Telematics

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Introduction

Fleet managers continue to look for methods and opportunities to reduce the Total Cost of Ownership (TCO) for their fleet operations. Telematics technology, which captures thousands of data points generated by your fleet daily, can be an effective tool for meeting this challenge.

Vehicle telematics technology records and transmits data about a vehicle, equipment, or the operator. More specifically, it uses global positioning systems (GPS), on-board computers, and cellular or wireless telecommunications systems to capture and relay data in real time on a wide range of parameters, including vehicle location, engine diagnostics, and vehicle operation. This data can then be made available to fleet managers via a web-based reporting portal, providing them with valuable insight into vehicle performance and driver behavior, through which they can assess and mitigate various risks and associated costs.

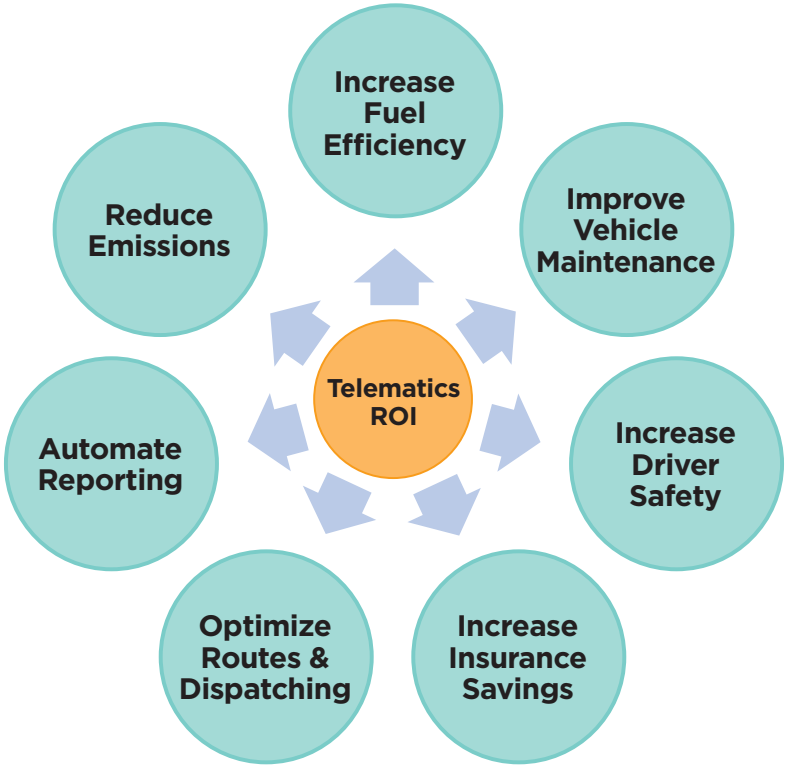
Telematics Functionality

Vehicle telematics devices are offered by a variety of vendors and can use a combination of several technologies, including:

Satellite-based systems that provide exact vehicle locations	**GPS navigation devices** can measure distance traveled and speeds compared to local limits. They can also provide location alerts through geo-fencing and assist in the recovery of missing or stolen vehicles.
Devices that measure acceleration	**Accelerometers** collect data that can be used for detailed analysis of driver behavior through g-force calculations and collision detection. Accelerometers produce supporting data for fleet managers when they need to address non-compliant behavior with drivers, and they aid in accident reconstruction.
Devices that interface with car computers	**Vehicle diagnostics** devices range from plug-and-play models that clip onto the car's on-board diagnostic (OBD) port to those with either internal or external antennae that require professional installation. The devices provide information on braking and acceleration, seat belt usage, and fuel economy. They also capture maintenance information such as engine warnings or malfunctions. Some advanced systems can gather in-cab information like cell phone usage.
In-cab devices that let the vehicle interact with a tablet or smartphone	**Mobile communication** devices can assist with tracking hours of service, vehicle inspections, dispatching and route optimization.

Benefits

A well-structured telematics program can help fleets identify opportunities to improve operational efficiency and increase safety.



Operational Efficiency

Ease routing, improve logistics and increase fuel efficiency
Some telematics devices can help fleet managers establish more efficient routes. Tracking how and where vehicles are being operated can lead to improved customer delivery times, driver productivity, dispatching, and service levels. Tracking unauthorized use of the vehicle will also help identify opportunities to reduce unintended expenses associated with this use and improve upon vehicle availability.

Telematics devices also monitor vehicles at a standstill. Logistically, this helps companies understand how long a typical customer stop should take and how many stops a driver should be able to make in a day. This ability to track driver productivity is a major competitive advantage and delivers the highest return on investment.

By maximizing efficiency for customer stops and tracking idle time, telematics devices can help reduce fuel consumption. This, in turn, supports a company's sustainability goals and emissions-reduction initiatives.

Improve vehicle maintenance
Another key benefit of telematics technology is the ability to improve vehicle maintenance. Telematics devices can identify costly or inefficient driving behavior that may lead to unnecessary wear and tear. They can also alert fleet managers to potential vehicle problems and past-due routine maintenance in order to reduce vehicle downtime. The ability to be proactive with maintenance repairs may help fleet managers lengthen the useful life of expensive assets.

Automate reporting
Telematics devices can also reduce paperwork by automating Driver Vehicle Inspection Reports (DVIR), recording DOT hours of service logs, and tracking mileage driven for IFTA/IRP reporting purposes. They can help increase driver productivity, reduce errors and manage regulatory costs. This also ensures compliance with mandatory regulations and company policies, and identifies training needs and cost reduction opportunities.

Stolen vehicle retrieval
Telematics devices can help fleet managers identify a stolen vehicle's location, potentially aiding in its recovery or preventing further theft of its contents or parts.

Identify underutilized assets
Telematics solutions can help fleets identify under- or overutilized assets. This can assist in minimizing the use of short-term or daily rental vehicles, vehicles that are overutilized, or identifying potential excess vehicles in the fleet, all of which affect overall expenses. Optimizing your fleet can drive down TCO.

Increase Safety
Telematics systems can be much more than logistics and navigation tools. They give fleet managers visibility to the daily safety performance of drivers and provide valuable risk assessment information.

Reduce accident frequency and severity
Fleets using telematics devices to identify unsafe or risky driving behaviors usually experience less accidents and losses. Fleet managers can use telematics data as back up when providing constructive driver feedback and coaching them to help mitigate potential risks.

Responsive feedback
Drivers can receive real-time audible alerts when an unsafe driving maneuver occurs so they can quickly change their behavior.

Reduce costs
While the presence of a telematics device alone may not directly impact insurance rates, using the device to monitor and coach drivers may. Some insurance companies offer discounted rates based on data collected through telematics devices such as speed, time of day, mileage driven and acceleration and braking rates. Other factors may include the company's hiring and driver qualification practices. If used effectively, telematics devices can also help business owners and fleet managers reduce insurance rates by decreasing the frequency of accidents.

Challenges

Although a telematics program can provide many benefits, it is important to be mindful of the challenges that may arise throughout implementation, including driver acceptance of the product, information management, and liability issues. Keeping aware of these items as you step through the planning and deployment stages will ensure you successfully achieve your objectives.

Driver Acceptance

Before harnessing the power of telematics, fleet managers should sit down with senior management to determine the company's objectives and how much information they will actually need. Another best practice is to create an inclusive driver policy.

The best methods for effectively changing driver behaviors with telematics data include positive reinforcement, group participation and behavior coaching as close in time to the errant behavior as possible. Many organizations have found that drivers appreciate receiving feedback on performance regularly which is measured fairly against their peers.

Information Management

Many fleet managers look to vehicle and driver performance metrics to help guide their fleet decisions. Telematics technology provides a greater amount of data for a fleet manager to analyze. However, collecting too much data can be overwhelming and detrimental. Many times, companies will purchase the equipment but do not develop an effective plan for the data interpretation, usage, or on-going monitoring.

Exception reporting is considered one of the best tools for allowing fleet managers to act on the data. For example, speeding alerts, incidents of harsh breaking or heavy acceleration and going outside of the predetermined route are all simple alerts that can be managed by exception. Often, fleet managers can incorporate alerts or exception reports to the dashboard of an on-line fleet management reporting system.

Once a fleet begins gathering telematics data, the next step is to use the data to make strategic decisions that produce cost savings and efficiencies. Comprehensive, in-depth reporting capabilities based on telematics data, which can integrate directly into existing reporting systems, enable fleet managers to initiate and drive their strategic fleet objectives. For example, a reporting tool that can capture and analyze data from multiple sources can give a fleet manager with a decentralized fleet the ability to truly see how well each division is doing and provide an opportunity to create efficiencies, not just within a portion of their fleet but across their entire operations.

Liability

Driver distraction, network failure, and vehicle diagnostics are key areas that fleet managers target when implementing telematics solutions. However, privacy laws pertaining to the sharing of information can limit initiatives like these, particularly those that identify drivers. Fleet managers who invest the time upfront to consider the company's needs and goals and who work with informed suppliers and business partners should be able to develop a program that meets their needs and stays within the laws governing privacy and the collection of data.

Another liability is the introduction of potentially distracting technology to the drivers. Some drivers may have vehicles with built-in texting capabilities, wireless Internet and cellphone features. With more information to convey and process, drivers may be more likely to take their eyes off the road, fail to anticipate potential accidents or miss warning signs of vehicle trouble. Driving while distracted not only puts drivers and others at increased risk of accidents, it can increase potential liability.

Fleet managers should engage key company stakeholders such as the safety, human resources, liability and/or legal representatives as part of their initial research. Early in the process, they should review the objectives of the program and the type(s) of data being collected with these stakeholders. This will help to mitigate problems, unforeseen liability, or expenses down the road. Having these stakeholders involved in the development of these objectives will help ensure that the company amends policies to reflect any new requirements which may arise. This will also help ensure that the company establishes required reporting criteria and outlines requirements and procedures to manage the program moving forward.

On a positive note, telematics data can work in your favor and help minimize liability disputes. Telematics data can be used to prove that fault does not rest on the driver, and depending on the technology used, can even reenact the incident to remove any doubt.

How to get started

1. Consider the reasons why a telematics device is needed: safety, fuel economy, logistics, sustainability, idling, fleet longevity, etc.
2. Engage key company stakeholders such as safety, human resources, liability and/or legal in order to identify and clarify any requirements early in the process.
3. Have a discovery session and focus on the number one challenge. The best solution is the one that addresses the real problem.
4. Narrow the list of vendors by their specialization.
5. Research insurance providers that offer discounts for implementing telematics solutions.
6. Once the employment of telematics into an asset management strategy is decided, initiate a pilot program to help gather baseline data.
7. Establish measurable objectives, such as:
   - Speeding
   - Idle time/downtime
   - Route optimization and geofencing
   - Engine diagnostic codes
   - PM scheduling
   - Daily start and stop times
   - Personal usage
8. If measured results attest to a successful pilot, expand the program as needed.
9. Act on the measured results.

For additional support, engage experts who work with telematics partners to propose optimal telematics solutions that address your fleet's specific challenges and requirements and to understand their capabilities to integrate data collected from various providers.

Conclusion

Telematics technology records, processes and transmits data about a vehicle, equipment or the operator, enabling businesses to assess and mitigate the risks of managing a fleet. Telematics devices can also effectively help fleets identify opportunities to improve operational efficiency, increase safety and reduce both operational and insurance costs. However, with the influx of data available, it is extremely important to set clear expectations on how to measure success and how to act on the data gathered.

Be mindful to track the measurable savings and compare them to the cost of the telematics solution to demonstrate overall value and return on investment. As the technology continues to develop and change at an ever-increasing rate, engage subject matter experts often to assist in determining if the current solution is meeting your current needs, and one best suited to grow with you as your fleet needs evolve.

References

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Getting Started with Telematics – Travelers Insurance