



5G Harmonised Research and Trials for service Evolution between EU and China

Introduction of 5G-DRIVE project

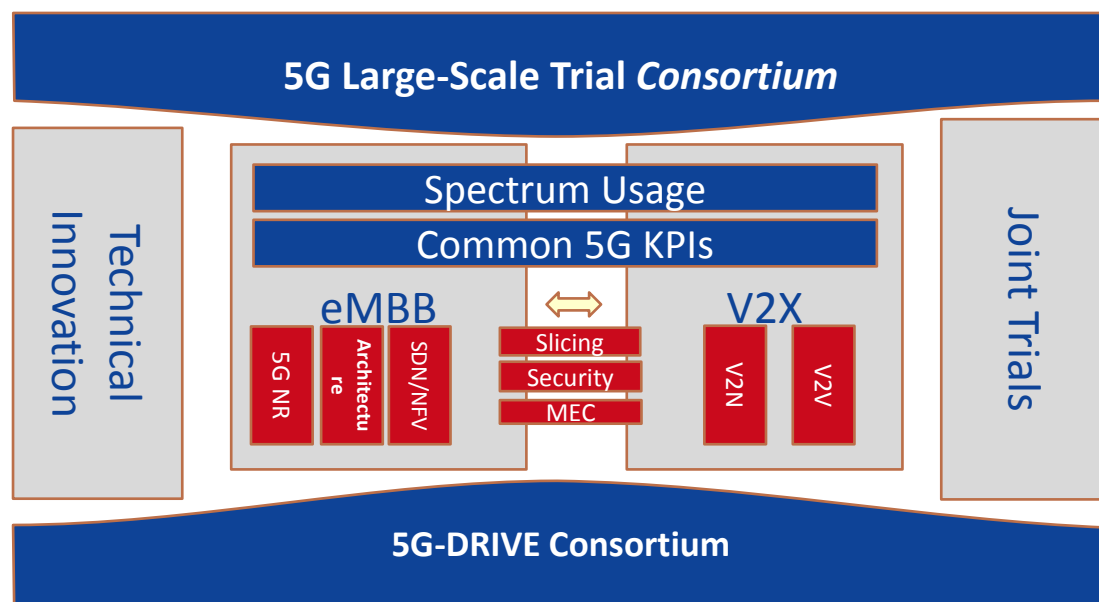
Uwe Herzog
EURESCOM

5G-DRIVE workshop on V2X
Tampere, 17 December 2019

5G-DRIVE in nutshell



- ▶ 5G DRIVE aims to bridge current 5G developments in **Europe** and **China** through joint trials and research activities in order to facilitate technology convergence, spectrum harmonisation and business.
- ▶ **30-month** (September 2018 – February 2021) Research and Innovation Action project, funded under the Horizon 2020 Framework programme.
- ▶ **17** partners from **10** European countries (Germany, Finland, Belgium, Italy, Switzerland, Poland, Greece, Portugal, United Kingdom and Luxembourg).



Project objectives



► Technical

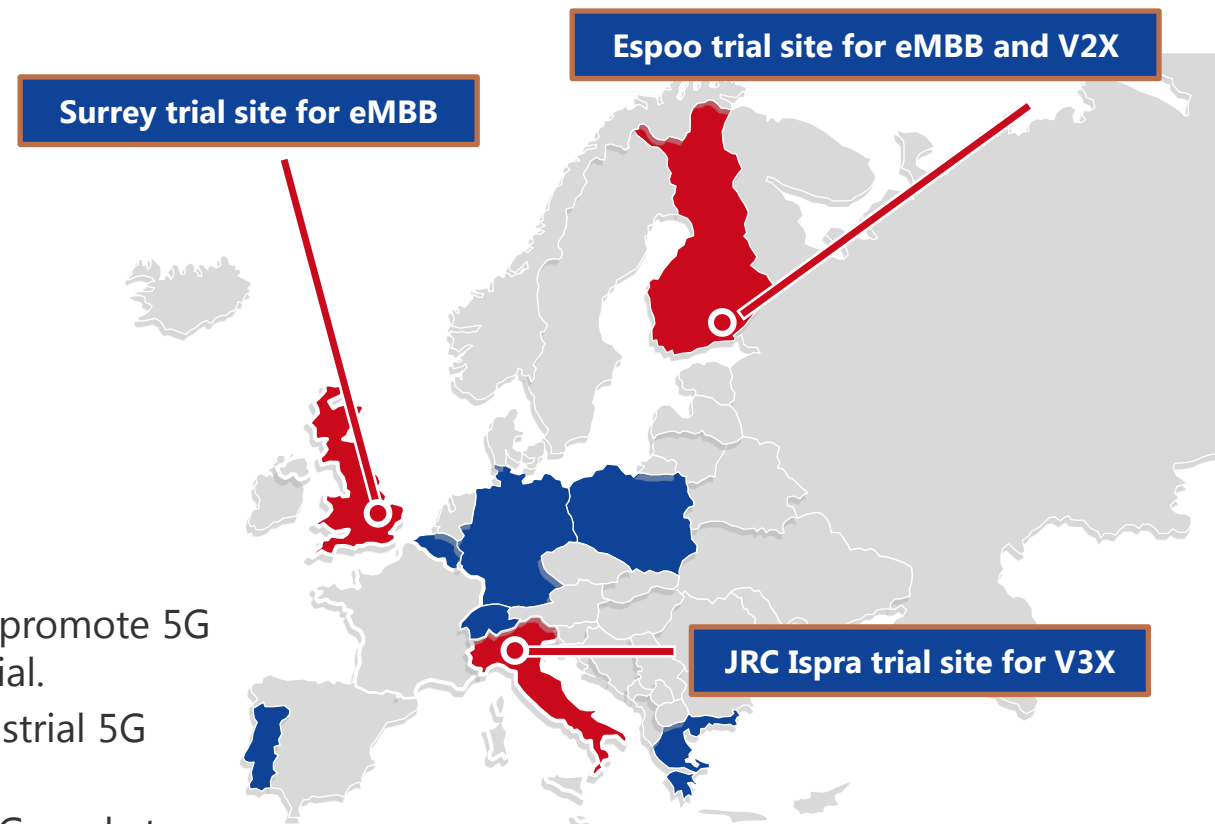
- Research and develop eMBB and V2X key technologies and services, and trial them based on pre-commercial end-to-end testbeds in three EU locations: Surrey, JRC Ispra and Espoo.
- Analyse potential system interoperability issues in Europe and China and provide joint reports, white papers, and recommendations to address them accordingly.
- Submit joint contributions to 3GPP and other 5G standardisation bodies regarding the key 5G technologies developed and evaluated in the project.

► Regulation

- Evaluate spectrum usage at 3.5GHz for indoor and outdoor environments in selected trial sites.
- Investigate regulatory issues regarding the deployment of V2X technologies.

► Business

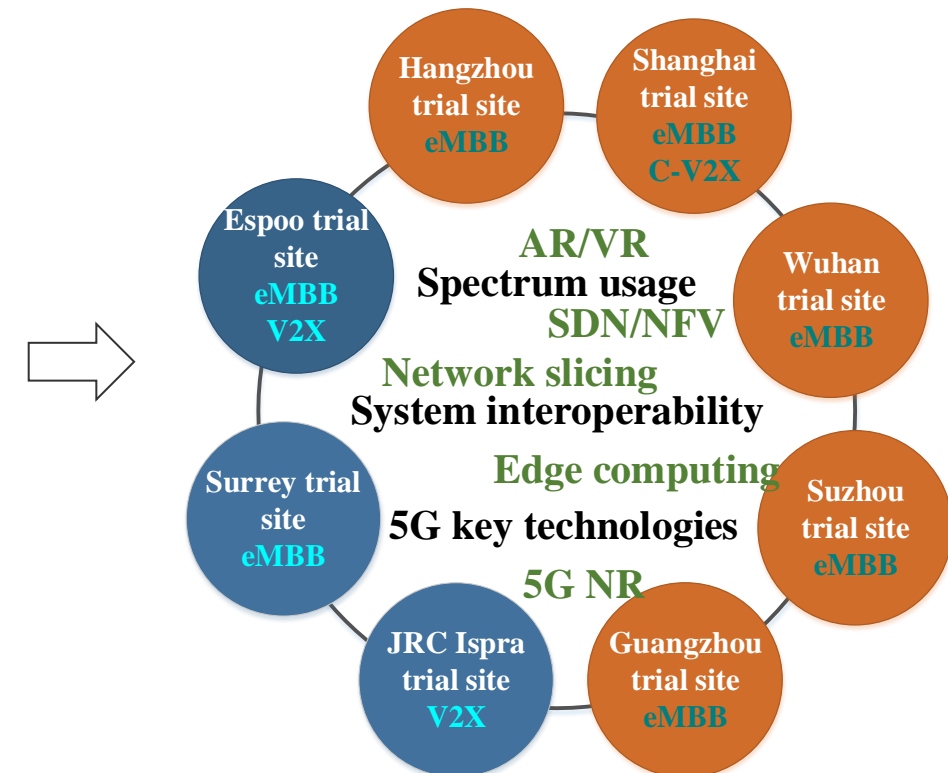
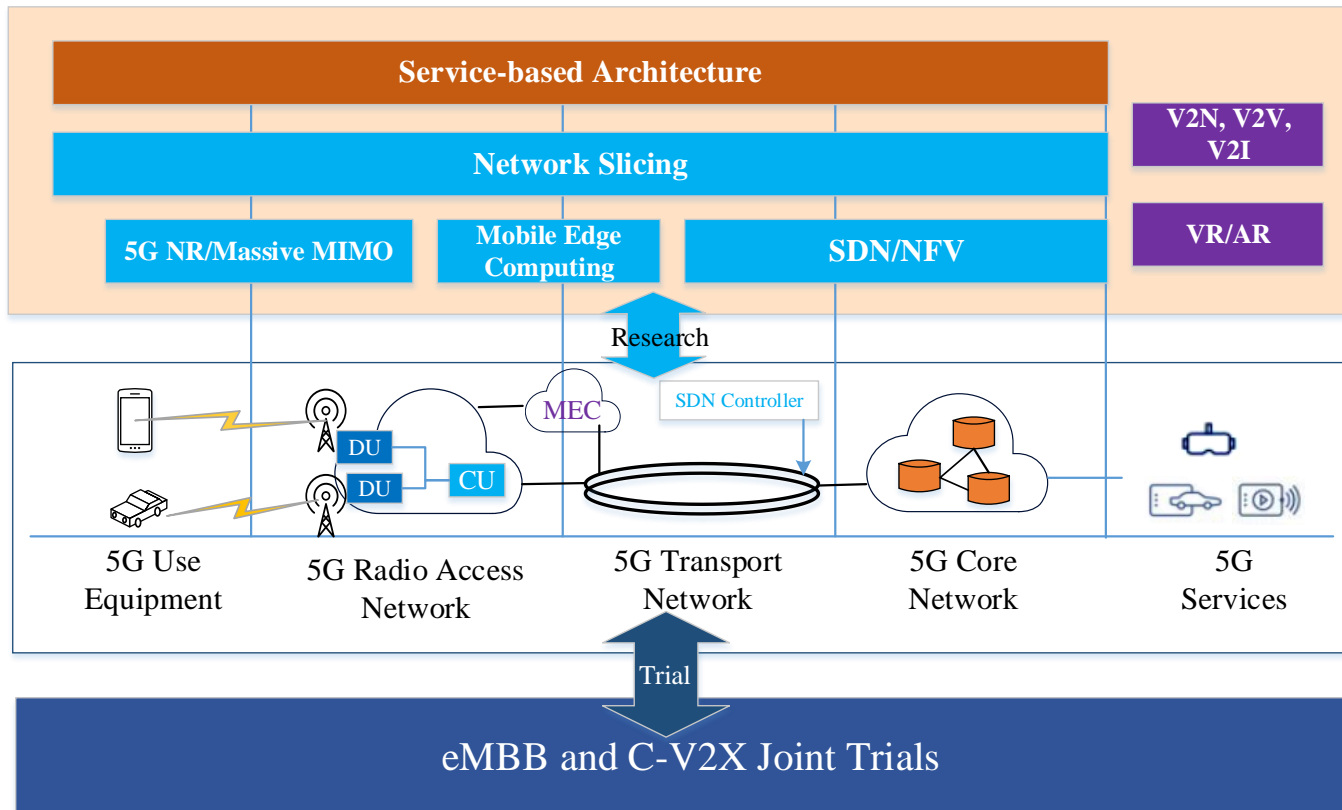
- Investigate and promote 5G business potential.
- Strengthen industrial 5G cooperation.
- Promote early 5G market adoption.



EU-China 5G trial collaboration



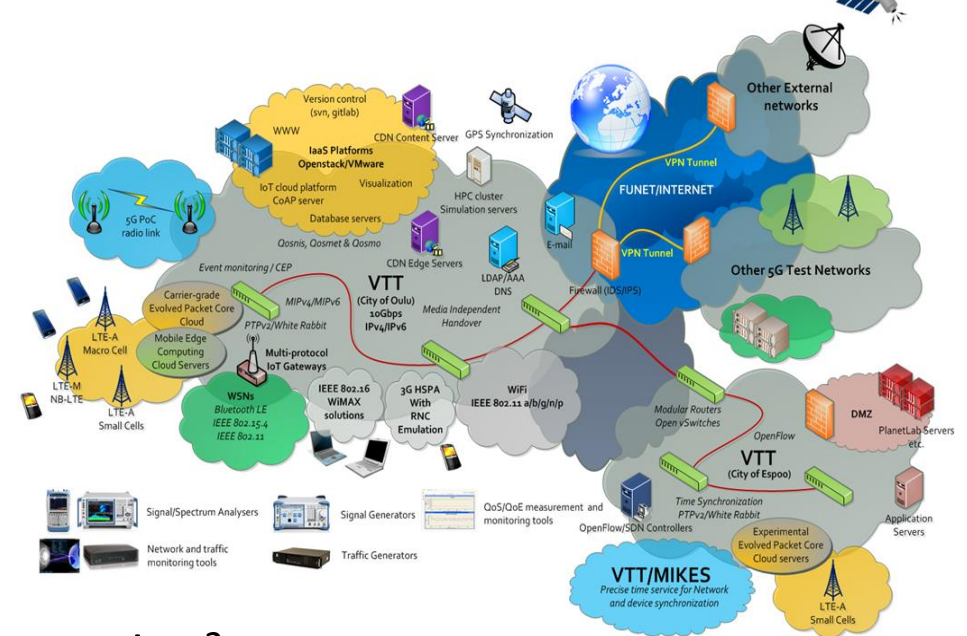
- ▶ **5G-DRIVE** collaborates with **5G Large-scale Trial** project led by China Mobile
 - ➔ Cover from terminals, RAN, transport network, core network, and 5G services
 - ➔ 5G trial cities in Chinese twinning project



Collaboration Agreement between twin projects signed



Espoo Trial Site (Finland)



- 2 km² test area
- Outdoor and indoor development
- Connect to MEC platform
- Very high accuracy timing facility
- Support eMBB and URLLC
- Spectrum at 2.6 GHz, 3.5GHz and 26GHz

V2X trial sites



JRC Ispra (Italy) trial site

- 36 km road of real-life driving conditions
- 9 vehicle emissions laboratories
- High resolution localisation and mapping
- LTE/5G networks and V2X equipment
- MEC infrastructure
- PKI for security and trust in road transportation



Espoo (Finland) trial site

- 5G network infrastructure for V2X
- MEC for vehicle data sensing
- Road-side unit and infrastructure for V2I and V2N
- Demo vehicle available for autonomous driving test

Thank you for your attention!



www.5g-drive.eu | @5gDrive

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The research conducted by 5G-DRIVE receives funding from the European Commission H2020 programme under Grant Agreement N° 814956. The European Commission has no responsibility for the content of this presentation.