5G-DRIVE

5G HarmoniseD Research and TrIals for serVice Evolution between EU and China

---

PRESS RELEASE

5G-DRIVE Project Conclusion

August 2021

The Horizon 2020 project 5G-DRIVE – "5G-DRIVE: 5G HarmoniseD Research and TrIals for serVice Evolution between EU and China" – which started in September 2018, has come to an end, after nearly three years. The project was a success, creating impactful results across various areas.

The project aimed to trial and validate the interoperability between EU & China 5G networks operating at 3.5 GHz bands for enhanced Mobile Broadband (eMBB) and 3.5 & 5.9 GHz bands for Vehicle-to-Everything (V2X) scenarios. 5G-DRIVE also aimed to bridge current 5G developments in Europe and China through joint trials and research activities to facilitate technology convergence, spectrum harmonisation and business innovation.

It is clear to see that the trials and results achieved on the technical side have created a significant impact. The project has successfully conducted eMBB and V2X trials planned by the project. The eMBB trials have been done in three trial sites (Surrey – UK, Espoo – Finland and Warsaw – Poland). eMBB trials included outdoor driving test, stationary measurements, and indoor coverage measurements. The C-V2X trials have been done in VTT and JRC's trial sites. Two V2X use cases, i.e., GLOSA and intersection collision avoidance, have been evaluated. The key performance of latency, delay jitter, packet error rate in the V2X use cases has been extensively studied in two V2X trial sites. In addition, the coexistence of two V2X technologies, i.e., LTE-V2X and ITS-G5, and two V2X related security problems have been tested and analysed.

"The 5G-DRIVE project has now come to an end, after thrilling 34 months of hard work and joint activities with our Chinese twin project. It was an exciting project to work on, with a great partnership and strong commitment on both sides to make this activity a success. The project achieved great insights on the interoperability between EU & China 5G networks. Alongside all the trials and validations which were done, it is relevant to point out the great cooperation the 5G-DRIVE project had with the Chinese twin project, led by China Mobile. The projects worked jointly on the various trialling activities and research actions during the almost three years. As the coordinator, I'm confident that the achieved results significantly contribute to the evolution of 5G networks and can provide relevant inputs to the different eMBB and V2X scenarios", as stated by Uwe Herzog, Project Manager of EURESCOM.

5G-DRIVE aimed to develop key 5G technologies and pre-commercial testbeds for eMBB and V2X services in collaboration with the Chinese twinning project. In terms of EU-China Cooperation and Joint Activities, 5G-DRIVE has kept a regular coordination and technical alignment with the Chinese

Twin Project on joint trial planning, trial execution, result analysis and preparation of joint publications. The project has worked on more than 10 research topics related to 5G, including massive MIMO, network slicing, AI based traffic offloading, MEC, edge caching, RAN transport, and vehicle network security, among others. Thanks to the cooperation with the Chinese twin project, the project could compare the theoretic results of massive MIMO derived from the project with the real measurements from the Chinese twin project.

5G-DRIVE has performed 5G and C-V2X trials jointly with a Chinese twin project. The two projects collaborated closely and have achieved concrete results. 5G-DRIVE partners visited China Mobile's eMBB trial site at Hangzhou and made a series of 5G NSA/SA tests with Chinese partners. 5G-DRIVE conducted similar tests under the project's own 5G test networks. Both projects also performed LTE-V2X trials under agreed use cases. The eMBB and LTE-V2X results of the two projects have been analysed and compared.

5G-DRIVE has also achieved excellent dissemination results. The project has led two IEEE ICC workshops, two 5G World Forum workshops, one dedicated SME workshop, and organized a couple of joint workshops with other 5G projects. The project has presented in multiple global events, including Global 5G Events, WIOT, EuCNC, 5G Summit, 5G Core Summit, and ITS congress. The eMBB and V2X video demos have been shown in 5G Summit, EuCNC, and ITS congress. The project has published over 30 scientific publications in well-known journals, magazines, and conferences. These publications can be found here. Lastly, 5G-DRIVE participated in standardisation activities and has made significant standard contributions to ETSI, ITU and ISO.

The project also established a strong and reliable network of 10 External Advisory Board (EAB) Members, which actively contributed with inputs and feedback during the course of the project. A total of four EAB meetings were organised, where relevant contributions and suggestions were given by the EAB Members to developed deliverables and activities.

About the 5G-DRIVE project

5G-DRIVE was the Horizon 2020 project, coordinated by Eurescom (Germany) that included 16 additional partners from industry and academia from several European countries. The project was established to trial and validate the interoperability between European and Chinese 5G networks operating at 3.5 GHz bands for enhanced Mobile Broadband and 3.5 and 5.9 GHz bands for V2X scenarios.

5G-DRIVE consortium is formed by BMW Group (Germany), Dynniq (Finland), ERTICO (Belgium), European Commission's Joint Research Centre (JRC) (Italy), Martel Innovate (Switzerland), Mandat International (Switzerland), Orange (Poland), Orion Innovations P.C. (Greece), OTE (Greece), SMARTNET (Greece), SPI (Portugal), University of Kent (UK), University of Luxembourg (Luxembourg), University of Surrey (UK), Vediafi Oy (Finland), and VTT (Finland). Many thanks to all the partners, experts and other members of the project.

Additional Resources

Learn more about 5G-DRIVE project

Contacts

Project Coordinator: Mr. Uwe Herzog: herzog@eurescom.eu
Technical Manager: Dr. Tao Chen: Tao.Chen@vtt.fi
Press Contact: Ms. Maria Chiara Campodonico: mchiara.campodonico@martel-innovate.com
Read more news about the project – https://5g-drive.eu/news/
Follow 5G DRIVE on Twitter – @5GDRIVE

Acknowledgment

The 5G-DRIVE project received funding from the European Commission under the Horizon 2020 programme – grant agreement no. 814956. The European Commission has no responsibility for the contents of this press release.