

## AWS-Driven Predictive Operations for a \$35M Logistics Firm

### Client Overview

- **Industry:** Freight & Logistics (Regional Operator)
- **Annual Revenue:** \$35 Million
- **Employees:** 220
- **Region:** Midwest United States
- **Executive Sponsor:** Chief Operating Officer (COO)
- **Primary Use Cases:** Predictive Workforce Scheduling, Workflow Automation, Real-Time Executive Analytics

### Business Challenges

A mid-market logistics company with over 100 daily delivery routes faced operational inefficiencies that were directly impacting profitability and morale:

- **High Overtime Costs:** Reactive scheduling practices and no predictive labor model
- **Manual Reporting Burden:** Plant managers and finance teams relied on spreadsheet-based processes consuming 20+ hours weekly
- **Fragmented Data Environment:** Key systems—Transportation Management System (TMS), timekeeping, and HR—were disconnected

Despite growing pressure to streamline operations, leadership was risk-averse and unwilling to pursue large-scale tech overhauls. The internal IT team lacked capacity to implement advanced analytics.

### Solution Overview

LJA New Media proposed a 4-week AWS-powered Fast-Start AI Pilot, targeting rapid ROI through modular AI applications and infrastructure integration.

## 1. Predictive Scheduling Model (Built on Amazon SageMaker)

- **Data Sources Integrated via AWS Glue:**
  - Historical route volumes (from TMS)
  - Staff rosters and time-off requests (from HRIS)
  - Real-time weather (via Amazon API Gateway pull from NOAA)
  - Delivery SLA metrics
- **Model Development:**
  - Forecasting model developed in Amazon SageMaker using XGBoost
  - Trained on 24 months of data to optimize staffing against expected route load
- **Operationalization:**
  - Recommendations published to an internal scheduling dashboard hosted via Amazon QuickSight
  - Outputs pushed to the TMS via AWS Lambda integration for 48-hour rolling shift forecasts

## 2. Workflow Automation (Reporting via AWS Cloud Infrastructure)

- **Data Pipeline:**
  - Built an ETL pipeline using AWS Glue and Amazon Redshift to aggregate timekeeping and productivity data
  - Scheduled automation using AWS Step Functions to trigger weekly batch processing
- **Reporting Suite:**
  - Amazon QuickSight dashboards replaced legacy Excel workflows
  - Departmental views: Shift manager snapshot, Ops manager weekly review, Finance monthly close reports
  - Reduced manual input burden by over 60%

## 3. Executive Command Dashboard (COO & CFO View)

- **Unified Metrics:**
  - Overtime cost trends
  - On-time delivery performance
  - Labor utilization rates
  - Forecast accuracy scores
- **Hosted securely on Amazon QuickSight** with role-based access
- **Mobile-accessible dashboards** powered by **Amazon Cognito** for secure authentication

## Outcomes Delivered (In 4 Weeks)

Metric	Before	After	% Change
Overtime Costs	\$48,000/month	\$37,440/month	↓ 22%
Manual Reporting Time	20 hours/week	8 hours/week	↓ 60%
Scheduling Accuracy	65%	91%	↑ 26% improvement
Pilot Deployment Duration	—	4 weeks	Fast-track

### Intangible Benefits

- Boosted morale due to transparent, equitable schedules
- Finance team reallocated 12+ hours/month to high-value forecasting
- COO achieved weekly visibility into cost drivers for the first time

### Strategic Impact

This project exemplified how LJA New Media’s AWS-native approach delivers measurable value fast—without requiring full-system overhauls:

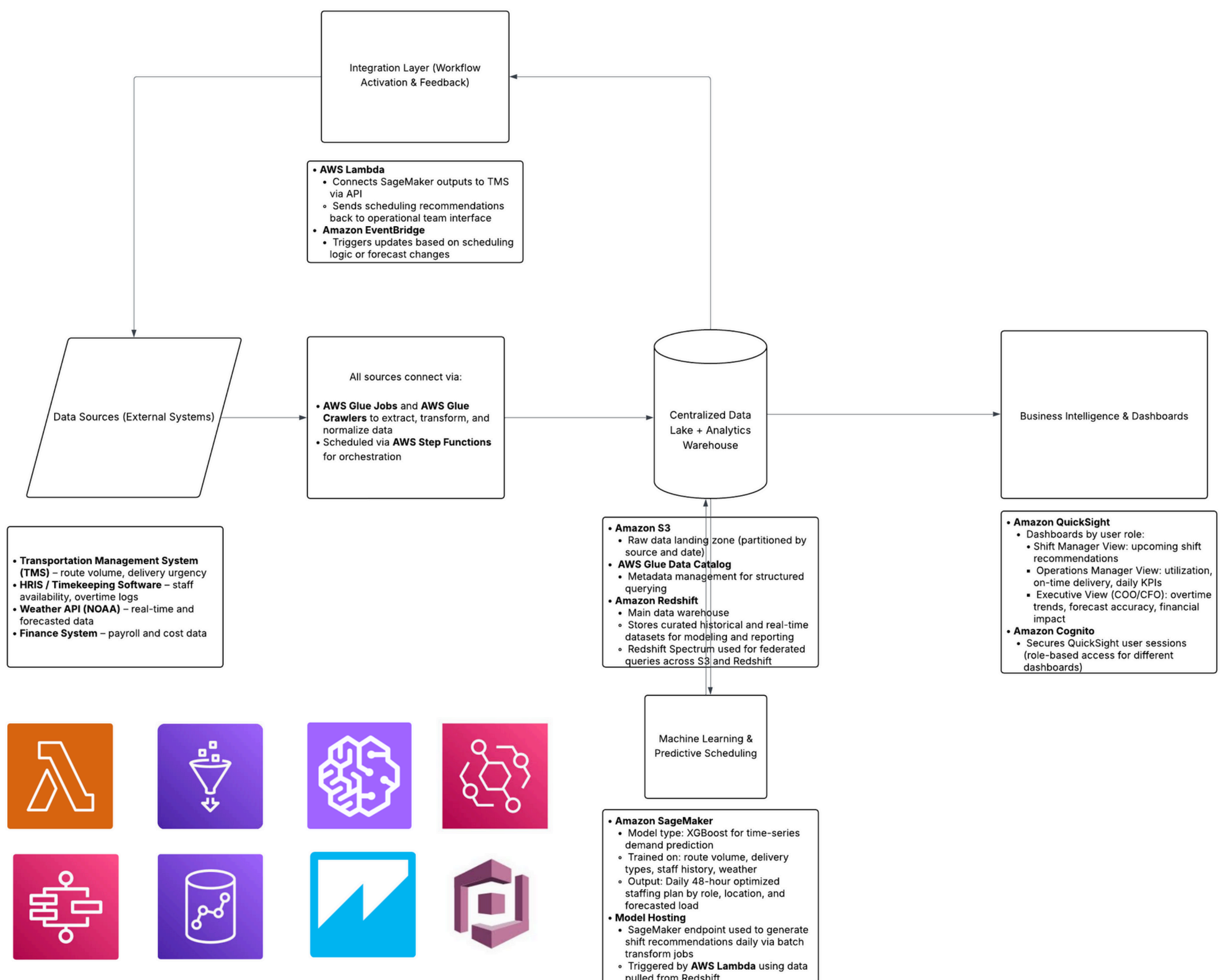
- **Zero Downtime Deployment:** Fully integrated into existing TMS and HR systems
- **Executive Clarity:** Actionable dashboards aligned with strategic KPIs
- **Scalable Foundation:** Built using modular AWS components ready for expansion

**Next Step:** Expansion underway to replicate across two additional distribution hubs, including custom scheduling logic for unionized labor constraints.

## Why It Matters

For mid-market logistics firms, modernizing operations no longer requires a multi-year overhaul. This case illustrates how LJA New Media's AWS-first, modular AI pilots create an immediate, scalable path to operational excellence:

**“From spreadsheets to real-time visibility—in four weeks flat.”**



**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.**