

CASE STUDY

# Formulation Companies

## Pharma Supply Chain Intelligence

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*500+ SKUs with expiry dates. FEFO inconsistently applied. Audit prep taking 2 weeks every cycle. All three problems eliminated.*

Pharmaceutical formulation company · 2 plants · 500+ finished dose SKUs · Domestic + export markets

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# 1. Overview

A pharmaceutical formulation company manufacturing tablets, capsules, and liquid formulations across 500+ finished dose SKUs faced a scale problem: individually, each compliance requirement was manageable. At 500+ SKUs across two plants and multiple distribution points, the combined compliance workload - expiry management, FEFO enforcement, batch documentation, and audit preparation - had grown beyond what a manual system could reliably handle.

In the preceding 18 months: FEFO had been violated on 4 occasions that they knew about (older batches bypassed in dispatch), 3 near-expiry products had been shipped to customers (one returned), and audit preparation for their largest customer's annual audit had consumed 16 working days of their QA and ops teams - taken during their busiest production quarter, creating downstream delays.

# 2. Key Results

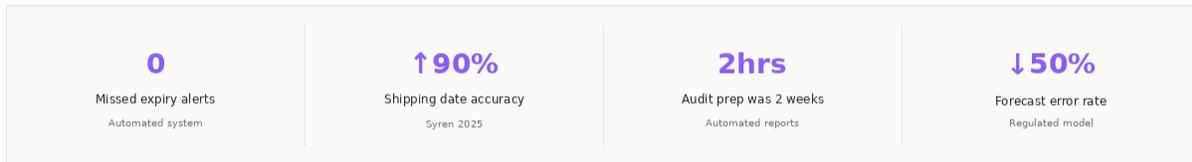


Figure 1: Key compliance and operational outcomes

# 3. Challenges

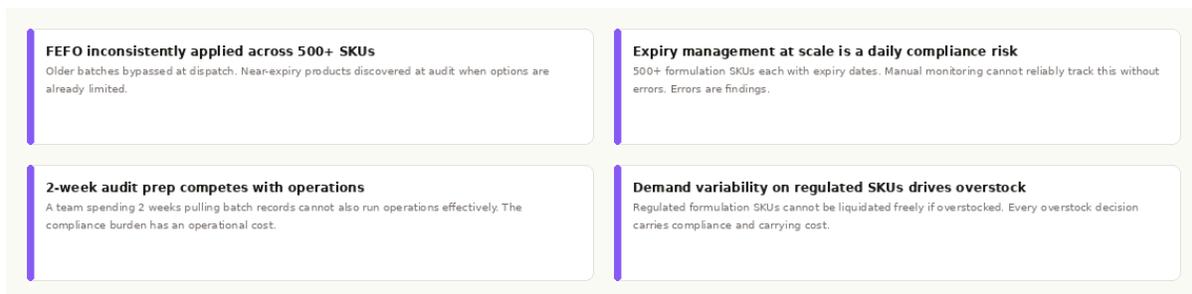


Figure 2: Four compliance and operational challenges at formulation scale

## FEFO Inconsistently Applied at Scale

At 500+ SKUs, FEFO cannot be reliably managed through staff memory, wall charts, or manual checks. Newer stock delivered to accessible warehouse locations gets picked first. Older batches with earlier expiry dates sit at the back. The policy exists; the enforcement does not.

## Expiry Events at Scale Are a Daily Compliance Risk

With 500+ formulation SKUs each carrying expiry dates, there is always something approaching expiry at any given time. Manual monitoring cannot reliably track this without gaps. A missed expiry alert is not just a financial write-off - in pharma, it is a potential patient safety event and a regulatory compliance failure.

### Audit Preparation Competes With Operations

16 working days of QA and ops team time spent pulling batch records before one customer audit. Multiply this across the 3–4 major audits they face per year, and a significant fraction of their most qualified team's productive time is consumed by backwards-looking documentation work rather than forwards-looking quality management.

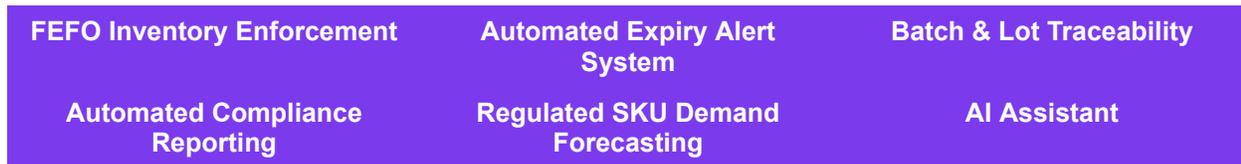
### Demand Variability on Regulated Formulations Drives Overstock

Unlike commodity consumer products, regulated formulations cannot be easily liquidated if overstocked. Overstock creates carrying cost, compliance burden, and risk of batch approaching expiry before it sells. Demand forecasting for this category must account for regulatory constraints on production quantities and lead times.

## 4. Our Solution

We connected to their ERP and LIMS. FEFO logic was enforced across both plants and all distribution points from week one - the system assigned expiry dates at batch creation and enforced FEFO at every picking event without manual intervention. Expiry alerts were configured at 30, 60, and 90-day thresholds. Compliance report templates were built for their two largest customers and configured for automatic generation.

### Modules Deployed



### Implementation Timeline



Figure 3: FEFO live week 1. Compliance reports ready week 2. AI assistant week 4.

### Key Capabilities

- **FEFO enforcement:** FEFO system-enforced - oldest expiry always picked first at every dispatch point, across both plants, without any manual instruction

- **Expiry management:** Expiry alerts at 30/60/90 days - fires simultaneously to QA officer, warehouse manager, and procurement team
- **Automated reporting:** One-click compliance reports - formatted for customer audit requirements, generated from live ERP+LIMS data
- **Traceability:** Batch traceability - complete chain from finished dose to raw material lots and supplier CoAs, searchable in seconds
- **AI chatbot:** AI Assistant: 'Which batches are expiring in the next 60 days across both plants?' - instant cross-site view

## 5. Results - Before & After

Area	Before	With Innovacio
Expiry alerts	Manual — gaps common	0 missed — automated
Shipping accuracy	Variable — manual schedule	190% accuracy
Audit prep	2 weeks intensive	2 hours automated
FEFO compliance	Inconsistent at dispatch	System-enforced picking
Batch documentation	Manual — error-prone	Auto-captured ERP+LIMS
Stock vs demand	Overstocked regulated SKUs	AI forecast calibrated

Figure 4: Compliance and operational metrics - before and after



We spent 16 days preparing for last year's customer audit. This year, I generated the complete audit package in 2 hours on the morning of the audit. The auditor commented that our documentation was the most structured they had seen at a site of our scale. That comment came after 4 FEFO violations in the 18 months before deployment.

- Priya Nair, QA Director · MedForm Pharmaceuticals

## 6. See It in Your Operation

We connect to your ERP and LIMS and show you your current FEFO compliance status, expiry risk across all SKUs, and a sample auto-generated audit report - in 30 minutes.

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