

Light Report

# Transport & Telematics



## Introduction

The history of commercial vehicle telematics solutions goes back several decades. On-board vehicle computers first emerged in the transport and logistics industry in the 1980s and were soon connected to various satellite and terrestrial wireless networks. Today, mobile networks can provide ubiquitous online connectivity in many regions at a reasonable cost, and mobile computing technology delivers very high performance as well as excellent usability.

The continuous evolution of connectivity technologies plays an important role for the developments in the fleet telematics sector. Improved uplink speeds and reduced latency have a positive impact by enabling more stable connections and opening up for applications with greater bandwidth demands. Getting access to multiple complementing networks in a single customised solution that is remotely configurable and includes integrated security features has surfaced as a best practice for many successful telematics implementations in the transport and logistics sector.

## Fleet management is a pioneering IoT vertical

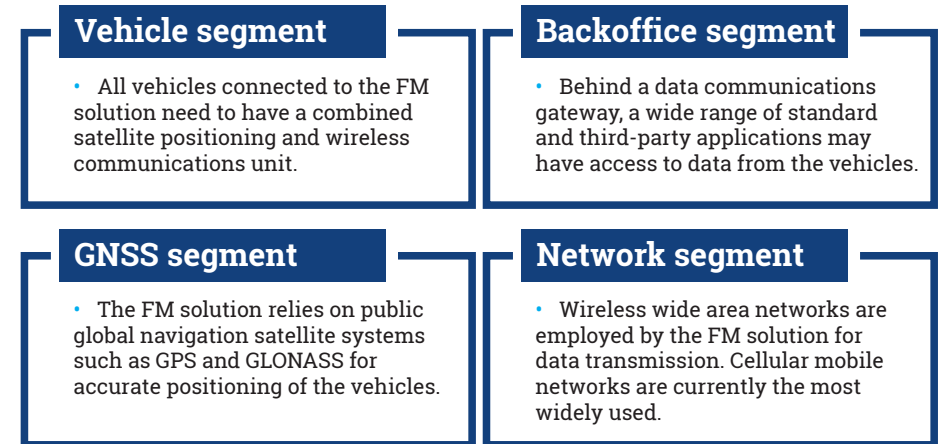
Commercial vehicle telematics, also known as fleet telematics or fleet management for short, indeed represents an early application area of M2M/IoT technology. The fleet management market for commercial vehicles has developed significantly over the past decades, impacted by general trends such as the transition to SaaS-based business models and the increasing integration of mobile devices as part of the infrastructure which goes hand in hand with a general commoditisation of hardware across industries.

Fleet telematics remains a high-paced IoT market favoured by multiple trends, and recent developments have even seen a diversification among providers of fleet management solutions for commercial vehicles to also support other types of adjacent assets as part of integrated solutions.

## Infrastructure and applications for fleet and asset management solutions

Fleet management (FM) is an ambiguous term used in reference to a wide range of solutions for different vehicle-related applications. Berg Insight's definition of a fleet management solution is a vehicle-based system that incorporates data logging, satellite positioning and data communications to a backoffice application. At a high level, the infrastructure for fleet management can be divided into four segments including the **vehicle segment**, **GNSS segment**, **backoffice segment** and **network segment**.

The network segment is typically a key part of the infrastructure for IoT applications in general and fleet management solutions in particular – a reliable and secure wireless connectivity solution that is remotely configurable is a prerequisite given the inherent mobility of crucial assets in the transport and logistics industry.



**Figure 1: Berg Insight divides the fleet management infrastructure into four segments**  
[Source: Berg Insight]

On the application level, fleet management solutions include numerous feature sets for various types of commercial vehicles. Typical high-level categories include **vehicle management, driver management, operations management** and **regulatory compliance and reporting**. Each category includes different subsets of fleet management functionality, some of which are generally applicable for all types of fleet segments while others are specific for certain operations. New sets of features continuously emerge from incumbent solution providers and start-ups alike, which puts increasingly mounting demands on connectivity solutions and associated configurability and customisation capabilities to be able to support the ever-growing range of telematics applications for transport fleets.

## The global fleet and asset management market

In a transport and logistics context, the broader fleet and asset management market includes a variety of telematics and tracking systems deployed for monitoring and management of different types of commercial motor vehicles as well as trailers and containers of various kinds. Growing at an overall expected compound annual growth rate (CAGR) of 14 percent, the market is forecasted to increase from close to 80 million active fleet and asset management systems in 2021 to more than 150 million systems in 2026.

Fleet management for commercial vehicles is clearly the largest segment, estimated to account for more than 90 percent of the total installed base of active systems. Trailer tracking is furthermore currently the second largest category ahead of containers. The latter, however, represents a highly promising emerging segment which is anticipated to outpace both commercial vehicles and trailers in terms of growth in the coming years, thus surpassing the trailer segment when it comes to the number of active systems by the end of the forecast period.

### Vehicle management

- Remote diagnostics
- Maintenance planning
- Security tracking
- Tire pressure monitoring systems
- Fuel card integration and reporting

### Driver management

- Driving data registration and analysis
- Video-based driver monitoring
- Eco-driving schemes
- Insurance risk management

### Operations management

- Routing and navigation
- Transport management
- Mobile workforce management

### Regulatory compliance and reporting

- Drivers' working hours
- Digital tachograph data download
- Distracted driving
- Electronic toll collection

**Figure 2: The fleet management applications can be organised into various subcategories**

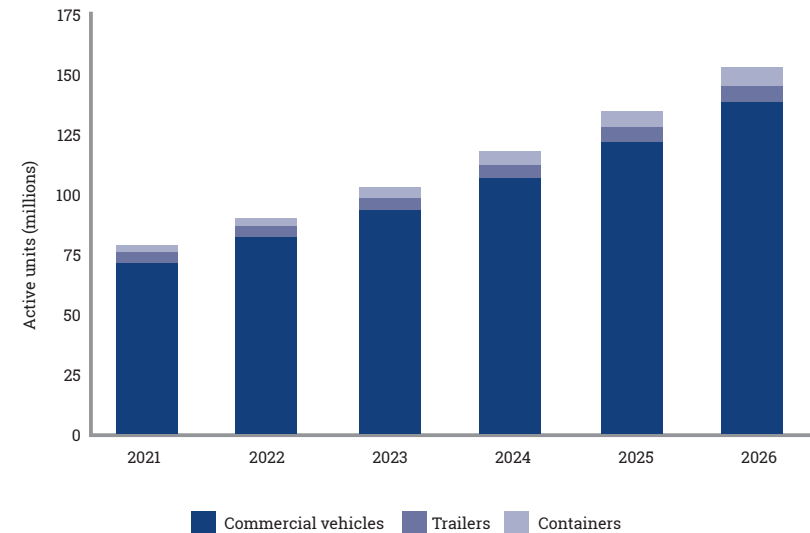
[Source: Berg Insight]

## Regional market characteristics and trends

The fleet management sector is indeed gradually getting more international and many of the largest fleet management players in terms of subscriber base today operate on the global arena. There is nevertheless still a fair level of discrepancy between different regional markets including continents and countries – and sometimes even within larger countries – both in terms of the propensity to adopt fleet management technology altogether and in terms of the specific types of applications that are favoured by the fleets operating on the respective markets. This may to some extent still favour local niche players over global giants, at least in the near-term. Many of these local variations between geographies are still expected to prevail in the foreseeable future, albeit to a continuously decreasing extent as the market matures and the playing fields are

levelled, with commoditisation fostering more standardised offerings.

If aiming to provide a simplified contemporary snapshot of the industry at large, North America is established as a front-running region still having considerable momentum, while Latin America largely remains a fragmented market with strong security focus. Western Europe is further one of the most mature fleet telematics markets in terms of adoption alongside North America, and large multinationals and local providers coexist with strong OEM players in this market. Eastern Europe is trailing the neighbouring markets in the west, and the expectations for the future fleet management market in the region include a continued gradual convergence with the developments in Western Europe.



**Figure 3: Fleet and asset management systems by major segment (World 2021–2026)**

[Source: Berg Insight]

In Africa, South Africa stands out as a highly mature telematics market and the country is clearly established as the front-running market on the continent, being the home of multiple renowned international fleet management solution vendors. The major Chinese market is further best described as challenging and highly price-sensitive with major untapped potential, so far largely favouring local telematics providers. Despite its remote location in the Southern hemisphere, Australia and New Zealand is on the other hand a market favoured by the English language which has likely had a strong influence in establishing the region as a rational point of entry for fleet management providers seeking to expand on the international arena. Australia and New Zealand are also similar to other Commonwealth countries from a cultural perspective, and a number of players (e.g. from the UK, South Africa and Canada) have introduced their solutions on this market.

For companies aiming to operate internationally in many different regions, it is of the utmost importance to ensure that the solutions are supported by secure and remotely configurable connectivity that is equally robust and reliable in the home market as in other targeted markets across the globe.



## Video-based solutions permeate the fleet market

A key trend over the past years has been increasing integration of cameras in commercial vehicle environments. Cameras can be installed in trucks and other types of vehicles for a range of different purposes. Basic dash cams represent an entry-level type of application similar to conventional CCTV applied in a vehicle context, primarily used for follow-up of incidents and to allocate blame for insurance purposes. There are also more sophisticated solutions that employ multiple cameras to enable a 360-degree view of the exterior of the vehicle, thus for example eliminating blind spots.

Video-based solutions for driver behaviour monitoring can further leverage in-cab cameras of different types. Road-facing cameras can detect events related to, for example, lane departure and following distance which can be indicative of undesirable driver behaviour. Video-based driver risk management solutions can also leverage driver-facing cameras. Various types of triggers are commonly used to start saving video recordings. In many cases, video clips covering a predetermined interval before and after an incident are subsequently saved as opposed to continuous recordings. This enables follow-up of root causes of driver behaviour

while at the same time limiting the intrusiveness in terms of privacy for drivers. The video recordings can be used for post-drive coaching of personnel to improve driving performance.

There are also solutions that include elements of direct in-cab driver feedback in various ways such as visual and audible alerts and vibrations, thus enabling drivers to correct their behaviour in real-time and thereby avoid potential incidents. Some advanced video-based solutions leverage continuous eye and facial tracking to detect and prevent driver fatigue and distraction in real-time using sophisticated algorithms.

While the range of camera-enabled solutions for the transport sector is indeed quite diverse, one thing most video telematics solutions have in common is above-average bandwidth demands compared with conventional vehicle tracking applications. Companies thus need to opt for a connectivity provider capable of securely transmitting videos from the vehicles to the back-office at all times.



## CHECKLIST FOR SUCCESSFUL TRANSPORT & LOGISTICS TELEMATICS IMPLEMENTATIONS

- The importance of selecting a reliable connectivity solution from a trustworthy partner cannot be stressed enough as it is indeed a cornerstone of any successful fleet management deployment.
- Scaling a global application comes with a great deal of complexity if you need to manage agreements with many global operators – there are clear benefits in having a single SKU (including management of connectivity on both public and private networks).
- Consider the need for a customised solution that allows access to, and management of, both native and global connectivity agreements for maximum cost savings (particularly for applications which require large data transfers such as dash cams).
- Opt for a remotely configurable solution such as eSIM, particularly since devices are constantly moving and are often in remote locations, whereby SIMs cannot easily be swapped out.
- Always consider the need for security features to be included within the SIM, such as IMEI locker to prevent theft, and centralised network threat detection to ensure that devices are not compromised.

## The Internet of Transportation Things expands the addressable market

The diversification among fleet management solution providers to offer solutions compatible also with various types of adjacent asset types is another notable trend in the industry. The development is sometimes dubbed as the Internet of Transportation Things, and several solution providers now offer integrated solutions that can be deployed across off-highway vehicles, non-powered assets and other non-vehicle fleets in addition to the conventional commercial vehicle types traditionally targeted by fleet telematics players.

This enables fleet owners to monitor and manage all of their business-critical assets through the same backoffice interface, using familiar applications and reporting tools. The development at the same time enables fleet telematics providers to maintain subscriber growth as mature markets eventually approach peak penetration. The telematics penetration is for example already comparably high in the heavy truck and trailer segment especially in mature markets such as North America, but the same cannot be said about most other types of assets used by fleet-owning companies.

Asset tracking thus represents a heavily underpenetrated market with considerable potential for telematics providers that are ready to diversify the product offering. Particularly strong growth is expected for solutions that also enable tracking of ancillary items such as portable equipment, handheld tools and similar items in a unified interface. Many other players active in the general fields of Big Data and the Internet of Things may also start eyeing this market. As always, stellar connectivity will be a key enabler of this promising development for the transport and logistics sector

## Berg Insight

Berg Insight is an independent industry analyst and consulting firm, providing research, analysis and consulting services to clients in the areas of IoT and digital technologies. Our analysts possess deep expertise in major IoT verticals such as fleet management, automotive telematics, smart metering, smart homes, mHealth and connected industry. Founded in 2004, we operate on a global basis from our head office in Sweden.

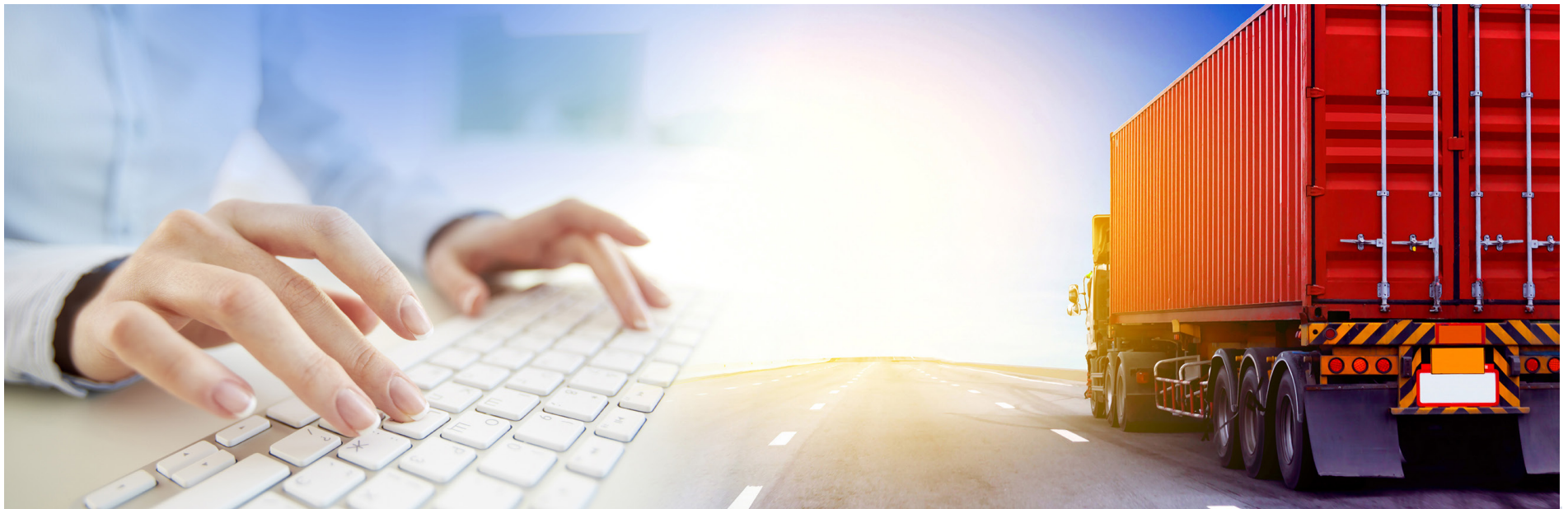
Our clients include many of the world's largest mobile operators, vehicle OEMs, fleet management solution providers, wireless device vendors, content providers, investment firms and venture capitalists, IT companies, technology start-ups and specialist consultants. We have provided analytical services to 1,400 clients in 72 countries to date.

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## Global IoT Video Telematics Connected by Pod Group



### Application

idrive's IoT video telematics dash camera measures driver behaviour, records video, tracks vehicles, and uses artificial intelligence to correct drivers in real-time.

### Problem

Providing professional transport fleet clients, who are continually on the move, with live in-cab feedback, GPS tracking data and video file uploading immediately on a global scale, requires reliable connectivity at a competitive rate.

### Solution

Pod Group's eSIM solution ensures seamless and secure global connectivity across different networks at competitive rates, while managing devices across the world with just one SKU.

## Introduction

By 2035 it is estimated that there will be over 2 billion vehicles on the world's roads, commercial vehicles making up a quarter of these drivers. Currently thousands of people are killed daily throughout the world by road accidents and many of these accidents involve some type of human error.

For companies that employ fleet drivers, there is a huge responsibility to ensure both the safety of their drivers and others on the road, as well as the reputation and safety of their business. At a time when businesses must strive to remain viable, unforeseen additional costs through damage, injury or harm to their business' reputation are hard to bear.

To help alleviate some of this responsibility for transportation professionals, idrive has developed an Artificially Intelligent (AI) dash camera system that reduces accidents by well over 50% and provides in-cab coaching to prevent accidents in real-time.

## Application

The idrive AI is a professional video event recorder that simultaneously captures two HD videos, one of the driver and one of the front of the vehicle, to give fleet managers a full picture of what is going on inside a vehicle. The idrive AI is an intelligent camera system that features machine learning and driver recognition capabilities to capture detailed data for driver behaviour coaching.

'When a driver is being monitored they pay more attention to the rules of the road,' says Sean O'Neil, CEO of idrive. 'Our artificially intelligent system can also watch the driver for active distractions or drowsiness and alert them if those behaviours are detected. This is critical to preventing potential accidents from occurring.'

idrive uses advanced artificial intelligence to help in-fleet monitoring. The idrive AI Cam helps companies identify and correct risky driving behaviour. Machine vision can detect distracted driving, drowsy driving, safe following distance, and driver recognition (facial recognition).

Using AI and in-cab alerts combined with Pod Group's telematics data transmission allows idrive fleets to reduce risky driving events by as much as 70%. Sensors incorporated in the device can detect different driving patterns such as hard braking and acceleration, aggressive driving, swerving, speeding, and open doors. Any of these 'trigger events' will cause the device to save the video recording immediately before and afterwards, providing a clear picture of the moments surrounding an incident.

When combined with the cellular connectivity module, the video cameras provide real-time insights into the vehicle, so clients can monitor and observe their entire fleet securely from any desktop or mobile device immediately. All of the data collected is uploaded via Pod Group's eSIMs and is critical to generating driver reports that are used to coach drivers and get them back out on the road in a safer manner.

## Problem

When devices are installed in busy, continually moving vehicles, it is essential that they can constantly transmit GPS and telematics data to HQ, and that changes can be made without having to interrupt the workflow of the fleet. Added to this, idrive devices need to be deployed anywhere in the world, without losing connection or having to manually access devices.

With Pod Group's eSIM solution, global connectivity is ensured by enabling seamless connection to both native (in-country) and roaming network profiles, with over 600 networks in 185 countries covered. The combination of Pod Group's Multi-IMSI applet on the eSIM bootstrap profile and multiple additional profiles on the SIM also adds resilience in the event of network issues or future rate changes on one of the profiles, as the SIM can still switch between multiple core networks.

These profiles can be swapped and updated OTA when the devices are already in the field. This helps to optimise costs when rolling out global deployments, as devices can be shipped and then configured once they reach their destination.

Not only that, the capacity to pick and choose different networks for different situations means that native (in-country) profiles can be used for lower latency and cost. Using just one SKU to customise their coverage plan ensures that idrive can use the most cost-effective network in any given area, essential when dealing with large and expensive packages of video data.

Facilitated by the unique connectivity solution and flat data rate provided by Pod Group, idrive is able to enhance its service and offer the reliable devices its customers require. 'Working with Pod Group allows us to provide excellent global coverage for all of our fleet customers worldwide,' explains Kelli Cosio of idrive Global. 'We chose Pod Group as our provider because of the ease of use and competitive pricing.'

## Solution

idrive's hardware is perfectly complemented by Pod Group's resilient eSIM technology, OTA provisioning and flat-rate roaming across borders. Together these technologies will grow and improve as the IoT expands.

As an additional service, idrive offers in-house data analysis for customers, relieving managers of the task and ensuring that their fleet data is being professionally monitored. idrive, in turn, knows that it can rely on Pod Group for 24/7 expert technical support from a team with 20 years of first-hand experience in the IoT sector.

'We have received excellent service and support,' declares Kelli. 'Thank you Pod Group!' idrive's association with Pod Group means that the company can confidently supply a sophisticated service integrated via reliable, intelligent and continuous connectivity, and future proof its devices however much the company's business expands.

For further information please visit:

<https://www.podgroup.com/>

<https://idriveglobal.com/>