Vehicle Recall

Cross Brand Future State end-to-end Vehicle Safety and Recall Management

Vehicle Recall

The solution is a comprehensive approach to digitize and streamline the Safety & Recall Management system for an automotive company. It combines data analytics, customer care, and omnichannel communications to create a robust platform for vehicle safety and recall management. Built on Microsoft Azure and integrated with Microsoft Dynamics 365, the solution utilizes data analytics, Azure AI, Azure Machine Learning, and automation to provide real-time insights, manage recalls, improve customer service, and ensure compliance with regulatory requirements. The platform captures safety alerts from various data sources, processes them for issue detection, and integrates seamlessly with customer care functions to improve

Challenges

- **Complex Data Integration:** The system needs to handle data from diverse and multiple sources, including trucks, cars, and buses, with varying formats and systems.
- **Alert Detection and Safety Risk Identification:** Identifying and assessing safety-related issues from incoming alerts based on defined thresholds and filters is a complex task. Synchronizing alerts that are converted to cases for further investigation.
- **Compliance with Regulatory Reporting:** Ensuring that all safety and recall data is reported accurately and on time to avoid penalties.
- **Improving Operational Efficiency:** Automating manual workflows and reducing the time taken to process safety issues and claims while maintaining high customer service standards.
- **Data Security and Governance:** Safeguarding data while ensuring proper synchronization and compliance with governance rules.

Offering

- **Safety Data Analytics Infrastructure (SDAI):** Leveraging Microsoft Azure's data platform (Azure Data Lake, Azure Data Factory, Azure AI & Azure Machine Learning) to capture, process, and analyze alerts from multiple vehicle data sources for issue detection.
- **Customer Care & Omnichannel Communication:** Using Microsoft Dynamics 365 Customer Service to manage case workflows, knowledge management, and real-time collaboration, along with AI-driven insights to enhance customer care.
- **AI and Automation:** Automating workflows, providing AI-based case recommendations, and reducing manual processes to enhance productivity and issue resolution time.
- **Regulatory Reporting Compliance:** Ensuring compliance with various recall and safety reporting requirements such as Safety Defect Reports, Foreign Recall Reports, and Owner Notifications.
- **Warranty Management:** Automating warranty claims processes, including claim entry, adjudication, and supplier recovery, with significant cost reductions and improved efficiency.

Outcomes

- **Improved Operational Efficiency:** Streamlined workflows and automated processes have led to faster issue detection and resolution, reducing operational bottlenecks.
- **Increased Customer Satisfaction:** Enhanced customer care capabilities, with omnichannel engagement and AI-driven support, have improved customer experiences.
- **Cost Reductions:** Significant savings in warranty processing costs, including a reduction of approx. $50 million in warranty costs for any major automaker and automation of over 50% of warranty claims processing.
- **Regulatory Compliance:** The solution ensures adherence to safety and recall regulations, minimizing the risk of penalties by ensuring timely and accurate reporting.
- **Data-Driven Insights:** The integration of Microsoft Power BI and AI Insights in Power BI provide valuable insights into operational performance, aiding decision-making and process improvement.

End-to-end Vehicle Safety and Recall Management Workflow Option

	Issue Detection, Investigation and Defect Determination			Recall Administration, Execution & Reporting		
	Issue Detection	**Issue Investigation**	**Safety Defect Determination**	**Recall Launch and Execution**	**Recall Specific Traffic / Transport Reporting**	**Early Warning Reporting**
Process Owners	Case Management and Issue Screener	Product Safety Committee	Product Safety Committee	Recall Management Team	Recall Management Team	Recall Management Team
Enabling System (s)	Data Discovery & Analysis dashboard, Issue Alerting Engine, Direct Alerting	Case Management Tool, Data Discovery & Analysis Dashboards, Required Source Data	Case Management Tool	Data Sources (Case Management Tool, Security and Identification Tool and other)	Case Management Tool, SAS Enterprise Guide, Public / Private organizations	Legal Tracker
	Generate Alerts via Analytics and Review Notification from Outside Parties	Assign Case and Review Preliminary Details	Notify Members and Share Investigation Details	Prepare for Recall Launch	Submit Defects/Non-compliance Information Report	Submit Death and Injury Reporting
	Review and Disposition Alert	Contact Further Data Analysis and Gather Required Information	Conduct Review and Determine Safety Defect Decision	Launch and Execute Recall	Submit Owner's Notification Letters	Submit Aggregate Reporting
	Escalate Potential Safety Issue for Cross-Functional Team Review	Facilitate Review	Notify Stakeholders and Draft Collected Reports	Monitor and Perform follow-up Activities	Submit Quarterly Completion Rate Report	Submit Field Reports Copies
	Open New Case and Formal Investigation				Submit Information Request (as requested by Safety Administration)	Submit Manufacturer's Communication to Safety Administration
						Submit Foreign Recall Report
						Submit Substantially Similar Vehicle Reports

Contributing Proprietors

Product Safety　●Functional Leads　●Engineering　●Services　●Communications　○Legal / Ext. Counsel

Benefits of Solution

The solution delivers substantial financial benefits through a combination of warranty cost reductions, operational efficiency, regulatory compliance and others:

- **Approx. Warranty Cost Savings:** $50M in reductions via AI and automation. $75K/month savings using Robotic Process Automation (RPA). $40M savings through AI/ML claims pre-validation. $30M - $40M annual savings from automating over 50% of warranty claims processing. $20M savings from an end-to-end warranty solution with supplier recovery.

- **Regulatory Compliance:** Ensures timely and accurate safety defect reports and recall communications, avoiding penalties.

- **Operational Efficiency:** Faster issue detection and improved case resolution times through automation. Enhanced employee productivity and streamlined workflows.

- **Customer Satisfaction & Retention:** Improved customer satisfaction and enhanced retention due to better omnichannel communication and AI-driven support capabilities. Strengthened dealer relationships, contributing to higher loyalty and satisfaction.

- **Financial Impact from Global Expansion:** $4M in expected revenue from expanding the solution to European markets. $2M in potential additional revenue from further expansion into North American markets.

- **Improved Scalability:** The platform's modular design allows for easy expansion to different regions and verticals, providing a replicable solution for other manufacturers.

Microsoft Value and Success with the Solution

Tech Mahindra derives significant value and success using Microsoft Technology in delivering this solution, leveraging its comprehensive technology stack, including Microsoft Azure, Microsoft Dynamics 365, and the Microsoft Power Platform, to deliver significant business, operational and financial outcomes.

- **Revenue Growth:** The solution drives new revenue opportunities for Microsoft by expanding its presence in the automotive and manufacturing sectors, showcasing its technologies in real-world applications.

- **Industry Leadership:** It establishes Microsoft as a leader in digital transformation, particularly in the automotive industry with unique AI-driven solutions, regulatory compliance, and automation.

- **Strategic Partnerships:** The collaboration between Microsoft and Tech Mahindra positions both the players as strategic partners in driving the digital transformation of businesses.

- **Operational Benefits:** The solution drives cost savings, efficiency improvements, and enhanced customer satisfaction, demonstrating Microsoft's capabilities in Azure AI, Azure Cloud Infrastructure, and Azure Data Analytics.

- **Global Scalability:** The solution's ability to scale across different regions and industries allows Microsoft and Tech Mahindra to replicate the success in various markets, expanding their global footprint and solidifying their position as leaders in digital transformation solutions. As the solution evolves, Microsoft's technologies will continue to fuel innovation in areas like AI-driven customer care, automated warranty management, and regulatory compliance, paving the way for future growth opportunities.

Customer Success

The Client

A global leader in sustainable transportation, specializing in innovative, heavy-duty vehicles. With over 90 years of expertise, it pioneers eco-friendly solutions, focusing on reducing carbon emissions. Committed to transforming the automative industry through cutting-edge technology, operational efficiency, and a relentless focus on environmental sustainability, making it a key player in the future of transport.

The Challenge

The client faced challenges such as managing vast and complex safety data from multiple sources, disconnected systems for vehicle alerts, and manual processes for case and warranty management. Additionally, the client needed to meet strict regulatory compliance requirements for safety defect reports and recall communication, all while aiming to improve operational efficiency and reduce costs.

The Solution

Tech Mahindra implemented a comprehensive solution using Microsoft Azure and Microsoft Dynamics 365. The Safety Data Analytics Infrastructure (SDAI) was built to process vehicle safety alerts, while Microsoft Dynamics 365 enabled omnichannel customer care and case management. Automation, AI-driven insights, and seamless integration improved safety issue detection, recall management, and compliance, while also digitizing warranty processing for better efficiency.

The Impact

The solution led to significant cost reductions, such as $50M in warranty savings, and automated over 50% of warranty claim processing, saving $30-50M annually. Operational efficiency was greatly enhanced, enabling faster case resolution and improved regulatory compliance. The solution also improved customer care by providing AI-driven insights and omnichannel support, with global scalability for future growth.

Why Tech Mahindra

Customer selected us due to its proven track record, extensive expertise in the Automative sector, and proficiency in implementing Microsoft Dynamics 365. Our alignment with customer's organizational culture and its ability to deliver customized technological solutions focused on achieving strategic objectives were key factors in the decision. Additionally, our skilled professionals and successful implementation of Microsoft Dynamics 365 in Europe and North America region, demonstrated their capability to address challenges and facilitate a successful digital transformation.

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Contact Us

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