**Objective**

"Recent studies suggest that vehicles, driven in electric mode, either hybrid or pure electric vehicles, are considerably quiet and, thus, that they constitute a safety hazard for pedestrians and bicyclists in traffic. It is claimed that such vehicles are not acoustically perceived due to the power unit being exchanged from a combustion engine to electric motors; something that essentially cuts away all power unit noise and leaves tyre/road noise, the latter of which is the same as for similar-sized vehicles with combustion engines. Actions have been taken by the US and Japanese governments as well as within international bodies such as UN/ECE and ISO, with the expected outcome that "minimum noise" of vehicles shall be measured with a standard method and legal limit values for such "minimum noise" shall be established.

Recent findings reported in NHTSA Technical Report (September 2009) suggest that pedestrian and cyclist crashes involving both electric vehicle (EV) and Internal Combustion Engine (ICE) driven vehicles commonly occurred on roadways, in zones with low speed, with higher incidence rates for EV and Hybrid EV (HEV) or EV when compared with internal combustion driven vehicles (ICE). The study showed that for vehicles moving slowly or stopping, backing up or entering or leaving a parking place the HEV was about two times more likely to be involved in a pedestrian accident than ICE vehicles. Similar trend was also found for cyclists, particularly at intersections. Accordingly, special concern is given to noise at speeds below 20 km/h for which the problem is expected to be the worst and where not enough data is available.

eVADER will investigate the interior and exterior sound scape of electric vehicle for safe operation, considering driver’s feedback, feasible pedestrian reactions, driver and pedestrian warning systems and pedestrian safety. The project will also analyse innovative methods to improve the acoustic detectability of electric vehicles in urban scenarios. The project will define solutions to warn vulnerable users of a nearby moving vehicle while providing means for heightening the awareness of drivers in critical situations.

The consortium holds the necessary expertise and technology to achieve the described goal. It will among others amend and integrate results form previous EU R&D actions in which its members have been active in such as InMAR, SEFA, ECOQUEST, Mid-Mod, MYMOSA, VERITAS, SPURT and APROSYS among others."
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Subjects

Transport

Last updated on 2019-08-02
Retrieved on 2019-08-09

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