Quartix

Award-Winning Vehicle Tracking

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MAIN FEATURES

Real-time vehicle tracking
Internet-based for easy access

Using the Quartix vehicle tracking system you can track your vehicles in real-time, anytime, using any internet-connected device. There is no need for proprietary software or maps - everything is accessed over the web. Our system uses GPS satellites to locate your vehicles, and GSM technology to ensure that their positions, routes and logs are constantly updated.

Google Maps, backed by Satellite, Street View and Traffic Integration, is used to pinpoint your vehicles. Our website gives you instant access to 12 months' worth of history for each vehicle. Older data is archived for easy retrieval.

Navigation between reports

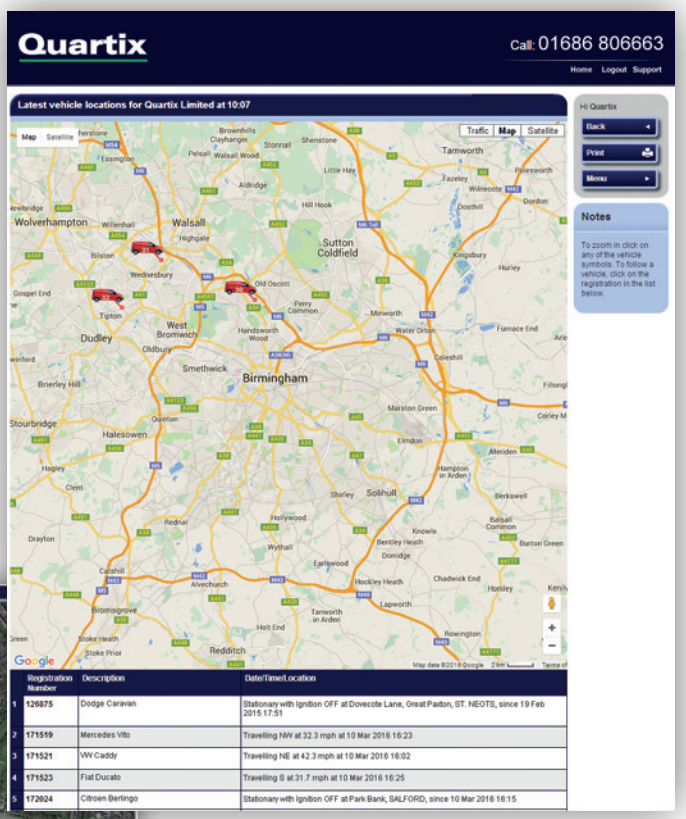
All of the key features of the tracking system are available from the live tracking screen. Clicking on a vehicle gives you access to the following features:

Daily log - a timesheet of a day's activity, including jobs completed or deliveries made

Route map - a clear, colour-coded trace of the route taken between stops

Zoom and follow - locks the display on that vehicle, and follows its journey

Zoom to location - zooms to show the map detail around the vehicle, giving access to satellite, street view and traffic information (where available)



MAIN FEATURES

Daily logs

Daily logs are presented in a clear, easy-to-read format. The day is split into separate trips and the level of detail in the report can be specified for each vehicle. Stops with the ignition on and short movements around a site can either be shown or filtered out.

Custom Location Names and Job References - adding your own custom address location names is an easy task. (See the configuration section.) These names then replace the street addresses on your customised reports, making it easy to identify sites that you visit regularly.

Links to locations and routes – clicking on any place name takes you to a map showing that location, and the magnifying glass next to each trip takes you straight to the route display, described below.

Route map display

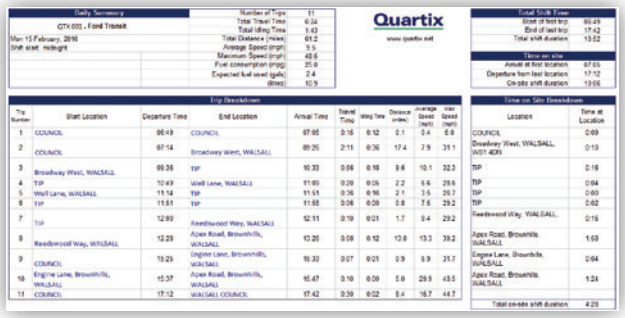
Each individual vehicle trip, or all journeys for a day, are displayed on the maps. Control and calendar buttons at the top allow you to step through each of the trips in a day – or to move between days. Each vehicle waypoint is marked with an arrow symbol indicating direction of travel and colour-coded according to speed thresholds shown in the key.

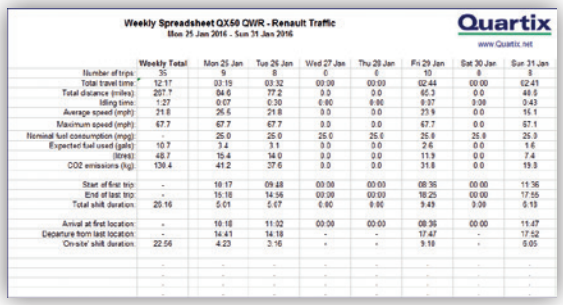
Timesheet reports in Excel

Delivered to your inbox

The weekly Microsoft Excel workbook provides a detailed sheet - per vehicle - for each day of the week, along with a summary sheet for the week as a whole. It is emailed to you automatically.

Key management information covered by the Excel report includes: mileage and fuel usage, maximum speeds, shift times, driving time and time spent at each site. The report is an invaluable tool for processing employee timesheets, pay and overtime. Private mileage can be entered in the report, providing a breakdown of business and private mileage for each day and the week as a whole.





Daily and weekly summaries

Mileage and fuel usage - the detail and summary sheets provide a check on the estimated fuel usage for each vehicle which can be verified against fuel bills and compared across the fleet - helping you track and control running costs.

Maximum speeds - the maximum recorded speed for each trip - tallied across individual days and weeks - provides a useful way of monitoring driving habits and promoting safer use of your vehicles.

Shift times - the report automatically calculates the time from the first to the last movement of the vehicle in each day. Configuration options also allow you to specify shift times to be used in the reports.

Links to location and route maps - the location names and trip numbers provide direct links to maps on our website - so that you can quickly and easily check stop locations, speeds, routes driven etc.

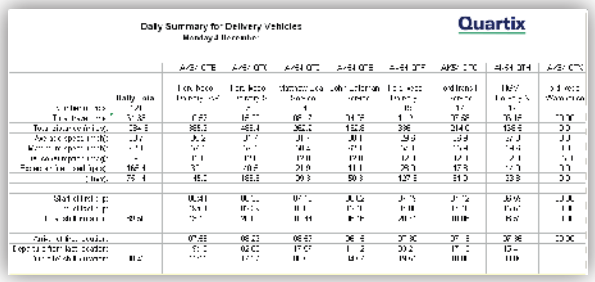
Time-on-site report

The time-on-site report allows you to pick a location and compiles a report of each one of your vehicles that has visited that site in the period you choose, revealing the time spent there. It's a great help in analysing the cost of each job.

Vehicle group reports

Excel reports also cover an entire group of vehicles. You will receive a daily email with an Excel attachment with timesheets for each vehicle as part of a fleet-wide summary.

This report allows you to see the activity levels, stop and start times and shift durations for each of your vehicles on a single sheet. It's backed up with full detail for each vehicle.

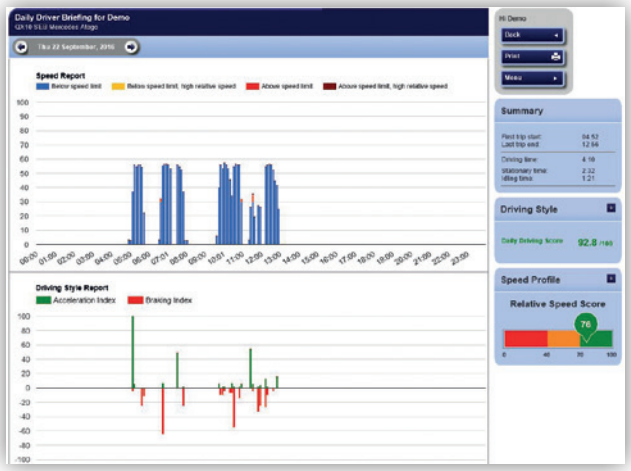


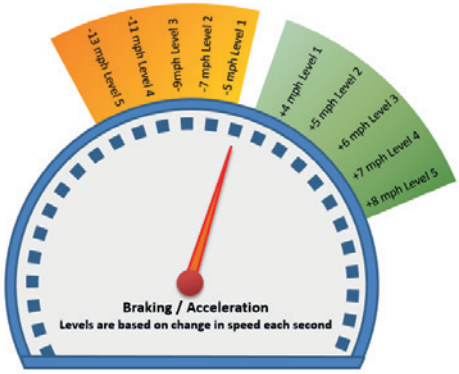
DRIVING STYLE

Driving style
Saving fuel and reducing risk

The Quartix InfoPlus option includes a comprehensive range of reports and displays, helping you work with your mobile workforce to improve their driving, reducing their risk of accident and cutting fuel costs at the same time.

Reports available are Daily Driver Briefing, Driving Style League Table, Driving Style Trend Report, Monthly Speed Report and Weekly Speed and Utilisation Chart. The driver briefing shows speeds and utilisation for the day, together with the corresponding acceleration and braking profiles for the same periods. Links are provided from the graphs to the actual map location of any speeding, braking or acceleration incidents. The driver is given an overall score for the day based on the factors shown in the next section.





Acceleration and braking

The Quartix system monitors the speed of the vehicle every second, and the acceleration and braking indexes are calculated from the number of times per hour that the speed changes by more than a given amount between one second and the next. These are then weighted according to how severe they are, and averaged over a driving hour to calculate the Acceleration Index and the Braking Index.

This speedometer shows the 10 levels of acceleration and braking, and each level has a weighting based on its severity. As such, speed reaching 6 mph in a second is a level 3 acceleration. Speed which goes down by 9 mph equates to level 3 braking, and so on.

Calculating the driving-style score

The weighting of acceleration and braking events is shown in the table opposite.

The acceleration index is the sum of all the acceleration incidents, each multiplied by their severity and finally divided by the driving time in hours. The braking index is worked out in a similar way, except that the levels of speed change are slightly different, as are the severity weightings.

Example: If a vehicle is driven for 2 hours, and during that time there are 20 level 1 accelerations (severity 0.2) and 15 level 2 accelerations (severity 0.5) then the acceleration index is (20x0.2+15x0.5)/2 =5.75 This is a relatively low index, showing modest acceleration.

The Driving Style Score is the overall score out of 100 for a given period, typically a day, a week or a month. The system will add up all the weighted acceleration and braking events with their severities, calculate the total driving time and work out the Acceleration and Braking Indexes.

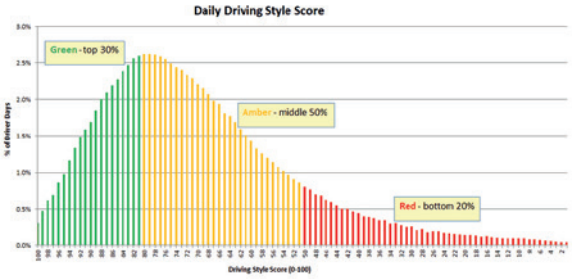
Level	Acceleration	Braking
1	0.2	0.5
2	0.5	2
3	2	4
4	4	10
5	10	20

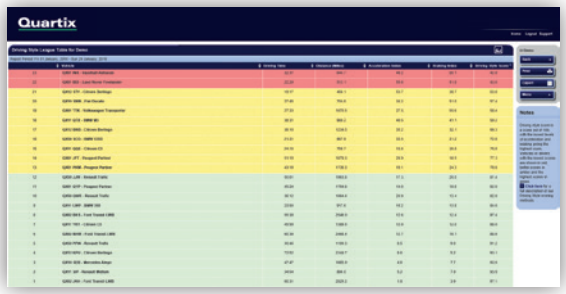
Distribution of Daily Driving Style Scores

This graph shows an analysis of 830,000 journeys, giving scores for 64,000 'driver days.'

As described on page 4, the calculation of the acceleration and braking indexes, and hence the driving style score, are based on a 'per hour' calculation. Calculating the average per hour means that no drivers are penalised for driving more or less than any other driver.

The system calculates the Daily Driving Style Score for each day, based on the amount of driving for that day or shift (excluding any parts of trips before the start or after the end of the day/shift). We apply colours to the Daily Driving Style scores as shown on the plot opposite. If the score is >80 it is green - this represents the best 30% of drivers.
If the score is between 50 and 80 it is shown as amber, and this represents the middle 50% of daily scores. 50 or below is red, and that's the worst 20%.





Driving style league table reports

Driving style scores can be compared across groups of vehicles, or even the whole fleet. Driver ranking can be carried out on acceleration or braking indexes as well as the overall score, and can also be measured over any selected period.

Once the league table is compiled in the desired order and format, it can be exported to a csv file for further analysis in software such as Microsoft Excel.

Driving style league chart

The league table can also be displayed in graphical format, as shown.

Many of our customers have reported significant savings in fuel costs: an improvement in average driving style score from 50 to 80 could result in savings of between 8 and 14%

Driving Style Trend Report

This report provides a visual representation of driving style and speed scores for your selected range. It is helpful for identifying trends and assisting ongoing assessment.

MANAGEMENT INFORMATION

Quartix Dashboards

With the addition of Quartix Dashboards feature, we have gone one step further towards giving our customers control over how they view their fleet's activities in real-time.

The Quartix Dashboards are made up of a number of components, each using simple and clear graphs to display a variety of live fleet information. Individually, each one is itself customisable.

You can view the components on the Live Status Dashboard, with two at the top and three below or more if you prefer.

This live dashboard will routinely update to show the current status of all parameters being monitored—you can view your entire fleet or specific groups of vehicles for each individual component.

Once the layout is created that best suits your needs, you can save this under a customised name, to use in the future. It can also be shared with selected colleagues and any alterations will be reflected on their dashboard too.

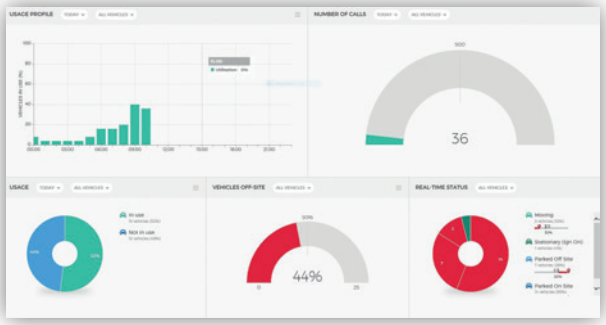
The components are as follows:

Usage Profile Bar Chart
This is displayed as a bar chart showing the percentage of vehicles in use either for each hour of the current day or for each day of the week. Clicking on any bar in the chart will list the vehicles in use and not in use during that time period, in separate, scrollable lists. You can then click on a vehicle to view its daily log (for vehicles in use) or last location (for stationary vehicles).

Number of Calls
This component, displayed as a speedometer, shows the number of calls made as compared to a set target number. A 'call' is considered to be a stop at a different place from where the vehicle was kept at the start of its shift. Define targets, calls per day per vehicle, alert start times and decide if you wish to include stops with ignition on or off only. The chart will accommodate double the target set and display targets reached at the top of the arch. Clicking on the component will display the list of vehicles, in ascending number of calls undertaken, and each vehicle will take you to its daily log.

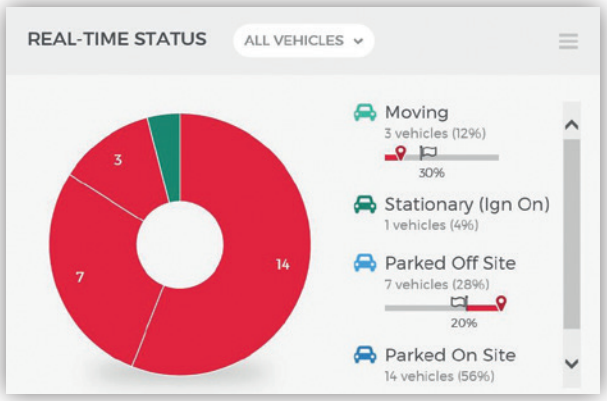
Usage Chart
This doughnut chart shows the vehicles that are used and unused for either the day or the week as whole, rather than by the hour as in the Usage Profile. The default distance to note the movement is 250m but this can be altered and could include all ignition on events. Utilisation targets can be set here and alerts raised which will show in red on the chart. Again you can click on any portion to show daily logs or last location.

Vehicles Off-Site
This component, displayed as a speedometer, shows the number of vehicles that are away from their overnight location, to give the measure of fleet activity. For a vehicle to be considered 'Off-Site,' its latest event must be at a different place from where the vehicle was kept overnight.



Clicking on any section will list the vehicles in use and not in use during that time period, in separate lists. Click on a vehicle to view its daily log (for vehicles in use) or last location (for unused vehicles).

Real-Time Status
This doughnut chart summarises what all selected fleet vehicles are doing at the current time. The status options are Moving, Stationary, Parked Off-Site, and Parked On-Site. Off-Site will be considered to be a different place from where the vehicle was kept overnight. Individual targets and alerts can be set and clicking the sections will show a list of the vehicles in each category, sorted in descending order of importance. In other words, if the target is to be above a certain number, the furthest from meeting that criteria will be shown first. You can click through the daily log for each vehicle.



Some of the components have additional graphics, such as above, that flag the targets for each status and alert in red, just like the graph itself, until those targets are met. A glance at the screen can tell you how close you are to reaching a particular target.

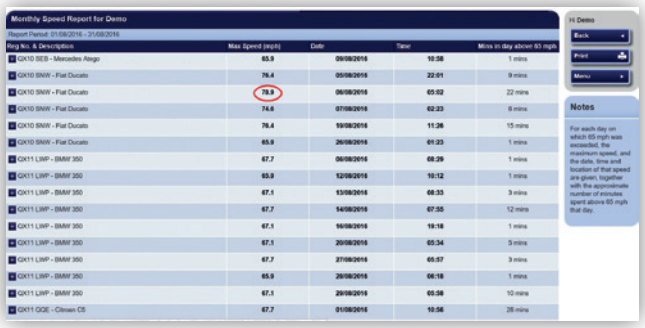
These five components offer quick and comprehensive views of the most vital functions of a mobile fleet and make staying on top of operations easier than ever.

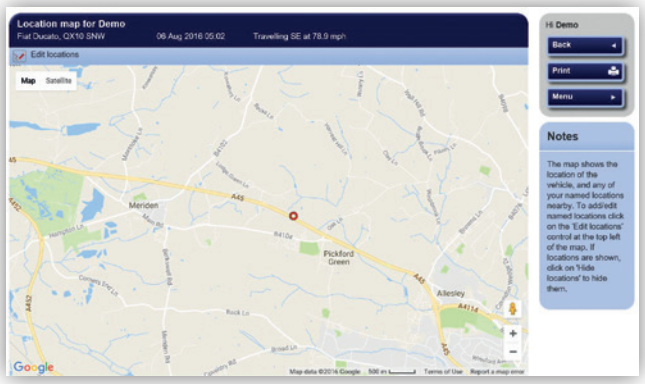
Monthly speed reports

Health and safety is of paramount importance in the management of a mobile workforce.

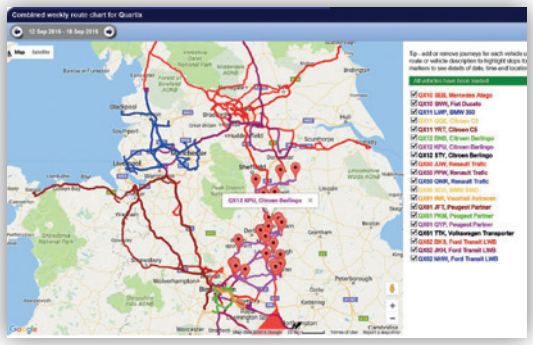
The monthly speed report complements the driving style tools by summarizing all speeding incidents for individual groups or the fleet as a whole, covering a whole month. It works in the following way:

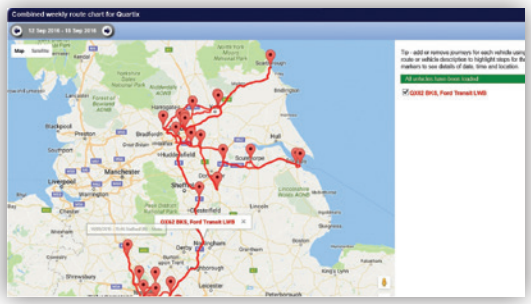
- The menu allows you to select the group of vehicles, month and minimum speed threshold
- The report shows the speed, date and time of each incidence of excessive speed, together with the time spent at above the speed threshold
- Links to the route maps are provided for the location of the speeding incident and the day as a whole





The example shows a selected speed incident of 78.9 mph and the corresponding route map where this was registered.





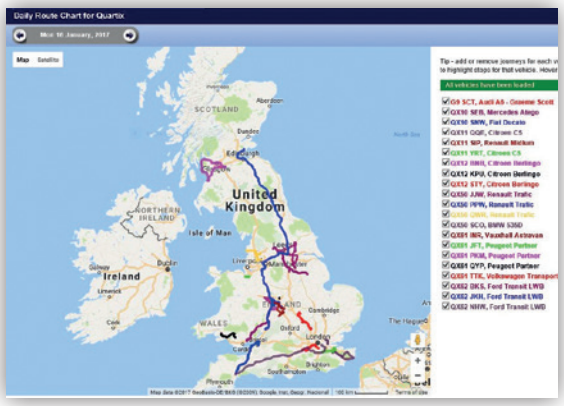
Route reports

Available on **either a daily or weekly basis**, this key management tool is of particular value to fleets operating from multiple depots, or with groups of vehicles covering different areas. The Weekly Route Chart (illustrated here) provides an overview of mobile workforce activity in any selected week, displayed clearly on a colour plot online. This can greatly assist you in optimising your fleet operations.

Key features of the reports:

- Your choice of 7 days' or daily routes are summarised on a single map
- Different colours help to identify various vehicles
- The entire UK map is accessible with embedded google mapping
- Specific vehicles can be viewed if required and others omitted
- 12 months' historical fleet activity data is readily available from our servers

MANAGEMENT INFORMATION



Business benefits

These daily and weekly reports are an invaluable business tool, offering numerous financial benefits:

Cost Savings with the easy identification of journey duplication and overlap by vehicles from adjacent depots. Removing these inefficiencies will result in greatly reduced fuel expenditure and maintenance costs.

Streamlining of the fleet whilst retaining excellent standards of customer service through raised levels of operation.

More Efficient Allocation of service/delivery calls through improved insight into longer term fleet activity.

Optimum Allocation of new clients to specific depots, based on a graphical overview of current routes.

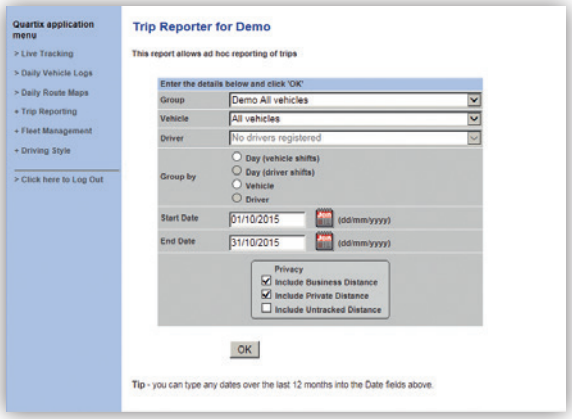
Trip reporter

This report offers a simple way to see a fleet's total mileage, driving hours and idling time over any time period. For those interested in totals by vehicle or driver, the summary screen shows the driving and idling times as well as the total distance for each vehicle or driver for the whole of the report period.

To track the usage of the fleet over time, the totals can also be grouped by the day the trips took place. The day takes into account a shift's start time for either the driver or the vehicle. Each of the groupings by vehicle, driver or day can be examined in detail to review trips actually made during the reporting period. This is true for reports of both trips made by a vehicle or driver over a number of days, as well as the trips made by all or part of the fleet for a single day.

Because some companies do not monitor their vehicles all of the time, the report offers the ability to include or exclude the non-monitored mileage, or to just report on the total non-monitored distance. As for monitored mileages, these can be grouped by vehicle or by day.

In our time and cost conscious environment, Trip Reporter enables the user to condense and specify data in accordance with need. Multiple dates and vehicles can be included or excluded in this flexible report. The selection of key points makes a quick overview possible with the depth of more detailed information available should it be required.



SafeSpeed Database

Excessive speed is widely accepted to be a contributory factor in many vehicle crashes. Several studies have demonstrated that the risk of having an accident, involving casualties rises significantly as speeds exceed traffic norms. Research by Quartix shows that urban and rural areas are equally affected which reflects the findings of universities and traffic safety organisations.

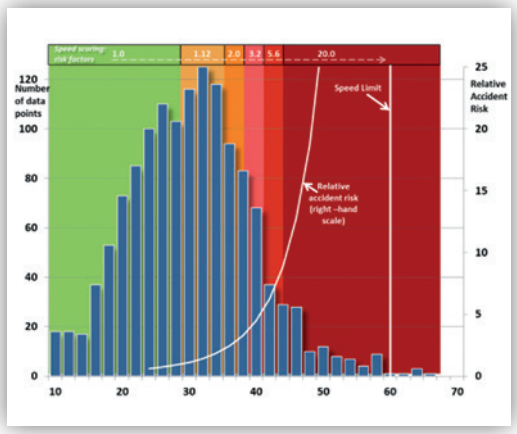
Statutory speed limits are an unsatisfactory benchmark for many roads

By recording actual speed data from its base of more than 60,000 commercial vehicles in the UK, Quartix matches vehicle data points to 2.6 million roads in the country, resulting in a database of more than 1 million speed distributions of statistical significance. This data is constantly logged and updated to identify optimum driving speeds which are often considerably below the given speed limit.

Factors such as driver inexperience, night-time driving, fatigue and weather conditions all increase the risk of accident when speed exceeds this level.

A Practical example on a rural road

The route between Foxton and Barrington in Cambridgeshire (60mph speed limit)



The graph on the left shows the distribution data that the SafeSpeed database holds for this short stretch of road, together with the speed limit and the relative accident risk (right hand scale).

The chart clearly demonstrates that the safe speed for this stretch of road is significantly lower than the speed limit: the distribution shows a mean speed of just 30mph, against a speed limit of 60mph.

In this particular example a driver would be at or around the 99th percentile in order to exceed the speed limit, and there is a real acceleration of accident risk from the 75th percentile onwards. There is therefore a significant gap between the speed distribution and the speed limit. It is clear, however, that single data points cannot be taken in isolation for comparative purposes as the road does include some straight stretches which would have clear visibility in good conditions. But maintaining an average speed percentile above 95 on this road would indicate a very high-risk driving style.

MANAGEMENT INFORMATION

Advantages of the SafeSpeed Database in brief:

- A realistic benchmark of safer speeds and driving style than comparison with the national speed limit alone
- Increased safety – fewer accidents
- Improved analysis of risk for fleet operator and insurer
- Lower fuel consumption
- Less vehicle "wear and tear"
- Integration with the Driving style reports to promote good driving practice
- Increased awareness of driving standards and corporate responsibility

The technology

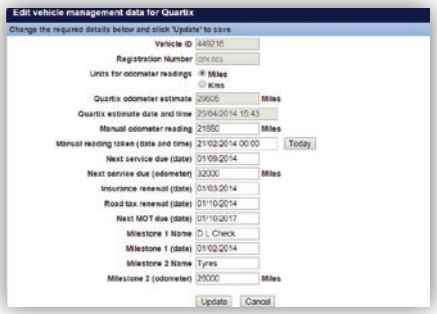
- At least 30million commercial vehicle movements are processed by the database each day
- Each data point is completely anonymised: there is no identification of the vehicle from which it originated.
- Each event is matched in just 60 microseconds to one of more than 15 million segments of the 2.6 million roads making up the UK network – still leaving huge room for expansion of the database as the Quartix fleet customer base grows
- Events are batched in order of receipt as they are fed into the speed distributions
- Each road speed distribution (of which there are now more than 1 million of statistical significance) is updated as new data arrives, at a rate which is dependent on the traffic flow on that road

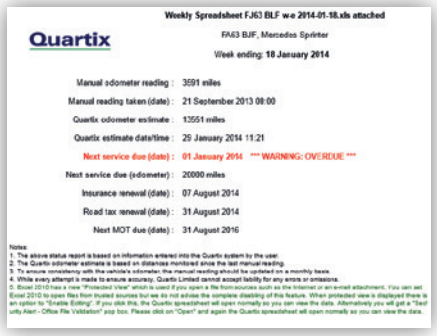
In the most recent development, Quartix has developed fast application programming interfaces (APIs). These are capable of interrogating the speed distributions for every single data point received from a particular vehicle to provide a speed profile score as a percentile within each distribution. The potential will be to factor in driver experience, "accident black spots", time of day and so on to minimise risk further and improve the accuracy of assessment.

Fleet Maintenance

Managing service schedules in a large fleet is an onerous task. The Quartix system helps to automate the process by letting you manage service schedules, vehicle inspections, insurance and tax, as well as allowing you to set custom milestones and reminders.

To use this tool you simply enter the vehicle odometer reading and key milestones in the screen shown opposite (accessible through the configuration menu item). The Quartix system then accumulates the mileage from that date and notifies you when the vehicle needs servicing. Notifications are sent as emails or you can review the whole fleet in an online report.





Email alerts & Service date reports

The fleet maintenance system generates automated alerts by email, which are attached to the weekly vehicle workbook reports. Items for attention are coloured amber, and anything which is overdue is shown in red.
For example, custom reminders can be generated to inspect tyres at a certain mileage.

As well as the email alerts, the service date reports provide a summary of the status of the entire vehicle fleet, including data on:

- Vehicle safety inspection
- Emission tests
- Service schedules
- Registration fee
- Insurance
- Custom milestones such as tyre inspection etc.

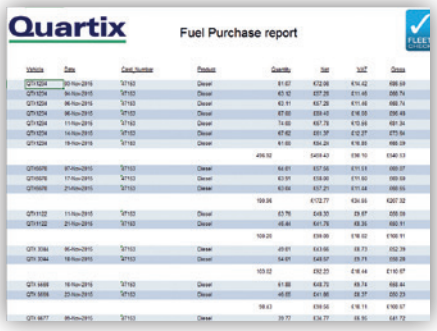
Fuel Card Integration

In partnership with Fleetcheck, the Quartix Fuel Purchase Report is available upon request for customers who have fuel cards with a third party provider.

The report is presented via an Excel file which contains all of your fuel card data, within a specific date range which you can select. The file will contain the following details:

- Vehicle details as registered with the fuel card provider (eg. Vehicle registration number)
- Date of fuel purchase
- Fuel card number
- Fuel type
- Quantity purchased (in litres)
- Cost of fuel (Net, VAT, and Gross)
- Subtotal of quantity and cost for each vehicle

The fuel data on this report can be updated as frequently as desired on a month, weekly or even daily basis. Most customers choose monthly and the updates occur within the first five days of the month.



Driver identification

Driver identification comes as an additional option and provides information on which driver is operating each vehicle. A small receiver is wired into the dashboard of each vehicle at the time of installation and each driver is equipped with their own magnetic key fob. Upon being placed onto the receiver, the unit will then register which driver is in the vehicle, and record all trip data specific to that driver.

A further option can be added so that a high-pitched buzzing sounds until the key fob is placed on the receiver.

GEOFENCING

Geofencing & out-of-hours

Real-time alerts by email

The Quartix system offers complete flexibility in setting up real-time alarms to inform you of unauthorised vehicle movements and other exceptions. The system allows you to set up a series of geographic zones together with the time-based rules of when vehicles should be inside or outside each zone.

Zones and modes of use

Two zone types are possible:

Named locations - comprising a named building or area, such as a depot, the driver's home address or a customer location.

Geographical zones - these can be set up to encompass any shape on a map and are intended to show the boundaries of a territory, city or similar. (London's Congestion Charge Zone, for example.)

Geofencing is used in one of two modes:

Mandatory mode - the vehicle must be inside the chosen zone for the times specified.

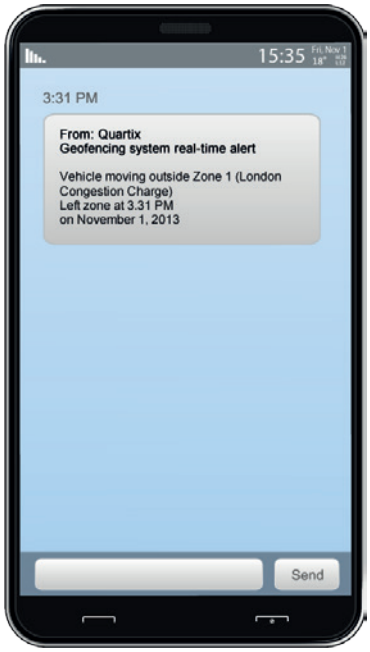
Prohibited mode - the vehicle must not enter the zone during the times specified.

The zones and times applied to them can be different for each vehicle and each day of the week, if required. The screen opposite shows how zones may be set to any shape or size – including polygons of unlimited complexity.

Alert types

Alarm messages can be sent to one or more email addresses or by text. Alerts can include:

- Out-of-hours: if the vehicle ignition is activated outside pre-set working hours, or
- If a geofence rule is broken, either a mandatory or prohibited zone rule.



Here are some examples of how our geofence system is used in practice:

1. **A housing maintenance manager needs to know that all his vehicles are available on call inside the boundaries of the city.**

   Solution - Specify the boundary of the city as a 'Mandatory Zone' between the hours of 8.00am and 6.00pm, Monday to Friday (or as required). Any vehicle straying beyond this boundary between the set times, will trigger an alert.

2. **For insurance purposes, a transport manager has to be sure that trucks are parked in the secure depot overnight.**

   Solution - Specify the depot as 'Quartix Named Location: Mandatory Zone' between the hours of 8.00pm and 8.00am (or as required). Any departure from this location between those hours would set off the alert.

3. **A business owner wants to be sure that his employees are not returning home from site during the working day.**

   Solution - Designate the driver's home as a 'Quartix Named Location: Prohibited Zone' on weekdays between 8.00am and 6.00pm; email/text notification will be given if the vehicle goes to that postcode during the hours set.

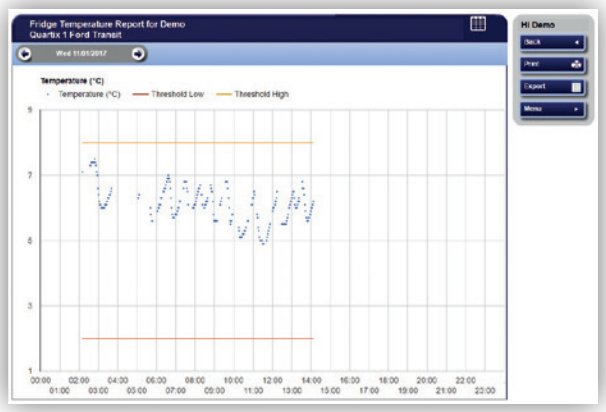
Another notification by your chosen method (email or text) will be sent once the vehicle is compliant again and has returned to its' intended location, or left the prohibited location.

In summary, geofencing can help you manage your business by alerting you to exceptional or prohibited behaviour - keeping you one step ahead.

Temperature Monitoring

Quartix offers an integrated solution for temperature control, to complement the existing functions available. Using the same GPRS technology that delivers their live vehicle tracking and fleet management tools, the Quartix system continually monitors conditions and transmits data, alerting customers when temperatures in their vehicles go out of range by as little as +/- 0.5° for temperatures between -10° and 85°C.

The system requires only two probes for even the largest of vehicles, and each probe can be customized for different temperature settings. For example, a truck with both frozen and chilled sections will be monitored accurately for the requirements of each zone. Our Temperature Monitoring probes have an accuracy of +/- 0.5° for temperatures between -10° and 85°C and +/- 2.0° for temperatures between -55° and -10°C. The probes themselves are only 30 mm long and 6 mm in diameter; they are connected to the vehicle's tracking unit with waterproof cables. The customer's chosen parameters are set in accordance with their instructions but can be changed with ease if required. 12 months' worth of data can be viewed and data older than a year is archived for easy retrieval.



The graph above shows that this customer set temperature parameters of between +2°C and +8°C, with alerts triggered for any four consecutive alerts beyond that range.

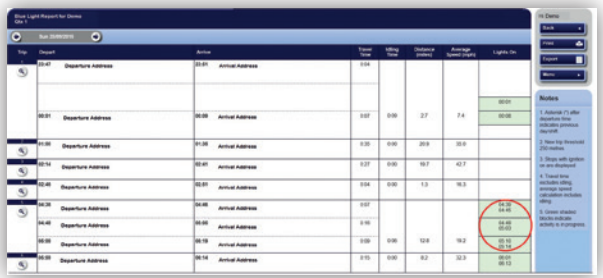
Both the carrier and end user need to be confident that their goods have been transported under the correct conditions whether refrigerated or temperate. Any clarification that may be needed can be provided by easy access to the reports. With the Quartix system, temperatures are reported every two minutes while the vehicle is in use and every 15 minutes when the vehicle is not in use. Recordings are always taken when the vehicle stops and when the ignition is turned off. When a probe registers four consecutive temperature readings that are out of range, an alert is generated and an email is sent to the customer. This email can be sent to multiple recipients and contains a direct link to the vehicle on which the problem has arisen, allowing customers to correct any issues that, if unresolved, could lead to a loss of product. This has been adopted by the food sector, medical and pharmaceuticals companies and other conveyors of sensitive products.

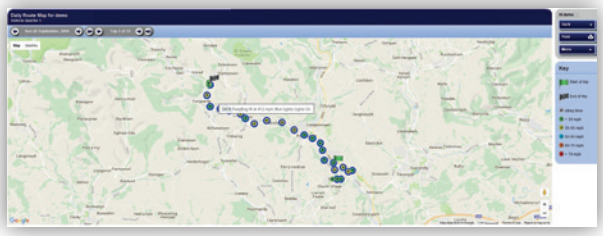
Quartix integration with Power Take Off (PTO) connections

Quartix works with many customers who have additional monitoring requirements via PTO connections. One such example is the use of Blue Lights in the emergency services as there are laws regulating their use. It is possible to run separate reports from the Quartix system which supply these details and are clearly displayed in the Trip Reporter options. This assists with record-keeping, audits and compliance.

Another area of increasing PTO connection requirements is within the public sector for services such as road cleaning and maintenance. Active periods of sweeping equipment, road planers, tankers and a host of other operational vehicles can be recorded. Ease of paperwork and timesheet administrative tasks, vehicle compliance, driver safety, and meeting insurance commitments are just some of the advantages of implementing the system.

The extract below shows some of the journeys taken by an emergency response vehicle and one of the corresponding route maps indicating the blue light usage.





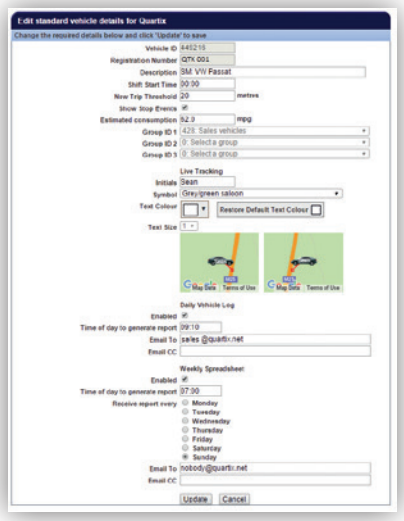
CONFIGURATION

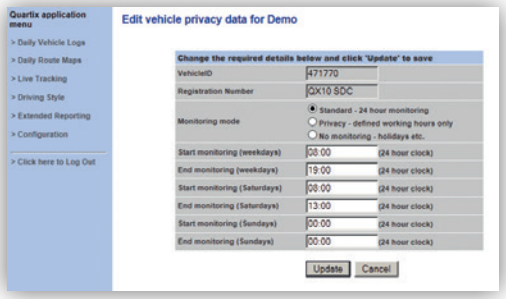
Configuration

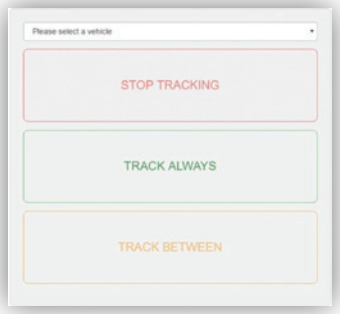
A customisable tracking solution

Each vehicle can be configured in order to tailor the reports to your needs, either by us or by you. This can also be carried out using the administrator login.

The screen example opposite shows the main parameters that can be changed, including: whether the report is to show periods of idling, the new trip threshold (which, if required, can be set to eliminate short trips, such as movements around a parking lot or yard, for example), the shift start and stop times to be used in compiling the reports and the way in which the vehicle is to be displayed on the real-time tracking display.







Privacy Controls

The Quartix system has two important features which help in respecting the requirements of employee privacy and relevant legislation for vehicles which are used for private and business journeys.

Access privileges – Each user account can be set to provide access to just the information required to carry out that person's job. For example, service or support centre staff may need to know where all operatives are in real-time in order to locate the nearest person for a job, but they would not need to have access to the driver's working hours or timesheets.

Disabling of vehicle monitoring – By using the configuration screen, it is possible to disable the monitoring and storage of vehicle movement information for non-business hours. The system will report the mileage covered during this period, but not the locations visited.

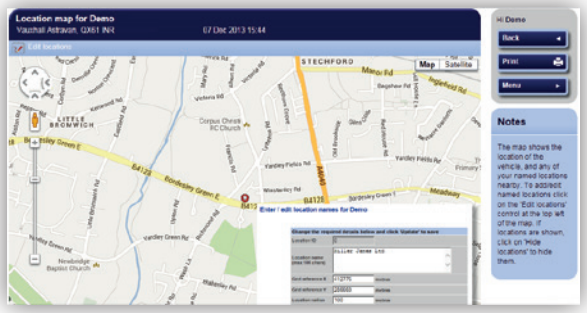
With the Privacy switch, disabling vehicle monitoring can be managed remotely via the web site. The different tracking modes are:

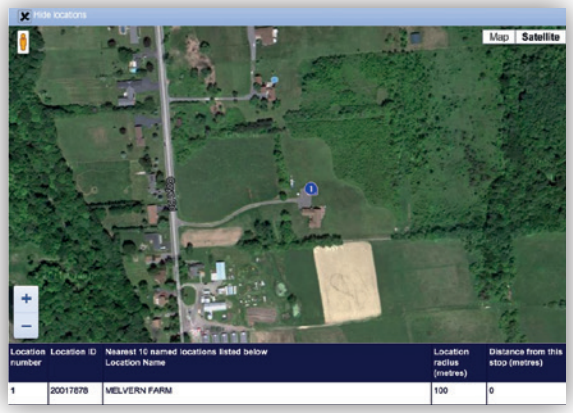
- **Track Always** – Monitoring 24/7. All information related to the vehicles is recorded.
- **Track Between** – Monitoring periods can be defined for weekdays and each day of the weekend. Vehicle tracking is only "on" during those periods.
- **Stop Tracking** – The vehicle will no longer be tracked. This is intended for use for extended periods when a vehicle is not being used on business (eg. When the driver is on holiday). **Tracking will stop permanently until re-enabled by the user**.

Customising location names

All vehicle logs and reports produced by the system, including Excel worksheets and real-time locations, can display your custom location names if you wish. These can either be entered by you or by Quartix. You will also be able to upload an Excel spread sheet that contains a list of locations, rather than uploading individually.

Using an administrator login you can access the "Edit Location" screen directly from the map linked to each stop point on the vehicle log. This shows the closest 10 named locations on that screen by highlighting them in blue. You can also select "Show Custom Locations on Map" from the Live Tracking menu to view or edit.





Modifying or adding a location

A list of custom locations is provided immediately beneath the map screen - the number corresponds to the number in the blue circles on the map. By clicking on the name of the location its position and radius can be modified. Adding a new location is just as straightforward: clicking on the link at the top of the table opens the edit location dialog box with a new entry in it, which can then be named and modified to suit.

PRODUCT DESIGN

Exceptional reliability, built on 16 years of telematics experience

The TCSV11 hard-wired and TCSV12 OBD plug-in tracking systems use Quartix's latest generation telematics technology and architecture, including fast GPS and accelerometer sampling. Based on experience gained over more than 15 years and 300,000 units installed, these products have been designed in-house by our Cambridge design team to satisfy the needs of our fleet and insurance customers.

Key features of the Quartix TCSV11 and TCSV12 telematics systems include:

The TCSV11 is held inside a bulkhead mounting plate which is fitted in a hidden location for ultimate security.

10Hz GPS - sampling location, speed and heading ten times per second

This gives our tracking systems unparalleled capabilities in calculating acceleration and braking, as well as providing 10 times more journey data in the period surrounding an impact.

100/800Hz accelerometer

This +/-8g, tri-axis, 14 bit resolution accelerometer, coupled with fast GPS data, provides the ideal hardware and firmware platform for crash detection and reconstruction. It is sampled 100 times per second and has 800Hz capability for future enhancement.

The TCSV12 plug-in system is compatible with more than 90% of modern cars.

Fast ARM processor with multi-tasking OS

The ARM processor and OS environment enable the tracking system to process large amounts of movement and acceleration data in real-time, correlating between them to achieve better accident detection

Tamper alerts

The voltage sense capabilities on the input power enable the system to detect engine activation by monitoring the alternator voltage – blocking any attempts to tamper with the ignition feed.

Battery backup

Our tracking systems are fitted with highly-efficient, lithium polymer batteries which are capable of powering multiple transmissions over several hours to our remote servers in the event that the tracking system is disconnected from the vehicle battery. This feature is crucial during a serious crash or in any attempt at tampering.

SYSTEM ARCHITECTURE & MOBILE APP

System architecture

A system built on fault tolerance and active redundancy

Everything about the Quartix vehicle tracking system has been developed by our own engineering teams, from the telematics terminal and firmware through to the database systems and user applications. Our customers access vehicle, management and business reports from any internet-connected device, and many of the exception and management reports are delivered directly by email, without the need to monitor the system or log in.

Key to the system's reliability is an architecture which has been built on fault tolerance and active redundancy – giving you peace of mind that your vehicle tracking system will be reliable and available for use from anywhere.

The key features of the system design include:

- GPS vehicle tracking, using the latest generation of GPS chip technology
- Real-time GPRS communication, with fault tolerance and backup built in
- Dual-redundant vehicle tracking servers and database systems based in separate physical locations
- Access to your data through either www.quartix.net or www.quartix.co.uk

Mobile app

The Quartix mobile app enables users to view the real-time location of their vehicles and access the core features of the system whilst on the move. The app is free to download and can be used by all Quartix customers.

The Quartix app offers three key features:

- **Vehicle List** – a summary of all the vehicles to which the user has access, and their present location.
- **Live Tracking** – shows the latest location of a chosen vehicle in real time, as well as other vehicles in the area. The vehicle can be selected to be 'followed' by the app, and the map screen will automatically be updated.
- **Trip Data** – shows the trips carried out on any day over the previous 6 months.

The app is available to download for free on the **App Store**, **Google Play** and **Windows Phone Store**.

ABOUT QUARTIX

About Quartix

Key facts about Quartix:

- Founded in 2001 by four industry professionals
- Over 300,000 units installed
- More than 9,000 fleet customers and 12 major insurance clients
- Over 200 installers in the UK
- Premises in the UK, France and the USA.

What we offer:

- **Ease of access through the Internet from anywhere** - whether at home, work, or on the move.
- **Speed and ease of use** - quick web access and clear controls making the system extremely simple to use.
- **No hidden costs** – our prices are published on the web and there are no hidden warranty, software or service charges.
- **Short-term direct rental agreements** – no third-party finance or long-term contracts.
- **Service** – we pride ourselves on our service levels and the long-term relationships we keep with our clients.
- **Price** - we want to deliver just what you need, and no unnecessary extra features. By keeping our costs low, we aim to provide a superior level of service at a competitive price.

More than 130 new fleet customers choose Quartix each month.

Over 300,000 Quartix systems have been installed.

A new Quartix system is installed every one minute and thirty seconds of the working day.

Our customers:

Today, more than 9,000 customers across almost all sectors of the UK economy use the system – including government organisations, housing associations, construction firms, hospital trusts, the emergency services, SMEs and large British brands.

"We're really happy with the Quartix tracking system – it's efficient, easy to use and competitive on price."
John Foster, Director, JR Foster Haulage Ltd.

"The Quartix system has helped reduce our fuel usage and improve our customer service through increased productivity and better response times to repairs."
Rob Thomas, Head of Property Services, Valleys to Coast Housing Ltd.

"Real-time tracking from Quartix helps us answer passenger queries quickly and efficiently."
Michael Morris, Director, Tanat Valley Coaches

"Whatever query we have, the Quartix support team is always fantastic to deal with. Nothing is too much trouble and they will always get back to you promptly and efficiently."
Amar Nandra, Director, Beeches Recovery

Specifications are subject to change without notice. This document is not intended to form any part of a contract.

Quartix

Award-Winning Vehicle Tracking

VEHICLE TRACKING APP

Available for **free** to all Quartix users

Download from Windows Phone Store

GET IT ON Google play

Download on the App Store
