First use case of assisted driving

Objective: Technological solution based on C-V2X technology, which reflects the potential, importance and evolution of what the infrastructure will be in a few years, a connected and intelligent infrastructure capable of communicating with vehicles and assisting them in driving.

Description: The two use cases of assisted driving implemented are:

- The vehicle is alerted by the traffic light that there is a pedestrian crossing a zebra crossing on a blind right turn. If the driver activates the right turn indicator, the vehicle displays a pedestrian crossing warning on the dashboard.

- The vehicle is warned by the traffic light that it is about to change to red imminently. It is up to the vehicle to decide, depending on its location, speed and trajectory, whether it has time to cross the traffic lights. If not, it displays a warning message on the car's dashboard so that the driver can make a controlled braking manoeuvre.

As these use cases require low latencies, the deployment of the MEC server has been fundamental, in which the application that acts as a mediator between the infrastructure and the vehicles, enabling the pre-5G use case, has been embedded. Both use cases are based on the standardised C-V2X protocol to enable vehicular communications using the existing mobile infrastructure. This shows the potential of combining the C-V2X protocol with information gathered from additional sensors (a pedestrian presence detection thermal camera installed at a traffic light) to provide information about the vehicle environment and increase road safety. SEAT provided an Ateca model vehicle equipped with the latest connectivity technology and modified to be able to provide warnings to the driver via the instrument cluster. The demonstrator was also carried out in collaboration with FICOSA, in charge of manufacturing the C-V2X communications device on board the vehicle, and SICE, manufacturer and supplier of the road infrastructure and responsible for providing connectivity to the traffic light junctions. Ericsson was responsible for deploying the MEC server.

As a novelty, the presentation of this demonstrator involved the society of Talavera, specifically the EXA School, where several of its students were able to ride in the car and make the demo and also 'Telefónica gave several classrooms an Innovation seminar emphasising the importance of ICT in society.

Press release

5G
Edge Computing
Connected Car C-V2X
Low Latency

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