An Overview of Information Technology based Vehicle Management Systems (VMSs)

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Abstract. This paper is based on Vehicle Management Systems (VMSs) related to the field of Information Technology (IT). There are a lot of existing VMSs which have different functionalities according to the specific needs of businesses or individuals. The usage of VMS for business purposes like product shipping, vehicle renting and fleet management is almost high. According to the studied materials, telematics is the backbone of a VMS which is an integration of hardware and software. Monitoring vehicles, objects and other assets by using On-Board Diagnostics (OBD) and Global Positioning System (GPS) technology to plot the asset's movements are methods carried out in telematics. The existing Fleet Management Systems (FMSs) are used specially for tracking vehicle's data like geographical location, route direction, speed, temperature, fuel level, mileage etc. The data gain from the vehicle are sent to a server through wireless communication media or stored in the device itself by using Subscriber Identity Module (SIM) or a chip card and the stored data can be used for predictions by the fleet owner who will be able to track vehicles in real time, estimate when a certain vehicle gets to the destination, evaluate the history of a vehicle, how well the vehicles are handled by the vehicle drivers and determine maintenance periods etc. According to this study, the importance of integration of IT with the automotive sector is depicted. This paper brings out the way Information Technology affects fleet management, software key modules in fleet management, on-board data acquisition and techniques used in vehicle maintenance. Literature review section analyses a sequence of research on FMS, how those have developed, used technologies, data communication methods and functions etc. Through this study, it is aimed to recognize features and functionalities to be added for VMS to give a better output by resolving some issues in existing systems.

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