



# TELEMATICS EXPLAINED

The Fleet Industry Advisory Group  
guide

# Introduction

Telematics is revolutionising the way in which companies run their vehicles and employees drive them. The word telematics was created from the words telecommunications and informatics and essentially embraces the sending, receiving and storing of information including to and from vehicles.

Vehicle telematics has its roots in the HGV sector but, in more recent years, has become a popular tool for LCV fleets and today the technology is increasingly finding its way into company cars.

Telematics systems monitor the location of vehicles and the way they are being driven to deliver a raft of essential operational real-time information to fleet decision-makers that enables them to take action to improve business efficiency, ensure legislative compliance and cut costs.

At the simplest level, data from the telematics device installed in a vehicle uses Global Positioning System (GPS) technology to determine its position and then transmits information over the General Packet Radio Service (GPRS) network for fleet decision-makers to access on the internet via their PC or other communication device.

Furthermore, today's sophisticated in-vehicle telematics devices are linked to satellite navigation and driver to office communication.

The disparate telematics market is moving at a rapid pace making what was considered the future of fleet management, now a central part of operations.

Until recently telematics was the preserve of specialist after market providers, but increasingly vehicle manufacturers, contract hire and leasing companies, telecoms specialists and the insurance industry are entering the fray.

Currently a myriad of telematics devices are on the market from a wide range of suppliers, but as the sector becomes ever more mature consolidation inevitably will occur as will harmonisation around the type of data accessible and the format in which it is delivered.

Almost certainly within the next decade – and perhaps even sooner – the connected car will not be a creation of science fiction but reality, effectively putting fleet managers literally in the driving seat of a vehicle on the move without them having to leave their office.

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# The fleet industry view



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Telematics demand will surge in 2015, particularly from large fleets, with the construction, IT/software, utilities and retail sectors leading the way alongside blue light and public sector organisations including NHS Trusts, according to recent research.

The forecast comes from Sewells Research and Insight following research among fleet executives in charge of some of the UK's largest fleets and coincides with a survey by Lex Autolease, Britain's largest contract hire and leasing company, that more than a quarter of organisations are already utilising telematics.

The recently published *"Fleet Insight - The 2014 Lex Autolease Report on Company Motoring"* questioned more than 250 employers.

Commenting on the research, Tim Porter, managing director of Lex Autolease, said: "We are likely to see an increase in usage of telematics as organisations will find this information useful and be able to provide appropriate guidance on driver safety and behaviour to their employees. It also has the potential to reduce insurance premiums for those employers whose drivers do drive safely."

Indeed information is power with 84% of fleet managers, according to the Lex Report, saying that management information was important to them and telematics was one of the emerging tools in its provision.

As a result, a fifth of fleet managers surveyed by Lex say they will be investing in telematics in the next two years. What's more, contrary to some fears among employers, a survey of 500 employees by Lex to coincide with the report discovered that 43% were "happy" with having driver monitoring equipment installed in their car with only 12% "very unhappy".

Therefore, privacy, much touted as a reason for not equipping company cars with telemetry, may not be the concern many thought.

The Sewells research concluded that: "Demand will mainly be driven within the van fleet sector, where there is greater acceptance of the benefits of telematics technology, but there is growing interest in using the technology to effectively manage car fleets. This remains a fast growing industry with huge potential and our results show it is only going to get bigger as we head into 2015 and beyond."

Fleet decision-makers, it is suggested, will use telematics as a mechanism for cutting fleet costs through closer vehicle management to minimise spending and also improve driver safety while simultaneously maintaining high service levels and improving the efficiency of their field service teams.

The only sector, suggested the Sewells' research, where there was little interest in the benefits of telematics was in the perk car-dominated banking and finance sector, where vehicles were less extensively used for business purposes.

# The connected car



**Telematics providers and companies that have already embraced 'black boxes' have worked hard to overcome those prehistoric views**

The telemetry device is a 'black box' connected to a vehicle's on-board diagnostic port. While 'black boxes' continue to be fitted to vehicles, the emergence of web-based apps available on smartphones and other mobile devices also linked to the on-board diagnostic port has led to the creation of the phrase "the connected car".

Irrespective of the device used the plethora of information available is similar, but a recent report by the British Vehicle Rental and Leasing Association (BVRLA) suggests that information delivered via employees' company smartphones can improve driver acceptance and dispel age old drivers fears of "Big Brother" and the perception of having a "spy in the cab".

To be fair, telematics providers and companies that have already embraced 'black boxes' have worked hard to overcome those prehistoric views and today, far from the technology being a company vehicle driver's enemy, it is often viewed as a

friend – particularly in the event of something going wrong!

The BVRLA report suggests telematics-based technology is set for "widespread adoption" and concludes that as business buys significantly more than half of all new cars, vans and trucks sold in the UK annually "the fleet market is going to be a crucial driver of autonomous and connected vehicle technology".

Highlighting that by harnessing "big data", the opportunities for safer, more cost-effective and sustainable transport will be nearly limitless, the report adds:

"The fleet industry – fleet managers, leasing companies and rental operators – will be largely responsible for ensuring that this new connectivity and web-based telematics reaches its full potential."

# A legal minefield?



**The raft of data emanating from vehicles must be managed within the law**

It is clear that “connected vehicles”, more integrated smartphone systems and the increasing availability of a wide range of other technology, particularly impacting on road user safety, will have a huge future impact on the way fleets choose, operate and manage their vehicles.

But it is also clear that the raft of data emanating from vehicles must be managed within the law with company vehicle drivers’ confidence secured for the information to be used legitimately for business purposes.

Underpinning the legal use of data is article eight of the European Convention on Human Rights which gives a right of respect for one’s “private and family life, his home and his correspondence”. Additionally, businesses must take account of data protection and employment law and should communicate the right to use telematics data to staff and also consider writing that into employment contracts.

Lawyers say that employers must find a lawful basis on which to use information and data from vehicles explaining that would usually be:

- With the consent of individual employees or
- By establishing a legitimate reason to use the data without it intruding so far into employees’ privacy as to be unacceptable.

Furthermore, the BVRLA report makes clear that information from “connected vehicles” will come in an incredible volume,

variety and velocity and will therefore need to be “stored, processed and analysed in the right context”.

Analysing and interpreting the raft of data being sent to fleet decision-makers via telematics systems means they must decide what they need to use and what they don’t for business reasons and establish appropriate rule sets.

For example, using mileage information to validate employee expense claims or determining a vehicle’s position to redirect the driver to an urgent job would be considered “business critical”, but monitoring company car movements when an employer was aware that a member of staff had booked two weeks summer holiday with their family could be considered an invasion of privacy.



**Lawyers say that employers must find a lawful basis on which to use information and data from vehicles**



***Fleets wanting to use driver data need to get their support and consider a wealth of legal issues***

The BVRLA report says: “Drivers’ privacy concerns are two-fold – the security of their data against the outside world, which is where anti-hacking measures are vital, and the use of driver data within the organisation.

“Fleets wanting to use driver data need to get their support and consider a wealth of legal issues, such as employee contracts, data protection and even human rights legislation.

“In reality, the increasing proliferation of third-party apps aimed at drivers and fleet managers will mean that all

stakeholders will have to relinquish some control over their data.”

Critically, the BVRLA report warns that to ensure the new wave of connectivity and web-based telematics reaches its full potential driver buy-in was a key requirement alongside assurances that the data and intelligence gathered was used wisely.

For the unwary the use of data delivered via telematics could be a legal minefield!



**Driver buy-in is a key requirement alongside assurances that the data and intelligence gathered is used wisely**

# Telematics data collection



**Telematics is an information source, providing reliable information in areas where previously information was poor**

Simply fitting telemetry devices to vehicles and fleet managers having access to the torrent of data that flows into their computers will not solve fleet problems and potentially could cause more pain.

Indeed information overload is a major concern. Therefore, fleet managers will have to decide from the data streams accessible what they require to effectively and efficiently manage the transport operation and which channels remain 'asleep' or are switched on at a later date.

However, what is clear is that telematics allows the remote management of a fleet of vehicles, wherever they are, 24 hours a day assisting in reducing fleet operating costs, improving legislative compliance, reducing risk and boosting business efficiency and productivity.

As the Lex Report makes clear, and cases studies in this white paper highlight, telematics "is an information source, providing reliable information in areas where previously information was poor. It is the management decisions made on the back of this information where the tangible benefits are found".

The general benefits of in-vehicle telematics systems include:

- Fuel savings of up to 20% through better driving
- A 15% saving on overtime claims due to better mileage records - and improved management of working hours

- Productivity increases of up to 15% due to improved journey scheduling
- Improved customer relations with more accurate response times and call scheduling
- Insurance premium savings of up to 30% with drivers involved in fewer crashes as a result of practising 'smarter driving'
- A greater likelihood of vehicle recovery in the event of theft
- Reduced operating costs with vehicles serviced on schedule and less aggressive driving
- Increased awareness of general risks that could impair business or personal performance or safety, and lead to unforeseen costs or vehicle downtime
- Potential reduction in penalty notices and speeding fines.

Source: ALD Automotive

On the following pages we highlight the key areas of fleet operations where telematics data correctly interpreted and acted upon can assist businesses to improve their operations.

# Fuel savings and CO2 benefits

Fuel is calculated to account for typically around 25% of fleet costs so it is essential that businesses have a tight grip on journey management to keep bills in check.

new Energy Savings Opportunity Scheme (ESOS) and the Greenhouse Gas Emissions (Directors' Reports) Regulations 2013.



***Cutting fuel use means businesses are reducing their carbon footprint as the 'greenest' mile is one that is not driven***

Fleets utilising telematics technology claim to be reaping fuel bill savings of up to 20% as the technology ensures destinations are reached first time, every time and bad practices such as driver idling and unauthorised vehicle use are eliminated. For many fleets that all adds up to huge cash savings.

Additionally, cutting fuel use means businesses are reducing their carbon footprint as the 'greenest' mile is one that is not driven.

Vehicle emission reporting, notably carbon dioxide (CO<sub>2</sub>), is increasingly vital for many organisations as part of their corporate social responsibility agenda. Included within the telematics data available is a CO<sub>2</sub> log.

Fuel bill savings and carbon reduction go hand-in-hand - the latter critical for many organisations as they focus on caring for the environment within the umbrella of corporate social responsibility and meeting new regulations including the



**Fuel bill savings and carbon reduction go hand-in-hand**

## CASE STUDY - Travis Perkins

A few years ago Bluetooth was a rarity on the standard list of new vehicle features, but today it is ubiquitous. That, says Graham Bellman, director of fleet services at Travis Perkins, is exactly what will happen with telematics over the coming years as ‘black boxes’ become increasingly common place in all vehicles. Five years ago Travis Perkins, the UK’s largest supplier to the building and construction market, piloted telemetry in 30 trucks with astounding financial and efficiency benefits and a payback inside three months. Initially focused on reducing vehicle idling and improving fleet utilisations, the financial savings delivered were so huge that Mr Bellman turned from being a telematics sceptic to deciding to fit the technology across the organisation’s 3,300-strong fleet of light commercial vehicles and trucks.

Although telemetry is not currently fitted to the organisation’s 2,500-strong company car fleet it is something that Mr Bellman does not rule out as an after market measure - unless the vehicle manufacturers under pressure from legislators get there first.

Today Travis Perkins employs a team of data analysts to study the information sent from the black boxes that are linked to each commercial vehicle’s engine control unit. They then compile reports for branch managers and regional directors as well as the transport department.

Millions of pounds worth of savings to the business have been delivered as a result of real-time information generated by the technology resulting in:

- Almost 400 vehicles cut from the commercial vehicle fleet - virtually all trucks - as a consequence of improved vehicle utilisation delivering operating cost savings of



- more than £50,000 per year per HGV removed
- A 70% daily reduction in vehicle idling - the average vehicle spent more than 100 minutes per day idling ‘wasting’ up to three litres of diesel
- A 12.6% reduction in vehicle accident costs as a consequence of managing vehicle speed and drivers aware that their behind-the-wheel behaviour was being monitored
- Major fuel savings - and therefore emission savings - as a result of improved journey route planning and scheduling and employees’ adopting a smoother driving style
- Significantly faster vehicle loading and unloading turnaround time - Travis Perkins’ commercial fleet is now running at 93% utilisation per day up from 60%. There have also been a range of other “added value” benefits including daily defect reporting, axle weighing, a crackdown on fuel and product theft, a near 50% reduction in speeding offences as well as improvements in productivity.

Mr Bellman, a founding member of FIAG, talks of the “language of profit” with Travis Perkins quantifying the savings made in terms of how many additional bags of sand the company would have to sell if it was not cut costs through the use of telematics.

He said: “The cost of the system was paid for by the fuel savings we have made. Everything else has been a bonus.”

Mr Bellman said: “We have worked very hard with our HR department to communicate with drivers. Safety is very much part of the company’s culture, which drivers already knew because of the nature of their work handling cranes etc.

“But we made telematics relevant to them by explaining how much extra we would have to sell in terms of sand and other products to recoup the money we were ‘wasting’. The numbers were frighteningly high and it made drivers take note.”

When telemetry was first installed drivers were given a three-month ‘grace period’ and then told, based on the information collected, what they had to correct in terms of their behaviour. Coaching and disciplinary procedures then kicked in but so have ‘carrots’ with a Driver of the Year event being held and cash bonuses given to staff, thus Travis Perkins reinvest some of the financial savings made by rewarding drivers.

Now a complete convert to the use of telematics Mr Bellman said: “The buying of vehicles is easy; the disposing of vehicles is easy; it is the bit in the middle that is critical. But we are doing nothing radical, just what is industry best practice.

“Using data delivered by telematics and interpreting it has delivered savings totalling millions of pounds year-on-year to the company’s bottom line.”

# ***Journey planning and productivity***

**C**rucial to both cutting fuel bills and reducing a company's carbon footprint is journey planning and the elimination of unnecessary miles.

In-vehicle telemetry records journey distances and times with the information then able to be used to amend work schedules to drive business efficiency and guard against the danger of driver fatigue.

Implementation of more efficient journey and delivery schedules is calculated to boost productivity by up to 15% with response times to customer requests for help improved. Additionally, changes to pre-arranged schedules – as a result of traffic congestion or an additional appointment – can be instantly confirmed with drivers, and linked satellite navigation means that no mile is wasted in the re-routing process.

A further corporate benefit of vehicle tracking and recording journey times and thus drivers' hours – in addition to putting safety first – is that the monitoring of overtime claims is tighter and can, in some cases result in significant savings in additional staff payments.



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# Driver performance management

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Occupational road risk management has become a major issue for businesses over the last 15 years or more as corporates have been exposed to the true costs of vehicles and drivers being involved in road crashes.

Equally, a toughening attitude by investigating authorities including the police and the Vehicle and Operator Services Agency to road crashes and vehicle safety has further increased focus.

Add into the mix the introduction of the Corporate Manslaughter and Corporate Homicide Act 2007 on top of a wealth of other health and safety at work and road safety law that could be used against rogue fleets, and it is no surprise that legislative compliance receives board room attention.

In-vehicle telematics devices provide fleet decision-makers with a wealth of information as to how a car, van or HGV is being driven at any moment in time.

For example, the speed a vehicle is being driven can be measured against the mandatory speed limit on a road and incidents of harsh braking and acceleration are recorded.

What’s more real world evidence suggests that when an employee is aware that their driving style is being monitored they automatically amend their on-road behaviour.

Evidence shows that the smoother an employee’s driving style

the safer they are, resulting in fewer road traffic accidents, which translates into cost savings.

Savings are typically made on insurance premiums – up to 30% in some cases – and a ‘smarter’ driving style delivers fuel savings and a reduced carbon footprint with vehicle wear and tear also kept to a minimum.

Equally, for drivers who continue to speed or drive erratically or dangerously then the data gathered can be used as evidence for the potential introduction of duty of care solutions such as driver training.

And, in the event of a crash, the data recorded, for example in relation to braking and acceleration, could be vital evidence in a court case or an insurance claim in proving a driver’s guilt or innocence.



**Evidence shows that the smoother an employee’s driving style the safer they are**

## CASE STUDY - Stannah

Telematics is a key tool in the fleet management armoury of Martin Carter in charge of the 600-strong company car and light commercial vehicle operation at world-leading stairlift manufacturer Stannah.

Telematics was introduced five years ago as a pilot tracking scheme in a few vans to aid customer responsiveness and schedule flexibility, but today the technology is fitted in all vehicles with data collected underpinning the entire fleet operation.

Mr Carter, operations director of Stannah Management Services, which was named Fleet of the Year (501-1,000 vehicles) at the 2014 Fleet News Awards, said: "Telematics is not a silver bullet, but it is one thread of fleet management and an integral part in helping us manage vehicles."

Data captured via the in-vehicle 'black box' technology is now used to manage not just location but also: driver behaviour, accident reduction, fuel economy, business and private mileage and cost reduction across the entire fleet operation.

"It is difficult to isolate savings in specific areas of the fleet as a result of introducing telemetry, but every single fleet metric is moving in the right direction," said Mr Carter. "Fuel, accident and vehicle maintenance costs are all down and telemetry is a contributory factor in improving fleet performance and efficiency."



Crucially Mr Carter explains that Stannah is not "targeting drivers" but focussing on improving "driver behaviour".

"Our use of telemetry is not about the technology. We are focused on psychology and the culture of driving and that is what we are changing. Drivers sit in their own little bubble when on the road with no feedback. We have changed that and are giving them that feedback," he explained.

The fleet department used to analyse data collected from the telemetry and compile monthly reports. However, today all employees have online access to their own telematics records and self-manage their driving behaviour within parameters set by the company.

Mr Carter calculates that approximately 3%

of drivers each month were outside of the "acceptable band" making them the subject of a training action plan to improve their behind the wheel performance.

Asked to select a single key metric from the many measured and Mr Carter said it was harsh braking as it highlighted a lack of concentration by employees when driving.

"Eliminate harsh braking and many other key metrics follow automatically - fewer accidents, lower maintenance costs and improved fuel economy," he said.

Telemetry data is married up with information on any motoring offences committed by Stannah employees to give the company "a rich picture" as to the driving behaviour of staff.

Highlighting that introducing telematics was "a leap of faith" in terms of their being trust between employees and the business, Mr Carter explained that all company vehicle drivers, including the owners of the private company, were subjected to their driving being monitored.

"Everyone has a view on privacy and how data will be used. But if you start at the top of the company, implementation becomes a whole lot easier and difficult to argue against," he said.

Currently the "black boxes" are a retro-fit, but in the future Mr Carter believes telematics will be a standard production line fit across all vehicles.

# Vehicle security and asset tracking

Police records show that incidents of vehicle theft are reducing year-on-year as manufacturers fit better security features.

That means vehicles can be tracked in the event of theft and ultimately recovered by the police and unauthorised employee use of vehicles can be monitored, for example in relation to ensuring a ban for benefit-in-kind tax reasons on the private use of light commercial vehicles remains in force.

However, telematics provides an extra layer of security and asset protection as well as tracking by effectively enabling a 24/7 eye to be kept on vehicle movements. That can also deliver insurance premium savings.



*Telematics provides an extra layer of security and asset protection as well as tracking by effectively enabling a 24/7 eye to be kept on vehicle movements*

## Managing vehicles' total cost of ownership

Best practice dictates that companies select vehicles based on total cost of ownership figures or whole life costs. However, once vehicles are on the road it can be difficult to ensure that the office-based theory has practical results.

imminent. As a result, the risk of unforeseen repair bills caused by 'missed' services or in-life or end of contract recharges on leased vehicles caused by poor service history can be eliminated.

For example, operating costs can rapidly escalate out of control if vehicles are not serviced on schedule in accordance with manufacturer recommendations and warranties could be impacted.

Similarly, the fact that drivers know they are being monitored almost inevitably means they will adopt a more sympathetic driving style.

In-vehicle telematics devices accurately records mileage and can be used to automatically remind drivers that a service is

That then translates into less wear and tear on key vehicle components such as brakes and clutch thus increasing longevity.

# Mileage expenses



**HM Revenue & Customs' has, in recent years, further increased its focus on record keeping, particularly by small and medium-sized enterprises (SMEs)**

Inadequate business and private mileage records are calculated to be costing employers a fortune in expenses and could prove to be a nightmare in the event of an HM Revenue and Customs' investigation.

Telematics devices assist drivers and their employers to record business and private journeys with the data then being used to accurately calculate reimbursement costs at the correct mileage rate.

The audit controls also enable drivers of light commercial

vehicles to prove vans are not used privately thus avoiding incurring a benefit-in-kind charge.

What's more HM Revenue & Customs' has, in recent years, further increased its focus on record keeping, particularly by small and medium-sized enterprises (SMEs).

Tax inspectors have already uncovered poor mileage record keeping in a number of areas with reports of employers being fined hundreds of thousands of pounds in some cases.

# Improved customer satisfaction

Customer satisfaction is critical to all businesses and for many organisations drivers are their 'ambassadors' in terms of contact with the public at large.

Consequently it is essential that drivers arrive at their destination on schedule in terms of making a home delivery or carrying out repairs or a service on a domestic appliance.

Information from the telematics device can help alert customers to the estimated time of arrival and, equally importantly, that the driver is running late due to traffic congestion or another unforeseen consequence.

Communicating with customers is essential in today's business world and telematics can help to increase overall service levels.

# Management reports



***Data can be viewed in easy to understand reports by fleet decision-makers and used to build up an accurate picture of the performance of vehicles and drivers***

**A**s has been highlighted, telematics can be used to measure and monitor vehicles, drivers and journeys to the eighth degree.

Once received, data can be viewed in easy to understand reports by fleet decision-makers and used to build up an accurate picture of the performance of vehicles and drivers as well as a mechanism for improving journey scheduling.

For example, exact petrol or diesel usage on a vehicle-by-vehicle basis across the fleet can be compared, enabling the identification of fuel-hungry vehicles. This could result in a vehicle maintenance lapse being identified and subsequently resolved or driver training for a particularly heavy right-footed driver being introduced.

Equally, by comparing the data from the telematics system with key business performance indicators new company practices could be introduced to realign previously established business methods to boost corporate efficiencies and customer service.

Information is power, but effectively and efficiently managing the flow of data being delivered by telemetry devices to fleet decision-makers can prove to be a resource nightmare.

Being in receipt of the plethora of data and not acting on it can, in many cases, be as high-risk as not having the information. For example, in the event of a serious road crash having information highlighting that a specific employee was 'high risk' due to regular speeding occurrences but not taking

action could land the business in trouble.

Some businesses have specifically recruited staff to manage the flow of data and compile reports and recommendations.

Equally other businesses that have introduced telematics having utilised a step-by-step approach and have used data to focus on areas of operation one by one, for example reducing fuel usage or improving journey scheduling.



**Effectively and efficiently managing the flow of data being delivered by telemetry devices to fleet decision-makers can prove to be a resource nightmare**

# Telematics - the drivers' view



**Attitudes have changed and telematics and employers that have introduced the technology report few problems in 'selling' the technology to staff**

Whether or not the introduction of telematics is viewed by drivers as "Big Brother", a "spy in the cab" or their "friend" will almost certainly be determined by the approach taken by employers in 'selling' the implementation process to employees.

It is certainly true that when telematics first emerged, concerns were voiced around "Big Brother" and "spy in the cab" tactics being used by employers with little concern for the views of their drivers.

However, attitudes have changed and telematics and employers that have introduced the technology report few problems in 'selling' the technology to staff.

Critical to that is communication. As already highlighted the corporate benefits of telematics are many and varied, but the spin-off benefits to drivers are equally significant.

They include:

- Reduced stress and fatigue as up-to-date satellite navigation/ mapping means drivers will reach their destination first time every time
- Two-way communication enabling drivers and their office to be in constant contact
- Detailed mileage records aiding expenses claims

- In the case of light commercial vehicle drivers the burden of proof rests with them to show exemption from benefit-in-kind tax so mileage records are essential
- Indisputable proof that the employee was, for example, at a customer's premises at a specific time
- In the event of allegations of 'missed appointments', 'late deliveries' or indeed suggestions that a driving or parking offence had been committed, the data recorded could be the answer to a driver's innocence.

Ultimately, say technology supporters, the key to winning driver support for telematics is to explain the mutual benefits. Indeed, an employee that vehemently opposes the introduction of telematics may have something to hide.



# The cost of telematics



***It is important that fleet decision-makers check out exactly what services are available for the charge incurred***

There are numerous suppliers of telematics devices and each will have their own charging structure.

Packages available include outright purchase and monthly rental plans for hardware, which could include free installation.

Following installation and set-up there is likely to be an on-going monthly charge that covers management data sent from the device. The data charge will apply irrespective as to whether the hardware is bought or rented.

Suppliers may offer a 'standard' package containing reports monitoring a number of data streams with additional charges for further services.

It is important that fleet decision-makers check out exactly what services are available for the charge incurred.



# Telematics - the future



***The European Commission is investigating the potential mandatory fitment of EDRs in cars, light commercial vehicles, HGVs and buses and coaches***

This guide has focused on Journey Data Recorders (JDRs), but there are also Event Data Records (EDRs).

The majority of new cars and some vans and other vehicles are already fitted with EDRs, which are typically located in the airbag control module, but there is no mandatory requirement or functionality standardisation.

With both EDRs and JDRs, driver behaviour is constantly monitored throughout a journey, but with EDRs, only a small amount of the data is recorded and so can be analysed, whereas with JDRs, all of the data for the whole journey is recorded and so can be analysed.

EDR data is recorded during a road crash and for a short time,

typically less than a minute, before and after the collision, and is usually accessed by the vehicle manufacturer.

They access EDR data and interpret it to assist in the development of safer vehicles. Additionally, governments can use the data to develop vehicle safety legislation improvements, the police and courts may use data to establish facts relating to a road crash and fleet managers could use the information to improve safety performance.

But the European Commission is investigating the potential mandatory fitment of EDRs in cars, light commercial vehicles, HGVs and buses and coaches to “improve road safety and access to justice”. However, it could be the end of the decade before that becomes a reality.

# eCall



**Emergency help can be dispatched significantly quicker to a precise location rather than waiting for a vehicle occupant or other road user to make a call**

**A**utomatic Emergency Call (eCall) is the European Commission-backed system for sending an automatic message from a vehicle to an emergency call centre in the event of a crash.

The automatic message - eCall can also be activated with the press of a button in the vehicles - using the European Union-wide 112 emergency telephone number defaults to 999 in the UK.

The message will contain the exact location of a crashed vehicle using a built-in GPS location device.

That, says backers, means that emergency help can be dispatched significantly quicker to a precise location rather than waiting for a vehicle occupant or other road user to make a call.

The European Commission says that the quicker response time will save hundreds of lives across member countries each year and the severity of injuries will be considerably reduced by tens of thousands annually.

Some cars are already equipped with the technology and it was hoped that regulations would be approved in time for eCall to be fitted to all new cars and light commercial vehicles from October 2015. However, the Commission says the deadline for implementation is now likely to be late 2017 or early 2018.

The Commission admits that it is “frequently” contacted by



**The quicker response time will save hundreds of lives across member countries each year**

drivers concerned that having eCall in their vehicles will mean that “their location will be continuously tracked, their driving habits monitored and their private life infringed”.

However, in a statement the Commission said “confusion should be avoided” and added that the eCall system “remains dormant (not connected to the mobile phone networks) until a serious accident happens, therefore no tracking or transmission of data takes place during the normal operation of the system.”



***Only when a serious accident takes place, the information contained in the Minimum Set of Data (MSD) is transmitted to the Public Safety Answering Point***

“Only when a serious accident takes place, the information contained in the Minimum Set of Data (MSD) is transmitted to the Public Safety Answering Point.

“The data included in the MSD are those strictly needed by the emergency services to handle the emergency situation, and may include the triggering mode (automatic or manual), the vehicle identification number, vehicle type and propulsion, timestamp, vehicle direction, current and previous positions, and number of passengers.

“The European Commission has taken all the necessary measures to safeguard privacy of the vehicles’ occupants, after consulting with data protection authorities and the European Data Protection Supervisor office. Therefore, there are absolutely no reasons to be worried about your privacy if public Pan European 112 eCall is installed in your vehicle.”

However, some vehicles already feature telemetry with automatic emergency assistance using 112. In some cases the service is free, but in others it is part of a subscription package.

The Commission statement says: “Private road safety systems resembling the functionality of the public Pan European 112 eCall are currently available in the market.

“In the majority of these systems, the vehicle owner has to subscribe, pay and to give a written consent to the private service operators; so the driver might as well agree that his/her location is continuously tracked in order to enable value added services.

“The driver, for example, may give his/her written consent and allow to be tracked by an insurance company in exchange for reduced insurance fees.”

## CASE STUDY - Autoglass

A 9% fuel bill saving equating to thousands of pounds has been the single biggest benefit of Autoglass introducing telematics to its 1,400-strong fleet of vehicle glass repair and replacement vans.

Separately, the company has also fitted tracker units to its 75 vehicles that deliver glass to its nationwide network of centres.

The UK's leading vehicle glass repair and replacement service starting trialling telematics technology two years ago because it wanted to:

- Reduce its annual fuel budget
- Improve driver safety
- Improve its accident record which is centred on low speed incidents

Indeed all three targeted improvements are inter-linked as improving driver behaviour when on the road is one of the most effective ways to save fuel.

The in-vehicle telematics technology records real-world driver efficiency and MPG and delivers verbal and LED dashboard warnings when drivers incur a 'violation' according to pre-determined rules relating to, for example, speed, acceleration, braking, idling or revving through the gear.

Reports are also sent from the system to the Autoglass fleet department where data analysis is undertaken by a member of the



team. Reports highlighting exceptions are then sent to branch managers where they are discussed in monthly individual meetings with drivers and targeted actions agreed.

Autoglass fleet manager and FIAG founder member Ged Raymond said: "The huge saving in our fuel bill is the result of improving driver behaviour. Drivers do not want to incur violations so they are driving more carefully. In turn that has also reduced the number of low speed accidents suffered meaning downtime has reduced thus also cutting costs."

He said that location trackers had been fitted to delivery vehicles as it was vital the company knew where the vans were so schedules could be kept to and further improved if possible. Telematics and tracking technology has been in the vehicles for 12 months and Mr Raymond

said pre-conceived thoughts that installing systems could be opposed by drivers had proved false.

"There have been few issues," said Mr Raymond. "We explained to drivers that the reasons for installing the technology were to help improve business efficiency and cut costs. It is vital to be pro-active in communicating with staff."

For fleets considering introducing telematics or tracking technology Mr Raymond said: "It is vital to decide why a business wants the technology and the information required.

"The technology delivers data and there is no point in producing information and then doing nothing with it. Additionally, the data needs to be robust so that it can be used as the basis for resolving problems."

Mr Raymond continues to keep vehicle telematics and tracking systems under review and could utilise the technology in other areas of operation at a future date.

However, he warned decision-makers not to be bullied by suppliers into taking too much data.

Mr Raymond said: "Be clear on what you want to measure and monitor and then use that information to take action. Don't agree to buy something that you don't need."

# Insurance



***It is estimated that more than 300,000 privately-owned cars are already fitted with telematics supplied by insurers***

An increasing number of insurance companies are offering motorists the option of telematics technology in vehicles with the offer of lower premiums.

Young drivers' cars are particularly the focus for insurers as among that sector of the population road traffic crashes are the single biggest killer in the UK and worldwide.

However, there is widespread speculation that insurers will offer discounts to fleets if they fit 'black boxes' in company cars.

The 'black boxes' fitted to vehicles or a downloaded mobile app records a journey, the start and finish times and information relating to 'ABCs' - acceleration, braking, cornering and speed.

Motorists are then given feed back on their own driving style and frequently a range of e-learning modules are accessible to enable drivers to improve their skills behind the wheel. The expectation is that as drivers know they are being monitored they will become safer on the road.

It is estimated that more than 300,000 privately-owned cars are already fitted with telematics supplied by insurers. As a result, those drivers are frequently rewarded with lower insurance premiums than would usually be available.

In the future it is anticipated that the technology could be used to monitor 'distractions' that are frequently the cause of road crashes including silencing mobile phones and in-car audio systems.

Tracking technology is expected to become more commonplace in the private sector over the coming years with those that refuse such systems likely to be face higher insurance premiums or be refused cover.



**Young drivers' cars are particularly the focus for insurers**

# Conclusion



***Fleets that have already turned to telematics report benefits in numerous areas, but many businesses have yet to embrace the technology***

Organisations that operate vehicle fleets and whose employees are mobile are increasingly turning to telematics data delivered by in-vehicle recorders to track, schedule, route plan, communicate and respond in real time and access a wealth of previously hidden information.

As a result of GPS tracking, a raft of management data is fed directly from vehicles to the PC or mobile device of fleet decision-makers. As has been identified throughout the white paper, the data available can be used to improve operating efficiencies, reduce costs, increase compliance and ultimately improve customer service.

Historically, telematics has been the preserve of after market specialists, but increasingly their dominance will be challenged by a number of other providers in a range of business sectors

including motor manufacturers, contract hire and leasing companies, telecoms specialist and insurers.

This white paper aims to provide an insight into the role telematics technology can play in fleet operations and across the wider business environment.

Fleets that have already turned to telematics report benefits in numerous areas, but many businesses have yet to embrace the technology.

Nevertheless, what is clear is that an increasing number of fleets will introduce telematics to their operations; over the coming years there will be sector consolidation in terms of both systems and suppliers; and it is critical that businesses have the resources in place to handle the volume of data emanating from the technology.

## CASE STUDY - Clancy Docwra

Telematics is a major part of the fleet management jigsaw for the Clancy Group as it continues to increase its use of data delivered by the technology to underpin its transport operation.

Initially, introduced as a stolen vehicle recovery initiative, telematics is now used to aid journey scheduling, as a driver behaviour management tool and recently has been linked to the company's fuel card management system.

"Telematics has a major role to play within the cost management of Clancy Group's fleet operation," said Ian Housley, the company's health, safety, environment and quality director. "It is one of the many pieces in our fleet management jigsaw, and it is difficult to imagine telematics now not being used."

Critically, Mr Housley singled out employee communication and data management as being crucial when firstly introducing telematics and then seeking to utilise the information available.

The Group, which is best known via its civil engineering and utilities division Clancy Docwra, operates a fleet of some 1,000 vans, 450 cars and 120 HGVs.

Tracking technology was initially fitted more than a decade ago to all commercial vehicles to provide added peace of mind and to crackdown on theft. In more recent years the technology has been upgraded in several phases with new information streams added to monitor drivers' hours, journey times and mileage and is now also being fitted to new company cars as they join the fleet.

The first upgrade embraced vehicle scheduling and that was followed by the monitoring of driver behaviour,



including speeding, harsh acceleration and braking and idling times, and recently the link to fuel card management information has also been established. Mr Housley said: "Telematics does not deliver an overnight recipe for success. It takes time to collect data and it takes time to turn the data into meaningful reports that can be used as the basis for actions. Fitting the technology into vehicles is the relatively easy bit." To cope with the increasing flow of data, the Group is currently looking at a mini-restructure of its fleet and associated departments and may introduce a dedicated

team to manage the information.

"A team fully focused on managing the flow of information and interpreting it will deliver even more benefits," explained Mr Housley, who highlights a number of areas where the company has benefited from telematics. They include:

Assisting with insurance claims and preventing a protracted legal battle as the technology can pinpoint the exact location of a vehicle, the speed it was travelling and other essential information. Improving driver behaviour and encouraging a more sympathetic style of driving with information linked to the company's occupational road risk management system.

The most recent move sees a greater watch on fuel management with Mr Housley explaining: "We are increasing our focus on fuel usage and our carbon footprint. We are looking to see if we can reduce our fleet mileage and thus our fuel use and better manage our carbon footprint."

The Clancy Group is a family-owned business and Mr Housley said that while the company continuously communicated with drivers on the reasons for fitting telemetry to vehicles, boardroom support for the technology meant it had been accepted by staff. He said: "Our drivers know vehicles are being monitored and have automatically amended their driving style. Our incident rate is the lowest it has been and overtime we would anticipate having data that will show improved fuel efficiency and that we are achieving additional mileage out of wear and tear items such as tyres and brakes."

# Sources and useful information

ALD Automotive - <http://www.aldautomotive.co.uk>  
ARI Fleet UK - <http://www.arifleet.co.uk/>  
Ashwoods Automotive - [www.ashwoods.org](http://www.ashwoods.org)  
British Vehicle Rental and Leasing Association:  
Fleet Technology White Paper - [http://www.bvrla.co.uk/sites/default/files/u43/fleet\\_tech\\_congress\\_white\\_paper.pdf](http://www.bvrla.co.uk/sites/default/files/u43/fleet_tech_congress_white_paper.pdf)  
Fleetmatics - [www.fleetmatics.co.uk](http://www.fleetmatics.co.uk)  
Fleetsmart - [www.fleetmatics.co.uk](http://www.fleetmatics.co.uk)  
Fraikin - <http://www.fraikin.co.uk/>  
LeasePlan UK - <http://www.easiertoleaseplan.co.uk/telematics/>  
Lex Autolease - [www.lexautolease.co.uk](http://www.lexautolease.co.uk)  
Masternaut - <http://www.masternaut.com/>  
Motiva Group - <http://www.motrak.co.uk/>  
Navman Wireless - <http://www.navmanwireless.co.uk/>  
Northgate Vehicle Hire - [http://www.northgatevehiclehire.co.uk/vehicle\\_monitoring.html](http://www.northgatevehiclehire.co.uk/vehicle_monitoring.html)  
Quartix - [www.quartix.net](http://www.quartix.net)  
RAC - <http://www.rac.co.uk/business/sme/telematics/>  
Sewells Research and Insight - <http://www.sewells.co.uk/>  
Telogis UK - <http://www.telogis.co.uk/>  
TomTom - [http://business.tomtom.com/en\\_gb/](http://business.tomtom.com/en_gb/)  
Trackcompare - <http://www.trackcompare.co.uk/>  
Trafficmaster - <http://www.trafficmaster.co.uk/>  
Trimble - [www.trimble.com](http://www.trimble.com)  
UK Telematics Online - <http://www.uktelematicsonline.co.uk/>  
Vodafone - <http://m2m.vodafone.com/cs/m2m/home>  
VUE - <http://www.vue-cctv.co.uk>  
Zenith - [www.zenith.co.uk](http://www.zenith.co.uk)

Please note this is not an exhaustive list, but provides website links to some resources fleet decision-makers investigating telematics may find useful.

## ***About the Fleet Industry Advisory Group***

The Fleet Industry Advisory Group (FIAG) is a not-for-profit organisation created to develop and share best practice in the fleet industry.

Through the considerable knowledge of its founding members, FIAG provides fleet advice, consultancy, mentoring and support. FIAG will also assist with benchmarking and analysis of industry developments through the publication of white papers and the organisation of workshops.

FIAG is also dedicated to supporting Hope for Tomorrow, a national charity which raises funds to support the introduction of mobile chemotherapy units nationwide. Further information on Hope for Tomorrow is available at [www.hopefortomorrow.org.uk](http://www.hopefortomorrow.org.uk)

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