As 5G approaches a very high maturity level, testing and validation of the innovations achieved in 5G by integrators and verticals service providers has become of utmost importance.

5GASP shortens the idea-to-market process through the creation of a European Network App deployment, testing and certification ecosystem for SMEs and Start-ups.

5GASP objectives include:

- Provision of state-of-the-art testbeds where network applications for relevant verticals can be tested and validated in a cost-effective way.
- Automation of the process of testing and validation, lowering cost associated with testing and certification of Network Applications in telecommunication environment.

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Project Coordinator

Diogo Gomes, Instituto de Telecomunicações

Budget

6.8 M

Period

Jan. 2021– Dec 2023

https://5gasp.eu

https://twitter.com/5gasp

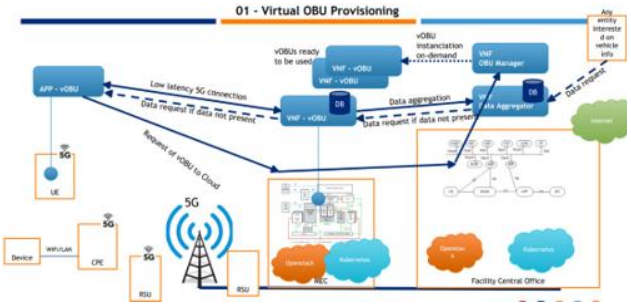
5GASP

5G Application & Services experimentation and certification Platform

5GASP Network Applications for the Automotive Use Case

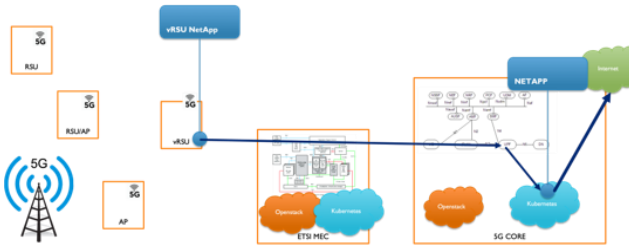
Network App #1: Virtual Onboard Unit (vOBU)

- Provides vOBUs instantiated at the edge to offload from the physical OBUs computationally intensive tasks.
- Relies on 5G Networks to automatically deploy the edge vOBU on demand.



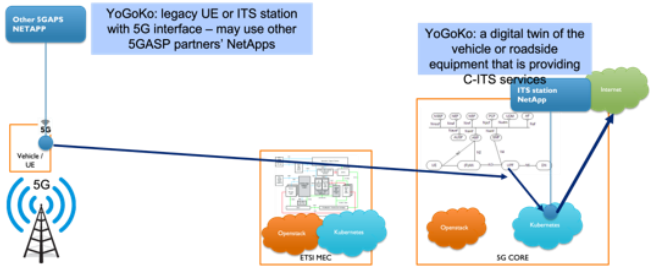
Network App#2 Virtual Roadside Unit (vRSU)

- Adds V2X protocol stack support for automotive vertical use cases to 5G-native NR's V2X support.
- Increases flexibility and efficiency to lower operating costs for more demanding automotive-specific use cases.



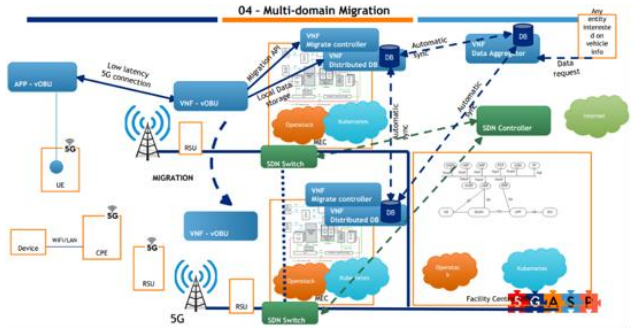
Network App#3 Cooperative ITS Station (v-ITS-S)

- Interacts with the 5GS through the Network Exposure Function to control and deliver V2X services securely and efficiently.
- Receives V2X uplink data and disseminates it to vehicl es or devices, improving performance and communicati on



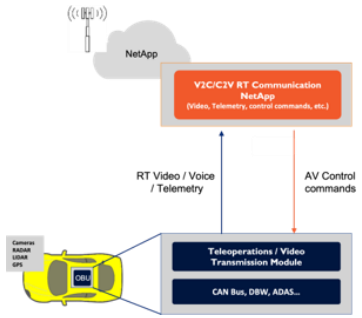
Network App #4: Multi-Domain Migration

- Provides interdomain mobility capabilities to the vOBUs introduced in Network App #1.
- Allows the vOBUs to be migrated to the MEC, closest to the real vehicle, reaching the low latencies requisites that characterize vehicular applications.



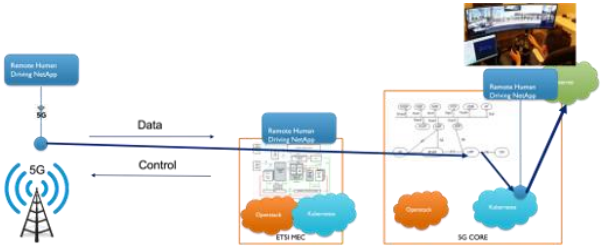
Network App#5 Vehicle-to-Cloud Real Time Com.

- Enables the vehicle to send and receive data in real-time.
- An application-aware that ensures optimized data transmission based on the content being sent.



Network App #6: Remote Human Driving

- Allows a remote operator to control an autonomous v ehicle in dangerous road situations (e.g., let an auton omous vehicle crossing double yellow lines).



Network App #7: Vehicle Route Optimizer

- Uses the 5G infrastructure to calculate optimal shared routes on the fly, ensuring minimal carbon road footprint.