

In collaboration with Nokia, Ficosa and SICE

Telefónica and SEAT present the first use case of assisted driving via the mobile network in a real setting in Segovia

- / The pilot test shows how the road infrastructure “communicates” with vehicles via the existing mobile network by sending alerts to the car in the event of danger or changing conditions
- / The C-V2X protocol for vehicular communication is tested in Spain for the first time
- / The initiative signals a further step in Telefónica’s 5G Technological Cities project to make Talavera and Segovia the backdrop of 5G possibilities

Segovia, 24/07/2018. - Telefónica and SEAT today have presented the first use case in Segovia within the framework of the 5G Technological Cities project by equipping a both a vehicle and road infrastructure with technology enabling the exchange of information, making it the first step towards V2X (Vehicle 2 everything) vehicular communication using existing mobile networks in a real urban setting.

SEAT contributed an Ateca equipped with the latest connectivity technology that was modified to issue alerts to the driver through the instrument panel. The initiative was also carried out in collaboration with FICOSA, which manufactured the C-V2X (Celular V2X) communication device in the car; SICE, the owner of the road infrastructure which collaborated by equipping intersection traffic lights with connectivity, and Nokia, which implemented an MEC (Multi-access Edge Computing) server, serving as the communication platform between the vehicle and the road infrastructure.

More specifically, the two use cases of assisted driving presented in Segovia consisted in:

- The vehicle receiving an alert from a traffic light when a pedestrian is in a crosswalk in a blind right-hand corner. In addition, if the driver signals their intent to turn by activating the right turn signal, the vehicle displays an alert on the instrument panel that there is a pedestrian in the crosswalk.
- The vehicle receiving an alert from a traffic light when it is about to change to red. According to its location, speed and course, the vehicle decides whether it has enough time to cross the intersection. If not, a warning alert is displayed on the instrument panel so the driver can prepare for a controlled stop.

To achieve this, and with the goal of obtaining stable lower latencies, it was essential to implement the MEC server, where the application was embedded that operates as an intermediary between the infrastructure and the vehicle, making a pre 5G use case possible.

Both use cases are based on the standard C-V2X protocol, used for the first time in Spain with this demonstrator, to enable vehicular communication via the existing mobile infrastructure. This shows the potential there is when combining the C-V2X protocol with information gathered by additional sensors (a camera installed on a traffic light that detects pedestrians), to provide information about the surroundings of the vehicle and increase road safety.

According to Telefónica's manager of innovation, Mercedes Fernández: **“the advantage of using C-V2X technology on top of the mobile network is that it provides Vehicles with additional information about their surroundings and draws from the existing network without the need for specific implementations. Thanks to decreased levels of latency achieved by the improvements introduced in the LTE 4.9 network (pre 5G), we can now offer new cases of assisted driving. As the network develops and latencies diminish, use cases will advance towards cooperative as well as autonomous driving”**.

Furthermore, SEAT Digital Officer Fabian Simmer pointed out that **“the company is accelerating its digital transformation and its commitment to becoming a benchmark in connected car. The development of these initial cases of interaction between the car and 5G technology enables us to continue to make progress in our goal of offering drivers a more enjoyable and safer experience at the wheel”**.

Álvaro Sanchez, director of Telefónica Spain account at Nokia, said: **“Multi-access Edge Computing is a key element of the 5G architecture, providing processing resources close to where they are needed and thereby enabling near real-time responsiveness of applications. This is critical for use cases like assisted driving and further evolutionary steps, where fractions of a second make a big difference for traffic safety”**.

At the presentation, Segovia Mayor Clara Luquero emphasised that **“the choice of Segovia as the pilot city to develop 5G technology, with use cases such as assisted driving via the mobile network, is a further example of the interest this provincial capital is taking in the digital revolution, and endorses the work being carried out for active development related to the new economy”**.

Furthermore, councilman José Bayón pointed out that **“actions of this kind consolidate Segovia's strategy of positioning itself in the new digital economy context and the interest in our city taken by technological companies, more of which are certain to establish themselves here in upcoming years, generating employment and well-being”**.

This experience is framed within the 5G Technological Cities project launched by Telefónica last January to turn Talavera de la Reina and Segovia into real 5G settings where both the technological implementation and use cases can be rolled out to highlight the capabilities of the new generation of mobile telephone technologies.



SEAT is an automotive company with headquarters in Martorell (Barcelona). A member of the Volkswagen Group, it is present in over 80 countries and exports 80% of its vehicle production. In 2017, SEAT obtained an after tax profit of 281 million euros, sold close to 470,000 vehicles and achieved a record turnover of more than 9.5 billion euros.

The multinational is engaged in a global digitalisation process to promote mobility of the future and new business opportunities. SEAT aims to combine the best processes and structures of a major company with the agility and flexibility of a start-up.

For this purpose, SEAT now has Metropolis:Lab Barcelona, located in the Barcelona Tech City's Pier 01, the European technological hub of reference, and the subsidiary XMOBA, which aims to identify, develop and commercialise new Smart mobility services. The company also offers the latest connectivity technology in its vehicle line-up, and is the first in the world to integrate Amazon Alexa, Google's Waze or Shazam.

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