



Whitepaper

Reimagining Recall Management: From Reactive Triggers to AI-Powered Intelligent Resolution

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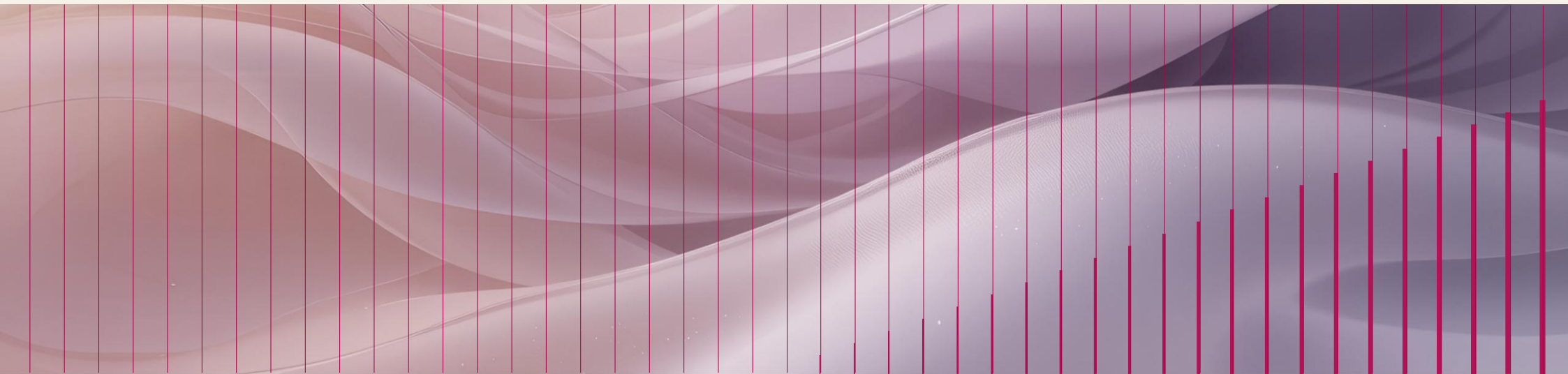
Executive Summary

In today's manufacturing landscape, recalls are strategic moments that can either build or erode customer trust. Traditional and legacy recall processes are slow, fragmented, and reactive. With rising regulatory pressure and customer expectations, manufacturers need smarter and faster ways to respond.

This whitepaper explores how AI, automation, and integrated platforms are helping manufacturers move from reactive firefighting to intelligent resolution. By connecting quality, compliance, supply chain, and customer service teams through a unified command center, companies can reduce recall execution time, automate compliance, and improve transparency.

The result is a better outcome for customers, regulators, and the business:

- **Customers:** Enjoy higher satisfaction through improved product quality and faster, more personalized service during recalls.
- **Regulators:** Gain confidence from rapid, consistent, and transparent compliance reporting, reducing friction and ensuring adherence to standards.
- **Manufacturers:** Achieve stronger customer retention, lower operational costs, and protect brand reputation through streamlined processes and data-driven decisions.



Introduction



Product recalls often begin with reactive triggers - alerts from analytics systems, customer complaints, or service reports. But they do not have to remain reactive. As regulatory scrutiny intensifies and customer expectations rise, manufacturers must evolve toward intelligence-driven ecosystems that accelerate investigation, automate reporting, and support strategic decision-making. This paper explores how AI, automation and integrated platforms empower operations, quality, and compliance leaders to optimize recall processes, meet regulatory demands, and preserve customer trust. Drawing from real-world implementations across sectors like automotive, electronics, and industrial manufacturing, it offers insights into scalable architectures, regulatory automation, and future-ready recall intelligence.



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AI-first recall systems are no longer optional - they are essential for regulatory agility and customer trust.¹

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CFC Recall Trends 2025

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By 2026, more than 60% of manufacturers will adopt AI-driven quality and compliance platforms to reduce recall risk and Improve traceability.²

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Gartner

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Companies with integrated recall platforms reduce resolution time by up to 60% and Improve customer retention by 30%.³

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McKinsey & Company

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Recall-related costs in automotive and electronics sectors have risen by 25% over the past three years, driven by supply chain complexity and regulatory tightening.⁴

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IDC

The Evolving Nature of Recall Management



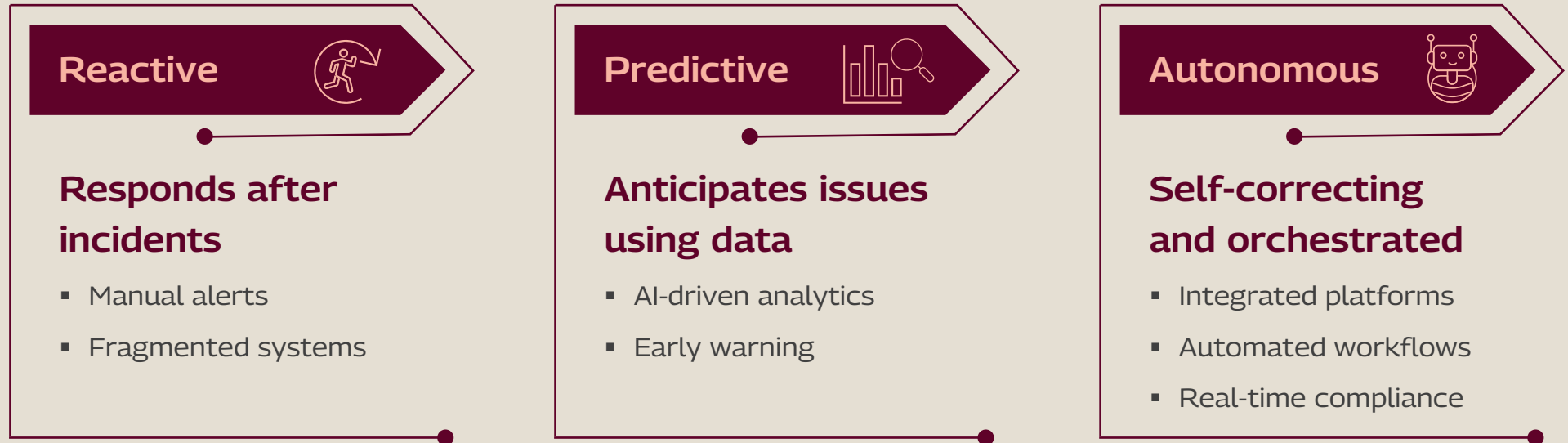
Recall management is a cross-functional challenge spanning across engineering, manufacturing, customer service, sales, partners (dealers, distributors, and suppliers), and external constituencies (customers and safety regulators). As a result, recalls are no longer isolated operational events; they are enterprise-wide issues with regulatory, financial, and reputational consequences.

Traditional recall models are largely reactive, often relying on customers or downstream partners to surface issues. This approach is increasingly inadequate. Manufacturers are now expected to take a more proactive, integrated view, one that places product quality, safety, and customer trust at the center. It requires better data integration across internal and external systems, along with tighter coordination across the ecosystem.

Regulatory expectations are also rising. Agencies such as the U.S. Consumer Product Safety Commission (CPSC) and regulatory bodies across the European Union are demanding faster, more transparent, and more consistent recall execution. Non-compliance now carries both financial penalties and long-term brand risk. At the same time, global supply chains have become more complex and fragile, making traceability and rapid response significantly more difficult.



Recall Management Maturity Curve



The financial impact is more pronounced. According to the American Society for Quality (ASQ), quality-related costs can account for nearly 40% of operational budgets, highlighting the financial impact of inefficiencies.⁵

As products get more software-driven and interconnected, legacy systems struggle to keep pace. While some platforms offer recall-specific tools, most legacy systems lack deep integration with enterprise systems that offer native AI capabilities, which are required for real-time decision-making. As products grow more complex, these limitations get more challenging.

The shift is clear: manufacturers need intelligent platforms that deliver end-to-end traceability, automate recall workflows, and provide real-time insights to meet compliance expectations and protect customer trust.



Key Challenges Shaping Modern Recall Management

In practice, these market and regulatory pressures expose recurring operational and customer-facing challenges in how recalls are executed across organizations.

Challenging Area	Challenge	Impact	Need
Regulatory Compliance Pressure	Manufacturers and suppliers must comply with strict safety regulations.	Failure to manage recalls properly can lead to fines, legal action, and loss of certification.	A system that ensures timely reporting, traceability, and documentation.
Fragmented Data and Systems	Recall-related data is spread across multiple systems (CRM, ERP, service networks, third-party storage).	Difficulty identifying affected products, notifying customers, and tracking resolution.	A centralized platform that integrates data sources and provides end-to-end visibility.
Low Recall Completion Rates	Many customers overlook or delay recall actions.	Unresolved safety issues can lead to accidents and liability.	Tools to track completion, send reminders, and incentivize participation.
Brand Reputation Risk	Poor recall handling can damage brand image and customer loyalty.	Negative media coverage and social media backlash.	Transparent, AI-led recall management that reassures customers.
Complex Supply Chain and Component Traceability	Identifying which products or regions are affected by a faulty component is complex.	Risk of over- or under-recalling.	Advanced analytics and AI-powered traceability.
Inefficient Customer Notification	Reaching affected customers is time-consuming and error-prone.	Delays in communication, increasing safety risks, and reducing customer confidence.	Automated, multi-channel communication tools (email, SMS, app notifications).
Cost Management	Recalls are expensive, including the costs of logistics, repairs, and customer service.	Financial strain that scales the cost of interventions.	An effective alerting system with smart monitoring to prevent major incidents.

From Fragmentation to an Intelligence-led Model

Most recall systems were designed around discrete functions, addressing compliance reporting or customer notification in isolation. As a result, intelligence is limited, automation is minimal, and coordination across teams is often weak. As recalls get more frequent, complex, and time-sensitive, these structural limitations slow decision-making, delay early detection, and increase regulatory and brand risk.

To address these gaps, recall management must evolve from reactive coordination to an integrated, intelligence-led operating model, one that connects data, workflows, and stakeholders across the entire recall lifecycle.

An Intelligence-led Model for Recall Management

In practice, effective recall management depends on how quickly organizations can align people, data, and decisions under pressure. An intelligence-led recall model shifts recall execution from reactive coordination to proactive control. Rather than treating recalls as episodic compliance events, it aligns quality, legal, supply chain, and customer service teams around a shared view of risk, progress, and accountability. AI and automation act as enablers, reducing decision latency, standardizing execution, and supporting faster, more transparent resolution.

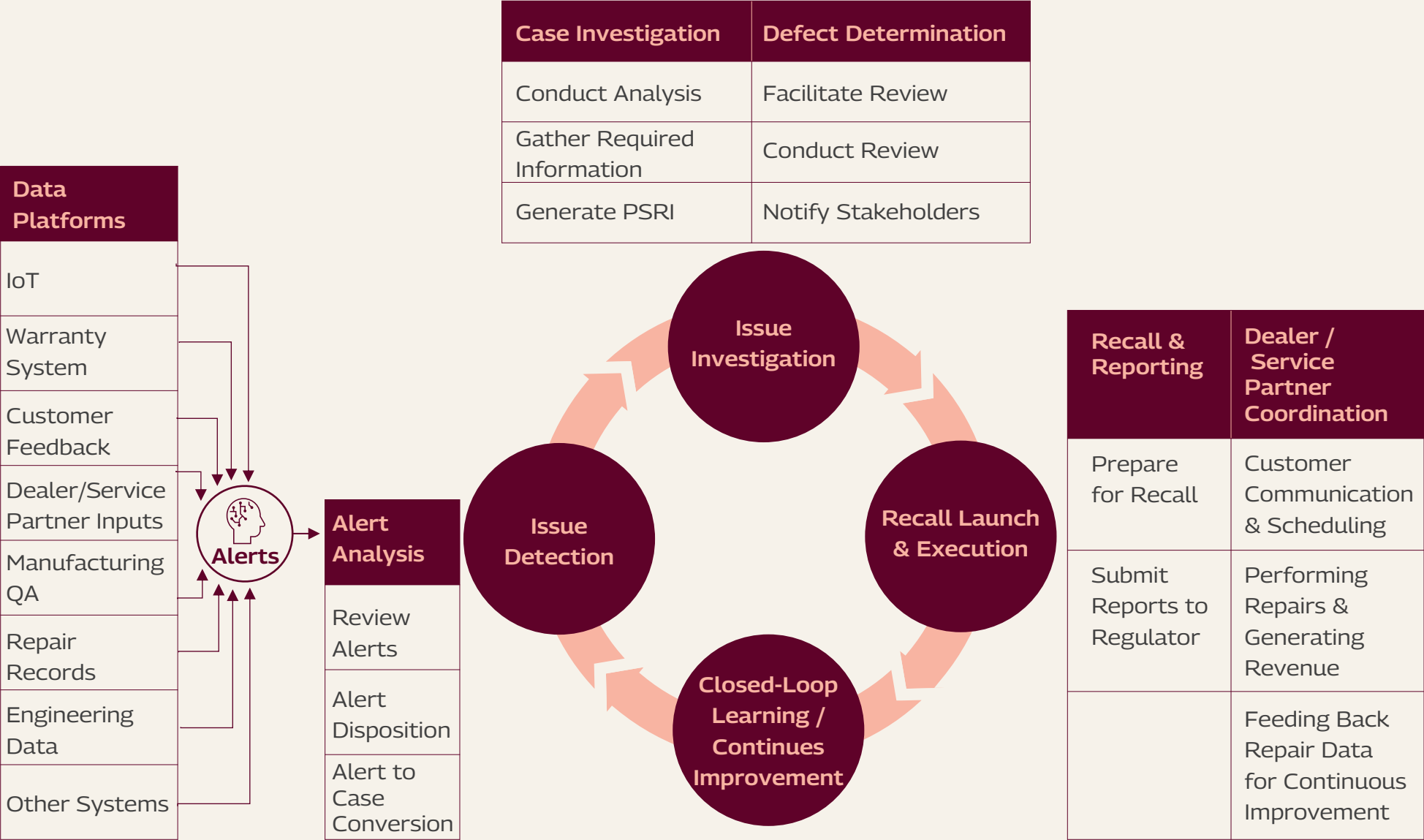


Figure 1: Process Overview

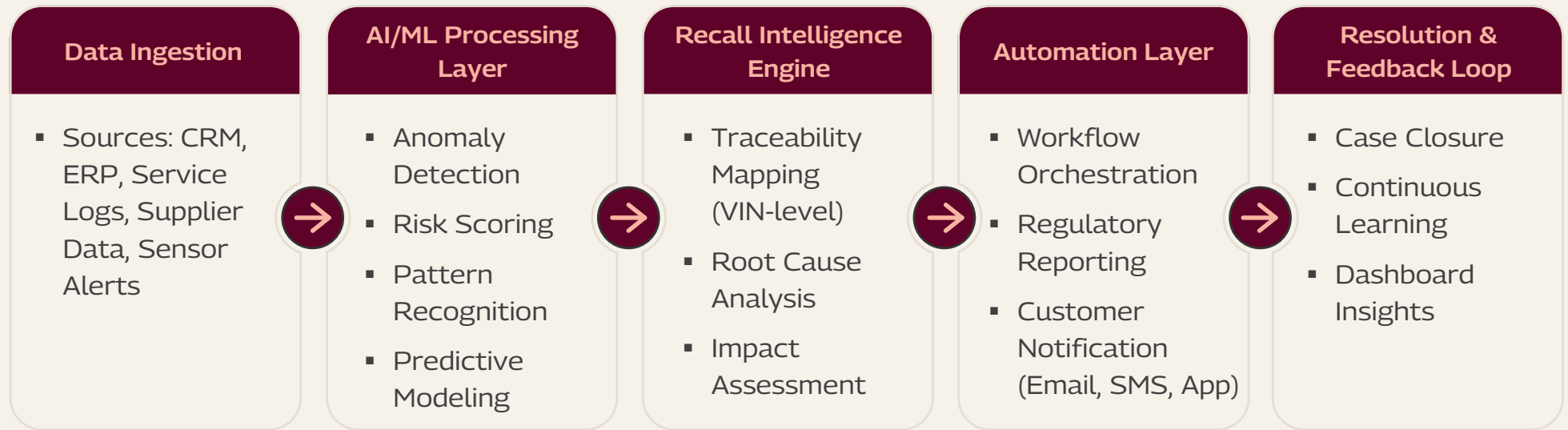
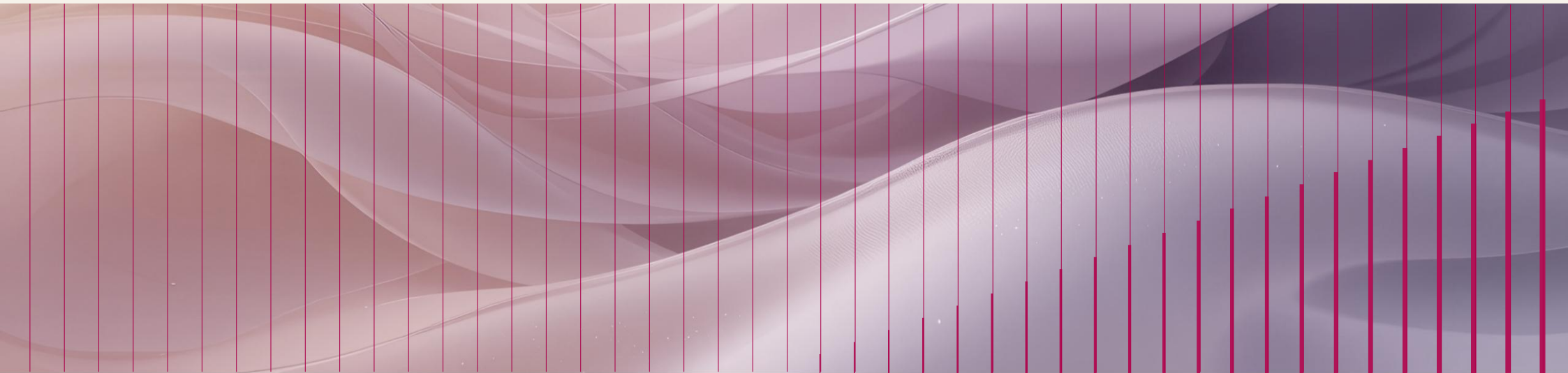


Figure 2: AI Workflows From Data Ingestion to Resolution



Core Design Principles for Modern Recall Management

This model is defined by a set of design principles that change how recall decisions are detected, prioritized, and executed across the organization:

- **Early Detection:** Machine learning scans service logs and customer feedback to flag potential issues before they escalate
- **Smart Prioritization:** AI models rank recall results by risk, enabling faster, safer decision-making
- **Automated Workflows:** The system streamlines defect reporting, customer notifications, compliance documentation, and coordination with dealers and service partners
- **Intelligent Support:** AI assists service teams with relevant knowledge articles and real-time guidance during recall execution
- **Closed-Loop Communication:** Feedback from customers and internal stakeholders is systematically captured and fed back into the system to drive continuous improvement across outreach strategies, engineering standards, and production quality

AI in Action

These design principles are executed through AI-enabled capabilities that support faster, more consistent recall execution:

- **Predictive Detection:** Machine learning models analyze service logs, IoT sensor data, and warranty claims to identify anomalies early
- **Dynamic Risk Scoring:** AI ranks recalls based on severity, regulatory implications, and customer exposure to support effective prioritization
- **Automated Compliance:** AI drafts regulatory reports and validates documentation against global standards
- **Personalized Outreach:** Natural language processing optimizes communication channels and timing for higher customer engagement
- **Continuous Learning:** Feedback loops refine detection, prioritization, and outreach strategies over time

Business Outcome

When applied together, these capabilities deliver measurable improvements in speed, compliance, cost, and customer trust:

- Faster recall execution, with reductions of up to 60% in response time
- Reduced audit findings through automated and consistent compliance processes
- Improved customer engagement and retention during recall events
- Scalable adoption across automotive, electronics, and industrial sectors
- Stronger brand perception linked to quality and customer safety
- Better product quality from engineering and manufacturing operations
- Enhanced customer interactions at dealers, retailers, and service partners, supporting incremental revenue opportunities

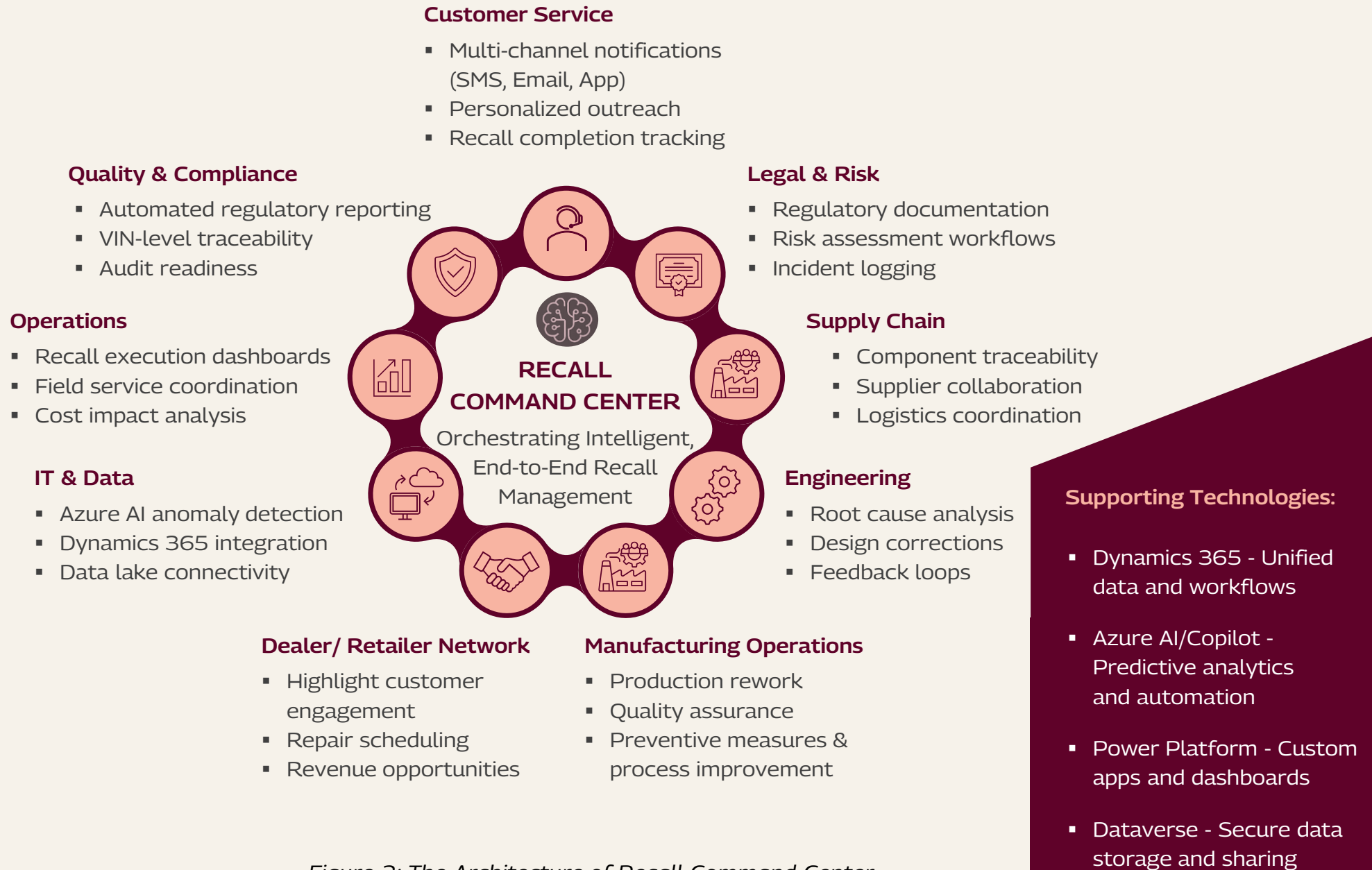


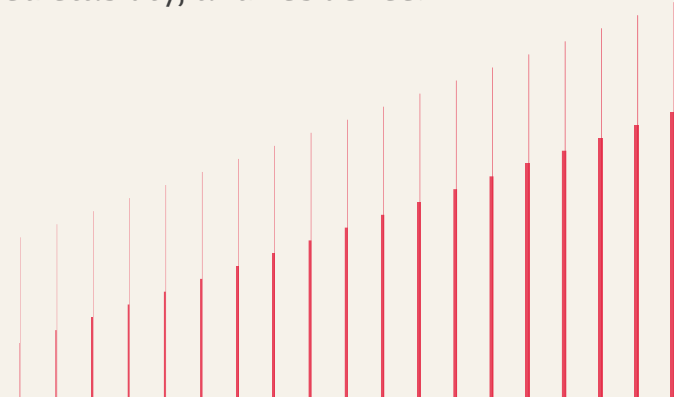
Figure 3: The Architecture of Recall Command Center

The Shift Toward Intelligent Recall Management with Tech Mahindra



Generative AI and LLMs are already shaping how recalls are investigated and managed across manufacturing environments. Leading organizations apply these capabilities to analyze unstructured data, such as service logs, customer feedback, and regulatory updates, thereby enabling faster root-cause analysis and more consistent decision-making during recall events. Intelligent assistants, powered by LLMs, guide quality and compliance teams through complex investigations, draft regulatory reports, and even simulate recall scenarios to assess responses.

Tech Mahindra's view goes a step further. Rather than treating AI as a set of task-level accelerators, the focus is on enabling a smart model for recall management. In this model, systems learn from each recall event, strengthen early detection over time, and progressively reduce both the frequency and impact of future incidents. The objective is recall programs that operate with greater control, predictability, and resilience.



Illustrative Application: Automotive Recalls



In the automotive sector, Tech Mahindra supported the implementation of an integrated recall management solution for a Tier-1 manufacturer. Built on Microsoft Dynamics 365, Azure, Microsoft 365, the Power Platform, and analytics services, the solution consolidates alerts from multiple data sources and connects them directly to customer care operations.

The platform orchestrates multi-channel customer outreach across email, SMS, and application notifications to ensure timely and consistent communication. Escalation rules are embedded into the workflow so that non-responses automatically trigger follow-ups and route cases to the appropriate support tier. Feedback mechanisms are also integrated. Once customers complete recall actions, their experience is captured through short surveys or service ratings, feeding insights back into the system to improve future communication strategies.

This closed-loop approach improved recall completion while strengthening customer trust through timely, personalized engagement

The key outcomes include:

- **Operational Efficiency:** Automated workflows reduced issue resolution time by 25-40%
- **Regulatory Compliance:** Timely defect reporting and recall communications met global standards
- **Customer Experience:** Omnichannel engagement improved response rates and trust during recall events

Advancing Recall Intelligence

Building on this foundation, the recall management capability is further enhanced to improve decision quality and operational confidence:

- **AI-led Knowledge Assistance:** A bot surfaces relevant knowledge articles and provides an intelligent layer to customer support.
- **Enhanced Traceability With AI/ML:** AI and ML analyze part-and batch-level data across suppliers and production runs, enabling more precise identification of affected vehicles and reducing unnecessary recalls.
- **Risk-focused Issue Analysis:** AI analyzes service reports and customer feedback to identify patterns that indicate genuine risks, enabling teams to focus on genuine risks. This improves investigation efficiency and strengthens confidence in recall decisions across quality and compliance teams.

Operational Performance Comparison: Traditional vs. AI-enabled Recall Management

Metric	Before (Traditional Recall Systems)	After (AI-enabled Recall Platform)
Issue Resolution Time	7-10 days	3-4 days (↓ up to 60%)
Recall Completion Rate	~40%	~75% (↑ due to automation)
Customer Satisfaction	3.2 / 5	4.6 / 5 (↑ due to faster resolution)
Audit Findings	Frequent non-compliance reports	Reduced by 40% (↓ due to automation)
Communication Lag	Manual, delayed	Real-time, multi-channel
Traceability Accuracy	VIN-level gaps, manual lookup	AI-powered part-level traceability
Escalation Handling	Reactive, manual follow-ups	Automated, rule-based escalation
Feedback Loop	Rarely captured	Embedded surveys and sentiment tracking

Conclusion

Rising recall volumes, tighter regulations, and higher customer expectations are pushing manufacturers to rethink how recalls are managed. Fragmented, reactive approaches make it difficult to respond with the speed, consistency, and transparency that today's environment demands.

An intelligence-led recall model brings structure and control to recall execution. With Dynamics 365, AI Copilot, and Azure, manufacturers can shift from reactive recall handling to smart recall ecosystems that support predictive analytics, automated compliance, and customer-centric resolution.

Explore how our solution can transform your compliance and customer experience. Reach out to our experts for a personalized walkthrough.

MSApps.Presales@TechMahindra.com.

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Modern recall management must shift from reactive firefighting to initiative-taking intelligence. AI and integrated platforms are the new backbone of compliance and customer trust.⁶

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Forrester Research

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Intelligent recall platforms are no longer optional; they are foundational to modern manufacturing resilience.⁷

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Everest Group, 2025 PEAK Matrix

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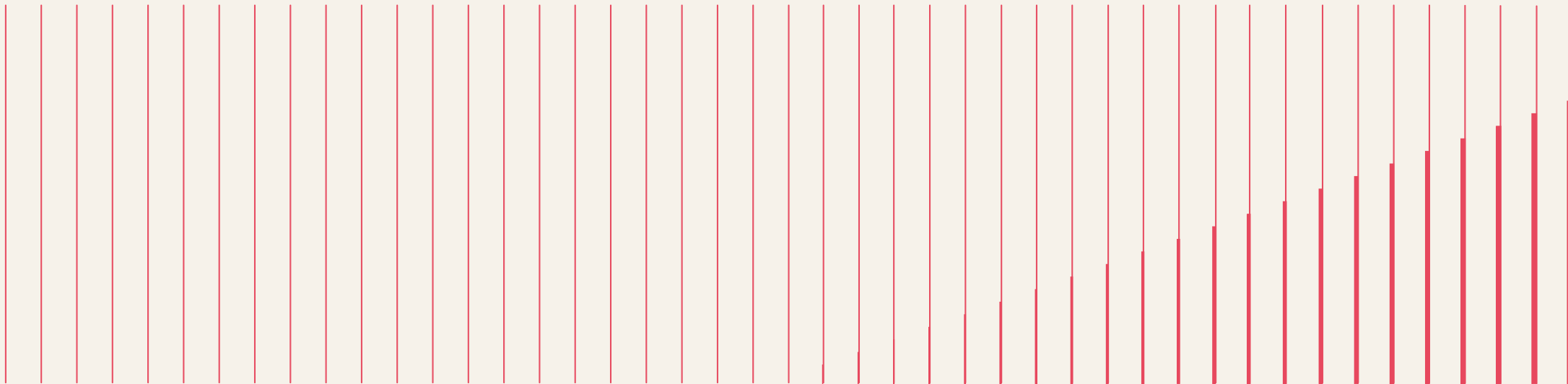
AS COMPLIANCE LEADERS INCREASINGLY EMPHASIZE, MODERN RECALL SYSTEMS MUST GO BEYOND REGULATORY CHECKBOXES - THEY MUST FOSTER TRANSPARENCY AND TRUST THROUGH AUTOMATION AND FORWARD-LOOKING COMMUNICATION.

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Endnotes

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Pat Sullivan is a veteran technology analyst with more than 25 years of experience advising technology and service providers on market strategy and execution. Recognized by the IIAR as the “Most Influential Analyst of the Year” in 2018, Pat is known for his deep industry insight and pragmatic guidance. Before becoming an analyst, Pat had spent two decades in IT services and consulting, holding leadership roles across several global firms. His perspective blends hands-on operational experience with a forward-looking view of digital transformation, making him a trusted voice for organizations navigating evolving technology landscapes.



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Saurav Dasgupta is the Global Head of Microsoft Applications at Tech Mahindra, bringing deep and well-rounded experience across the IT Consulting and Services landscape. His expertise spans practice leadership, large-scale delivery and operations, technology strategy, consulting, and pre-sales, with a strong focus on Microsoft platforms.

Over the course of his career, Saurav has held multiple senior leadership roles with end-to-end responsibilities including P&L ownership, revenue growth, operating margin improvement, pre-sales leadership, competency development, technology strategy, and innovation. His leadership approach consistently blends strategic vision with execution excellence.



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Santanu Mandal is an accomplished and dynamic technology leader with over 22 years of experience driving digital transformation across global enterprises. As part of Tech Mahindra's Emerging Apps (Microsoft Business Applications) practice leadership team, he specializes in Microsoft Business Applications, Azure, Microsoft 365, Copilot, and agentic AI solutions - empowering organizations to adopt secure, scalable, and AI first operating models. He has led GTM initiatives, enterprise AI roadmaps, Copilot adoption programs, and large scale modernization engagements across industries.

Before joining Tech Mahindra, Santanu held impactful leadership roles at Atos and Capgemini, where he delivered enterprise applications, modernization programs, and cloud transformation initiatives - strengthening his cross industry and cross platform expertise. His work spans pre sales solutioning, enterprise architecture, accelerators, cognitive SDLC modernization, and customer centric digital experience design.

A recognized innovator and Microsoft certified architect, Santanu also champions internal capability upliftment through workshops, AI discovery sessions, and reusable solution frameworks. He holds a Master of Computer Applications (MCA) degree and a distinguished credential in GOLD for Technology Leaders from University of Cambridge, both of which complement his technical depth and strengthen his leadership in shaping next generation enterprise AI strategies. He blends deep technical expertise with business strategy to help enterprises scale securely, intelligently, and efficiently. Santanu is based in Kolkata, India.



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Nikhil Karyakarte is an experienced Dynamics 365 Consultant at Tech Mahindra, specializing in delivering end to end business solutions across multiple D365 modules and the Microsoft Power Platform. He collaborates with sales, presales, and implementation teams to architect scalable, enterprise grade solutions for complex industry needs.

Nikhil is the principal designer and architect of Tech Mahindra's Vehicle Safety & Recall Management Solution, built using D365 applications, Power Apps, Power BI, and Azure Data Factory. He focuses on integrating data, processes, and user experiences to drive operational excellence and digital transformation.

With strong cross module D365 expertise and a product driven mindset, Nikhil is passionate about creating solutions that simplify operations and accelerate organizations' digital first journeys.



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Project Lead,
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About Tech Mahindra

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*Figures as per Q3, FY 26.



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