

Case Study

Mid-Market Manufacturing & Distribution Company: Unlocking \$4.2 M in Annual Cost Savings with AI-Powered Process Automation on AWS

Client Overview

- **Industry:** Manufacturing & Distribution – Consumer-goods packaging
- **Scale:** ≈220 employees • \$38 M annual revenue • North America
- **Prior Stack:** On-prem ERP (Epicor), paper-based QA forms, siloed Excel planning sheets
- **Key Bottleneck:** Order-to-ship cycle time stuck at 5.4 days, driving late-delivery fees

The Problem

Despite healthy demand, the client saw margin erosion from overtime, expediting fees, and stock-outs. Diagnostic workshops uncovered three root causes:

- Fragmented workflows – eight manual hand-offs from sales order to shop-floor pick-list.
- Paper QA inspections – 6,000+ forms/year re-keyed by clerks; error rate 4.8%.
- Reactive scheduling – planners relied on static spreadsheets; machines idle 11% of scheduled hours.

Leadership engaged LJA New Media to deploy our AI-Powered Business Process Automation & Workflow Optimization methodology—built natively on AWS—to collapse cycle times and free capacity.

Approach & Solution Framework

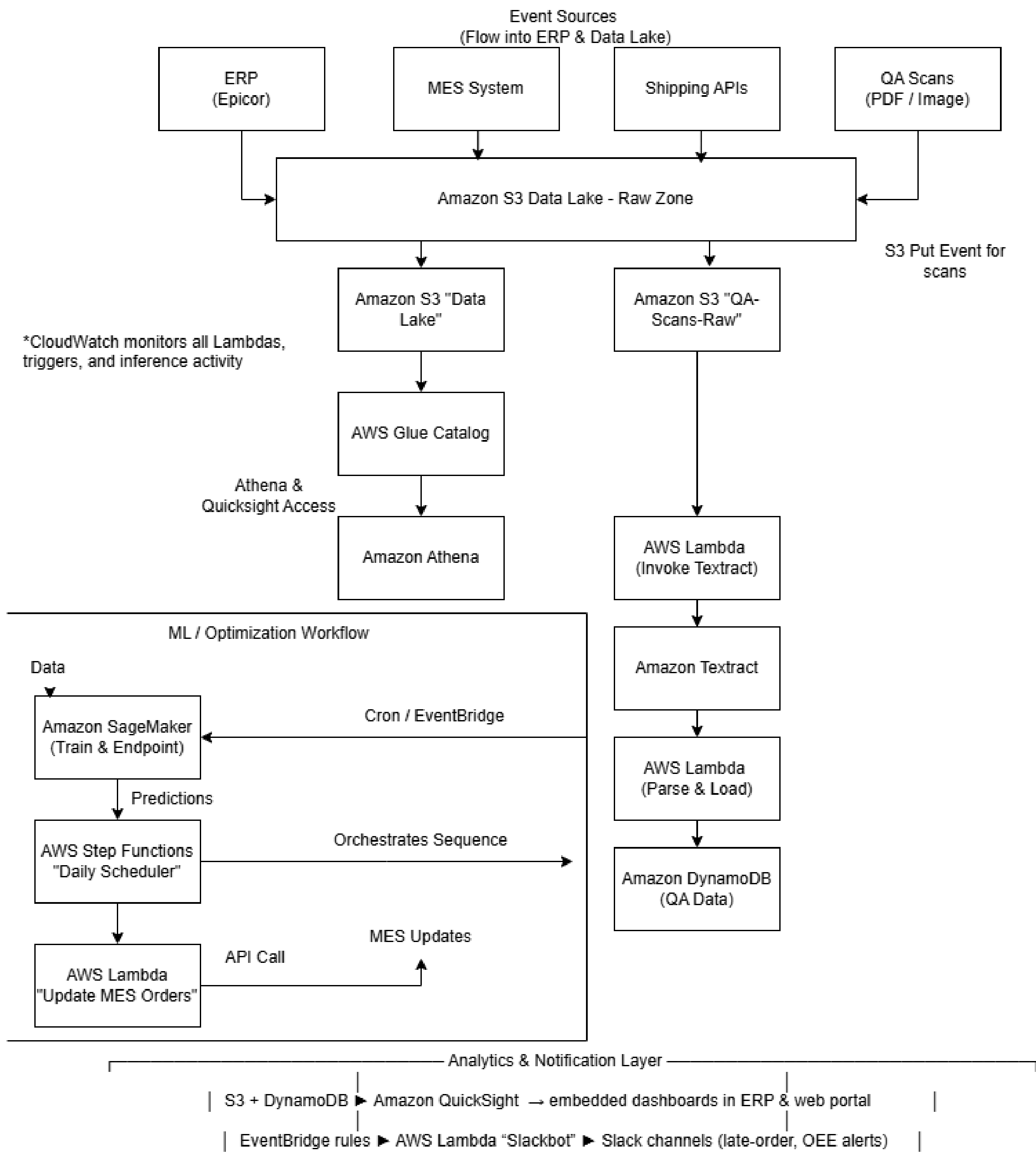
- **Digital Foundation — 2 weeks**
 - **AWS Components: AWS AppFlow, AWS Glue, Amazon S3**
 - Established real-time connectors to ingest ERP, MES, and logistics feeds into an S3 data lake.
 - Deployed Glue crawlers to catalog 18 million historic records for machine-learning training.
- **Intelligent Document Automation — 3 weeks**
 - **AWS Components: Amazon Textract, AWS Lambda, DynamoDB**
 - Built a serverless pipeline to digitize QA forms and classify defects with 97% accuracy.
 - Stored structured outputs in DynamoDB, eliminating manual re-keying.
- **Predictive Workflow Optimization — 4 weeks**
 - **AWS Components: Amazon SageMaker, AWS Step Functions, Amazon EventBridge**
 - Trained an XGBoost model in SageMaker to predict work-center run-times (MAE ± 6 minutes).
 - Orchestrated a daily scheduling algorithm with Step Functions; EventBridge pushed hourly work-order updates to the MES.
- **Actionable Insight Layer — 1 week**
 - **AWS Component: Amazon QuickSight**
 - Delivered self-service dashboards for OEE, defect heatmaps, and schedule adherence.
 - Embedded QuickSight insights directly inside ERP screens—no extra licenses required.
- **Change Management & Enablement — parallel track**
 - **Tools: LJA Playbooks, Slackbot reminders**
 - Conducted role-based training for planners, QA technicians, and line leads.
 - Deployed Slackbot to deliver daily operational prompts (e.g., “Top 3 late orders—accept by 9 AM”).

Total elapsed time: 10 weeks; 100% serverless, no new VMs provisioned.

Quantifiable Results (After 3 months)

Metric	Baseline	90 Days	Δ / Impact
Order-to-Ship Cycle Time	5.4 days	2.7 days	▼ 50 %
Manual Touch-Points per Order	12	3	▼ 75 %
Defect Re-work Rate	4.80%	2.10%	▼ 56 %
Unplanned Overtime	320 hrs/mo	140 hrs/mo	▼ 56 %
Annualized Cost Savings*	—	—	+\$4.2 M

*Savings derived from overtime reduction, late-delivery charge avoidance, and reclaimed capacity enabling +8 % revenue without additional headcount.



Strategic Relevance

Mid-market manufacturers often assume they need a costly ERP overhaul to modernize. PackRight proved otherwise—by layering AWS-native AI and automation on top of existing systems, they compressed lead-times and unlocked millions in free cash flow in less than a quarter.

Strategic Learnings

1. **Map, then Automate** – A fast value-stream mapping exercise spotlighted the exact hand-offs to digitize, avoiding “automation sprawl.”
2. **Serverless = Speed** – Lambda & Step Functions let IT deploy in weeks, not months, while keeping OpEx predictable.
3. **Embed Insights Where Users Work** – QuickSight visualizations inside the ERP UI drove 83% daily adoption.
4. **Pilot-First De-Risks Change** – A contained 10-week sprint built internal momentum and set the stage for enterprise-wide expansion.

**Ready to transform your business with AI-driven solutions?
Contact LJA New Media today to schedule a discovery call
and explore how our AI Solutions can propel your business to
new heights.**