

What is Telematics? An Introduction to Smart Vehicle Tracking

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We all know that humans are social animals and work best when connected. But, did you know that vehicles can be pretty interactive too?

Well, maybe not in the way you're imagining right now, but they do gossip in their own digital way.

No, we have not lost our minds and are only talking about facts. So, to know how vehicles gossip with one another and how they benefit from it, continue reading this blog!

What is Telematics to Begin With?

In layman's terms, telematics can be thought of as vehicle tracking, GPS tracking, or [fleet management systems](#).

The term telematics comes from the amalgamation of 'telecommunications' and 'informatics'. The former means an exchange of information over a distance through technology while the latter means gathering and analyzing data to solve real-world problems.

Therefore, telematics is the digital way of vehicles and computers sharing information with one another. It helps monitor vehicles and gathers diagnostic information from the vehicle to the computers they are buddies with.

Telematics systems share all information ranging from speed, idling, and tire pressure to fuel use and risky driving. Such information is collected from the vehicle and sent to [GPS tracking software](#) for analysis. It can then be analyzed and applied to increase fleet efficiency.

How Does Telematics Work in Vehicle Tracking Systems?

Telematics is dependent on three things – GPS trackers, OBD sensors, and fleet management or [GPS tracking software](#). Without any of this hardware or software, no telematics system will be complete.

But first, are you wondering what all these buddies can communicate about? Here we go:

- Vehicle's location
- Speed
- Trip time and distance
- Idling time
- Fuel consumption
- Battery voltage

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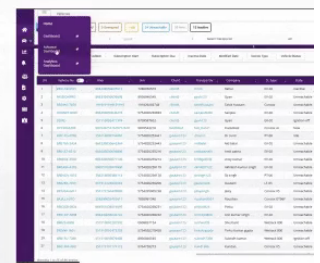
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This telematics data is shared like a general human conversation. One device codes the message and the other decodes it.

Just like a human sender, vehicles code their information. This information is then left for the receiver or the computer to decode and understand. It is through this decoded message that the manager can take any action for their fleet.

Here are what the four steps of communication look like, telematics style!

- The OBD sensors and GPS trackers collect data from the vehicles.
- This data is transmitted through satellite or cellular networks to the **fleet management software**
- The software interprets, analyses, and organizes this data
- This refined and bite-sized information is shared through the fleet management or GPS tracking software

Voila! This is how vehicles tell computers all the information they want throughout the day in the minutest of details!



Telematics Is Not Only About Binary Data: The Rise of Video Telematics

Sure, traditional telematics is all about information sharing between devices and computer software. However, if we look at the bigger picture, telematics has now grown in the holistic [video telematics](#) segment. Therefore, vehicles and computers don't just share binary data between them, but also video footage.

Video telematics is exactly like tire pressure monitor and odometer sharing readings from vehicles. Instead of these binary devices, it uses dashcams to collect and share data and footage

Video telematics integrates dashcams, rear-facing cams, driver-facing cameras, and even side cameras with your vehicle management system. By connecting to diagnostic ports, a strong network, and your fleet management software, these cameras share information with fleet managers for operational use.

While being omnipresent with your fleet itself is interesting, the applications of video telematics are irresistible. Not only are they spectacular for data collection and fleet strategizing, but also for driver supervision and performance.

Let's look into the segments of video telematics here:

Driver Management System (DMS)

Video telematics can help managers check drivers' activities in real-time and in clear video. Therefore, it helps improve driving quality and reduces road accidents by making sure that the driver is always alert while driving.

- **Smoking:** Smoking makes drivers' attention deviate from the road for a while and causes inebriation.
- **Distracted:** Being on the phone or looking elsewhere is a major red flag for driving as drivers lose focus from their primary task.
- **Drowsy:** If the driver falls asleep, you can bid adieu to any form of vehicle, driver, or consignment safety.
- **Yawning:** Yawning can also distract the driver from the road ahead and can indicate sleepiness.
- **Absent:** What if the designated driver is not in the car but someone else comes in? Or what if the car is left on ignition when the driver is not even there? Send alerts!
- **Blocking Camera:** In case the driver accidentally or intentionally blocks the camera, managers will get an alert.

Advanced Driver Assistance System (ADAS)

Unlike [DMS](#), [ADAS](#) is not built to supervise drivers but to help them. Through ADAS, drivers get to rest assured that in case they do get into an accident without any fault of their own, they will not be falsely blamed for it. Moreover, ADAS also helps drivers stay slightly relaxed in the driving process.

ADAS is the direct [benefit of video telematics](#) because it uses cameras to continuously analyze the vehicle's surroundings. Here are some events that ADAS will recognize and send alerts for:

- **Collision:** Be it forward, rear, or side collision, any chances or incidents of it are quickly reported.
- **Signal Violation:** Drivers should not be breaking signals and any such incident should be instantly reported.
- **Lane Switch:** Whenever a driver is switching lanes, managers will know!
- **Overspeeding:** Overspeeding is a big problem in the fleet management industry and should be avoided at all costs to avoid accidents.

Why You Should Care About Incorporating Telematics in Your Fleet?

Telematics is the communication channel between a fleet manager and a vehicle. Here are a few things that telematics will bring into your fleet that will make managing it simpler:

- **Vehicle Tracking:** Through GPS trackers, you can always know where each of your vehicles is. Be it general tracking or emergency vehicle rescues, real-time vehicle tracking through [telematics software](#) is imperative.
- **Safety Measures:** You can immediately send help to the vehicle's live location. Sensors such as SOS alarms help safeguard your vehicle. Moreover, computers can send immobilization or parking mode commands to the vehicle for further safety.
- **Insurance Assessments:** If you use video telematics, you can tackle insurance claims. You can prove that your assets were not responsible for an accident. Moreover, you can also get the telematics data such as engine health for the same reason.
- **Resource Optimization:** Once you know how fuel, time, and resources are used in your fleet, you can start optimizing them. Gather data, analyze, strategize, and optimize for higher profits!
- **Driver Supervision:** [Driving behaviour monitoring](#) data tells you which driver is caring for and which is ruining your vehicle. Paired with video telematics, you can detect distracted driving as well to supervise and safeguard your drivers and vehicles.
- **Maintenance Improvements:** Get real-time insights into vehicle health and performance through telematics. It helps you tackle unpredictable breakdowns and avoid the wastage of resources.

Specific Benefits of DMS and ADAS for Fleet Management

Sure, telematics has the benefits we've mentioned above. However, there are some specific benefits that come from DMS and ADAS through video telematics. Let's look into them here:

- **Driver Safety:** In case drivers are sleepy, an alarm will ring in the vehicle waking them up. This way, they will not indulge in unknowing risky driving. Moreover, with video evidence, they cannot be falsely blamed for accidents they didn't cause.
- **Better Driver Feedback:** Supervising and training drivers becomes simpler with DMS and ADAS because all the faults that a manager needs to tell can be precise. Through video evidence, managers can show drivers where exactly they went wrong so that they can personally make a difference to improve their service.
- **Fewer Road Accidents:** Obviously, when vehicles and drivers will be better connected and more vigilant, road accidents will significantly reduce.
- **Lower Liabilities:** Insurance claims become easier since insurance companies charge lower premiums from fully-covered vehicles and video evidence of accidents makes the process simpler, especially if the driver is not at fault.
- **Step Towards Automation:** Paired with a supreme network connection and [road safety regulation](#), DMS and ADAS can together form future autonomous cars.

The Pros and Cons of Telematics Systems

Communication makes a good relationship. And as a fleet manager or owner, you would definitely need a good relationship between your vehicles and software, right? After all, that is the primary way for you to manage your fleet in the most advanced and beneficial manner. However, sometimes overcommunication can cause issues too.

Wondering where we're going with this? Let's look into the pros and cons of telematics for [vehicle tracking systems](#) and you'll know.

Pros of Telematics Systems for Vehicle Tracking Systems

There are some solid reasons why GPS tracking technology has advanced into vehicle telematics and is widely used by fleet managers. Let's look at those reasons here:

- **Encourages Safe Driving:** Telematics is built to integrate multiple safety devices and keep track of vehicles at all times. With things such as [driver behaviour analysis](#) and video telematics, vehicles are always in check and allow for better digital communication, leading to fewer road accidents and consignment theft.
- **Better Data Collection:** The main purpose of telematics is to let machines and components gossip with one another. Therefore, they naturally share data between the two and hence, make transparency possible. The better the data collection, the higher the chances for better vehicle supervision and fleet optimization.
- **Easier Accident Claims:** If a vehicle has good telematics systems in place, managers are more likely to be able to identify the cause of accidents. Therefore, they can not only solve the problem from the root but can also ensure insurance claims become easier through data proof – be it visual or textual.
- **Better Money Management:** With [telematics systems](#), identifying where resources go becomes more systematic. Therefore, fleet managers can monitor which drivers and vehicles work best if all fuel is used consciously, etc. Such resource optimization allows for better fleet budgeting and helps managers build stronger strategies.
- **Improves Road Safety:** Careless driving, faulty communication, or even faulty vehicles – accidents can occur for any reason. Telematics increases V2V, V2X, and V2I communication. Therefore, it builds a network of data collection and sharing that keeps vehicles and drivers aware of their surroundings to prevent accidents.

Cons of Telematics Systems for Fleet Management Systems

With all the pros of any system also come some cons that need to be looked into. Here, we will look into the cons of [telematics](#) for vehicle tracking:

- **Privacy Concerns:** If you're not using a reliable [fleet management system](#), your data might get into jeopardy. Moreover, this is a good reason for employees to resist **telematics systems**. Since all information is constantly monitored, the scope for privacy might diminish. However, with the right privacy policies in place, all these issues can be mitigated without any concerns.
- **Implementation Costs:** Enforcing a telematics system obviously doesn't come for cheap. If starting from scratch, enforcing **telematics systems** requires expensive hardware and specialised software. None of this comes for cheap and hence, even though the **benefits of telematics** are immense, this is something to be wary of before deep diving into vehicle telematics systems.
- **Technology Dependency:** Telematics is extremely beneficial for fleet management. So much so that fleet managers get dependent on these telematics systems for optimum management and strategizing. While global network connections have become so strong that losing connection is rare, there is a possibility of unhealthy technology dependency for fleet management. This means that if telematics were to be removed, fleets will come to an abrupt halt.

The Future Lies in Telematics and Connected Vehicles

Communication between the vehicle and computers is the reason why the vehicle tracking industry has become lucrative now. The better the friendship between vehicles and computers, the faster the industry will grow. Therefore, high-speed connections such as [5G networks will bring a revolution in the telematics industry](#).

With facilities and advanced ecosystems powered by video telematics, fleets are set to be the highest-rated yet. Therefore, fleet owners and managers should look beyond the 'device integration' purposes of fleet management and look at the more holistic picture with vehicle telematics.

The future of the automotive tracking industry lies in telematics, and you should start taking advantage of it now by using the [right fleet management software](#).



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Ayushi Nagalia is a Senior Content Specialist at TrackoBit. She is passionate about music, writing, and reading. When not abusing her keyboard, you will find her lost in her playlists or organizing things.

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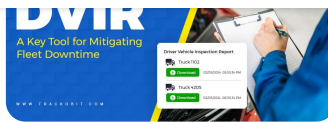


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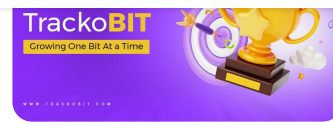


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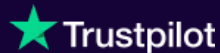
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