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AI-driven predictive fleet maintenance solutions: Interview with Geotab

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Matthew Beecham
S&P Global
Supply Chain and Technology, Automotive

Q&A with David Savage, vice president for UK and Ireland at Geotab.

Source: Geotab

Telematics tracks information about a vehicle and its usage. It is different from mobile phone GPS tracking systems, as it focuses on the vehicle rather than the driver's phone. Vehicle telematics can range from simple GPS trackers that provide location information to robust systems that monitor vehicle health, improve productivity, enhance fuel efficiency, ensure regulatory compliance and promote driver safety.

An open-platform telematics solution offers access to data for integration with other management systems and automation. It also provides an online marketplace with business-focused applications and add-ons. The information tracked through telematics is used in the best interest of both the business and the driver. It can help identify behaviors that reduce the risk of accidents and job losses. Telematics data can also be used to address frivolous complaints and exonerate drivers.

However, fleet managers typically do not have the time or interest to continuously monitor each driver. They primarily use telematics data to achieve company goals, such as reducing fuel costs and minimizing accidents.

Geotab is a vehicle telematics company with a vast amount of data and insights into driver behavior and vehicle usage patterns. With over 4 million vehicle subscriptions and processing more than 75 billion data points daily, it is positioning itself to play a role in the transition to software-defined vehicles and electric vehicles. To learn more, we spoke to David Savage, vice president for UK and Ireland at Geotab.

The following is an edited transcript of the conversation.

S&P Global Mobility: How does telematics help fleets and other organizations appraise electric vehicle [EV] suitability?

David Savage: The statement "You can't manage what you don't measure" is often used to emphasize the importance of data in making informed decisions. We believe that data insights from telematics are paramount for measuring and managing a successful sustainability journey with EVs.

We process 75 billion data points a day, enabling us to understand the specific needs of fleets and provide recommendations on EV adoption. Our EV suitability assessment tool (EVSA) uses real-world data to offer a customized roadmap for fleet electrification, considering financial savings and environmental benefits.

According to a recent analysis by Geotab of over one million vehicles globally, approximately 75% of fleet vehicles have the potential to be replaced with range-capable battery-electric vehicles [BEVs], and 41% of these replacements would result in cost savings. The idea that we are not ready for mass EV adoption is a fallacy. On the contrary, it's time for companies to 'double down' on fleet electrification - not just for the good of the environment and our collective climate goals but for their bottom line.

What role will telematics play in the future of automotive, especially in software-defined vehicles?

The future of transportation lies in connected vehicles. You just have to visit the halls of CES [Consumer Electronics Show] or the Beijing auto show to understand that manufacturers are rapidly transforming into software companies.

Today, most vehicles leave the factory with an OEM's native telematics device installed and connected to the internet, opening new options for telematics providers to access the vehicle data for their fleet customers. We've estimated that approximately 60% of vehicles on sale globally today are already 'connected', this will be closer to 90% in the coming years.

We believe the future of telematics lies in telematics providers and OEMs working together. OEMs have the expertise to build integrated telematics hardware into a new model's architecture, while we intimately understand the needs of fleet managers and how to analyze the data to derive actionable insights. There's no doubt that OEMs harbor ambitions to create recurring revenue streams and monetize the insights provided by the data. We have the customer access and salesforce in place to promote these services.

Traditional telematics will not become obsolete in the future; on the contrary, it will evolve and remain an essential factor as data decisions become even more important.

What can telematics do to improve driver performance and safety?

Another recent study by Geotab found that professional drivers in most countries are driving fewer miles prior to a collision, indicating the need for increased safety focus among fleets. A UK National Highways study found that just over one-fifth (21%) of all road casualties occur in driving-for-work collisions. As an industry, we have a duty to reduce these numbers.

We are working with companies to enhance their safety programs through the use of predictive analytics and benchmarking. The Geotab Safety Center, launched earlier this year, offers an AI-driven tool that serves as a center of safety excellence within the MyGeotab platform. Fleet and safety managers can use it to identify and manage fleet performance risks, prioritize coaching efforts and make operational decisions based on objective data, predictive collision analytics and benchmarking against peer fleets.

Fleets that regularly use predictive analytics experience lower collision rates, with vehicles equipped with our safety features having a collision rate 40% lower than those without. It is estimated that over 3,500 collisions could have been prevented in 2023 if more vehicles had adopted these safety features.

How does the integration of artificial intelligence (AI) with telematics data enhance the predictive maintenance capabilities for fleet operators?

A key challenge for fleet operators today is what to do with the vast amount of data available to them. That's where AI comes in. Geotab Ace, for example, is an AI co-pilot designed to provide fleet managers with immediate insights into vehicle performance and driver behavior. Fleet managers can interact with Geotab Ace to obtain information such as the number of vehicles idling for over 10 minutes on a given day.

The Geotab Safety Center uses advanced data analytics to help organizations improve safety outcomes through benchmarking and predictive analytics. The focus is on proactively identifying real issues related to driver and roadway safety, rather than simply reporting on the past.

For drivers this should be used very much as 'carrot' and not 'stick.' The AI should be framed as

identifying 'trends' in driving performance, rather than 'errors,' with drivers receiving daily feedback and incentivised to implement desired behaviors.

The fleet industry is still at an early stage with AI, as we need to train the model and build its capabilities over time. However, what we can confidently say is that insights gained from AI will make fleets safer, reduce costs, and improve sustainability.

How accurate and reliable are AI-driven predictive maintenance systems in preventing breakdowns and other issues?

Geotab customers who have implemented the Safety Center have seen a 5.5% reduction in collision rates within four months. It essentially shifts the focus from reacting to incidents to proactively preventing them.

We are also introducing new collision detection technology that leverages AI and advanced data intelligence. It can detect and categorize collisions, distinguishing between minor (1.5-2.5 Gs) and major incidents (2.5 Gs and above). This is important as minor collisions often go unnoticed.

Collisions, whether major or minor, have an impact on driver safety, vehicle performance, and maintenance costs. Accurate and near real-time collision detection enables quick responses, expedites the claims process, and helps identify the causes of incidents for implementing preventative measures such as driver training and route adjustments.

Do you see an issue with data privacy and the growing popularity of Chinese EVs?

We understand there may be concerns, but all our data stays within the point of origin. For example, we have just signed an agreement to be the European telematics partner for BYD Trucks. All that data will stay in Europe, and BYD Trucks Europe is subject to the European General Data Protection Regulation (GDPR).

We have a global team of credentialed, legal, and subject matter experts who comply with all laws and regulations in the approximately 160 jurisdictions in which we operate, making sure there's adherence to all data residency and data access protections.

How do you see telematics and AI technologies evolving in the next few years to better serve the aftermarket and fleet operators?

We are just at the beginning of AI's potential. We're driving a lot of products to become more AI-centric. There may be some reluctance to adopt AI in business operations, but the risks of operating inefficient fleets, especially while investing in areas like electrification, can be significant. Saving time and reducing costs to improve efficiency are long-standing principles of fleet management.

Author: Matthew Beecham, Senior Research Analyst, Automotive Supply Chain & Technology Group, S&P Global Mobility. matthew.beecham@spglobal.com

CONTACTS

The Americas
+1 877 863 1306

Europe, Middle East & Africa
+44 20 7176 1234

Asia-Pacific
+852 2533 3565

www.spglobal.com/mobility