5G-MOBIX 2nd Webinar

"5G-MOBIX: Presentation of the ES – PT Cross Border Corridor and preliminary findings"

May 20, 2020

Questions & Answers

Q: Daniel Jáuregui (CTAG) has mentioned "autonomous cars"; what level of autonomy/automation do you foresee to be used for the trials?

A (CTAG): Both the autonomous cars and the electric shuttle will perform the tests with L4 of automation. The bus, just with L1 (it is just a traditional bus with connectivity enabled).

Q: Is MQTT confirmed to be the best solution for treating messages on the MEC side (e.g. in comparison with other brokers, with Spark for example)?

A (CTAG): It is the strategy that is being followed with regard to this type of implementation in both national and European platforms.

Q: With a number of infrastructure deployment planned at the border site, how well are those being progressed given the covid-19 situation? Also, the architectures show mostly the use of 5GNR with LTE core. Is there any use of 5G core at all - and if not, how representative are the tests for subsequent deployments of 5G in Europe?

A (NOS, NOKIA PT and Telefónica): Infrastructure deployment is progressing good. In the Spanish side we have already installed the gNBs and in the Portuguese side we are also near of deploying the 5G antennas. Mobility and field works were restricted during the lockdown, but at this moment we are progressing on time for the deployment tasks.

In our crossborder corridor the deployment will be with NSA architecture, it is important to obtain result with NSA since the early 5G commercial deployment will based on this solution in many countries. In any case, there are others TS in 5G-MOBIX consortium that are working with 5G SA, complementing the tests and conclusions

that we could obtain in the SP-PT crossborder corridor. Nokia Portugal is evaluating whether it will be possible to implement 5G SA in a 2nd phase of the project.

A (NOKIA SPAIN): (part of the question: With a number of infrastructure deployment planned at the border site, how well are those being progressed given the covid-19 situation?) In Spain the regulator in the first extraordinary urgent measures decree of March 17th, stated the telecommunications operators must maintain the electronic communication services available to the public contracted by their clients, so that they cannot suspend or interrupt them, even if it is stated possibility in service contracts signed between operators and consumers.

Then operator of mobile and fixed networks involved in the 5G NSA deployment have some mobility capacity to still working. Most of the work can be executed remotely, so no impact on already deployed infrastructure, neither in the maintenance of the already deployed infrastructure. For the new network infrastructures, most of the HW equipment must be shipped from other countries and the transport of equipment has been delayed from two weeks to two months.

By other side the the Ministry of Economic Affairs and Digital Transformation has informed the European Commission that, due to the exceptional situation derived from the COVID-19 pandemic, it has decided to postpone the date for the release of the 700 MHz band, a process known as the Second Dividend Digital.

This process consists of changing the frequencies assigned to television channels in the 700MHz band in order to use them to deploy future 5G networks, it is carried out by mandate of the European Union (Decision 2017/899 of the European Parliament and of the Council) , and had a deadline for its execution as June 30, 2020. However, the Decision itself already provided for the possibility that the deadline could be postponed for certain reasons such as force majeure, as is the case at hand.

The communication to the European Commission explains that the new date will be determined based on when the containment measures adopted to deal with COVID-19 end. In any case, it is stated that it will be the minimum time required to complete the process.

https://www.mineco.gob.es/stfls/mineco/prensa/ficheros/noticias/20200330_Aplazamiento2DD_NP.docx.pdf

So the 700MHz allocation to telecommunication operators has been delayed by COVID-19 at least 6 months.

(part of the question: Also, the architectures show mostly the use of 5GNR with LTE core) Yes, for massive 5G deployment, the fastest path is to reuse current deployed infrastructure of 4G adding the new 5G capabilities. So, operators first 5G deployment will be 5G NSA because there is already terminals in the market and because the Core main capabilities are massively deployed already.

(part of the question: Is there any use of 5G core at all - and if not, how representative are the tests for subsequent deployments of 5G in Europe?) The 5G-NSA 3.x is used currently in the Spanish-Portuguese corridor, and this is not a 4G Core. It is a new 5G NSA 3.x core that is delivering also 4G. The tests are a real representation of the first deployments of 5G in Europe.

Q: What exactly is QoS in OBU?

A (ISEL): The concept is the following: the "QoS OBU" is a mobile computer that is dedicated to measure the 5G network performance, playing the role of an OBU used in an autonomous vehicle, using CCAM traffic to/from the 5G network.

This "QoS OBU" uses the same communications hardware used by other OBUs, the main difference is the software framework which is dedicated network QoS assessment.

Q: Which 5G RSU is used a C-V2X technology enabled?

A (CTAG): The reason of using 5G enabled RSUs is the flexibility offered for installing them in any place independently of the wired-connectivity availability. For instance, CTAG is developing its own RSU with different communication technologies (5G among others). For this project, just the 5G interface will be used.