

Ask an Expert: Capturing fleet impact from telematics

Vehicle sensors and telematics are transforming how companies and organizations can operate their fleets. Carter Cordes helps explain some of the most important opportunities.

by Carter Cordes

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Q. *Let's start with some definitions. What is 'fleet telematics'?*

A. The term "telematics" comes from the combination of telecommunications and informatics. Telematics uses hardware installed in vehicles to collect and share vehicle, driver, and environmental data. Telematics systems are often implemented as black-box modules, which typically combine global positioning system (GPS) functionality with an onboard computer that records data from the vehicle's systems or from dedicated sensors. Wireless communication capabilities allow these systems to share that data in real time or at set intervals.

Telematics systems are essentially an application of the Internet of Things (IoT) to vehicles. They are used in many fleets to monitor the location and utilization of an asset, to facilitate two-way communications between driver and dispatch, and to provide a host of other information based on vehicle computer and engine codes; for example, detecting when a vehicle needs maintenance.

Q. *Tell us a bit more about the benefits of telematics. What can companies do with telematics solutions and the data they collect?*

A. Fleet telematics provides two distinct, but related, opportunities. First, they aid day-to-day operations. The ability to accurately track and monitor vehicle status and location helps companies ensure employee safety and security, such as by detecting accidents or breakdowns. Telematics also serves as a reliable source of current and accurate data on vehicle utilization: the days per week or hours per day a vehicle is used. With the right data and systems, telematics can even help monitor driver compliance with route plans, schedules, and operating standards, revealing behaviors such as harsh acceleration and braking, which have both safety and maintenance implications. Many of today's telematics systems allow two-way communications with the vehicle, which can be used to alter route plans and schedules, or provide training and feedback to drivers based on their driving patterns and behavior.

Second, they allow companies to store and analyze detailed information on fleet operations over time. This helps make fleets more reliable and efficient in a number of ways, for example, by predicting failures and determining the proper intervals for preventative maintenance, and helping companies optimize vehicle usage to improve service levels and fuel efficiency.

Q. *What is driving the increased focus on telematics?*

A. Some of the increased momentum is about hardware. Sensors and communication networks have become cheaper and faster at data capture and communication, more sensitive to inputs, and can handle more data than ever before. When you combine that with the rise of big

data and advanced analytics techniques, companies are able to use telematics data to drastically improve visibility into their fleet's effectiveness and efficiency.

Q. *How does analytics capture more value from telematics?*

A. Within analytics, we've seen a shift from *descriptive* tools that tell you what has already happened, to *predictive* approaches that help you anticipate certain situations. Today, we are going through an even more profound change, with the development of *prescriptive* systems that not only tell you what is likely to happen, but also what you should then do. That's transforming the way companies optimize their operations by helping them make better decisions in real time. For example, fleet operators could previously use data to understand past and predict future route demand. Today, analytics solutions can actually translate data directly into route plans, even sending updated directions directly to drivers.

Q. *What kind of impact can these approaches have on fleet operations?*

A. We've seen significant impact in a whole range of areas.

Maintenance and reliability. Predictive techniques can cut maintenance costs by 5 to 10 percent. Early notification of problems allows maintenance to be planned and scheduled properly, so systems are fixed before they break. Optimizing the maintenance supply chain so the right parts and tools are available in the right place at the right time can boost asset availability by 10 to 30 percent, while also keeping inventory costs down.

Driver safety. Systems that monitor vehicle use can reduce preventable accidents by 20 to 30 percent, by allowing companies to identify and manage risky driver behavior.

Fuel efficiency. A better understanding of fuel consumption can help companies accurately forecast fuel costs. These systems also help reduce those costs through greater route optimization, improved vehicle operation, and better fueling strategies.

Fleet and workforce planning. By matching the size of their fleets to real demand, companies can improve utilization and reduce fleet size, often by 15 to 30 percent. They can also get better at the management of seasonal variations or spikes in demand. Optimizing staffing levels means companies cut their overtime costs and can improve field-force productivity by 10 percent or more.

Service level. Finally, service levels rise. Companies can use real-time weather and traffic data to optimize routes and predict arrival times. They can ensure drivers stick to the right routes and schedules and they can provide clearer, more accurate information to customers.

Q. *What resources and capabilities do fleet operators need to capture value from telematics?*

A. We often see companies that have deployed telematics solutions in their fleets but aren't making full use of the data they now have. That may be because they are not aware of its potential value, because they do not have the right processes or people in place to make the data available and useful, or because they have not tied telematics initiatives to tangible value for the business.

The first step in the fleet telematics journey is to understand the full potential value of the data. Many companies use telematics only for basic compliance, logging, and tracking, despite the availability of other functionalities. We recommend companies map out the full breadth of potential impact we discussed earlier, from maintenance and reliability to service levels.

Second, companies need to build processes to store and aggregate their data in a meaningful way, so they can look at trends (such as vehicle utilization, fuel usage, reliability) across different regions and time periods. A critical part of that effort is matching telematics data with data from other sources. For example, combining telematics-based tracking data on vehicle stops with data the company already has about its customers can reveal which customers are contributing to the stops, and whether the company is being fairly compensated for the resulting costs.

Third, companies need a fleet operations team that knows how to access, analyze, and interpret their data, and then use it to make business decisions.

Q. *Once fleet operators have the right infrastructure in place, how can they capture the opportunities from telematics?*

A. We recommend starting with pilot projects designed to address specific use cases. Once those projects have proved their value, companies can focus on expanding and institutionalizing the new approach. This often requires organizational changes, such as building an analytics center of competence to support larger-scale development and rollout of new technologies and processes.

For companies further along in the telematics journey, the next step is the transformation of telematics from a problem solver to a source of competitive advantage. To do that, companies need to scale up their capabilities by incorporating new data sources, acquiring new talent, and continuously improving their processes and analytical techniques. The best organizations are always looking for new opportunities to apply telematics in their operations, and some are even expanding into non-core areas—selling their data or capabilities commercially, for example, or building entirely new business models based on them ■

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