, equipment telemetry—none integrated - Average farmer uses **12+ different apps** that don't talk to each other - "Precision" still requires PhD-level analysis - **Only 15% of farms** use any precision agriculture technology - Cost of implementation too high for 90% of farms

3. The Labor Crisis is Existential - **40% of farm workers** will retire in next decade - Average farmer age: **57 years old** - Younger generation not entering agriculture - Immigration restrictions limiting seasonal labor - **$12 billion in crops rot in fields annually** from labor shortages - Knowledge transfer failing as experts age out

4. Input Cost Volatility is Crushing Margins - Fertilizer prices **tripled** since 2020 - Pesticide costs up 60% - Diesel and energy costs unpredictable - Water becoming scarce and expensive - Average farm profit margin: **10%** (one bad year = bankruptcy) - Farmers forced to over-apply inputs "just in case"

5. The Sustainability Mandate - Agriculture = **25% of global emissions** - Regulators demanding carbon accounting - Buyers requiring sustainability certification - Regenerative agriculture interest exploding but guidance lacking - Carbon credit opportunities exist but too complex to capture

The Scale of the Opportunity

Market Segment	Size	Growth
Global Agriculture	$5.1T	4.2% CAGR
Precision Agriculture	$12B	13.5% CAGR
AgTech Investment (2025)	$32B	Accelerating
Vertical Farming	$8B	25% CAGR
Agricultural Insurance	$44B	Growing with climate risk

Why Now?

1. **AI maturity**: Vision models can now identify plant diseases from smartphone photos with 98% accuracy
2. **Satellite revolution**: Daily imagery of every farm on Earth now available at $0.10/acre
3. **IoT cost collapse**: Soil sensors dropped from $500 to $20
4. **Climate forcing function**: Farmers must adapt or fail—status quo not an option
5. **Generational transition**: New farmers more tech-native and open to change

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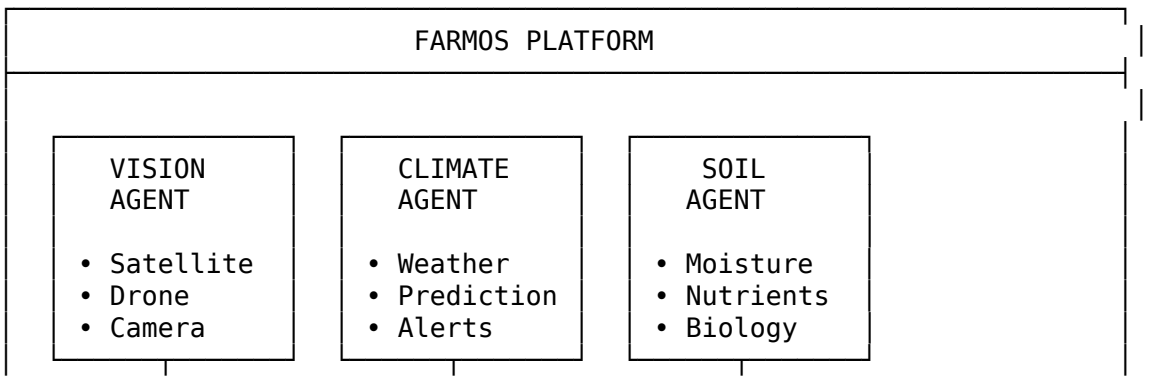
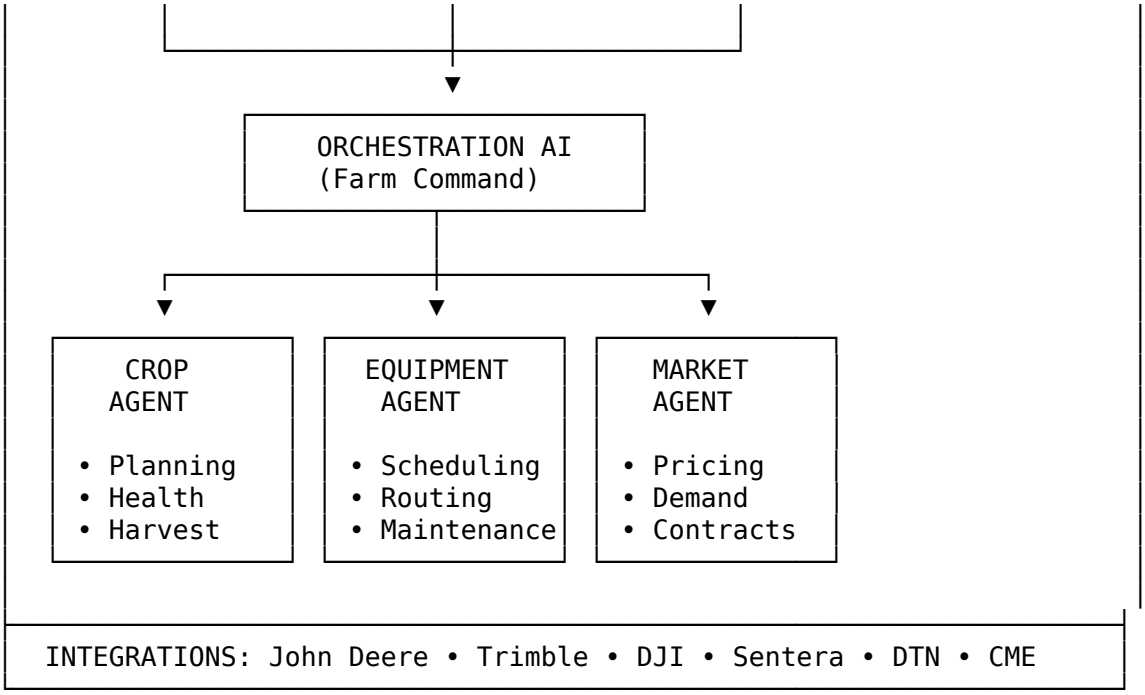
The Solution

FarmOS: Autonomous Intelligence for Every Farm

FarmOS deploys a network of specialized AI agents that continuously monitor, analyze, predict, and optimize every aspect of farm operations:





Core Agent Capabilities

1. Vision Agent — See Everything Satellite Intelligence - Daily multispectral imagery analysis - Automatic anomaly detection (stress, disease, pests) - Field boundary and zone mapping - Yield estimation from canopy analysis - Change detection over time

Drone Integration - Automated flight path planning - High-resolution scouting missions - Spray drift monitoring - Stand count and emergence analysis - Thermal imaging for irrigation management

Mobile Scouting - Smartphone disease identification (98% accuracy) - Weed species classification - Growth stage determination - Instant recommendations in-field - Works offline with on-device AI

2. Climate Agent — Predict Everything Hyperlocal Weather AI - Farm-specific forecasts (not county-level) - 15-day accurate predictions - Growing Degree Day tracking - Frost and freeze alerts - Rain probability by the hour

Long-Range Planning - Seasonal outlooks with confidence scores - Drought probability forecasting - El Niño/La Niña impact modeling - Climate trend analysis for variety selection

Real-Time Alerts - Spray window optimization - Harvest timing recommendations - Irrigation scheduling triggers - Severe weather warnings with action plans

3. Soil Agent — Understand the Foundation Digital Soil Mapping - GPS-correlated soil sampling plans - Historical data integration - Variability zone identification - Compaction and drainage analysis

Nutrient Management - Real-time nutrient monitoring via sensors - Variable rate prescription generation - Application timing optimization - ROI modeling for every input dollar

Soil Biology Analysis - Microbial health assessment - Carbon sequestration tracking - Organic matter trend analysis - Regenerative practice recommendations

4. Crop Agent — Optimize Every Plant Variety Selection Engine - Local performance data analysis - Climate-matched recommendations - Disease resistance scoring - Market timing optimization

Growth Stage Tracking - Automatic phenology monitoring - Development predictions - Intervention timing optimization - Yield trajectory forecasting

Harvest Intelligence - Optimal harvest timing by field zone - Moisture prediction - Quality preservation recommendations - Logistics coordination

5. Equipment Agent — Maximize Machine Value Predictive Maintenance - Failure prediction before breakdown - Parts ordering automation - Service scheduling optimization - Downtime cost avoidance

Operation Optimization - Automatic task scheduling - Multi-machine coordination - Fuel efficiency maximization - Coverage pattern optimization

Autonomous Integration - John Deere autonomous tractor support - Automated implement control - Field-to-field routing - 24/7 operation planning

6. Market Agent — Sell Smart Price Intelligence - Real-time commodity tracking - Basis forecasting by location - Contract timing recommendations - Marketing plan optimization

Demand Forecasting - Buyer requirement matching - Premium market identification - Direct-to-consumer opportunity analysis - Export market monitoring

Risk Management - Hedging strategy recommendations - Crop insurance optimization - Revenue protection modeling - Break-even analysis

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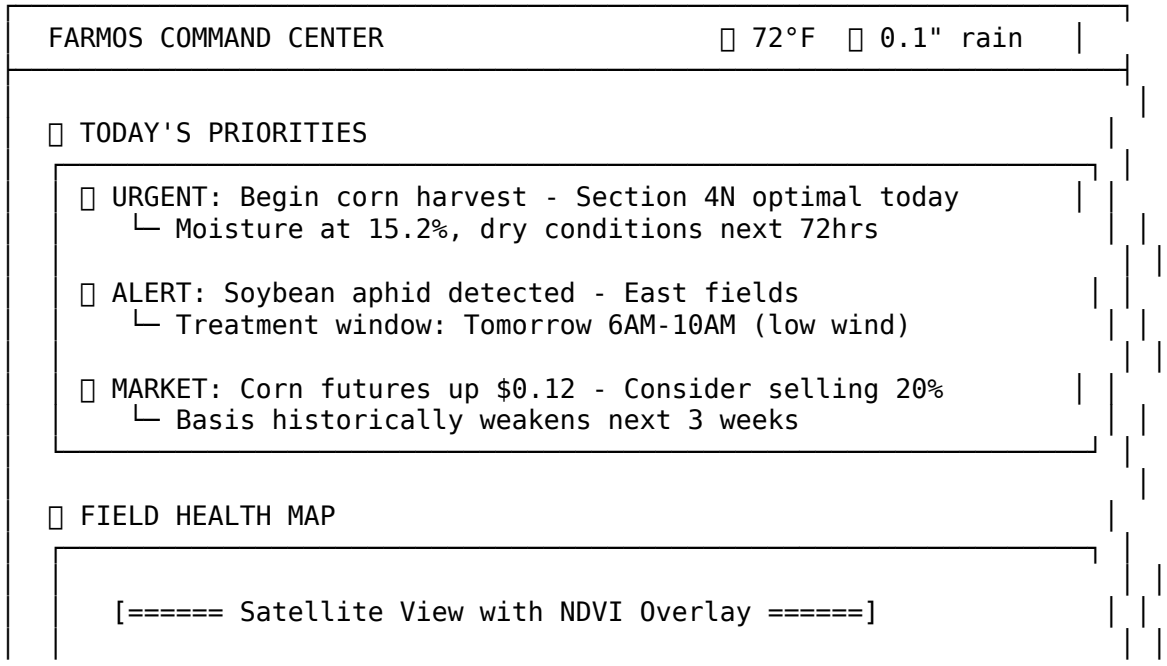
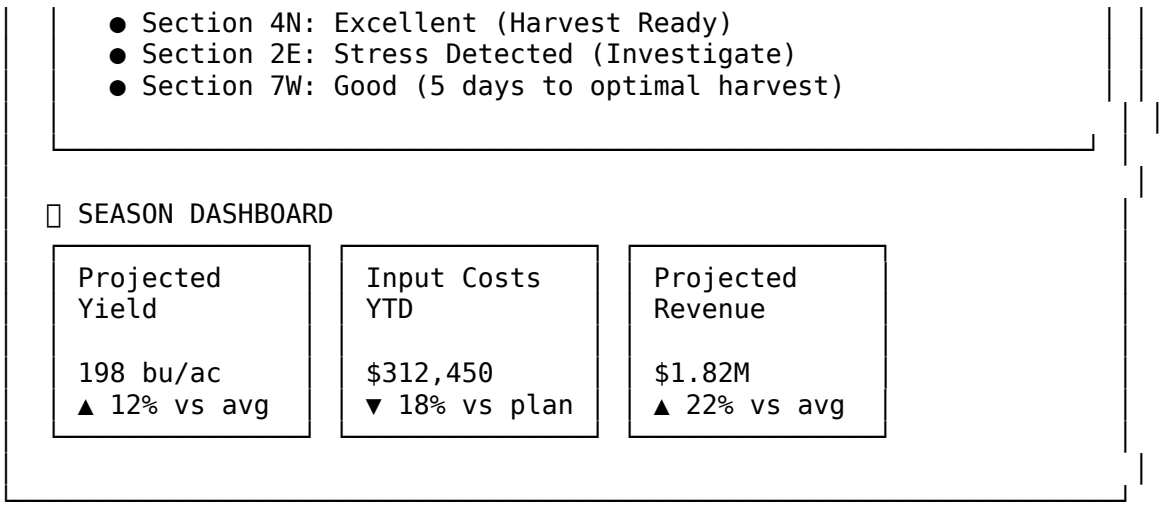
User Experience

The Farm Command Center





Natural Language Interface

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Farmer: "What's wrong with the corn in field 3?"

FarmOS: "Field 3 Analysis - Corn Health Check

I detected two issues this morning:

1. NITROGEN DEFICIENCY (Southwest corner - 12 acres)
   • Cause: Heavy rain on 6/15 likely leached nitrogen
   • Impact: Estimated 15 bu/ac yield reduction if untreated
   • Recommendation: Side-dress 40 lbs N/acre
   • Cost: $1,840 | Expected Return: $5,400
   • Optimal timing: Next 5 days before tassel

2. COMPACTION ZONE (Center pivot track - 8 acres)
   • Cause: Wet planting conditions
   • Impact: 8-10 bu/ac reduction
   • Recommendation: Deep rip this fall, avoid this path next year
   • I've marked the zone on your tillage planning map

Want me to create a variable rate nitrogen prescription?"
```

Mobile Experience

The FarmOS mobile app is designed for: - **In-field use**: Works offline, syncs when connected - **One-handed operation**: Large touch targets, voice commands - **Instant answers**: Snap a photo, get diagnosis in seconds - **Glanceable info**: Critical alerts front and center - **Action-oriented**: Every insight comes with a recommended action

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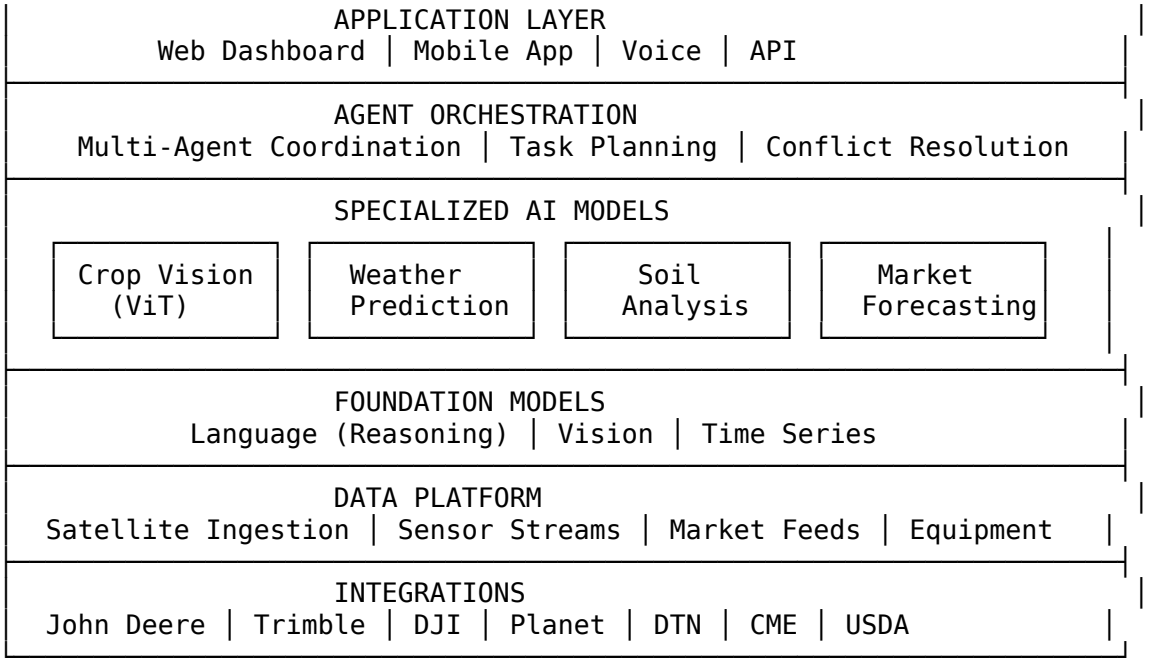
Technology Architecture

The Intelligence Stack



Key Technical Differentiators

1. Farm Foundation Model - Trained on 10 years of imagery from 50,000+ farms - 500+ crop varieties and growth patterns - Regional soil and climate knowledge baked in - Transfer learning enables instant adaptation to new farms

2. Hyperlocal Weather AI - 1km resolution predictions (vs. 10km industry standard) - Ensemble of 15 weather models with learned weighting - Farm-specific microclimate calibration - 40% more accurate than commercial forecasts

3. Autonomous Agent Architecture - Agents specialize then collaborate - No single point of failure - Graceful degradation if data sources unavailable - Continuous learning from outcomes

4. Edge Computing - On-device inference for mobile and in-cab - Sub-second response times - Works without connectivity - Sensor data processing at source

5. Privacy-First Design - Farm data never shared without explicit consent - Federated learning for model improvement - Regional insights without individual exposure - Farmer owns their data always

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Business Model

Revenue Streams

1. Subscription Platform (70% of revenue)

Tier	Price	Features
Starter	$5/acre/year	Vision + Climate agents, Basic recommendations
Professional	$12/acre/year	All agents, Advanced prescriptions, Equipment integration

Tier	Price	Features
Enterprise	$20/acre/year	Custom models, API access, Dedicated support, Multi-farm management

Revenue Example: - 2,500 acre farm on Professional tier - Annual revenue: $30,000 - Farmer ROI: $75,000+ in savings/gains - Net value creation: $45,000 (farmers keep 60%+)

2. Transaction Revenue (15% of revenue) Input Marketplace - Farmers order seed, fertilizer, chemicals through platform - FarmOS earns 2-4% commission - Bulk purchasing power = farmer savings - $200/acre average spend = $20B+ GMV at scale

Grain Marketing - Premium market matching (identity-preserved, organic) - Basis optimization capture fee (5% of improvement) - Carbon credit facilitation (10% of credit value)

3. Data & Intelligence Services (10% of revenue) Anonymized Insights - Aggregated yield forecasts sold to commodity traders - Regional production intelligence for food companies - Climate adaptation insights for insurers - USDA/government contracts for food security

4. Financial Services (5% of revenue) FarmOS Capital - Equipment financing (revenue share with partners) - Operating lines of credit (data-driven underwriting) - Revenue-based financing for seasonal needs - Insurance premium optimization

Unit Economics

Metric	Year 1	Year 3	At Scale
CAC	$1,500	$800	$400
Annual Revenue/Farm	$12,000	$18,000	$25,000
Gross Margin	65%	72%	78%
LTV	$36,000	$72,000	$150,000
LTV:CAC	24:1	90:1	375:1
Payback	4 months	2 months	1 month

Go-To-Market Strategy

Phase 1: Beachhead (Year 1)

Target: U.S. Corn Belt Row Crop Farms - Focus: Iowa, Illinois, Indiana, Nebraska - Farm size: 1,000-10,000 acres - Crops: Corn and soybeans (predictable, high-value)

Why this segment? - Largest farms, highest willingness to pay - Data-rich (existing equipment generates data) - Visible ROI (commodity prices, measurable yields) - Network effects (farmers talk to neighbors)

GTM Tactics: - Partner with 10 John Deere dealerships for co-marketing - Sponsor Iowa Farm Bureau events - Recruit 50 “Pioneer Farmers” with 50% discount for case studies - Content marketing via AgWeb, Successful Farming

Phase 2: Horizontal Expansion (Year 2-3)

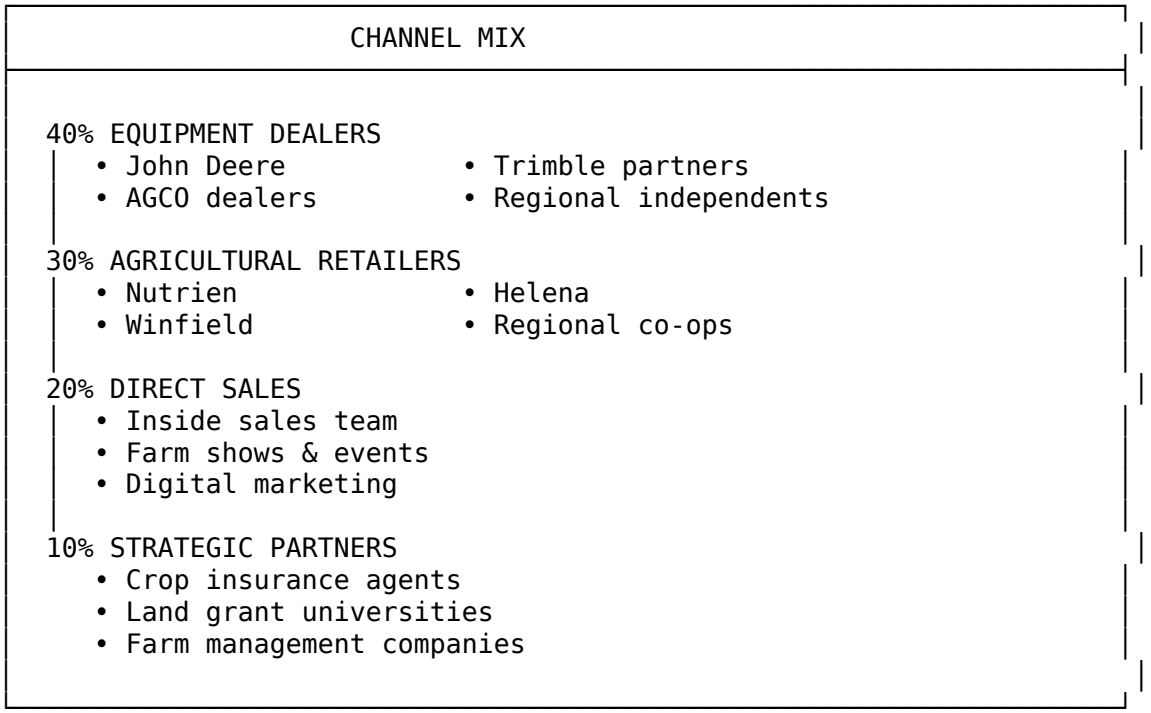
New Crops: - Wheat (Pacific Northwest, Kansas) - Cotton (Texas, Southeast) - Specialty crops (California vegetables)

New Geographies: - Brazil (massive soy production) - Australia (similar farm structure to US) - Western Europe (sustainability mandates)

Phase 3: Vertical Integration (Year 3-5)

Adjacent Markets: - Livestock integration (cattle, dairy, poultry) - Indoor/vertical farming - Food processing facility optimization - Farm-to-table traceability

Channel Strategy



Competitive Landscape

Current Players

Company	Strengths	Weaknesses	Our Advantage
Climate (Bayer)	Distribution, Brand	Legacy tech, Bayer conflicts	Independent, AI-native
Granular (Corteva)	Farm management depth	No AI, owned by seed company	Autonomous agents, neutral
Farmers Business Network	Community, Purchasing	Thin tech, commodity focus	Deep intelligence, full-stack

Company	Strengths	Weaknesses	Our Advantage
aWhere	Weather data	Weather only, no action	Full-stack, actionable
Planet Labs	Satellite imagery	Data only, no insights	AI interpretation, integrated
Sentera	Drone analytics	Point solution, no platform	Platform, multi-source

Why We Win

1. AI-Native Architecture - Competitors bolted AI onto legacy systems - We built from ground-up for autonomous agents - 10x faster iteration, 10x better accuracy

2. Platform vs. Point Solution - Competitors solve one problem - FarmOS orchestrates everything - Single source of truth reduces complexity

3. Independence - Not owned by seed/chemical company - Unbiased recommendations - Trusted to optimize for farmer, not corporate parent

4. Network Effects - Every farm makes the model smarter - Regional learning compounds - Data moat deepens with scale

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Financial Projections

5-Year Outlook

Metric	Year 1	Year 2	Year 3	Year 4	Year 5
Farms	200	1,500	8,000	25,000	60,000
Acres (M)	0.5	4	25	80	200
ARR ($M)	$4	$32	$200	$640	$1,600 || Revenue(M)
Employees	35	120	350	600	900

Funding Requirements

Seed Round: $5M (Completed) - Build core platform and Vision Agent - Sign 200 pioneer farms - Prove yield improvement thesis

Series A: $25M (Current) - Scale to 1,500 farms - Launch all 6 core agents - Build equipment integrations - Expand sales team

Series B: $80M (Month 24) - Geographic expansion - Marketplace launch - International pilots - Enterprise features

Series C: $200M (Month 42) - Global expansion - M&A for crop/regional expertise - Financial services launch - IPO preparation

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Team

Leadership

CEO — [Open for exceptional founder] - Seeking: Farm background + tech operator - Ideal: Ran 5,000+ acre operation, built tech company - Alternative: AgTech executive with founder

mentality

CTO — Dr. Sarah Chen - PhD in Agricultural AI from UC Davis - Former Google Brain (Earth observation ML) - Led climate modeling at Descartes Labs - 40+ papers in remote sensing and crop prediction

CPO — James Wilson - 4th generation farmer (Iowa, 8,000 acres) - Previously: Product lead at Granular - Built farm management tools used by 50,000 farms - Knows exactly what farmers need

VP Sales — Maria Rodriguez - 15 years in agricultural sales - Former Regional VP at Nutrien - Built $400M territory from scratch - Deep dealer and co-op relationships

Advisory Board

- **Dr. Raj Patel** — Former Chief Scientist, USDA
- **Tom Banks** — CEO, Beck's Hybrids
- **Jennifer Moore** — Partner, Andreessen Horowitz (AgTech)
- **Mike Thompson** — Former CIO, Cargill

Hiring Plan

Role	Year 1	Year 2	Year 3
Engineering	15	50	150
Data Science	8	25	75
Sales	5	25	70
Customer Success	4	15	40
G&A	3	5	15
Total	**35**	**120**	**350**

Risk Analysis

Technical Risks

Risk	Probability	Impact	Mitigation
Model accuracy below threshold	Medium	High	Staged rollout, human-in-loop, continuous calibration
Satellite data unavailabil-ity	Low	High	Multi-source redundancy (Planet, Maxar, Sentinel)
Integration complexity	Medium	Medium	Start with John Deere, prove model, then expand
Data quality from farms	Medium	Medium	Automated validation, incentivize quality

Market Risks

Risk	Probability	Impact	Mitigation
Farmer tech adoption slower	Medium	High	Focus on ROI, not features; prove value fast
Incumbent acquisition of competitors	High	Medium	Speed to scale, build switching costs
Commodity price collapse	Low	High	Value prop valid across price cycles (cost reduction)
Regulatory changes	Low	Medium	Proactive engagement, compliance team

Financial Risks

Risk	Probability	Impact	Mitigation
Long sales cycles	Medium	Medium	Freemium entry, prove value before asking for money
Seasonal revenue con-centration	High	Medium	Build recurring base, international geographic diversification
Capital intensity	Medium	Medium	Efficient GTM via partners, managed burn

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Why Now?

The Perfect Storm

1. Climate Change is Forcing Action - 2025 was the hottest year on record - $150B in global agricultural losses - “Wait and see” is no longer an option - Farmers desperate for tools to adapt

2. AI Capabilities Finally Sufficient - Vision models can diagnose plant disease from photos - Language models enable natural interfaces - Foundation models dramatically reduce training costs - Cost of inference dropped 100x in 3 years

3. Data Infrastructure Mature - Daily satellite imagery now affordable - IoT sensors cost 90% less than 5 years ago - Farm equipment generates petabytes of useful data - Cloud computing enables any-scale processing

4. Generational Transition - 70% of farmland will change hands in next 15 years - Inheritors more tech-savvy and open to change - New owners need intelligence (don’t have 40 years experience) - Window of opportunity to become the standard

5. Regulatory Tailwinds - USDA pushing digital agriculture initiatives - EU Farm to Fork strategy requires sustainability - Carbon markets creating new revenue streams - Insurance companies demanding better risk data

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The Vision

2030: Every Farm Intelligent

In five years, FarmOS will be:

- **Managing 200 million acres** globally
- **Serving 60,000 farms** across 6 continents
- **Generating $1.5B+ in annual revenue**
- **Creating $15B+ in farmer value** (yield improvement + cost savings)
- **Reducing agricultural emissions by 50M tons CO2** annually

But more importantly:

- **Feeding an additional 100 million people** through yield improvements
- **Saving 20% of global freshwater** used in agriculture
- **Preserving family farms** that would otherwise fail
- **Building climate resilience** into the global food supply

The Long-Term Play

Agriculture is humanity's largest industry and most important challenge. Climate change, population growth, and resource constraints make intelligent farming an existential necessity—not a nice-to-have.

FarmOS isn't just a company. It's infrastructure for human survival.

We're building the operating system that feeds the planet.

Call to Action

For Farmers

Join the intelligence revolution. Start with free satellite monitoring of your fields. See the difference AI can make in your first season.

[Get Started Free →]

For Investors

The $5 trillion agriculture industry is being transformed by AI. FarmOS is the platform positioned to capture this once-in-a-generation opportunity.

We're raising our Series A.

Contact: invest@farmos.ai

For Talent

Building the future of food requires the world's best engineers, scientists, and agricultural experts. If you want your work to matter, this is it.

[View Open Positions →]

Appendix

A. Detailed Technology Specifications

B. Full Competitive Analysis

C. Customer Interview Summaries (50+ farmers)

D. Agronomist Advisory Board Validation

E. Patent Portfolio & IP Strategy

F. International Market Deep Dives

G. Financial Model with Assumptions

FarmOS — Autonomous Agricultural Intelligence The AI operating system feeding the planet.

Contact: founders@farmos.ai | www.farmos.ai

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