

Quartix

Award-Winning Vehicle Tracking



TelematicsConsultancyServices 
Save Time, Save Money, Drive Safe

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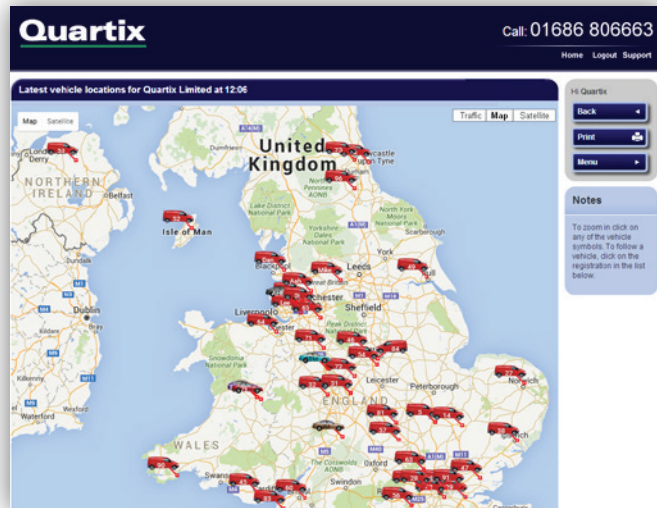


Real-time vehicle tracking

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

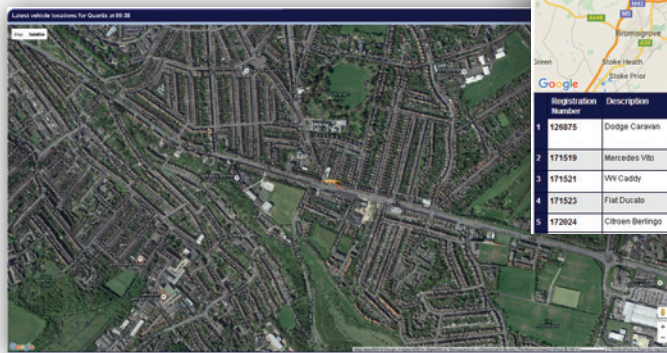
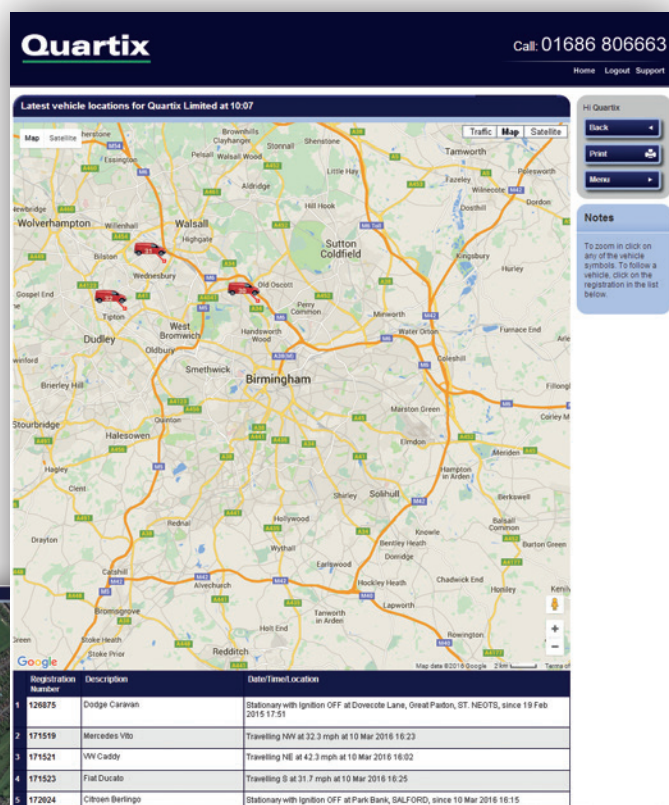
All of the key features of the tracking system are available from the live tracking screen. Clicking on a vehicle gives you access to the following features:

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.

Trip	Depart	Arrive	Travel Time	Idling time	Distance (miles)	Average Speed (mph)
1	09:40 Rob Singer - HOME	10:50 Taboo Sports Bar & Grill - Lavender Bars Trading Ltd	1:02		45.4	43.5
2	11:18 Taboo Sports Bar & Grill - Lavender Bars Trading Ltd	12:24 Watford Gap (S) - RoadChef	1:05		59.0	52.7
3	12:29 Watford Gap (S) - RoadChef	12:51 Rob Singer - HOME	0:22		15.4	42.0
4	21:23 Rob Singer - HOME	21:29 Kettering Road, NORTHAMPTON, SE3 6AH	0:05		2.0	20.0
5	21:32 Kettering Road, NORTHAMPTON, SE3 6AH	21:40 Rob Singer - HOME	0:08		2.4	18.0
6	21:41 Rob Singer - HOME	22:55 Oxford Road, Chaveley, NEWBURY, Berkshire, RG208XX	1:14		67.9	55.1
7	23:36 Oxford Road, Chaveley, NEWBURY, Berkshire, RG208XX	23:52 Reading (IT) - Moto	0:16		14.3	53.6
Totals			4:14	0:00	205.4	48.5

Notes

1. Asterisk (*) after departure time indicates previous day's trip.
2. New trip threshold 10 miles.
3. Stops with ignition on are displayed.
4. Travel time excludes idling, average speed calculation includes idling.

The new trip threshold and whether stops with ignition on are displayed can be changed by your administrator or Quartix Technical Support.



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 Summary									
City of Walsall, Road Transport									
Mon 15 February 2016									
Shift start: midnight									
<div> <div> Number of Trips Total Trip Time Total Trip Time Total Distance (miles) Average Speed (mph) Maximum Speed (mph) Fuel Consumption (mpg) Expected fuel used (gallons) (litres) </div> <div> 6.24 1.43 61.2 19.1 48.6 25.6 2.4 10.9 </div> </div>									
<div> <div> Total On-Site Time Start of first trip End of last trip Total shift duration </div> <div> 00:43 17:42 13:52 </div> </div>									
<div> <div> Time on site Arrival at first location Departure from last location On-site shift duration </div> <div> 07:55 17:52 13:06 </div> </div>									
Trip Breakdown									
Trips	Start Location	Departure Time	End Location	Arrival Time	Start Time	Stop Time	Distance (miles)	Average Speed (mph)	Max Speed (mph)
1	COUNCIL	08:49	COUNCIL	08:55	0:15	0:12	0.1	0.4	0.8
2	COUNCIL	09:14	Stratford Road, WALSALL	09:25	2:11	0:36	17.4	7.9	31.1
3	Broadway Wood, WALSALL	09:36	TIP	10:30	0:54	0:18	8.6	15.1	32.3
4	TIP	10:49	Wool Lane, WALSALL	11:00	0:10	0:08	2.2	1.6	28.8
5	Wool Lane, WALSALL	11:14	TIP	11:51	0:36	0:10	2.1	3.5	29.7
6	TIP	11:51	TIP	11:58	0:06	0:08	0.8	7.5	35.2
7	TIP	12:59	Redwood Way, WALSALL	12:51	0:10	0:01	1.7	9.4	29.2
8	Redwood Way, WALSALL	12:28	Apex Road, Brownhills, WALSALL	13:25	0:56	0:12	13.8	13.3	39.2
9	COUNCIL	13:28	Engine Lane, Brownhills, WALSALL	16:33	0:07	0:01	0.9	0.9	21.7
10	Engine Lane, Brownhills, WALSALL	15:39	Apex Road, Brownhills, WALSALL	15:47	0:10	0:08	0.8	28.9	43.5
11	COUNCIL	17:12	WALSALL COUNCIL	17:42	0:30	0:02	8.4	16.7	43.7
Total on-site shift duration: 4:29									

Weekly Spreadsheet QX60 QWR - Renault Traffic									
Mon 25 Jan 2016 - Sun 31 Jan 2016									
Weekly Total									
	Mon 25 Jan	Tue 26 Jan	Wed 27 Jan	Thu 28 Jan	Fri 29 Jan	Sat 30 Jan	Sun 31 Jan		
Number of trips	35	9	6	6	6	8	9		
Total trip time	12:17	03:13	03:32	03:08	03:00	02:44	03:00	12:41	
Total distance (miles)	287.7	84.0	77.2	9.0	9.0	65.3	0.0	48.9	
Average speed (mph)	1.27	0.07	0.30	0.90	0.90	9.07	0.00	0.43	
Maximum speed (mph)	21.6	26.5	21.8	9.0	9.0	23.9	0.0	16.1	
Maximum speed (mph)	67.7	67.7	67.7	9.0	9.0	67.7	0.0	67.1	
Renault fuel consumption (mpg)	-	25.0	25.0	25.0	25.0	25.0	25.0	25.0	
Expected fuel used (gallons)	10.7	3.4	3.1	0.0	0.0	2.6	0.0	1.6	
(litres)	48.7	15.4	14.0	0.0	0.0	11.9	0.0	7.4	
CO2 emissions (g)	126.4	41.2	37.6	0.0	0.0	31.8	0.0	19.9	
Start of first trip	-	10:17	09:48	09:08	09:00	08:36	09:00	11:36	
End of last trip	-	16:18	14:36	09:08	09:00	16:25	09:00	17:55	
Total shift duration	25:16	5:01	5:07	6:00	6:00	9:49	9:30	9:19	
Arrival at first location	-	10:18	11:02	09:08	09:00	08:36	09:00	11:37	
Departure from last location	-	14:41	14:18	-	-	17:47	-	17:52	
On-site shift duration	22:58	4:23	3:16	-	-	9:18	-	8:05	

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.

Time on Site Report for Demo					
05/01/2016 - 31/01/2016					
Custom Locations: Car Park A Main Site					
Vehicle	Arrival Time	Event	Location	Departure Time	Time on site (h)
QX10 SEB - Mercedes Allego	12/01/2016 10:29	Stop	Stopped with Ignition ON at Birmingham Road, Great Barr, BIRMINGHAM, B43 7AH	12/01/2016 11:08	0:37
QX10 SEB - Mercedes Allego	12/01/2016 18:59	Ignition-Off	Vicarage Road, WEST BROMWICH, West Midlands, B71 1AW	13/01/2016 07:18	12:18
QX10 SEB - Mercedes Allego	13/01/2016 18:17	Ignition-Off	Charley Road, WEST BROMWICH, West Midlands, B71 1QL	14/01/2016 07:52	13:35
QX10 SEB - Mercedes Allego	19/01/2016 15:18	Stop	Stopped with Ignition ON at Birmingham Road, Great Barr, BIRMINGHAM, B43 7AH	19/01/2016 15:22	0:04
QX10 SEB - Mercedes Allego	26/01/2016 11:22	Stop	Stopped with Ignition ON at Scott Arms Shopping Centre, Walsall Road, Great Barr, BIRMINGHAM, B42 1TQ	26/01/2016 11:47	0:25
Total					26:09
QX10 SNV - Fiat Ducato	22/01/2016 11:53	Stop	Stopped with Ignition ON at Birmingham Road, Great Barr, BIRMINGHAM, B43 7AH	22/01/2016 12:00	0:06
QX10 SNV - Fiat Ducato	23/01/2016 15:27	Stop	Stopped with Ignition ON at Jerome Retail Park, Midland Road, WALSALL, WS1 3GB	23/01/2016 15:52	0:24
QX10 SNV - Fiat Ducato	23/01/2016 20:26	Stop	Stopped with Ignition ON at Aldridge Road, Great Barr, BIRMINGHAM, B44 8HQ	23/01/2016 21:08	0:42
QX10 SNV - Fiat Ducato	24/01/2016 04:35	Ignition-Off	Birmingham Road, Great Barr, BIRMINGHAM, B43 7AH	24/01/2016 16:05	11:30
QX10 SNV - Fiat Ducato	27/01/2016 13:31	Stop	Stopped with Ignition ON at Queens Road, BIRMINGHAM, B43 7EQ	27/01/2016 14:51	1:20

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.

Daily Summary for Delivery Vehicles									
Monday 8 February									
<div> <div> Daily Summary Total Trips Total Trip Time Total Distance (miles) Average Speed (mph) Maximum Speed (mph) Fuel Consumption (mpg) Expected fuel used (gallons) (litres) </div> <div> 6.24 1.43 61.2 19.1 48.6 25.6 2.4 10.9 </div> </div>									
<div> <div> Total On-Site Time Start of first trip End of last trip Total shift duration </div> <div> 00:43 17:42 13:52 </div> </div>									
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Trip Breakdown									
Trips	Start Location	Departure Time	End Location	Arrival Time	Start Time	Stop Time	Distance (miles)	Average Speed (mph)	Max Speed (mph)
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2	COUNCIL	09:14	Stratford Road, WALSALL	09:25	2:11	0:36	17.4	7.9	31.1
3	Broadway Wood, WALSALL	09:36	TIP	10:30	0:54	0:18	8.6	15.1	32.3
4	TIP	10:49	Wool Lane, WALSALL	11:00	0:10	0:08	2.2	1.6	28.8
5	Wool Lane, WALSALL	11:14	TIP	11:51	0:36	0:10	2.1	3.5	29.7
6	TIP	11:51	TIP	11:58	0:06	0:08	0.8	7.5	35.2
7	TIP	12:59	Redwood Way, WALSALL	12:51	0:10	0:01	1.7	9.4	29.2
8	Redwood Way, WALSALL	12:28	Apex Road, Brownhills, WALSALL	13:25	0:56	0:12	13.8	13.3	39.2
9	COUNCIL	13:28	Engine Lane, Brownhills, WALSALL	16:33	0:07	0:01	0.9	0.9	21.7
10	Engine Lane, Brownhills, WALSALL	15:39	Apex Road, Brownhills, WALSALL	15:47	0:10	0:08	0.8	28.9	43.5
11	COUNCIL	17:12	WALSALL COUNCIL	17:42	0:30	0:02	8.4	16.7	43.7
Total on-site shift duration: 4:29									

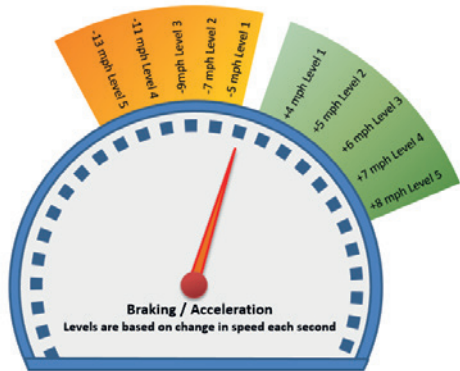
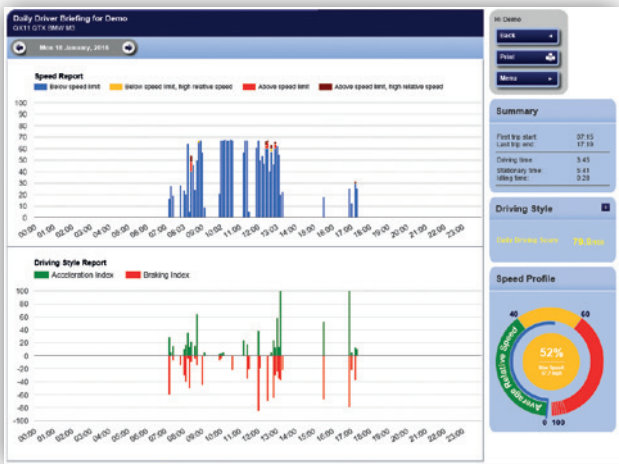
DRIVING STYLE

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.

The reports available range from the daily driver briefing to the league table of driving scores which calculates total fleet performance during any period of time. 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 $(20 \times 0.2 + 15 \times 0.5) / 2 = 5.75$. 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.

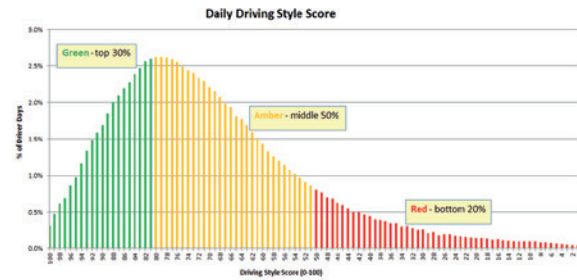
Level	Acceleration	Braking
1	0.2	0.5
2	0.5	2
3	2	4
4	4	10
5	10	20

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%.



A screenshot of the Quartix Driving style league table. The table displays various metrics for different vehicle groups, including average scores, standard deviations, and counts. The rows are color-coded: green for the top 30%, amber for the middle 50%, and red for the bottom 20%.

Driving style league table reports

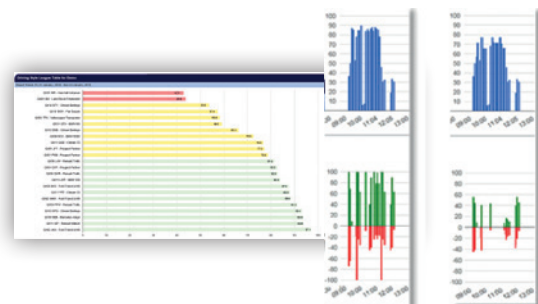
Driving style scores can be compared across groups of vehicles, or even the whole fleet. Driver ranking can be carried out on acceleration or braking indexes as well as the overall score, and can also be measured over any selected period.

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%. The two graphs shown highlight the typical difference to be achieved in the daily driver briefing.



MANAGEMENT INFORMATION

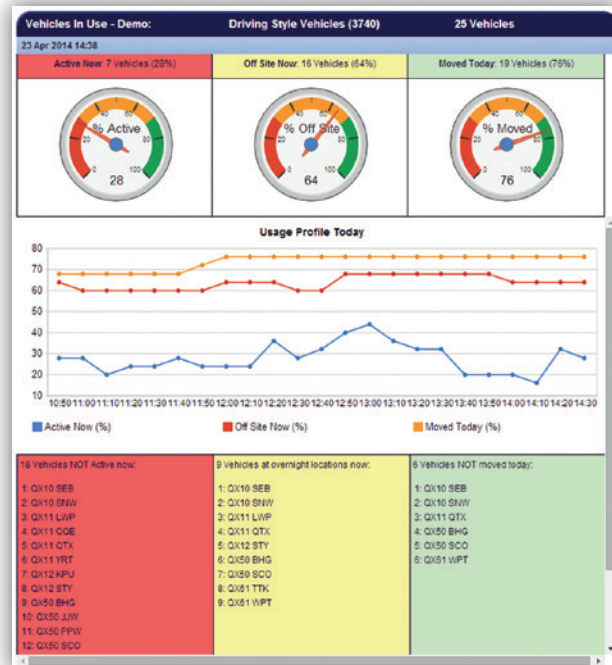
Real-time dashboards

Monitor fleet utilisation in real time

Performance dashboards put real-time business information at your fingertips. Available on the Internet from any location, they provide you with a snapshot of how your business is performing at any instant.

The example shown opposite provides an analysis in percentage terms of which vehicles have been used so far today, which ones are active currently and which vehicles have not been used. It can be viewed from any browser and automatically updates through the day.

At head office users can access dashboards which show the performance level at each depot, colour-coded to show utilisation levels at each location. This is an invaluable tool in monitoring fleet activity and vehicle usage patterns.



Monthly speed reports

Health and safety are 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

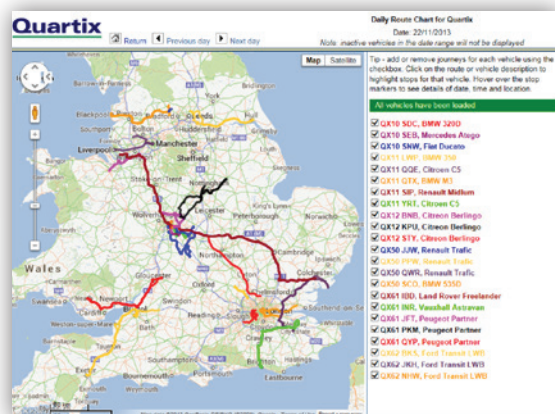
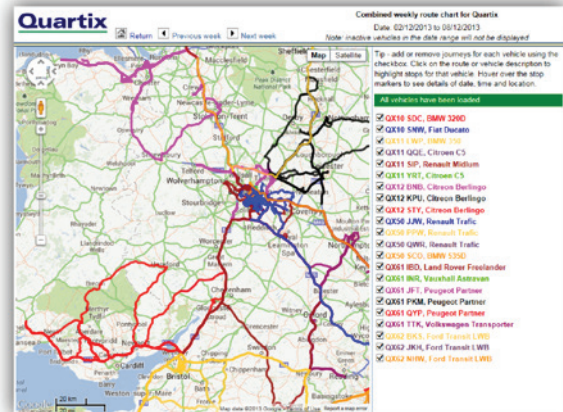
Monthly Speed Report for Quartix						
Date: 01/08/2013 to 31/08/2013						
Vehicles from Group Quartix Demo Vehicles						
For each day on which 65mph was exceeded, the maximum speed, and the date, time and location of that speed are given, together with the approximate number of minutes spent above 65mph that day.						
Reg No	Description	Max Speed (mph)	Date	Time	Mins in day above 65mph	Click to view location of maximum speed
QTX 4567	Subaru	76.4	01/08/2013	11:50	192	View location
QTX 4567	Subaru	65.9	02/08/2013	13:59	2	View location
QTX 4567	Subaru	72.7	04/08/2013	15:30	199	View location
QTX 4567	Subaru	70.2	07/08/2013	15:21	5	View location
QTX 4567	Subaru	70.8	12/08/2013	05:44	24	View location
QTX 4567	Subaru	71.5	13/08/2013	07:17	11	View location
QTX 4567	Subaru	72.1	14/08/2013	17:14	5	View location
QTX 4567	Subaru	68.0	16/08/2013	15:24	4	View location
QTX 4567	Subaru	71.5	19/08/2013	06:44	21	View location
QTX 4567	Subaru	68.4	21/08/2013	16:45	2	View location
QTX 4567	Subaru	67.1	22/08/2013	13:51	2	View location
QTX 4567	Subaru	75.2	26/08/2013	06:44	23	View location
QTX 4567	Subaru	71.5	28/08/2013	14:59	3	View location
QTX 4567	Subaru	69.6	29/08/2013	07:16	11	View location
QTX 4567	Subaru	69.6	30/08/2013	10:11	9	View location
QTX 6789	Chevrolet	72.1	02/08/2013	12:58	1	View location
QTX 6789	Chevrolet	68.4	04/08/2013	17:40	3	View location
QTX 6789	Chevrolet	67.7	06/08/2013	06:35	7	View location
QTX 6789	Chevrolet	67.1	15/08/2013	07:29	6	View location
QTX 7891	Ford	73.3	29/08/2013	13:29	12	View location
QTX 8569	HHR	73.3	16/08/2013	09:18	2	View location
QTX 8569	HHR	71.5	19/08/2013	15:20	4	View location
QTX 8569	HHR	75.8	20/08/2013	16:35	3	View location
QTX 8569	HHR	72.7	21/08/2013	07:21	5	View location
QTX 8569	HHR	73.3	22/08/2013	16:36	14	View location
QTX 8569	HHR	78.3	23/08/2013	18:04	33	View location
QTX 4567	Subaru	70.6	12/08/2013	06:44	24	View location
QTX 4567	Subaru	71.5	13/08/2013	07:17	11	View location
QTX 4567	Subaru	72.1	14/08/2013	17:14	5	View location
QTX 4567	Subaru	69.0	16/08/2013	15:24	4	View location
QTX 4567	Subaru	71.5	19/08/2013	06:44	21	View location
QTX 4567	Subaru	68.4	21/08/2013	16:45	2	View location
QTX 4567	Subaru	67.1	22/08/2013	13:51	2	View location
QTX 4567	Subaru	75.2	26/08/2013	06:44	23	View location
QTX 4567	Subaru	71.5	28/08/2013	14:59	3	View location
QTX 4567	Subaru	69.6	29/08/2013	07:16	11	View location
QTX 4567	Subaru	69.6	30/08/2013	10:11	9	View location
QTX 6789	Chevrolet	72.1	02/08/2013	12:58	1	View location

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 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:

- 7 days' routes are summarised on a single map
- Each vehicle or group is shown in a different colour for clarity
- The entire UK map is accessible, including all regional and urban routes
- Choice of available map scales
- An omit option is provided to limit viewing (where required) to designated vehicles
- Six months' historical fleet activity data is readily available from our servers



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 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.

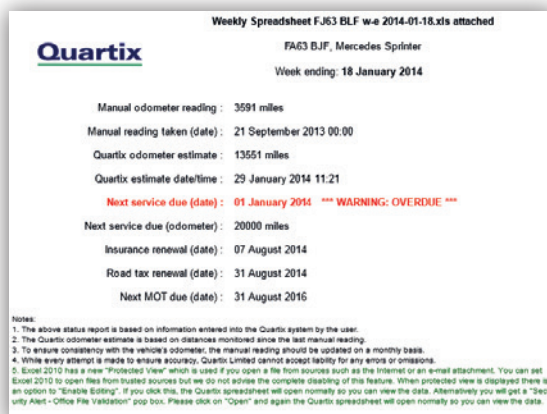
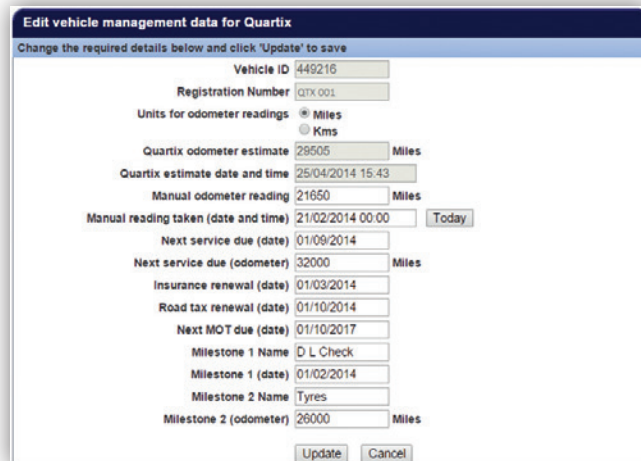
Because some companies do not monitor their vehicles all of the time, the report offers the ability to include or exclude the non-monitored mileage, or to just report on the total non-monitored distance. As for monitored mileages, these can be grouped by vehicle or by day.

FLEET MANAGEMENT

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.



Weekly Spreadsheet FJ63 BLF w-e 2014-01-18.xls attached	
FA63 BJF, Mercedes Sprinter	
Week ending: 18 January 2014	
Manual odometer reading :	3591 miles
Manual reading taken (date) :	21 September 2013 00:00
Quartix odometer estimate :	13551 miles
Quartix estimate date/time :	29 January 2014 11:21
Next service due (date) :	01 January 2015 *** WARNING: OVERDUE ***
Next service due (odometer) :	20000 miles
Insurance renewal (date) :	07 August 2014
Road tax renewal (date) :	31 August 2014
Next MOT due (date) :	31 August 2016

Notes:
1. The above status report is based on information entered into the Quartix system by the user.
2. The Quartix odometer estimate is based on distances monitored since the last manual reading.
3. To ensure consistency with the vehicle's odometer, the manual reading should be updated on a monthly basis.
4. While every attempt is made to ensure accuracy, Quartix Limited cannot accept liability for any errors or omissions.
5. Excel 2010 has a new 'Protected View' which is used if you open a file from sources such as the Internet or an email attachment. You can get Excel 2010 to open files from trusted sources but we do not advise the complete disabling of this feature. When protected view is displayed there is an option to 'Enable Editing'. If you click this, the Quartix spreadsheet will open normally so you can view the data. Alternatively you will get a 'Best safety Alert - Office File Validation' pop box. Please click on 'Open' and again the Quartix spreadsheet will open normally so you can view the data.

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.

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.

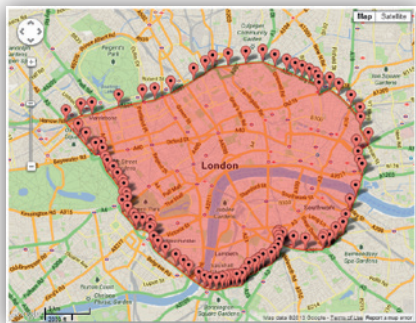
A further option can be added so that a high-pitched buzzing sounds until the key fob is placed on the receiver.



Geofencing & 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. Alerts can include:

- Out-of-hours: if the vehicle ignition is activated outside preset 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).

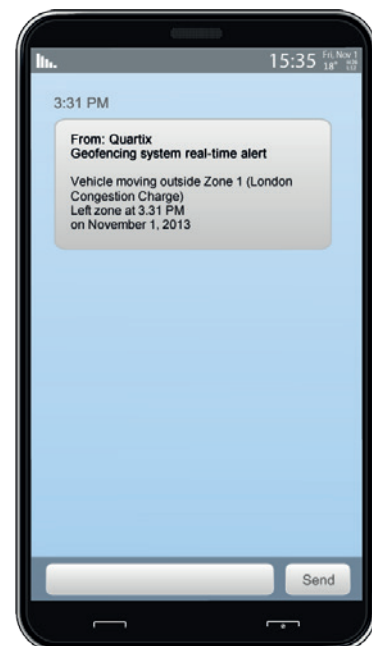
2. For insurance purposes, a transport manager has to be sure that trucks are not left outside drivers' homes overnight but are instead parked in the depot.

Solution - Specify the depot as 'Quartix Named Location: Mandatory Zone' between the hours of 8.00pm and 8.00am (or as required).

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; emailed notification will be given if the vehicle does return home during the day.

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



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.

Private vehicle usage

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, as well as business, journeys:

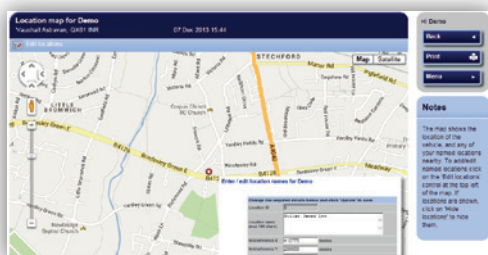
Disabling of vehicle monitoring - by using the configuration screen (shown here) it is possible to disable the monitoring and storage of vehicle movement information for non-business hours. The system will report the mileage covered during this period, but not the locations visited.

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 (please see live tracking section), but they would not need to have access to the driver's working hours or timesheets.

Customising location names

All vehicle logs and reports produced by the system, including Excel worksheets and real-time locations, highlight your custom location names. These can either be entered by you or by Quartix. You will also be able to upload an Excel spreadsheet 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 log. This shows all the existing named locations on that screen by highlighting them in blue.



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.

Location number	Location ID	Location Name	Location radius (metres)	Distance from this stop (meters)
1	20017878	MELVERN PARK	100	0

Product design

15 years of telematics excellence

Quartix has been developing industry-leading telematics technology since early 2001, and more than 250,000 Quartix "Tripcounter" terminals have been installed since then. The latest generation in that product history is the TCSV10 product.

Measuring 3.5" x 2.2" x 0.8", and weighing just 129g, the unit is completely hidden from view following installation, which typically takes just 30-40 minutes. The TCSV10 is compatible with 12V and 24V vehicle systems without modification, includes both GSM and GPS antennae and is fully compliant with EMC, Radio Transmission and safety legislation in Europe and the USA.

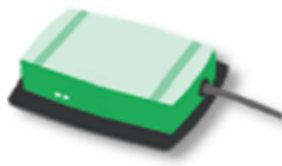
The TCSV10 is manufactured in ISO9001 certified manufacturing facilities.



Outstanding performance in a compact design

The key performance capabilities of the TCSV10 include:

- Up to 50 channel, high-sensitivity GPS receiver, providing second-by-second monitoring
- Quad band GSM modem - GSM 850/1900 (United States) and GSM 900/1800 (Europe)
- Flexible, low noise power supply, input from 8V to 30V
- Optional driver identification using iButton tag input
- Optional general purpose 'active high' digital input for monitoring (door opening, sweeping, spreading etc.)
- Battery voltage sensing capability for tamper detection
- Tri-axis accelerometer – sensing and recording impact data at 32 samples/ second
- Robust M2M-SIM - for connection to the cellular network



Plug & Track (OBDII), hard wired and On-battery 2 Wire Self Install Solutions

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



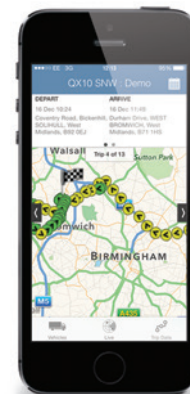
Mobile app

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

Key facts about Quartix:

- Founded in 2001 by four industry professionals
- Over 250,000 units installed
- More than 7,800 fleet customers, and 10 major insurance clients
- Over 200 installers in the UK

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.

Our customers:

Today, more than 7,800 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



More than 100 new fleet customers choose Quartix each month.



Over 250,000 Quartix systems have been installed.



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

"WE HAVE SEEN IMPROVED DRIVING STANDARDS UTILISING THE QUARTIX DRIVING STYLE REPORTS, RESULTING IN REDUCED VEHICLE INCIDENTS AND AN 18% IMPROVEMENT IN FUEL CONSUMPTION."

ANDREW GIBBONS, FLEET CI MANAGER, GINSTERS LTD

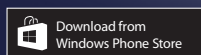
Specifications are subject to change without notice. This document is not intended to form any part of a contract.

Quartix

Award-Winning Vehicle Tracking

VEHICLE TRACKING APP

Available for **free** to all Quartix users



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