Vehicle Telemetry Requirement

report 1

I. Introduction

telemetry focuses on remote measurement of data for a monitoring center;to know and understand how your vehicle is operating. Information from a telemetry module mounted on a vehicle is received by an application service provider via wireless communication, where it is processed by one or more computer servers. Users then access the computer servers through various means, such as the World-wide Web, in order to obtain various telemetry data relating to the vehicles.

”Tele”-means remotely.

”Metry”-means measurement.

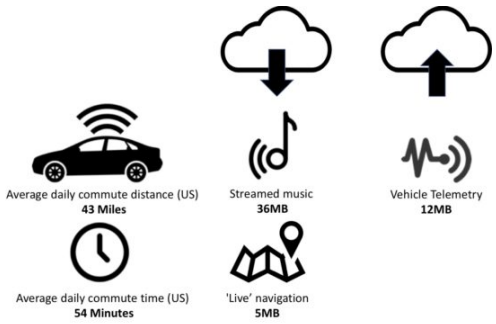

Fig. 1: vehicle telematics

Through this system we now has access to data such as speed, distance traveled and fuel consumption. All this being shown through Intuitive dashboards and custom reports.

With all the data analyzed, the vehicle telemetry system can still generate other information for its fleet management, such as driver behavior indicators and driving indicators. With the possibilities of integration with other modules, the manager can go further and have data on:

- fuel management
- Speed per lane
- Consumption average
- Routes driven daily
- Ranking of the best and worst drivers
- Excessive speeding, sudden braking, and acceleration
- Excessive RPM
- Inactive engine

II. Types of telemetry

A. *Analog vehicle telemetry*

it is necessary for several sensors to be installed in certain parts of the vehicle in order for information to be collected.

For example,if fleet management wants to read the counter rotation of the vehicle, a sensor must be installed there. The rotation per minute calculation is done through a specific calibration for each vehicle and through the pulses sent by the sensors.

This process is repeated for each piece of data wants to be analyzed , whether on the odometer, or on the fuel level indicator.

The main advantage of this type of telemetry is that it is accessible to the vast majority of cars, even the old ones.

However, there are also some drawbacks, such as the fact that it is necessary to inspect the sensors quite often ’between 3 and 6 months ’as they lose accuracy over time.

B. *Digital vehicle telemetry*

Digital vehicle telemetry is performed using the vehicle’s on-board computer. There are already some standardizations in the manufacture of vehicles to facilitate digital monitoring since 2009.

Among the main advantages of this type of telemetry is distributing information faster and more accurately than analog telemetry.

III. Benefits of vehicle telemetry for fleet management

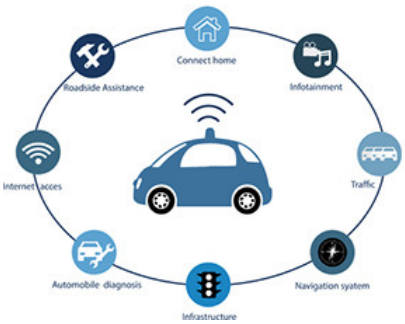

Fig. 2: vehicle telemetry

A. *Fuel economy*

The vehicle telemetry system works through integration between the software and the fuel card provider, so you get accurate information about the fuel consumption of each vehicle in your fleet.

With this rate, fleet management can analyze the difference between actual consumption and what was previously planned, defining action plans to further reduce fuel consumption.

Another point is that telemetry provides data to assess how drivers are driving, thus, it is possible to identify behaviors that increase fuel consumption and implement economic driving training for its drivers.

Other benefits can also be gained from analyzing this data, such as:

- Obtain the precise cost of raise per kilometer driven.
- Obtain the average consumption per vehicle.
- Discover possible fraud, suspicious supplies and vehicles below or above average consumption.

B. *Reduction of accidents*

Vehicle telemetry allows you to provide more security for your drivers by reduce the occurrence of traffic accidents. This is also possible by tracking the driver's speed and how he is driving.

Vehicle thefts also decrease with the use of telemetry, allowing fleet management to notice suspicious behavior such as unannounced route deviation and constant speed increase.

In this way, the fleet manager can monitor braking, sudden acceleration, RPM outside the indicated range, keeping the vehicle on while it is stopped, among other actions that can increase expenses and fuel consumption.

C. *Efficient fleet management with vehicle telemetry*

The constant supply of information about the vehicles in its fleet allows the fleet management to find the errors and problems of each operation. This allows the manager and the team to make more accurate decisions and develop strategies that really work quickly and accurately.

All this valuable information makes processes more agile and the company more competitive and economical.