

CASE STUDY

Chemical Manufacturing

Supply Chain & Compliance Intelligence

Audit prep was taking 14 working days every cycle. Batch documentation consumed 30% of their team. Now it takes 8 minutes.

Specialty chemical & coatings manufacturer · 2 plants · 180+ formulation SKUs · Automotive and industrial sectors

[Innovacio Technologies](#) · [+91 90072 71601](#) · hello@innovaciotech.com

1. Overview

This specialty chemical manufacturer produced industrial coatings, adhesives, and surface treatment chemicals for automotive OEMs and infrastructure clients. Their 180-SKU portfolio involved complex batch formulations - each requiring raw material lot traceability, QC test records, mixing logs, and dispatch documentation as standard compliance requirements. 30% of their operations team's time was consumed by batch documentation.

A major automotive customer - representing 22% of annual revenue - conducted a supply chain audit and identified gaps in lot traceability records. Raw material lot numbers used in three batches in the prior quarter could not be traced back to their supplier certificates. The root cause was a manual transcription error. The customer placed the supplier on probation with a 90-day remediation deadline.

2. Key Results

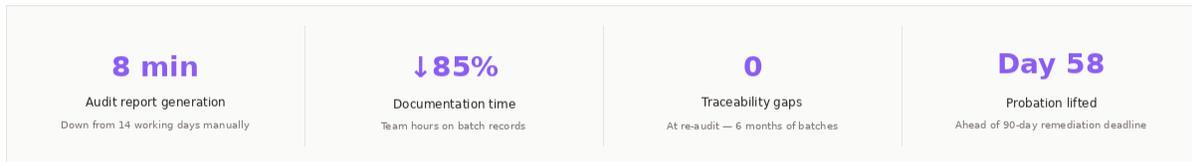


Figure 1: Key outcomes - 90-day remediation period and beyond

3. Challenges

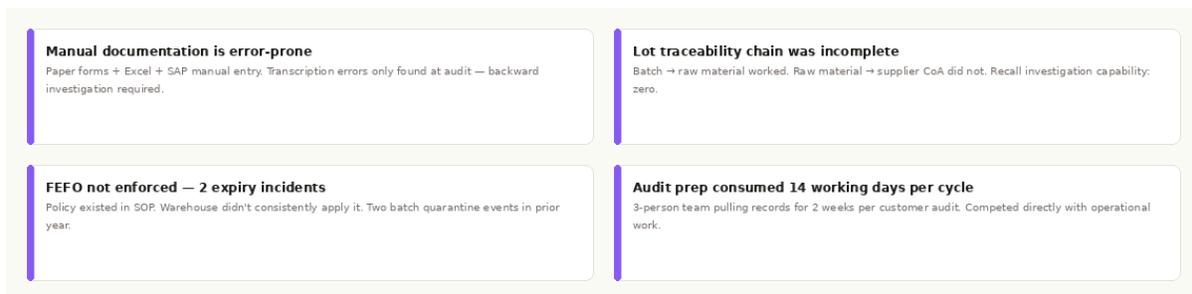


Figure 2: Four compliance and operational challenges in chemical batch manufacturing

Manual Documentation is Inherently Error-Prone

Batch records were maintained across paper forms, Excel sheets, and SAP manual entries. Data from multiple sources had to be reconciled for each batch. Human transcription errors were discovered only at audit time - when correcting them required extensive backward investigation through paper trails.

Lot Traceability Chain Was Incomplete

The team could trace a finished batch to the raw materials used - but could not reliably link those raw materials back to the supplier certificate of analysis (CoA) that certified quality. This gap meant any quality investigation requiring raw material source tracing could not be completed systematically.

FEFO Not Consistently Enforced

FEFO (First Expired, First Out) was a policy in their SOP but not enforced in the warehouse. In two incidents in the prior year, expired raw materials had been used in production - requiring batch quarantine and rework, creating both cost and customer risk.

Audit Preparation Consumed 14 Working Days Per Cycle

Each customer or regulatory audit required manually pulling batch records, cross-referencing QC logs, and assembling documentation packages. A team of three spent an average of 14 working days per audit cycle - time that competed directly with operational planning and customer service.

4. Our Solution

We connected to their SAP system and LIMS via direct read-only API. Our batch tracking module automatically captured data flowing through both systems - eliminating manual transcription entirely. The lot traceability chain was rebuilt digitally: every finished batch now carries a complete provenance record linking it to raw material lots and the supplier CoA for each.

Modules Deployed



Implementation Timeline



Figure 3: From SAP connection to probation lifted - Day 0 to Day 58

Key Capabilities

- **Full traceability:** Automated batch traceability: every batch automatically linked to raw material lots and supplier CoA - zero manual data entry in the traceability chain
- **FEFO automation:** FEFO enforcement at the warehouse level: oldest-expiry raw materials always picked first, system-enforced - no reliance on staff memory or manual checks
- **Expiry management:** Expiry alerts at 30, 60, and 90 days: fire automatically to warehouse manager, QA officer, and procurement team simultaneously

- **Automated reporting:** Compliance report generation in one click: audit-ready batch documentation formatted for customer and regulatory requirements - previously 14 working days, now 8 minutes
- **AI chatbot:** AI Assistant: 'Show me full lot traceability for Batch #B-4421' - complete audit trail in 30 seconds

5. Results - Before & After

Area	Before	With Innovacio
Audit report preparation	14 working days — team of 3	8 minutes — one click, auto-formatted
Lot traceability	Batch → raw material only	Full chain: batch → lots → supplier CoA
FEFO compliance	Policy in SOP, not enforced	System-enforced — zero violations since go-live
Documentation time	30% of operations team time	185% reduction
Expiry management	Found at physical audit — reactive	Alerts at 30/60/90 days — proactive
Customer relationship	Probation — 22% revenue at risk	Full standing reinstated

Figure 4: Six key compliance and operational metrics - before and after deployment

The automotive customer re-audit was conducted on Day 58 of the 90-day remediation plan. Full lot traceability was demonstrated for 6 months of batches - 100% complete, searchable in under 30 seconds for any batch. The probation status was lifted immediately. The customer relationship was reinstated to full standing - ahead of deadline.

”

The auditor asked how long it would take to pull the complete batch traceability record for any batch in the last 6 months. I told him 30 seconds. He didn't believe me. I showed him. That was the moment the conversation about probation ended.

- Karan Mehta, Operations Director · SurfaTech Chemical Industries

6. See It in Your Operation

We connect to your SAP or ERP and demonstrate full batch traceability on your actual data - in a 30-minute call. No setup required. No commitment before the demo.

Innovacio Technologies AI in Supply Chain	Book a Free Discovery Call 30 minutes · No commitment · Your data	Phone Email Web	+91 90072 71601 hello@innovaciotech.com innovaciotech.com
---	---	-----------------------	---