



**Deloitte.**

## THE RIPPLE EFFECT

Stories of purpose and lasting impact

# Check your data blind spots

An automotive company uses AI and data analytics to accelerate its response to emerging quality and safety issues.

# COULD THEY CREATE **BETTER RULES OF THE ROAD** FOR AGGREGATING DATA?

## THE SITUATION

Remember the “information superhighway”? Back when the World Wide Web was new, the phrase helped people visualize the rapid exchange of information and access to digital resources that internet technology could enable. Now, there are more proverbial vehicles on the road, and information moves even faster. But is it being used efficiently and effectively?

Consider the data a car might generate. Dealer service records ... vehicle owner questionnaires ... customer complaints ... accident reports. This information provides important insights that can positively affect vehicle safety, but many large automotive companies struggle to keep pace with the vast number of records they encounter.

At the same time, the National Highway Traffic Safety Administration (NHTSA) gathers data to deliver on its mission “to save lives, prevent injuries, and reduce the costs of traffic crashes—among drivers, passengers, pedestrians, and bicyclists.” When NHTSA believes a company hasn’t acted in a timely manner to address safety issues, it can issue a consent order that may include fines, remedial actions, and mandated operational changes.

One automotive company received a consent order requiring it to build a Safety Data Analytics Infrastructure (SDAI), including implementing artificial intelligence (AI) and machine learning (ML) to identify safety issues early. The original equipment manufacturer became aware of Deloitte’s deep experience in this area and brought us in to help accelerate the drive.



# THE SOLVE

Enter Deloitte. Deloitte's professionals assembled a multidisciplinary team with diverse skills ranging from data science to risk management, providing a broad approach to problem-solving and fostering innovative solutions. With deep experience in the automotive sector, Deloitte has successfully helped companies navigate consent orders by co-creating detailed, end-to-end solutions.

The collaboration began with a thorough assessment of the automotive company's existing consent-order remediation plan, confirming the need for a strategic course correction. Deloitte then designed a 10-month roadmap comprising 11 initiatives aimed at helping the client address consent-order obligations and enhancing vehicle safety. The initiatives focused on faster identification and investigation of safety issues, with a clear strategy for defining and implementing appropriate remedies.

The key to identifying and investigating issues faster was the SDAI. This system allowed the teams to leverage advanced technology to aggregate many different sources of data and improve visibility into emerging issues. Deloitte's data engineering professionals created the data foundation for SDAI, integrating dozens of internal and external data sources into a common safety data repository. Deloitte's data scientists developed natural language processing (NLP) models to classify text narratives into specific safety categories and advanced statistical models to proactively alert on issues, not unlike a dashboard notification on a car. A custom web app was developed to streamline the end-to-end process of reviewing

integrating dozens of internal and external data sources into a common safety data repository. Deloitte's data scientists developed natural language processing (NLP) models to classify text narratives into specific safety categories and advanced statistical models to proactively alert on issues, not unlike a dashboard notification on a car. A custom web app was developed to streamline the end-to-end process of reviewing and disposition of alerts. And a case management solution was implemented to digitize and streamline the workflows for issue investigation and recall determination decision-making.

The solution did not stop there. For the SDAI system to operate at the highest level, the Deloitte team developed and documented a comprehensive set of process procedures that were crucial in sustaining the solution. The SDAI system's effectiveness hinged not only on the data and analytics it delivered but on the rigorous procedures enforced through this detailed documentation that further supported consistent and reliable performance.

The lead manager for the engagement believes data was foundational. He says, "Getting data to a point where it can be analyzed creates opportunity to implement AI and natural language processing to implement statistical alerting models to drive insights."

**END-TO-END DATA SOLUTIONS CAN PUT  
SAFETY ISSUES IN THE REARVIEW MIRROR.**

# THE IMPACT

## **Saving costs and potentially saving lives**

With Deloitte's help, the automotive company met its performance obligations within the three-year term of the consent order, avoiding millions of dollars in penalty payments. The cost savings are significant, but the potential improvements in overall passenger safety may be more meaningful. New systems and processes are helping the company identify potential vehicle safety issues approximately 18 months earlier than before.

## **New technologies drive greater efficiency**

The automotive company has gained an SDAI that incorporates an enhanced tech stack, AI-enabled tools, and a customized web application to help its safety and quality organizations operate more efficiently and effectively. More than 100 processes, policies, and procedures were documented to help the system continue to operate at peak efficiency. This groundbreaking solution is powered by AI and continuously learns from users' review of safety alerts to improve its performance. By leveraging machine learning, the system automatically adapts and evolves, providing increasingly accurate and actionable insights over time.

Back to that information superhighway, which isn't limited to operators within the automotive industry: "Everyone has a lot of data, usually not clean, and they don't always know how to use it," the lead manager says. "But when you get it to a point where you can use it, it gives you the opportunity to implement other solutions that can drive insights and make your team more efficient."



AUTOMOTIVE COMPANIES CAN LOOK FOR  
SAFETY IN NUMBERS

# LET'S CONNECT.

Do these challenges sound familiar?



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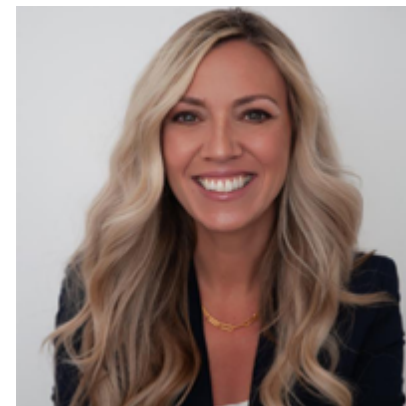
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