

## Communication Infrastructure Required for a Driver Behaviour Monitoring System, 'SiaMOTO' IT Platform

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**Abstract :** The SiaMOTO system is a communications and data processing platform for vehicle traffic. The human factor is the most important factor in the generation of this data, as the driver is the one who dictates the trajectory of the vehicle. Like any trajectory, specific parameters refer to position, speed and acceleration. Constant knowledge of these parameters allows complex analyses. Roadways allow many vehicles to travel through their confined space, and the overlapping trajectories of several vehicles increase the likelihood of collision events, known as road accidents. Any such event has causes that lead to its occurrence, so the conditions for its occurrence are known. The human factor is predominant in deciding the trajectory parameters of the vehicle on the road, so monitoring it by knowing the events reported by the DiaMOTO device over time, will generate a guide to target any potentially high-risk driving behavior and reward those who control the driving phenomenon well. In this paper, we have focused on detailing the communication infrastructure of the DiaMOTO device with the traffic data collection server, the infrastructure through which the database that will be used for complex AI/DLM analysis is built. The central element of this description is the data string in CODEC-8 format sent by the DiaMOTO device to the SiaMOTO collection server database. The data presented are specific to a functional infrastructure implemented in an experimental model stage, by installing on a number of 50 vehicles DiaMOTO unique code devices, integrating ADAS and GPS functions, through which vehicle trajectories can be monitored 24 hours a day.

**Keywords :** DiaMOTO, Codec-8, ADAS, GPS, driver monitoring

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