

AWS-Driven AI Transformation for a \$42M Food Manufacturer

Client Overview

- **Industry:** Food & Beverage Manufacturing
- **Annual Revenue:** \$42 Million
- **Employees:** 180
- **Headquarters:** Southeast United States
- **Engagement Sponsor:** Chief Financial Officer (CFO)
- **Use Cases:** Quality Control Automation, Executive Reporting, Predictive Cost Forecasting

Business Challenges

As a regional food manufacturer scaled production lines and SKUs, it encountered operational and financial friction across three critical areas:

- **Manual Quality Assurance (QA):** Inconsistent inspection processes and delayed issue tracking led to labor inefficiencies and downstream rework.
- **Siloed Reporting:** Finance, operations, and plant managers relied on manual spreadsheets—creating lag time, version errors, and misaligned metrics.
- **Limited Cost Visibility:** The CFO lacked real-time production cost data and had no predictive capabilities to control spending dynamically.

The executive team needed a non-disruptive, scalable AI solution that would modernize decision-making without overhauling legacy systems.

Solution Overview

LJA New Media delivered a 6-week AWS-native engagement focused on lightweight AI automation and real-time financial intelligence.

1. Quality Control Automation Using AWS Rekognition

- **Device Enablement:** Deployed rugged tablets with custom smart forms at each inspection point
- **AI Workflow:**
 - Captured production and packaging data in real time
 - Used Amazon Rekognition with pretrained computer vision models to detect seal defects and anomalies
 - Flagged inconsistencies directly to QA supervisors using AWS Lambda alerts
- **Data Integration:** All QA events streamed to Amazon S3, catalogued with AWS Glue, and warehoused in Amazon Redshift

Result: Reduced QA task time by 71%, increased inspection coverage to 100%, and enabled full traceability for regulatory audits.

2. Cross-Functional Reporting Automation

- **Data Consolidation:** Integrated ERP, production logs, and warehouse records into a unified lake using AWS Glue Jobs
- **Analytics Stack:**
 - Built department-level dashboards using Amazon QuickSight
 - Scheduled refresh via Amazon EventBridge for near real-time updates
- **Access Control:** Used Amazon Cognito to provide secure, role-based dashboard views to QA, Ops, and Finance teams

Result: Reporting time dropped 60%—from 20 hours to 8 hours per week. Managers gained daily visibility into line performance and plant-level KPIs.

3. CFO Dashboard for Real-Time Cost Forecasting

- **Modeling Engine:** Created a predictive cost model using Amazon SageMaker, trained on ingredient cost trends and historical batch-level consumption
- **Financial View:** Delivered a live dashboard (via QuickSight) showing:
 - Cost per unit (by product, line, and facility)
 - Variance forecasts based on vendor pricing and input volatility
- **Decision Support:** Triggered alerts via AWS Lambda when margin thresholds were at risk—allowing real-time intervention

Result: CFO achieved $\pm 5\%$ forecasting accuracy and used insights to reallocate budgets, renegotiate vendor pricing, and pause unprofitable runs.

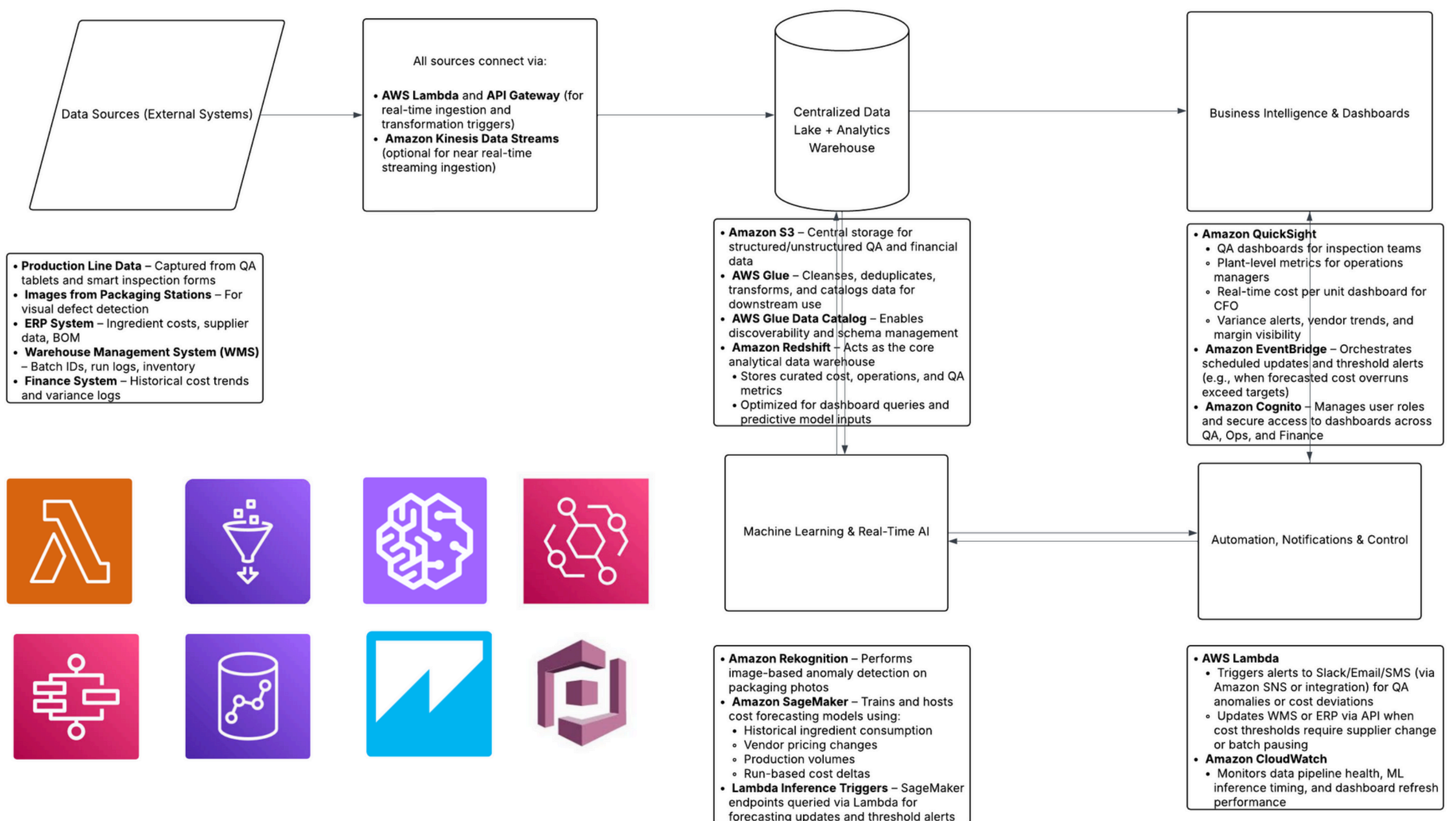
Outcomes Delivered (In 6 Weeks)

KPI	Before	After	% Improvement
QA Task Time (Avg)	14 mins	4 mins	▼ 71%
Weekly Reporting Time	20 hours	8 hours	▼ 60%
Cost Forecasting Accuracy	N/A	$\pm 5\%$	Real-time variance
Inspection Coverage	68%	100%	▲ Full digital coverage

Strategic Impact

- Regulatory Confidence: Digital audit trails streamlined compliance reporting
- Finance Team Uplift: Unlocked bandwidth for strategic margin analysis
- Cross-Functional Alignment: Unified QA, Ops, and Finance around real-time metrics
- Scalable Infrastructure: Deployed modular AWS services without disrupting production

Real-Time QA Automation & CFO Intelligence for Mid-Market Food Manufacturer



Why It Matters

Mid-sized manufacturers often sit on a wealth of operational and financial data—yet struggle to convert it into real-time, actionable intelligence. This engagement demonstrates that AI transformation doesn't require disruption when powered by modular, AWS-native architecture.

By integrating tools like Amazon SageMaker, Rekognition, and QuickSight, the client gained what many mid-market firms lack: precision, speed, and visibility across departments.

The project proved that:

- Quality control can be digitized without overhauling production lines
- Financial forecasting can shift from hindsight to foresight—within weeks
- Cross-functional dashboards create organizational clarity, not confusion

This case is a blueprint for how finance and operations leaders can lead AI adoption—without needing a full IT overhaul or a two-year transformation roadmap. Instead, it shows how targeted AWS services can create a high-ROI foundation for broader automation in inventory, procurement, and predictive maintenance.

From reactive reporting to real-time decision-making—in just six weeks.