RISK ASSESSMENT & DIAGNOSIS

High Fit — High pain signal across multiple operational areas — clear ROI targets exist · Core systems in place — foundations for AI are present, though some data work will precede the build

Apex Stamping & Assembly operates without systematic early warning for supplier delays and production schedule exceptions, leaving the expedite list as a reactive firefighting tool rather than a predictive asset. The recent tier-3 supplier line-down that reached production supervisors first—not planning—reflects gaps in supplier visibility and order monitoring; simultaneously, 40+ ECOs languishing in queue for 6 weeks indicate that Epicor's ECORev/ECOGroup approval routing lacks rule-based escalation, forcing manual signature chasing and delaying engineering releases by weeks to months.

WHERE AI CAN MOVE THE NEEDLE

Supplier & Production Visibility — 58

Approvals & Workflow — 53

Document & Data Flow — 49

Compliance & Operational Visibility — 47

EXECUTIVE SUMMARY

Apex Stamping & Assembly's recent tier-3 supplier line-down reflects systemic gaps in supplier visibility and production schedule monitoring; the 40+ ECOs stuck in approval queue for 6 weeks reveal that Epicor lacks native rule-based approval routing, forcing manual escalation. A three-phase roadmap—beginning with quality automation (weeks 0–8), then supplier delay early warning and ECO routing (months 2–5)—will eliminate the expedite list scramble, cut CAPA cycle time to 30–45 days, and reduce operational friction costs by $250k–$350k annually.

TOP AI OPPORTUNITIES

1 Supplier Delay Early Warning System

Medium complexity · 3–6 months

Time Saved	60	Error Reduction	80
Cost Impact	75	Scalability	70

2 Engineering Change Order Approval Routing

Medium complexity · 3–6 months

Time Saved	70	Error Reduction	65
Cost Impact	60	Scalability	80

3 Production Scheduling Visibility & Exception Alerting

Medium complexity · 3–6 months

Time Saved	55	Error Reduction	70
Cost Impact	65	Scalability	70

4 Quality & Non-Conformance Workflow Automation

Low complexity · Under 3 months

Time Saved	70	Error Reduction	85
Cost Impact	55	Scalability	75

IMPLEMENTATION ROADMAP

Quick Win: Quality & Compliance Visibility (Weeks 0–8)

Implement automated NCMHead/NCMDtl workflow and CAPA SLA tracking in Epicor quality module to close the inspection-to-corrective-action loop before customer escalation. Measurable baseline: current CAPA backlog age and engineer hours spent on reactive 8D investigations.

- Map Apex's NCR acceptance criteria and CAPA routing rules to Epicor quality configuration
- Enable automated SLA alerts for CAPA due dates; escalate overdue items to quality leadership
- Integrate Epicor quality data into a single compliance dashboard (no spreadsheet shadow system)
- Train quality team on new workflow; measure backlog clearance and CAPA cycle time reduction

Core Build: Supplier & Approval Visibility (Months 2–5)

Deploy supplier delay early-warning system and ECO approval routing to eliminate the expedite list scramble and unblock engineering releases. Read-only Epicor data extraction is the foundation; rule-based escalation logic is configured in a lightweight workflow layer.

- Establish read-only data pipeline from Epicor PO, receipt, and ASN modules (4–6 weeks)
- Configure supplier delay prediction rules: ASN gaps, quality hold flags, capacity utilization thresholds
- Build ECO approval routing on Epicor ECORev/ECOGroup tables with cost/part-family triggers and SLA escalation
- Deploy production schedule exception alerting (2–3 week forward visibility of supply/capacity constraints)
- Measure: OTD improvement, ECO queue clearance time, reduction in expedite list friction

Sustainment & Expansion (Months 5–6+)

Operationalize all workflows, establish governance for approval routing rules and exception thresholds, and build a compliance/audit dashboard for customer visibility. Prepare for expanded use cases (e.g., SCAR/8D automation for automotive line-down investigations).

- Lock in approval routing rules and SLA definitions; train all stakeholders on escalation paths
- Establish monthly metrics review (OTD, ECO cycle time, CAPA backlog, audit scramble hours)
- Build customer-facing compliance dashboard (audit readiness, corrective action status)
- Document SCAR/8D investigative workflow for next tier of automation (20–40 hrs/incident at $100–150/hr)

FOR YOUR CFO — THE COST OF THE PROBLEM

> Apex's operational friction costs an estimated $423k annually: 50+ late supplier orders averaging $1.5k expedite premium each ($75k), 40+ ECOs at ~2 engineer-weeks per approval bottleneck ($160k), NCR/CAPA spreadsheet management and reactive 8D labor at current rates (~$57k–$152k), plus production schedule visibility gaps triggering unplanned line reworks (~$30k–$50k). Phased automation targeting quality-first (Phase 1) then supply/approval workflows (Phase 2) yields $250k–$350k ROI within 6 months.

FOR YOUR IT TEAM — INTEGRATION COMPLEXITY

> Epicor Kinetic REST API and direct ECORev/ECOGroup table access enable a read-only data layer in 4–6 weeks; rule-based approval routing and exception escalation rules are configured on top, avoiding heavyweight middleware. No major system changes required; Phase 1 requires only quality module configuration and NCMHead/NCMDtl automation.

ERP INTEGRATION NOTE

Integration complexity: Medium. Epicor Kinetic has a REST API layer that is accessible, but highly customized installations vary significantly in field names and table structures. Integration typically runs via the Epicor API or direct database access. A read-only data extraction layer is achievable in 4–8 weeks; bi-directional integration requires more scoping.