

The Open Platform Advantage

How to Get Maximum Value from your Telematics System



GEOTAB
management by measurement

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About Geotab

Geotab is a global leader in telematics, providing open platform fleet management solutions to businesses of all sizes. Geotab's intuitive, full-featured solutions help businesses better manage their drivers and vehicles by extracting accurate and actionable intelligence from real-time and historical trips data. With more than 1 billion points of data collected daily, Geotab helps companies access critical business intelligence and benchmarking data to improve productivity, optimize fleets through the reduction of fuel consumption, enhance driver safety, and achieve stronger compliance to regulatory changes. The company's products are represented and sold worldwide through its Authorized Partner network. To learn more, please visit www.geotab.com.

Comments or questions related to this white paper can be emailed to: testdrive@geotab.com

For more fleet tips and best practices, go to www.geotab.com/blog

Open Platform: The New Way of Doing Business

There is the old way of doing things and the new way.

The old way of telematics is a closed system. It's expensive, you're locked in, and there is limited access to data. The new way of doing things is open platform. It's more affordable, easy to customize, and most importantly, you have open access to your data.

This white paper reveals that although telematics systems may seem similar, they can in fact vary greatly. Through a comparison of hardware, cost, data collection, and other key factors, it is shown how open platform offers the total package: affordability, reliability, and ease of use, with more control and flexibility. The second section describes how fleets are getting more from their telematics investment through integration and IoT. Finally, a list of questions is provided for helping evaluate telematics providers.

Now more than ever, fleets are collecting large amounts of data.

NAFA Fleet Management Association declared that "Telematics is quickly becoming an important part of the 'smart connected' vehicle."¹ Clem Driscoll reports "approximately 8.0 million GPS/wireless devices are used to monitor fleet vehicles, mobile workers, and assets in the field," and "1.1 million trucks are equipped with a GPS fleet management solution."² Every truck in the world — totalling 40 million trucks — will be connected by 2020, as estimated by Frost & Sullivan.³

The question is...

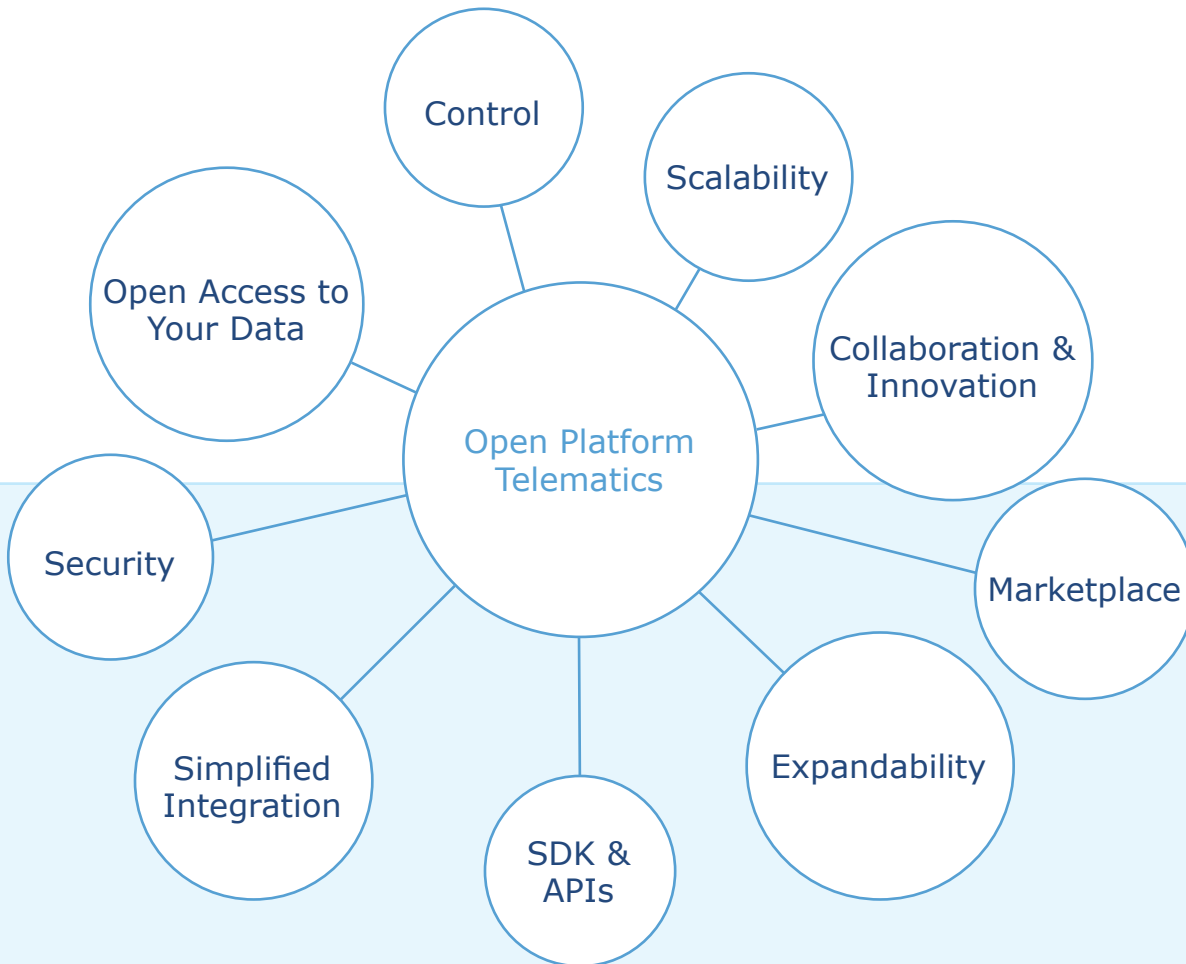
Are you getting the most out of your data?



What Is Open Platform?

It's not enough to just collect data. Your telematics system should help you understand the data and use it to grow your business. This is what open platform telematics is all about.

Open platform means easy to use. It also means collaboration and innovation. With the open platform, you have open access. There is no lock-in and you are in control of your data. Integration with other programs or systems is simplified. You have the ability to expand, flex, and scale.



SDK & APIs: Tools of the Open Platform

The tools that open the access to a system are the software development kit (SDK) and application programming interfaces (APIs). Gartner reports: "As the Internet of Things (IoT) gets smarter, using an application programming interface (API) to communicate, transact and even negotiate with one another will become the norm."⁴

SDK & APIs = The way you get data in and out of the system.

Not every system is created equal. A truly open system has an SDK and APIs that are free and easy to use.

What to Expect from a Good SDK:

- Single Sign-On
- Library of samples
- Flexibility and control
- Reliability
- Free

Comparing Telematics Systems: The Good, The Bad, and The Ugly

This table shows the difference between open platform telematics and other systems. Hardware, cost, data collection, and reporting are key considerations. However, the speed of installation and troubleshooting process should not be overlooked. Those two things can have a real impact on whether your trucks sit in the shop for extended periods or are on the road making money. Access to data, security, and software/firmware updates are also critical to success.

Summary Table: Comparing Telematics Systems

	Geotab Open Platform Telematics	Other Closed Platform Telematics Systems
Hardware	<ul style="list-style-type: none"> • Compact, plug-&-play device • Driver interface is compatible with Android or iOS • Built-in antennas • Best-in-class, end-to-end product reliability and security • Strict quality control and field testing • New devices and peripherals released regularly 	<ul style="list-style-type: none"> • Proprietary computer system in the cab of the vehicle • Proprietary driver interface • Remote antennas
Cost	<ul style="list-style-type: none"> • Affordable, low cost hardware (typically less than \$200) • Low monthly service fee 	<ul style="list-style-type: none"> • Expensive hardware (Cost: \$800-\$2,000) • Elevated monthly fees • Extra fees for service, e.g. running a customized report
Installation	<ul style="list-style-type: none"> • Quick install (15-30 mins) • Seamless device transfer between vehicles (30 mins process) 	<ul style="list-style-type: none"> • Time-consuming installation requiring professional installer • Pre-wire kit for installation is expensive
Troubleshooting & Reliability	<ul style="list-style-type: none"> • Simple troubleshooting • Easy replacement process • Simple RMA process and a brand new device is provided to customer • Lifetime warranty offered • Extremely low failure rate 	<ul style="list-style-type: none"> • Troubleshooting is carried out by a trained technician who goes through the diagnostic process laid out by the manufacturer • Potentially lengthy RMA process and a refurbished device is provided to the customer • Warranties offered

	Geotab Open Platform Telematics	Other Closed Platform Telematics Systems
Data Collection & Reporting	<ul style="list-style-type: none"> • Data is analyzed server-side • Stock reporting and custom reports included in base price 	<ul style="list-style-type: none"> • Data is analyzed locally in the cab of the vehicle with less flexibility • Stock reports are free but customized reports can cost extra
Software/ Firmware Updates	<ul style="list-style-type: none"> • Customer feedback system • Monthly software updates • Quarterly over the air (OTA) firmware updates 	<ul style="list-style-type: none"> • Varies by provider
Access to Data	<ul style="list-style-type: none"> • Unfiltered access • Free, easy to use SDK • Open APIs allowing customer to access all their data • Integrate with third-party solutions • Customer can easily share data with third-party vendors (IFTA providers, maintenance providers, etc.) and there is no additional charge for accessing the data 	<ul style="list-style-type: none"> • Limited access to data (hands-off approach) • Limited or no APIs • Special permission required for data sharing with third-party vendors (IFTA, maintenance, etc.) and additional monthly fees apply
Data Ownership	<ul style="list-style-type: none"> • Geotab claims no ownership of customer vehicle data • Geotab does not sell customer vehicle data to any third-parties 	<ul style="list-style-type: none"> • Varies by telematics provider; check with provider for details
Security	<ul style="list-style-type: none"> • Data is encrypted • Customer controls log in and authentication • Follow industry best practices for security 	<ul style="list-style-type: none"> • Varies by provider • Vendor limits control

Getting Maximum ROI from Your Telematics System

Working in the cloud, big data, and mobile are the future of business. A survey conducted by Harvard Business Review found that these three trends plus social media are having a positive impact on business performance, spurring increases in productivity and revenue, improving customer service, and cultivating development and innovation.⁵

The open telematics platform is part of this transformation. Telematics expansion and integration is a sure fire way to get more value from your investment.

Here are four ways to make telematics go the extra mile:



1

Mobile Apps for Drivers

The combination of telematics and mobile apps is a powerful combination for both drivers and fleet owners.

In trucking, electronic logging is ushering in a new era of productivity and safety. The Federal Motor Carrier Safety Administration (FMCSA) declares that “real-time connection between fleet management and fleet vehicles” will help speed up business through better route planning and tracking of deliveries and driving hours.⁶ A study by the FMCSA found that trucks equipped with electronic hours-of-service recorders had significantly lower crash rates than trucks without (11.7% lower for all crash types and 5.1% lower for preventable crashes).⁶

Beyond benefits for compliance, electronic logging devices (ELDs) open up access to critical real-time data. Jeff Simon from DOT Safety Plus writes “The carrier who learns how to best utilize the real time delivery of data produced by ELDs will have a distinct competitive advantage over those who don’t.”⁷ In general, it has been found that equipping employees with mobile devices can improve worker productivity by making it easier to

collaborate, innovate, and access critical information on-the-go.⁸

Dispatch and work-flow apps provide accurate location tracking, arrival and departure updates, error-free order processing, navigation, and complete proof of service capture.

Gamification apps for drivers are gaining popularity among fleets as a way to achieve productivity, safety, or other corporate goals.⁹ In particular, a driver’s scorecard can help motivate drivers and create a positive work environment. Research and Markets forecasts that the global gamification market will grow by more than 48% by 2019.¹⁰

Mobile apps that connect with telematics:

- E-Logs for Hours of Service (HOS), Driver Vehicle Inspection Reporting (DVIR), and Driver ID
- Navigation, Dispatch, and Messaging
- Paperless Forms, Manuals, and Invoices
- Electronic Signature Capture

2

Remote Diagnostics

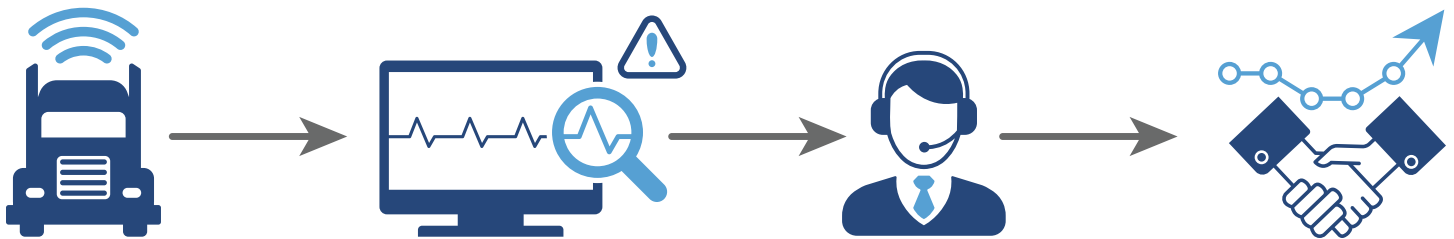
Remote diagnostics and telematics systems can work together to simplify the job of truck mechanics and maintenance managers.

Raw fault data is pulled from the API platform and translated into detailed instructions, making it easier to understand faults and prioritize repairs.

Modern vehicles can generate thousands of different fault codes, from the engine controller, transmission controller, brake controller, and a variety of other controllers in the vehicle. By translating engine system fault codes — providing a clear description, with severity, and recommended plan of action — remote diagnostics removes the guesswork and shortens lead time.

Features of a remote diagnostics system:

- Immediate visibility to faults within an online portal
- Easy-to-understand fault descriptions
- Fault code action plans
- Map tool for locating trucks and finding nearby dealers, hotels, and towing providers
- Real-time, comprehensive reports





3

Connecting Telematics with IoT

-  Electronic Logging
-  Driver feedback
-  Advanced Collision Prevention

A joint report by DHL and Cisco predicts that IoT will “transform how logistics providers make decisions, including about how goods are stored, monitored, routed, serviced, and delivered to customers, as well as operational health and safety practices.”¹¹ They estimate the number of connected devices will rise to 50 billion by the year 2020.

Combining telematics with IoT sensors and beacons provides complete visibility of workforce, assets, and costs. The telematics platform acts as the “communications hub” of the truck, relaying data from devices like tablets, cameras, and collision warning systems back to the office.¹²

- Driver’s camera and in-cab video
- GO TALK driver feedback
- IOX Bluetooth asset tracking
- Advanced collision prevention
- Refrigerated trailer temperature monitoring
- Tire pressure and temperature monitoring

“Automating business processes, improving customer service, and taking the cost out of doing business — that’s the power of combining telematics with IoT.”

Neil Cawse
CEO | Geotab Inc.

4

Big Data

More fleets are getting on board with big data. ATA reports that big data will be “transformative” on trucking.¹³

The value of big data lies in optimizing the supply chain, streamlining operations, and ultimately, improving competitive position and the bottom line.¹⁴

For trucking companies, mining fuel, traffic, distance, and driving behaviour data can pinpoint the most efficient drivers and determine why they are more efficient. That information can be used in turn to coach other drivers, optimize routes, and improve asset utilization.

Big data can also help determine actual fuel economy, track tire pressure and wear trends, predict when alternators break down or batteries will fail, and when and where accidents happen, or are prone to happen.

Benchmarking can reveal how your company is performing compared to the rest of the market. For example, you may know that 66% of your fleet is idling more than 20 minutes per day. But is that good or bad? Predictive analysis with machine learning can help determine the root cause of accidents by looking at demography, weather, time of day, location, or vehicle factors such as type of vehicle, driving duration, or driving behavior.

Big data use cases:

- Benchmarking (fuel economy, safety, and time-to-serve metrics)
- Intelligence Data (dangerous intersections, pothole detection)
- Predictive Analysis (accident prediction, vehicle reliability)

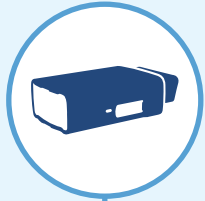
Note: Big data doesn't work without an open platform. To yield maximum benefit, it requires data sharing among multiple sources and access to a large and rich dataset.

"One of the biggest mistakes is underestimating the value of big data. Using its insights, you can gain a better understanding of your customer base, business operations, and opportunities for improvement."

Mike Branch
Vice President, Business Intelligence | Geotab Inc.

Does Your Telematics Provider Measure Up?

Telematics can significantly improve business operations, when it's done right. It's important to ask the tough questions. The quality and flexibility of a telematics system can greatly impact the return on investment.



Hardware

Who makes the device and what is the quality control process? Modern telematics devices are small, compact, and plug-&-play, not bulky. Consider also whether it has a mobile-friendly interface for drivers, versus a bulky, proprietary system. The product life cycle will indicate the level of commitment to innovation.



Cost

What is the cost? Hardware can range from under \$200 to over \$800, or even into the \$1,000s! Are there are hidden fees for service, such as running a report?



Installation

A quick installation can save you time and money. Ask how long the process takes and if a professional installer is required. Downtime can negatively impact business and customer service. Additionally, if drilling or disassembly is required in the cab, that opens up other potential issues.



Troubleshooting & Reliability

What happens if the device fails? Can I get a replacement? A complicated troubleshooting process and frequent device failures can cut into shop time and budget. Going with a reliable solution will prevent the disruption and delay related to ordering and waiting for parts. Check if a lifetime warranty is offered.



Data Collection & Reporting

Can the system collect the rich vehicle data? Does it capture engine status data (fuel usage, voltage, coolant, temperature)? Can it read and interpret engine fault data?

Preview the reports. Can you find the information you need quickly and easily? Most managers don't have time to search for data or format tables. Are you locked into a few simple reports or can you customize?



Software/Firmware Updates

New features, enhancements, and bug fixes are the hallmarks of a good telematics provider. What is the process for software and firmware updates? Is there a blog or question forum where you can access more information?

How regularly is firmware updated? Is it over the air? Updates will ensure that the solution respond quickly to market demands or changes in the regulatory environment.



Access to Data

How open is the data? Determine if you will have full access to your data. Is there a free SDK and APIs? Is there a large ecosystem of FMCs and third-party developers building applications using the SDK?



Data Ownership

Who owns the data? Can you share the data with third party vendors without incurring additional charges from your telematics provider?



Security

Is the platform and the data secured? Industry leaders and government authorities recommend fleet managers check with their telematics providers to ensure that only secured devices are connected to vehicles and that technical and organizational measures are in place to protect networks and telematics data.

For more details on the connected car and cybersecurity, please read Geotab's article: "15 Security Recommendations for Building a Telematics Platform Resilient to Cyber Threats" available at: <https://www.geotab.com/blog/telematics-cybersecurity-recommendations/>

Summary

Connectivity and data provide a huge competitive advantage to fleets in trucking and beyond. A survey by MIT found that organizations practicing data-driven decision making (DDD) “have output and productivity that is 5-6% higher” than expected levels.¹⁵

The open platform lays the foundation for informed decision-making and business efficiency.

With telematics, fleets have access to critical real-time data on location, engine status, fuel usage, mileage, speed, driving behavior, and many more things. Like an iPhone, telematics is a gateway to a whole ecosystem of apps, add-ons, and software integrations — tools for measuring company performance and supporting innovation.

As such, telematics has been adopted by many of the largest fleets in North America and Europe, and is now gaining in popularity other regions around the world such as Latin and South America.

Key Recommendations

- **Choose an open platform.** Open is what is important. Think about every one of the systems that you buy. Make sure they have APIs, make sure they have SDKs, and make sure that they’re prepared to promise you that they’ve got these in place for you.
- **Embrace IoT.** Connecting your vehicle to the internet is a huge opportunity and can deliver serious benefits for your business.
- **Integrating systems is essential.** Maintaining separate islands of information doesn’t work. Look at your organization and seek opportunities for integrating data. Even something as simple as copying your customer list to a telematic system or linking telematics with maintenance will bring great benefits.
- **Make security a priority.** Don’t be afraid to ask vendors the tough questions.
- **Keep big data in the picture.** Whether it’s a telematics or accounting company, partner with the vendor that truly understands big data. You can’t manage what you don’t measure.

Do more with your data.

Contact us to learn more: testdrive@geotab.com

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