Telematics as a Management Information Tool:
The key to unlocking operational and financial improvements

Written by: Nigel Porter | Telematics Consultancy Services
nigel.porter@telematicsconsultancyservices.co.uk | telematicsconsultancyservices.co.uk

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Written by: Nigel Porter | Consultant | Telematics Consultancy Services
nigel.porter@telematicsconsultancyservices.co.uk   telematicsconsultancyservices.co.uk

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INTRODUCTION

The key to telematics solutions making a change in fleet performance from either an operational or financial requirement is understanding the information captured and presented to the user. As solutions become more advanced capturing data on vehicles, drivers, or equipment attached to a vehicle, and with telematics service providers offering more management reports and visual based information the amount of information can be overwhelming.

Understanding what information is available, in what format and who should receive the information, is key in allowing both front line staff and management to look at what's happening yesterday and today, implement changes and improvements and review the success of the changes. The Plan-Do-Check-Act cycle.

Vehicle telematics is the management of mobile resources (vehicles, equipment and drivers / staff associated with mobile assets) with the aim of improving operational aspects through access to information on asset location, usage, performance and utilisation. Core to this information is location data which allows information collected and analysed to be referenced to a vehicle, worker or customer's location. By merging location data with operational data and presenting that information when and where it is needed a greater value can be placed on the information.

This White Paper is a summary of the requirements for telematics management reporting to improve operational efficiency and see financial gains.

TELEMATICS AS A MANAGEMENT INFORMATION TOOL

Within any organisation data is held in numerous locations and many formats, including paper based records. These "Islands of Information" have a value of their own and provide a degree of operational and strategic management information but leads to either duplication of effort or information that is not acted on because it is stored on the wrong "island". For optimum efficiency each of the islands needs to be bridged to another island with complementary information. Telematics as a management information tool can achieve this.

Telematics Information

Data generated by telematics systems can be grouped within a number of categories, each of which assists in operational management reporting.

Core telematics data: location, date, time, status

Location based data with accurate date and time stamps and vehicle status provides real time operational information for vehicle activity verification. For example, understanding that a vehicle is stopped at a specific location for a set time will provide a confirmation of time spent at a customers site or that a vehicle stopped at an unauthorised location.

Recording vehicle start and stop times such as first start time and last stop time of the day, with location information attached, assists in timesheet and overtime verification. This can be expanded on by defining in the report normal working hours such as 08:00 to 17:00, Monday to Friday, and then the location and time information allows out of hours reporting of the vehicle to be identified.

Core telematics data can be presented either as onscreen graphical information on street level maps, but is a basic element of standard management reports. The data in the location and status reports should be capable of being exported to other management reporting applications or integrated into other software applications thereby bridging one of the "islands of information"

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Supplementary Telematics Data: Vehicle / Driver performance

Effective management of any fleet will include improving driving behaviour to gain benefits in reducing fuel consumption and reducing the risk of accidents. In-vehicle telematics hardware can collect and report on supplementary data on how a vehicle is being driven.

Traditional vehicle tracking using GPS provides location, data and time information: 'Where and When?' Basic location and status reports show what time the vehicle moved, the route taken and how long it took but doesn't tell you 'how' it was driven.

Reporting on Driver Behaviour Monitoring with next generation telematics provides the 'How?'

Data collected on vehicle acceleration, braking, cornering, accident data and idling allows operational reports on driver behaviour and driving styles.

 Driver behaviour reporting can detail:

- Individual driver behaviour in terms of driving style

- Allow ranking of drivers leading to identification of good / bad driver behaviour

- Trends in driving improvements over time

- Potential "heatmaps " of locations where multiple drivers use excessive speed or drive harshly. For example, a school area where drivers exceed the reduced speed limits leading to increased risk

- Identify areas for driver improvement for linking to driver training or incentive programs.

For driver behaviour reporting to be effective the information needs to be delivered to management in both summary and detailed formats but also delivered to drivers in summary format via personal dashboard visual reporting.

User Defined Data: Customer locations / Points of Interest, GeoZones, Vehicles, Drivers, Cost Centres

Every company is different in terms of the location of their customers, the location of their offices and mobile resources i.e. drivers and vehicles. In addition, vehicles may not be parked at office locations when not in use. Customer locations and points of interest should be imported into the telematics database allowing location data to be more meaningful when used for management reporting i.e. Vehicle A is 50 yards from Customer A plus the full street address. Time on site could now be accurately reported and used for proof of service provision.

Addition data within the telematics database will add value to the core telematics reporting. Reporting should be available that mirrors a company's structure allowing data to be reported on and compared across different cost centres/ departments. Vehicle / driver utilisation, driver behaviour and fuel consumption comparisons between cost centres is one example.

Visual Information: Mapping interface and Graphical Dashboards

For day to day management of the vehicles/drivers a simple interface is required to present what could be quite detailed information in a visual format.

Digital mapping allows the location and status information held in the Telematics database to be displayed to users allowing operational decisions to be made based on vehicle location and status either at the current time or historically.

Dashboard reporting provides visual summaries of current activity and should be capable of personalisation with data tiles added / deleted or rearranged.
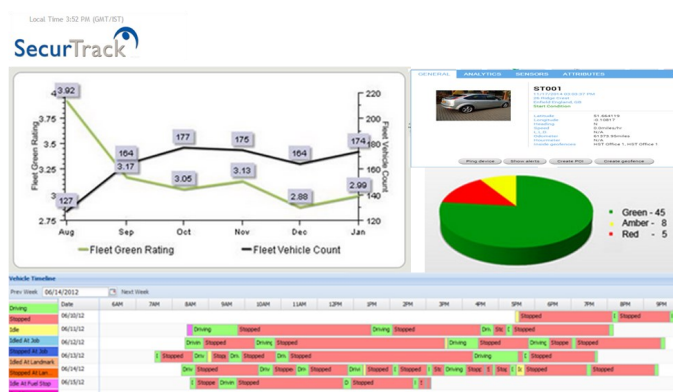
REPORT FORMATS AND PRESENTATION

A wide variety of standard management reports , in many different formats, for either day to day operations or historical analysis and benchmarking should be available on the stored telematics information. For optimum operational value reports should be run in real time or exported in standard formats for import into other reporting applications used within the business.

Report Formats

To take full advantage of reports they should be available in a number of formats ensuring they are suitable for delivery to those that need the information in a format familiar to them and reports received from other areas of the business.

Formats typically available include:

- On screen. On demand reports for fast access to information needed now

- PDF format. Allows reports to be viewed on multiple devices without users making modifications to the data

- XLS, Text, CSV formats. Allows data to be imported and merged with other business reports. Examples may include calculating costs based on mileage or driver hours where the financial data is held within other applications

Report Flexibility

Management reports should work for you in terms of flexibility of the data included and the order the data is presented in. Being able to change the contents of a report ensures that the report when presented is relevant and useful. It also reduces the need for a third party to modify the report which can be costly and time-consuming.

Report Delivery

Reports need to be available when you need them and delivered to the people who will act on them. This means having the ability to schedule reports for delivery in the format you need to the person who needs it, when they need it. A typical example would be delivery of a weekly activity report by email to a front line manager every Monday at 08:00.

CONCLUSION

Telematics solutions provide information not only to individual front line staff to manage day to day fleet and driver activity but when correctly implemented provide a valuable management tool for all levels of management.

Whether the requirement is to report and audit vehicles arrival / departure times, validate timesheets, analysis vehicle utilisation, driver behaviour or report on fuel consumption and emissions, management reports containing the right information, well presented and delivered to the right person as and when needed is the key to unlocking operational efficiencies and financial savings. The Plan-Do -Check-Act cycle.

Author. Nigel Porter © 2022

Nigel Porter has over 30 years experience in telematics and mobile data with roles in development, sales and operations. Ranging from the early days of GPS tracking over analogue mobile phone and Private Mobile Radio networks to current GSM GPRS and satellite communications he has see telematics evolve into an essential management tool for companies with mobile assets.

His telematics experience is with both start-ups and large international public companies covering all aspects of product development, sales, technical and customer management for both commercial telematics and high level security applications. Currently he provides independent advice to companies seeking to implement telematics.

Written by: Nigel Porter | Telematics Consultancy Services
nigel.porter@telematicsconsultancyservices.co.uk   telematicsconsultancyservices.co.uk

020 3859 4705 UK

Telematics Consultancy Services