WHITE PAPER

Accelerating Transformation for Improved Performance

How Food & Ag Leaders Can Build Resilience,
Margin Discipline, and Demand-Led Growth Starting in 2026

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Accelerators of transformation

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Executive Summary

The global agri-food industry has been challenged over the past two decades by several structural trends:

- Increasingly volatile climate conditions;
- Evolving government policies promoting food safety and renewable energy;
- Growing consumer focus on health and wellness, including the rising impact of GLP1 drugs on consumption patterns and
- Adoption of new technologies, including rapid advances in AI (including traditional, generative and agentic applications).

At the same time, and more importantly, a sequence of geopolitical events has disrupted the industry's traditional supply chains for sourcing commodities from major origins and key components for inputs (fertilizers) and maintaining access to key traditional export markets. This has led to price shocks with bouts of rising interest rates and inflation.

In this context, the pressure on supply chains and operating models continues to intensify. As we have observed across our client base in recent years, there is a growing need for companies to transform their supply logistics and their sales and operations capabilities to face rising interest rates and inflation, increased food insecurity, shifts in comparative advantage between major origins and labor shortages. Yet, many have deferred doing so and have instead implemented short-term solutions.

To address this unmet need, Citwell has added industry expertise in the global agri- food sector by collaborating with the co-authors of this paper, Philippe de Lapérouse and Paul Smolen, who have held executive management roles with leading companies in the industry and have advised clients across the value chain on making informed decisions on operating strategies, acquisitions, resource allocation and risk management.

This collaboration reflects a shared conviction: addressing these challenges requires strategic clarity, deep operational expertise, and a nuanced understanding of dynamics across the value chain. It strengthens our ability to support clients in navigating complexity while building more resilient, adaptive, and forward-looking supply chains and robust sales and operating.

Contributors

Philippe de Lapérouse · Paul Smolen · Graham Mitchell, *Citwell Food & Agriculture Practice · Supply Chain & Operations Transformation /* **Laurent Penard**, *CEO Citwell USA*

Part I — Twenty years of shocks

The story behind the shocks: twenty years of demand and response

To understand what is happening in food and agriculture today, it helps to start with what happened before. Two structural forces — one on the demand side, one on the supply side — shaped the sector's current shape, and they are the reason the recent shocks have hit so hard.

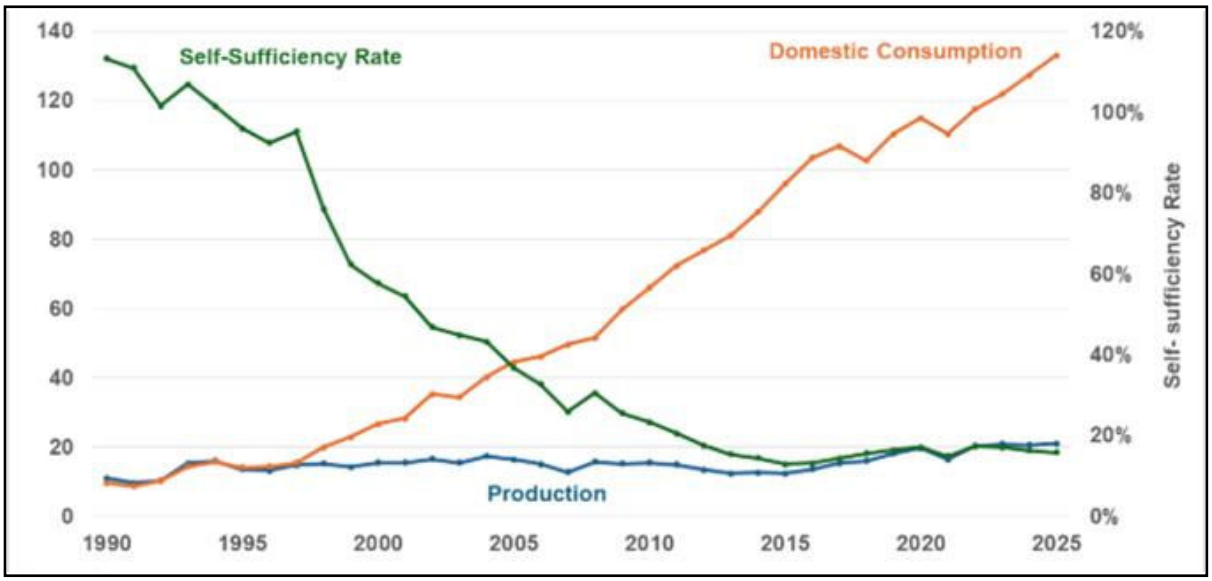
The demand side drivers: protein, GDP, and the emerging middle class

The dominant demand drivers of the global food and ag sector has been the rise of animal protein demand tied to economic growth in emerging economies. China has become the largest importer and processor of soybeans to feed its poultry and pork production industries. Per-capita protein consumption is highly correlated with GDP, and as middle classes have expanded across China, India, Vietnam, and much of Southeast Asia, diets have shifted from grain-based, to protein-rich. That single shift has reshaped crop production, global trade patterns, and the economics of livestock feeding on every continent.

Yet, due to demographic changes, shifting consumption patterns and government support for increasing self-sufficiency in soybean production, growth in demand for soybean imports in China

is expected to flatten compared to the growth experienced over the past twenty years. This will have an impact on soybean and other ag commodity trade flows.

China's Soybean Production and Consumption History



Source: USDA Foreign Agriculture Service.

> *"The increasing demand for animal proteins, especially in Southeast Asia and China, supported an expansion of U.S. soybean exports and processing capacity to shift westward. China's share of global trade grew to 60%, providing Brazil an opportunity to triple its production."*
>
> **— Paul Smolen**

The supply side response: two different playbooks

The supply side response split into two distinct playbooks. In the United States, where new land was scarce, growth came from technology — genomics, precision agriculture, sensor — driven crop management, and the climate— management tools needed to squeeze more output from the same acres. In Brazil and South America, growth came from land conversion, and the region progressed commodity by commodity from leading producer to leading exporter to leading crusher to leading feeder — first in soy, then in coffee, cacao, citrus, and others.

Both playbooks worked. But they baked in structural conditions that now constrain the sector: a U.S. industry dependent on technology capex at rising interest rates, and a global trade architecture increasingly dependent on South American origins, long ocean lanes, and a handful of chokepoints in global trade flows. Those conditions are exactly what the last decade of shocks has tested.

Niche demand grew in parallel — but did not replace scale

Niche products built around organics, traceability, non-GMO and verified origin emerged alongside commodities traded at scale.

Few predicted fifteen years ago that demand for organics in the United States would reach the levels it has; in 2024, global organic food and drink retail sales reached $157 billion (according to the market research firm FiBL(https://www.fibl.org/en/info-centre/news/global-organic-market-hits-all-time-high-in-2024), with the US, Germany, and China as the largest markets. The resulted in a trade architecture that is simultaneously more massive and more fragmented than it has ever been before

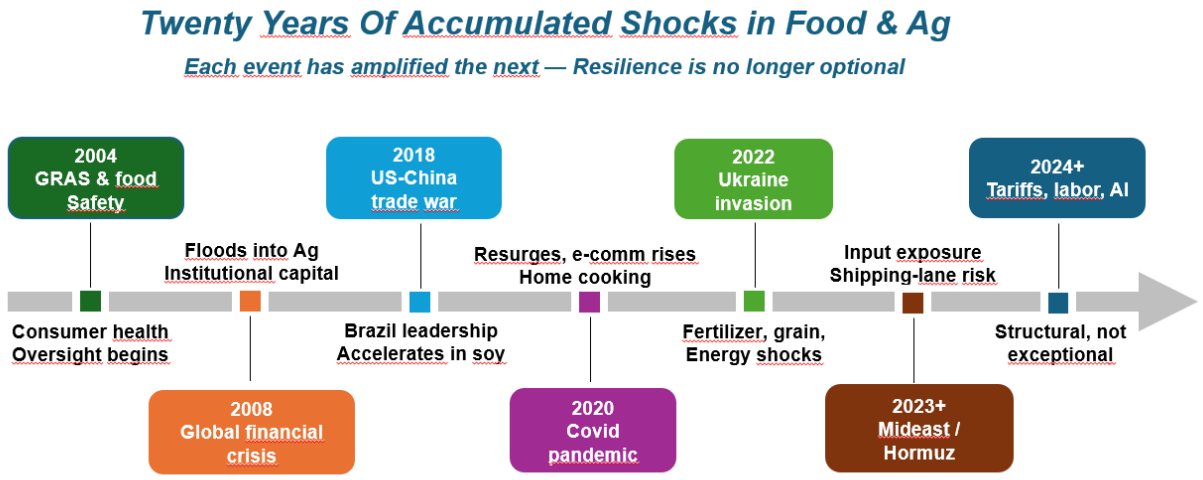
Access to capital changed, too

The 2008 global financial crisis marked a turning point. Institutional capital — historically scarce in food and agriculture — began flowing into farmland and infrastructure in search of stable, long-

horizon returns. That capital accelerated consolidation, professionalized land management, and raised expectations for operational performance. But it also meant that by the time the geopolitical shocks of the last decade arrived, far more was at stake than in previous cycles.

Twenty years of accumulated shocks

What makes the current moment different is not any single event but rather the accumulation of trends and events over the past two decades. The global food and agriculture sector has absorbed a sequence of shocks that have reshaped trade flows, input markets, consumer purchasing behavior, and the cost of capital.



The 2018 U.S.- China trade war redirected soybean flows almost overnight and accelerated Brazil's competitive advantage vs. the U.S. The COVID pandemic reshaped consumer channels and pushed a generation back toward scratch cooking at home even as e-commerce permanently reset other segments. The 2022 invasion of Ukraine sent fertilizer, grain, and energy markets into spikes that most operators were not structurally prepared for. Recent conflicts in the Middle East and the blockage of the Strait of Hormuz have affected commodity flows globally and have driven up the cost of energy and key components for fertilizers. Tariffs, layered on top, have made putting together a credible operating plan for the following year a challenging exercise. While some of these issues may be resolved in the near— term, the question remains about how to be well positioned to deal with the likelihood of future shocks.

Financial markets amplified everything

Underneath the geopolitical shocks, a quieter structural shift has amplified their market impact. The digitization of commodity exchanges opened the door for financial speculation at a scale that did not exist in prior cycles. US dollar volatility has driven the repricing of commodities across the board. The combined effect is that price signals now carry more noise: hedge funds, algorithmic traders, and macroeconomic flows can move markets in ways that have little to do with underlying supply and demand. For operators, that means hedging strategies designed for a pre-digital market are increasingly insufficient — and margin protection requires pairing physical and financial risk management in a combined approach.

> *"These events have cumulatively demonstrated how exposed this sector is, and how exposed operators are to the impacts of wild swings in the availability of basic commodities, rising interest rates, and inflation."*
>
> **— Philippe de Lapérouse**

The pattern is the point

Any one of these events, absorbed in isolation, might have counted as a once-in-a-generation stress. The problem is that there is no isolation. What used to be called exceptional events are now recurring with greater rapidity. Supplier diversification, traceability, dynamic data platforms, and resilience planning are no longer nice-to-have — they are the structural response to a sector in which weather, war, tariffs, and labor shocks are now part of the operating environment.

Ongoing pressures operators now face

The shocks of the last twenty years have evolved into a set of persistent pressures that every food and ag operator is now managing simultaneously. These are the operating conditions of the next decade and beyond, not anomalies that one can wait out.

Climate volatility and water constraints.

Extreme weather, shifting rainfall, and groundwater limits are reshaping where and how crops can be grown. Water availability — surface, ground, or rain-fed — is the single biggest variable in yield outcomes. While weather volatility poses additional risks, access to water is the signal to track.

Geopolitical and trade fragmentation.

Tariffs, chokepoints, and regional conflicts continue to disrupt fertilizer, energy, and ingredient flows. The blockade of the Strait of Hormuz is affecting inputs destined for North America and Europe similar to what occurred in 2022 following Russia's invasion of Ukraine. As a result, the comparative advantage between major origins keeps shifting, and trade flows take time to adjust.

Labor shortages and rising costs.

Harvest labor for specialty crops, fruits, vegetables, and nuts remains chronically tight. Processing and warehousing face persistent wage inflation. Adoption of automation adoption is accelerating,

but unevenly and without structured training and mentorship, automation can create new failure modes.

Slowing productivity growth.

The world needs more output from constrained land, soil, and water, at a time when the rate of increases in agricultural productivity growth has slowed down. Precision irrigation, improved genetics, biologicals, and better resource allocation are becoming essential to protect yields, not optional ESG additions.

Consumer bifurcation.

One segment of consumers demands raw material transparency — "better-for-you", organic, and traceable products — and will pay for them. Another accepts convenience, delivery, and packaged storytelling, no longer physically inspecting what they buy. Protein demand, amplified by GLP-1 medications, cuts across both.

High interest rates and inflation.

Elevated capital costs reward operational EBITDA improvement over financial engineering. Excess inventory is expensive. Working capital discipline by SKU and region has become a competitive advantage, not a simple reporting measure.

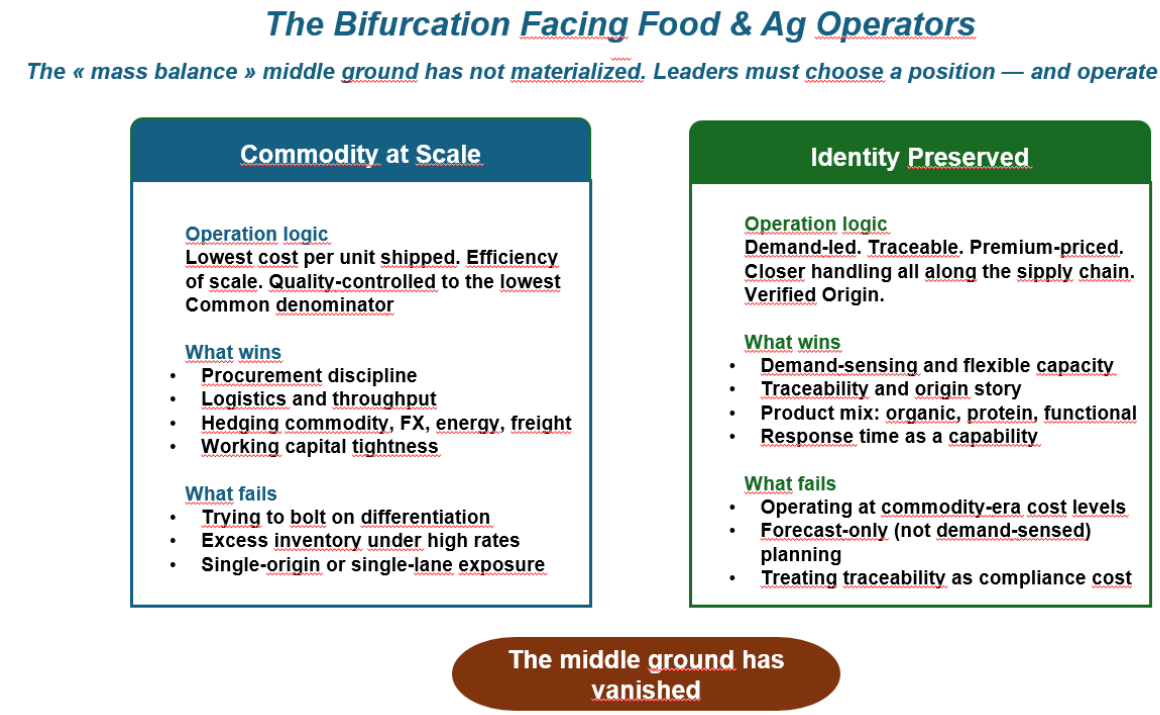
Rising land costs.

Cash rents have risen steadily, reflecting the rationing of a limited resource. Profits from good years flow disproportionately into land values, compressing operating margins, and limiting entry into the market.

> *"Whether it's from surface water, groundwater, or rain— fed, water availability is really the key factor. If you track water, you can figure out what's going on."*
>
> **— Philippe de Lapérouse**

The bifurcation: commodities at scale vs. identity preserved

Two forces now pull food and ag operators in opposite directions. On one side, the efficiencies of scale remain powerful: once a commodity is loaded as a bulk shipment onto a ship, it moves at roughly the same cost per ton regardless of what it is, and there are real economic advantages to treating products as undifferentiated. On the other hand, an expanding set of technologies makes differentiation, traceability, and verified origin genuinely possible — but only if the product is tracked closely throughout the chain of custody.



The middle ground — mass balance systems, partial traceability, ESG certifications layered on top of commodity flows — has not caught on the way NGOs and governments expected. Operators are fragmenting back toward the two ends: identity preserved, or commodity at scale. The sector's current challenge is that many organizations were built for one model and are trying to operate in both, without the cost structure or operating discipline to win in either. Incumbent company strategies have been set up based on historical industry structures vs. supply chain innovations and current margin opportunities. This has exposed flaws in how companies are managed, pitting efficiency vs. product and brand differentiation.

The commodity mindset is a real constraint

Food and agricultural organizations have adapted to the characteristics of their respective markets and positions along the value chain. Commodity flows prioritize scale and efficiency. Premium and specialty products often require identity preservation. A commodity mindset conflicts with advances in measurement and opportunities to differentiate leveraging technology.

> Food and ag organizations have adapted to the characteristics of their respective markets, and positions along the value chain. Commodity flows prioritize scale and efficiency. Premium and specialty products often require identity preservation. A commodity mindset often conflicts with advances in measurement and opportunities to differentiate product offerings.
>
> *"From animal feeders, back up the chain to seed companies, signals regarding value preferences are too often muted."*
>
> **— Paul Smolen**

The implication for operators

Leaders need to pick their position and build operating models appropriate for it. Trying to straddle both — maintaining commodity — era cost structures while layering on traceability and premium claims — is a recipe for margin compression at both ends. The prerequisites for each model are different, the data needed to manage, and the organizational structure for each are different. Operational clarity starts with being honest about which position the business is trying to pursue.

Why companies can defer transforming their businesses

A fair question to ask, after a decade of recurring shocks, is why more operators have not already transformed their supply chains and sales/operating models. The honest answer is a mix of human nature, organizational structure, and the economics of small, distributed decisions.

Human nature and discretion

Most food and ag organizations are composed of many small, distributed decisions — upstream at origins, midstream within procurement teams and across processing facilities and downstream in distribution channels. Where decision— makers have discretion, and where the individual

impact of any single shock has been limited, the rational behavior is to wait and see. Many of these businesses are family — held or have decision — makers who do not have to act on any particular timeline. Deferral has, so far, been survivable.

Centralized versus decentralized

A deeper pattern is the permanent tension between centralized and decentralized operating models. Highly centralized organizations often miss opportunities in local markets; highly decentralized ones struggle to act in concert when the market shifts. The insight that Citwell has consistently seen across engagements is that the strategy and process need to be centralized, while the solutions need to allow for individual perspectives. Better organizational alignment, processes and technology tools will enable better decision making and local execution to meet market demand.

The response time gap

The cost of slow decision-making is reflected in poor operating results. When fertilizer disruption hits, when a consumer trend shifts, when a shipping lane becomes unreliable, how fast can the organization decide and act? The longer the response time, the higher the risk. Citwell's experience is that developing internal processes, management talent, and the way people interact inside organizations is often the single highest impact investment a food & ag company can make because reducing response time is, in effect, reducing risk.

> *"One of the big value-adds for organizations is to help the response time become quicker for making decisions and responding to market events. Developing internal processes and the way people interact within an organization so that they can react more rapidly — that lowers risk, increases resilience and improves performance."*
>
> **— Philippe de Lapérouse**

Part II — How to accelerate transformation - getting the basics right

Four prerequisites for strategic success in food & ag

Organizations that achieve genuine, durable value from a strategic shift have done so by implementing a breakthrough new growth strategy or undertaking a merger or acquisition. The reenergized organization will have common sense of purpose and have implemented a disciplined flywheel based on clear strategy, operational clarity, data readiness, and organizational alignment.

Clear strategy

While each organization needs to define its own proprietary strategy to achieve the growth goals it has set for itself and its capabilities, the following examples can be used to develop a framework for developing the strategy.

- ✓ Shift from a commodity mindset toward building backward from consumer demand
- ✓ Win with differentiation or operating at scale
    - Make sure to have the right cost structure to pursue whichever strategy (or both) you pursue
- ✓ Build your supply chain to provide a competitive advantage
    - This should be viewed as a growth enable and not a cost center

  - More resilience in the supply chain (higher service levels = ability to capture market share)
- ✓ Develop a balanced business mix to capture growth while reducing volatility which will attract capital and stabilize earnings
- ✓ Drive growth via operational excellence (EBITDA-focused vs. financial engineering)
  - Growth must be profitable and capital deployed efficiently in a high-interest rate environment
- ✓ Leverage technology and data, using AI for demand sensing, to drive better and faster decision-making
- ✓ Innovate around consumer bifurcation premium health-focused, traceability-driven consumers and value, price sensitive and convenience
  - Need to serve each segment with intention and not try to spit the difference
- ✓ Invest in carbon capture and climate resilient productivity
  - Not to be viewed as ESG but rather a protection and expansion of output capacity
- ✓ Given increased allocations of capital to the agri-food sector, use M&A and capex strategically
- ✓ Promote organizational speed to support growth (faster decision making = growth advantage)
  - Clarify decision making across supply logistics, sales and operational teams
  - Centralize strategy and decentralize tactical execution
  - Reduce response time to shocks (pricing, sourcing and demand)

Operational clarity

Processes should be mapped end-to-end — from origination through processing, packaging, logistics, and channel distribution. Exceptions should be understood but not absorbed as part of the process. Root causes of complexity should be diagnosed rather than outsourced. In food and ag specifically, this means honest yield baselines, throughput measurement by processing line and SKU, water and resource accounting, and climate adaptation treated as a core operational discipline rather than ESG overhead. Good processes and KPI measures are critical before scaling for growth.

Data readiness

The data required to support the growth and scale of development intended must be accurate, accessible, and sufficiently granular. For food and ag operators, the critical data domains are

multi-tier supplier visibility (especially tier-2 and tier-3 for fertilizer, seed, packaging, and specialty ingredients), traceability and origin, real consumer demand signals, commodity and FX exposure, working-capital by SKU and region, and water, soil, and yield data at the asset level. Getting data right takes time - and any advisor who suggests otherwise is not being forthright.

Organizational alignment

Key stakeholders should share definitions, goals, planning horizons, and decision rights. In food and ag, misalignment typically shows up at three points: between procurement and operations (who owns the input risk), between commercial and supply chain management (who owns service-level trade-offs), and between plants and the center (who owns capital allocation and sequencing). Misalignment at the organizational level cannot be solved by software alone, but rather through facilitated work with teams, often with an outside third party who can surface historical performance data to identify and address internal power dynamics.

The role of the outside mentor

Many food and ag organizations have a mentorship gap. Experienced operators are retiring or stretched thin; younger managers are being asked to make consequential decisions without the institutional context that used to come from years alongside senior colleagues. **Citwell's advisory model is, in part, a response to that gap.** An outside perspective can function as the mentor the organization currently lacks — not to replace internal management, but rather to bring structured experience, pattern recognition, and the willingness to ask hard questions that internal politics would otherwise bury.

Strategic priorities for 2026 and beyond

With the prerequisites in place, Citwell's view is that food and ag leaders should work against four strategic priorities in 2026: supply chain as a portfolio problem, a sales strategy that moves from a commodity mindset to demand-led, an operating model that is lean and data-driven, and a portfolio balance that captures growth while reducing exposure to commodity cycles.

Supply chain: treat design as a portfolio problem

Supply-chain design in 2026 is no longer a cost-minimization exercise. Climate shocks, war, tariffs, and chokepoint disruptions are structural and not exceptional. The most disciplined operators treat the supply chain as a portfolio problem and actively managing the following levers:

Diversify sourcing and trade lanes

- Reduce dependence on any single country, port, corridor, or input supplier.
- Regionalize inventory and processing. Place more inventory, primary processing, and packaging closer to demand centers to shorten lead times and reduce exposure to long-haul shipping volatility.
- Build a multi-tier supplier map. Visibility into tier-2 and tier-3 suppliers matters most for fertilizer, seed, packaging, and specialty ingredients, where upstream disruptions produce the largest failures.
- Dual or tri-source critical inputs; especially fertilizer, energy-intensive materials, and geopolitically exposed specialty ingredients.
- Hedge physical and financial risk together. Pair commodity hedges with freight, FX, interest-rate, and energy risk management, to eliminate the risk of exposure elsewhere in the P&L.
- Speed up decision making by leveraging data collection to generate information on which to reach meaningful cross function decisions. Use digital traceability, AI forecasting, and control-tower visibility to reduce response time and protect quality.
- Hold strategic inventory selectively, for inputs with high geopolitical or shipping risk.

Climate adaptation belongs inside this conversation, not outside it. FAO data and sector productivity trends both point to the same conclusion: the world needs more output from constrained land, soil, and water, and productivity growth has slowed down. Precision irrigation, resilient genetics, biologicals, and improved resource allocation are operational investments that protect yields. Treating climate adaptation as ESG overhead gets the economics wrong.

Sales: shift from “here’s what we have” to “here’s what the consumer wants”

The consumer voice has become atomized. Product expectations, channel preferences, health priorities, and willingness to pay vary at a level of granularity that was unimaginable twenty years ago have become routine. The sales organizations that will win in 2026 and beyond are the ones that move out of the commodity mindset — “here’s what we have, what’s the price” — and into a demand-led model that starts with what specific consumer segments actually want and works backward into sourcing, production, and format decisions.

- **Prioritize categories with structural tailwinds:** protein, healthier oils, organic, functional foods, and premium brands with verified origin and sustainability claims.
- **Use origin, labeling, and traceability as a selling point,** not as a compliance task. Consumers in the premium segment will pay for trust and functionality.
- **Expand private-label and value tiers** in inflation-sensitive markets and for consumers trading down under pressure.
- **Localize formulations and pack sizes** for emerging middle-class markets. Rising incomes and urbanization are expanding demand for protein, processed foods, and differentiated ethnic cuisines.
- **Design for the e-commerce shopper who cannot inspect the product.** Packaging, labeling, and origin story matter more when the consumer has never touched the item before it arrives.

Protein demand, amplified by the rise of GLP-1 medications, continues to be a major structural driver. The emerging question is delivery format: which protein vehicles — ready-to-eat, frozen, fresh, ingredient — fit which consumer segments at which price points? The organizations that can answer that question with data, not intuition, will win a disproportionate share of the market.

Operating model: lean, data-driven, capital-light

In a high-interest rate environment, the sector rewards businesses that expand EBITDA through efficient operations rather than financial engineering in most cases. This favors automated manufacturing and packaging to address labor shortages, better procurement, tighter working capital, and disciplined capex with better data management to enhance timely decision making. The best performing operating models share a set of features:

- Shift from forecast-only to demand-sensing planning. Use near-real-time demand, inventory, and replenishment data to set production and procurement, not just historical averages.
- Raise automation in labor-sensitive nodes. Processing, warehousing, quality inspection, and controlled-environment agriculture are the right starting points where labor shortages and wage inflation are persistent.
- Invest in flexible capacity. Plants and networks should be able to switch between SKUs, pack sizes, and channels as consumer demand shifts between retail, foodservice, and e-commerce.
- Improve working capital discipline. Optimize safety stocks by SKU and region rather than carry blanket buffers. Shorten cash-conversion cycles and reduce spoilage.
- Target cost-out through process redesign. Throughput, changeover reduction, yield improvement, and logistics optimization deliver the largest EBITDA gains.
- Re-engineer procurement for volatility. Use index-based contracts, hedging where appropriate, and modular capacity through co-manufacturing to avoid overbuilding in uncertain markets.

Portfolio balance: four buckets

A resilient portfolio in 2026 balances across four buckets. Concentration in any one of them leaves the business exposed; balance across all four will capture the sector's structural growth while buffering against commodity cycles, climate shocks, and shipping disruptions.

Portfolio Balance for Food & Ag

Four buckets that together capture structural growth while reducing exposure to commodity cycles

Defensive Staples and Ingredients

anchor the P+L through cycles .

Examples

- Grains, veg oils, dairy proteins
- Private-label and value-tier products
- Commodity ingredients

Growth Categories

Where customers will pay for trust, health and traceability.

Examples

- Organic (est. $157 billion global market in 2024)
- Premium proteins and functional foods
- "Better for your" and verified origin products

Input Saving Technologies

Assets that protect yields as available land, access to water and labor tightens.

Examples

- Bilogicals and drought-resistant varieties
- Precision ag and controlled environment agriculture(CEA)
- Traceability and sensor technology

Energy-Linked Assets

Reduce exposure to fuels and fertilizer volatility and capture energy transition.

Examples

- Adopt renewable fuels(solar, biodiesel ethanol, biogas and anerobic digestion)
- Leverage new technologies to reduce consumption across all activities

This mix is also the one that private equity sponsors and strategic acquirers increasingly reward. In an environment where leverage-driven returns are harder to realize, the premium flows to operationally improved, differentiated businesses with strong margins and sustainable demand.

AI in food & ag: where it works

AI (traditional, generative and agentic) is neither the revolution vendors claim nor irrelevant as the skeptics suggest. In food and ag specifically, its value depends entirely on where and how it is applied, and on whether the four pre-requisites above have been met.

Where AI delivers real value today

The strongest current use cases are in physical, repeatable flows: processing, warehousing, quality inspection, and controlled-environment agriculture. These are domains where the data is dense, the decisions are high-frequency, and the rules are stable enough that models can learn them. A water-jet cutter optimizing the yield of chicken filets is a practical example — a narrow application with clear economics.

The largest strategic opportunity for AI in food and ag is demand sensing. The atomization of consumer demand creates a pattern-recognition problem that humans and traditional statistical forecasting cannot solve at the required granularity whereas AI can. When paired with clean multi-tier supplier data and demand signals, it shortens the gap between what the market wants and what the organization produces.

Where AI falls short — and why

AI does not replace the integrative judgment required for the hardest decisions in food and ag such as formulating a competitive feed recipe across volatile inputs, deciding when to shift sourcing between origins, balancing short-term margin against long-term supplier relationships. These decisions are fragmented across transaction levels, involve trade-offs that are not captured in any single dataset, and depend on institutional knowledge that is not embedded in the data.

> *"The whole organization is not going to be operated by AI. There are some managers that are going to be trained in organizations to work with it. The challenge is how to supplement what is being done with AI with training for the managers of a newer organization."*
>
> **— Paul Smolen**

The mentorship gap

A theme that has emerged clearly in our conversations with industry leaders is that many young managers in food and agriculture lack the mentors who used to transmit institutional knowledge. While AI is not a substitute for that mentorship — deployed thoughtfully, it can act as a complement. The best current practice is to treat AI like a new employee the organization is bringing in to support the team, given a clear scope, supervised, used to complement data needs and real-time reporting, and embraced — in a secure, controlled way — rather than feared.

> *"Handle AI like a new employee you're bringing into the organization to help the team understand and complement their data needs. That's the best way to embrace it — in a secure, controlled way, and leverage it for the areas you'd like to target."*
>
> **— Graham Mitchell**

Sector priorities at a glance

Every pressure in food and ag has an operational answer — before it has a technology answer. The table below maps the most common pressures to the best-in-class strategic response.

Sector Priorities: Matching Pressure to Response

Every pressure has an operational answer — before it has a technology answer

Pressure	Best Strategic Response
Climate Volatility Water, weather, yield variance	Geographic diversification, resilient genetics, water efficiency, insurance and risk transfer mechanisms
High Interest Rates Excess inventory now expensive	Lower leverage, faster payback on capex, working capital discipline by SKU and region
Input Inflation Fertilizer, energy, packaging	Input hedging, dual sourcing, productivity gains, mix shift toward premium products
Trade Disruption Tariffs, choke points, lanes, global trade flows	Multi-market sourcing, regional fulfillment hubs, dynamic data platforms with tier-2 and tier-3 visibility
Consumer Health Demands Protein, GLP-1, functional foods	Organic, protein-forward, functional and transparent products with verified origin and sustainability claims
Labor shortage Persistent in processing, harvesting	Automation in labor-sensitive nodes, flexible capacity, mentorship and structured training

Part III — Case studies and concrete next steps

Citwell's engagement process with clients

Citwell's core expertise in end-to-end supply chain logistics (upstream and downstream) puts their data-driven and cross-functional assessments and road mapping process at the center of clients' supply chain activities. This provides clients with unique perspectives on:

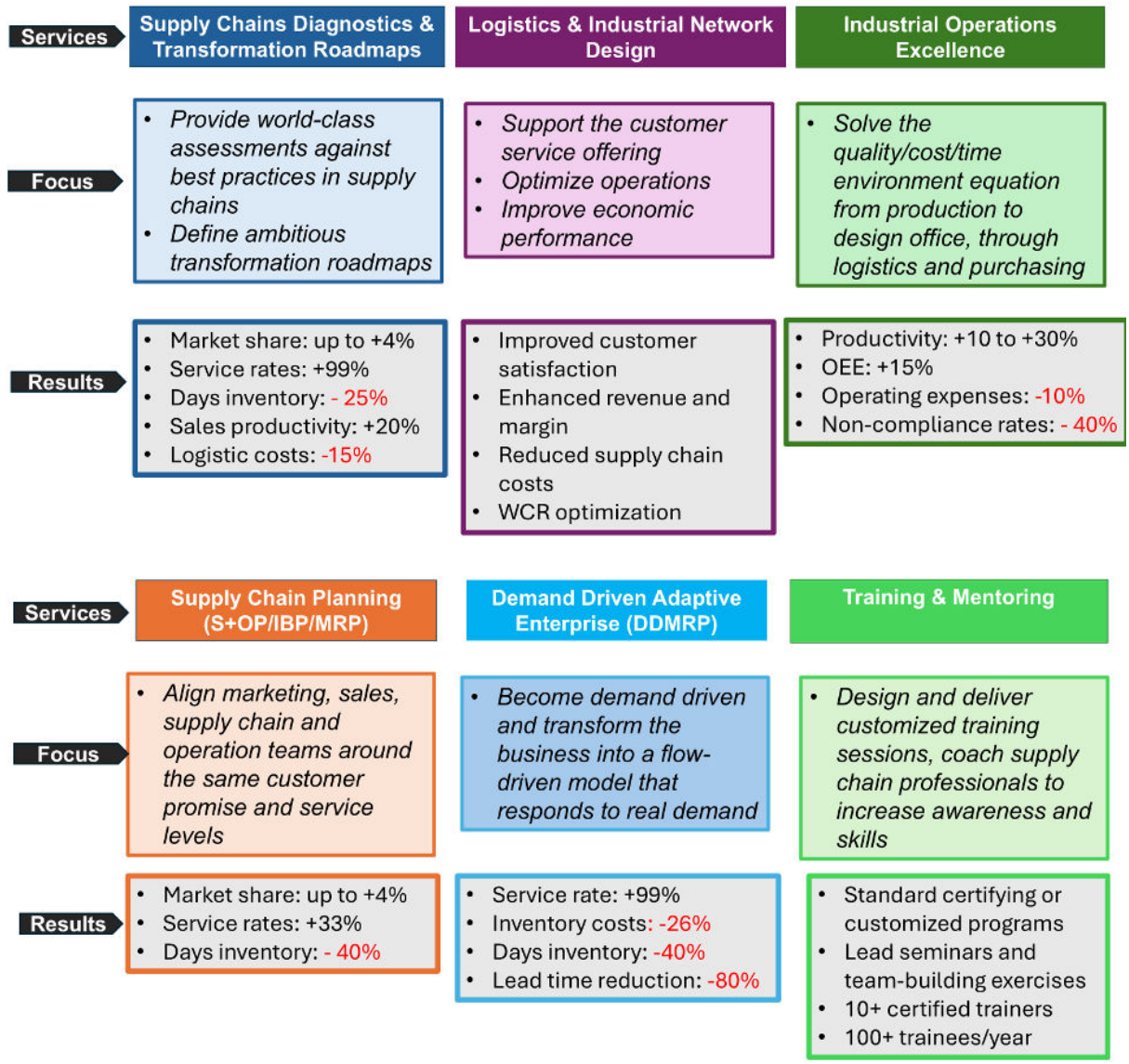
- how well their operations are prepared to serve customers profitably
- where the gaps are in their end-to-end supply chain and
- how to transform their operations to address gaps and improve performance.

Once core operations are understood and optimized, supporting activities such as sourcing, procurement, and logistics can be arranged to support and scale growth.

Engaging Citwell can be as simple as arranging a 1–2 -day workshop with the client's team on site delivering a process flow map, data quality evaluation and suggested improvements. This could subsequently evolve into a targeted process improvement engagement with key process owners and resources addressing leveraging AI to enhance data management and focus on targeted business activities such forecasting, product optimization or customer service that would require 3-4 weeks.

Alternatively, client leadership may opt to undertake a full end-to-end engagement focused on improving and transforming inventory management, planning, and sales & operation practices, with executive sign-off and cross functional participation across several functional areas that

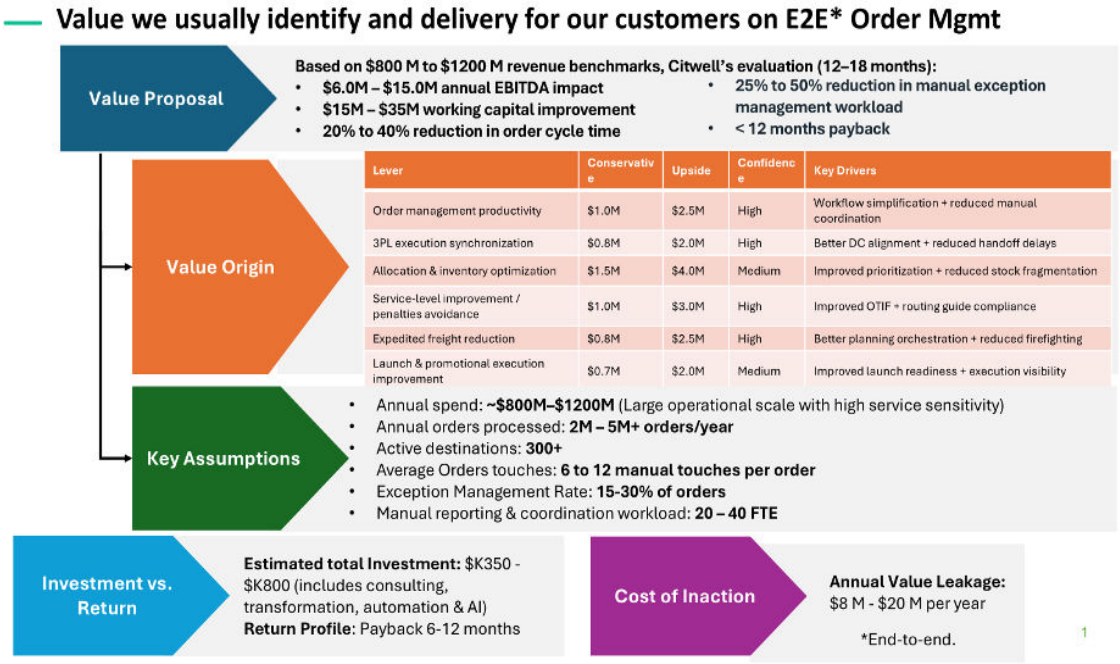
would require 5-8 weeks. Once KPI's and roadmaps are agreed upon, Citwell is also open to adopting a "skin in the game" approach, combining fixed and variable fees with a "success fee approach" based on a formula designed to deliver a strong 2X-10X ROI to the client (depending on project size and complexity). Citwell's services, focus and delivered results are outlined below:



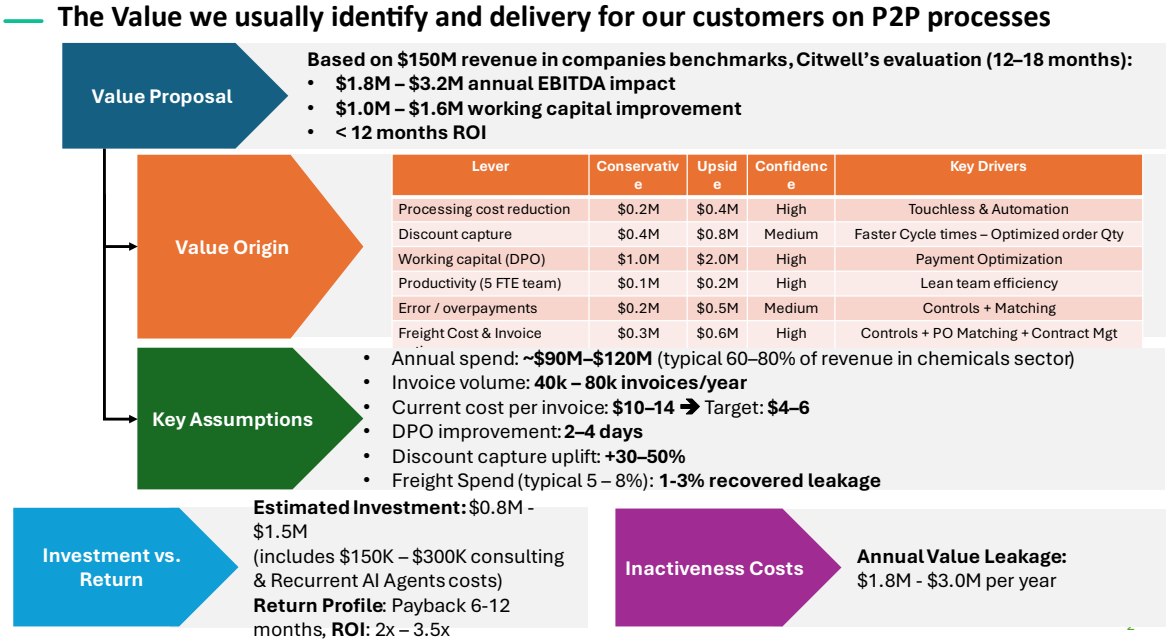
Citwell's ROI Calculator

Citwell ensures that clients are apprised on the ROI they can expect to achieve prior to undertaking transformation projects. Next page are two examples of Citwell transformation projects modeled for the food & ag sector. The first is an example of an end-to-end transformation

of a medium-scale food and beverage operation (either a standalone or co-manufacturing operation) selling to retail or foodservice customers.



The second is an example of a transformation of a procure-to-pay food ingredient manufacturing or agricultural, fertilizer/ag-chem toll manufacturing business, avoiding expensive ERP investments using customized AI applications.



Citwell
Accelerators of transformation

Case studies: strategy first, organization second, technology third

Citwell has helped companies accelerate the transformation of their supply chain logistics and reorganize their industrial sales and industrial operations across several industry verticals including life sciences (BioMerieux), pharma (Sanofi) and aerospace (Airbus) and luxury goods (LMVH and Mouton Rothschild). Most of these companies continue to be repeat clients for Citwell.

The following four case studies are representative of Citwell engagements undertaken with clients specifically in the food and ag sector. Prior to engaging Citwell, all three organizations had attempted to address complex operational challenges focusing primarily on the adoption of technology solutions and found that the prerequisite was getting strategy, process, and alignment right prior to selecting and adopting the appropriate technologies.

Harris Moran | Clause

HM Clause(https://hmclause.us/), formed in 2008 through the merger of Harris Moran (US) and Clause (France), develops, produces, and markets vegetable seeds. The company is part of Limagrain (https://www.limagrain.com/en), a global seed (field seeds, vegetable seeds and cereal products) and agri-food group operating in 49 countries.

Challenges:

- After attempting fast growth in recent years, HM Clause's focus changed to pursue operational excellence.
- The industrial process was long and marked by the difficulty of forecasting the quantities and qualities of seeds to be produced.
- Teams operated in a reactive mode, managing emergencies rather than anticipating and collaborating.
- The aim was to build and implement the planning processes of tomorrow, from the long term to the short term.

Results:

- Diagnosis of existing planning processes and maturity assessment.
- Organization and facilitation of workshops to:
  - Outline new planning processes: tactical, operational, and execution;
  - Define the golden rules and key success factors;
  - Build processes: flowcharts, RACI, processes, SLAs, and other tools.
  - Selecting pilot(s) for implementation.
- Change management
  - Positioning of stakeholders.
  - Identify business and system impacts.
- Citwell oversaw and supported the technical development of the tools for each planning level and their deployments at each stage: preparation, go-live, post-go-live. Citwell also managed the communication around deployments to highlight their benefits and initiate change across the entire company.

Galliance

Galliance (https://www.galliance.fr/), is the poultry division of Terrena, one of France's largest agricultural cooperatives, and a top-tier player in the European poultry sector. Formed in 2016 through the merger of Doux and Gastronome, the company operates across processed products, fresh poultry, turkey, and export markets. Galliance generates ~€900M–€1.0B in annual revenue, employs 3,300–3,600 people, and partners with 1,400+ farmers across France. Its industrial footprint includes 13–14 production sites, including one of Europe's highest-capacity poultry plants in Ancenis. Citwell was engaged to Implement a production master plan and define the roadmap for the company's integrated demand planning process.

Challenges:

- Galliance launched a transformation program aimed at improving customer service and profitability through economic management of materials and capacities at all time scales.
- Reconciling the short- and medium-term sales plan (recurring, promotions, balance management) with capacity constraints, from upstream to logistics, was a key element in achieving a successful transformation.
- Addressed the capacity aspect of planning, focused on slaughter capacity and material availability, did not take into account industrial capacity constraints, particularly those related to packaging. Effective long-term planning required the implementation of a process and IT tool for load/capacity planning that took these constraints into account.

Results:

- Launched weekly Production Master Plan meeting at pilot site using a replicable Excel load/capacity model.
- Improved resource allocation and service levels through anticipation of bottlenecks and workload variations.
- Defined and validated rules for managing the material equation with Group leadership.
- Clarified end-to-end decision-making processes and responsibilities (RACI).
- Implemented an operational model enabling better upstream planning and decision-making.
- The project raised awareness among senior management of the need to implement the right level of demand vs. capacity trade-offs over different time horizons, while also taking into account the constraints of implementation among farmers in a highly competitive environment.

Jacquet Brossard

Jacquet Brossard (https://www.jacquetbrossard.com/en/home/) is a division of Limagrain a leading French industrial bakery and pastry company. The company was formed through the merger of two brands with different structures and operating methods. The integration required reengineering processes, organization, and information systems to improve economic performance, service levels, and identify best-in-class practices across both entities. In a market facing price pressure, shifting flows, and rising performance demands, the company launched a major transformation of its supply chain functions with insights and support provided by Citwell. Citwell was engaged to Implement a production master plan and define the roadmap for the company's integrated demand planning process.

Challenges:

- To improve overall merged performance by streamlining, simplifying, and harmonizing processes. between all the various Jacquet-Brossard entities.
- Develop and optimize processes for each business line.
- Strive for operational excellence and improve customer relations by managing performance and gains.
- Facilitate the group's growth and open up to new customers or markets.
- Select a single ERP system for all Jacquet-Brossard brands and sites, adapted to the new harmonized processes and complementary information systems.

Results:

- Mapped key external flows, collaborative processes, and required data.
- Identified improvement areas and over 100 prioritized solutions (short-, medium-, long-term).
- Developed a macro action plan and recommendations validated by project sponsors.
- Strengthened the supply chain's role by:
    - Improving forecast reliability and organizational focus.
    - Facilitating industrial and logistics planning.
    - Enhancing load/capacity alignment and production organization.
- Implemented an S&OP system.
- Identified and analyzed the various strategic market plans implemented by J&B to increase turnover from €300 million to €500 million by:
    - Interviewing with marketing, sales, and management;
    - Analyzing of the 4-year medium-term plan;
    - Modeling of industrial facilities and all production lines;
    - Analyzing product technology family (approximately 50 families across the entire company) and
    - Creation of a factory P&L and a group P&L.

Thai Union | Mer-Alliance - Industrial Excellence Transformation

Thai Union(https://www.thaiunion.com/)is one of the world's largest seafood companies and a top global producer of shelf-stable tuna, with annual revenues exceeding $4 billion and operations across four continents. The company is the owner of major Western brands — Chicken of the Sea in the U.S., John West (UK), Petit Navire (France), King Oscar (Norway), and *Red Lobster* (partial stake historically). The company has a massive supply chain footprint sourcing from over 40 countries and operates more than a dozen processing plants worldwide. Citwell conducted a PRI (Plant Risk / Performance Evaluation) at both Quimper and Dingwall, two of Thai Union's most important European fresh/frozen seafood plants, representing different regulatory environments (EU vs. UK), handling high-value, high-risk products (fresh salmon, smoked fish), which require strict food-safety and cold chain controls. Citwell conducted a plan risk and performance evaluation and worked with teams to develop plans to implement and manage budget process for both sites.

Challenges:

- Aging industrial facilities in need of modernization to meet changing health regulations.
- Consolidation of activities from different group plants, with strong leverage on production volumes.
- Need to improve operational performance in the hyper-competitive mass retail market.
- Need to ensure business continuity and scalability to maintain market share.
- Need to manage margins at the SKU level in a highly competitive environment, with a wide variety of recipes and products.
- Centralize data critical to various systems.
- Additionally, organize manual workflows and unstructured data in Excel.
- Need to formalize management rules and cost allocation, to implement robust tools.
- Upskill staff to measure and qualify variances between planned and actual.

Results:

- Project planning, launch, and oversight. of CAPEX commitments.
- Assessment of opportunity, plant sizing. and flows.
- Leverage effect on site energy consumption.
- Setting up project routines and reporting.
- Control of risks and business continuity.

> *"The Citwell Operational Excellence team fully understood and mastered the mission, which was not limited to 'simply' reducing our investment costs on a project. Our ambition was to* ***change our organizational model****, and Citwell helped us to achieve this by generating* ***real gains in performance and efficiency.***
>
> **— Guillaume Kervennal, Business Unit Director Meralliance from Thai Union Group**

Five immediate actions for food & ag leaders

Regardless of where your organization sits on the bifurcation — commodity at scale, identity preserved, or trying to choose between the two — five actions create the operational foundation that makes every subsequent investment pay off. None of these are multi-year programs. All can begin this quarter.

#	Action	What It Means in Food & Ag
1	**Map the supplier portfolio to tier 3**	Start with the inputs that cause the biggest failures when they move: fertilizer, packaging, specialty ingredients, seed. Identify single-source, single-country, and single-lane exposures. Dual- or tri-source what matters.
2	**Baseline what actually matters**	Record the metrics that drive margin in your business: days of inventory by SKU and region, forecast accuracy, exception rate, water per unit of output, yield variance, on-time delivery, cash-conversion days. Without a baseline, no improvement can be credited.
3	**Pick your position on the bifurcation**	Decide explicitly whether the business is competing on a commodity scale or identity preserved or running a portfolio comprising both using clearly separated units. Stop trying to straddle both without the appropriate operating model to support both.
4	**Build response time as a capability**	Instrument the organization to decide and act faster. Clarify decision rights. Centralize the process and decentralize the solutions. Response time reduction = risk reduction.
5	**Treat climate adaptation as operations**	Move water, soil, genetics, and resource allocation decisions into the operational planning cycle, not the ESG report. The returns are measurable, and the downside of inaction is accelerating.

Why Citwell for food & ag?

Sector depth, not generalist breadth

Citwell's practitioners have professional experience in procurement, supply chain management, sales and operations — not from IT consulting or software sales. That distinction matters in a sector where the difference between a workable and unworkable answer often comes down to

understanding how a plant operates, how subcontractors behave, or how a specific commodity market clears. Depth of knowledge based on practical experience produces actionable insights. Breadth without depth is a slide deck.

The SME + TME combination

Our operating thesis is that the most powerful combination in any digital transformation is a subject matter expert (SME) who understands the business deeply, working alongside a technology matter expert (TME) who understands what AI and modern platforms can deliver. Neither on its own is sufficient. Citwell provides the SME layer for food and agriculture. We ask the right business questions, map processes with rigor, and build alignment across internal stakeholders who often have competing views. Only after that foundation is established do we engage the technology partners and advisors who can evaluate ROI, specify solutions, and implement the transformation alongside the client's team.

We act as mentors, not just advisors

A consistent theme across our food and agricultural work is that organizations often lack the internal mentorship that used to be taken for granted. Citwell's advisory engagement is designed to fill part of that gap — bringing pattern recognition from dozens of similar organizations, the willingness to ask questions that internal politics would otherwise suppress, and structured training and development alongside strategy. When the client wants deeper involvement, our Talentwell offering enables us to embed experienced operators directly into the transformation.

We stay through execution

Most advisors advise and leave. Citwell stays. We follow our clients through implementation, navigating the gap between the strategy that was designed and the operational reality that emerges. That sustained presence is what distinguishes genuine insight from consulting theory — and it is how strategy actually becomes outcomes.

Honest about what technology cannot do

AI cannot compensate for unreliable data. A planning system cannot substitute for organizational alignment. An ERP cannot solve a process design problem. Citwell is candid about these issues with clients prior to commencing engagements. That candor builds the trust that makes long-term relationships possible — and it protects clients from the expensive rework that follows poorly sequenced technology investments.

> *"We come very fast from strategy to reality because we stay through the different transformation stages. We believe in delivering real business value for our clients."*
> **— Laurent Penard, CEO, Citwell**

Conclusion: taking a step back to accelerate forward with confidence

Global food and agriculture will remain an essential, structurally attractive, and operationally demanding sector in the world economy. Twenty years of accumulated shocks have settled into a new normal of recurring volatility, bifurcated consumers, and capital markets that reward operational EBITDA over financial engineering. AI and modern digital management systems will reshape competition in this sector as surely as they will reshape every other.

The winners will not be the organizations that adopt technology fastest, but rather those that adopt it built on a foundation that allows it to perform and add competitive advantage: people aligned, processes simplified, data reliable, response time reduced, and a clearly chosen position on the bifurcation between commodity scale and identity preserved.

Intentionally taking a step back accelerates the transformation. It prevents the expensive rework of poorly sequenced technology investments. It ensures automation serves the business rather than encoding its dysfunction. It produces the measurement baselines that let organizations prove, scale up, and credit the value that technology was always supposed to deliver. And it converts volatility from a threat into a competitive advantage.

Citwell helps clients take that step - rapidly, rigorously, and with the operational leaders who are closest to the reality of the business.

Citwell

Let's keep in touch!

Citwell.com/us

Ready to build the foundation before you build the tower?

Contact **Laurent Penard, Citwell CEO**, to schedule a discovery discussion or a 2 to 3-day on-site workshop focused on your supply chain, sales, and operating model priorities for 2026.

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