



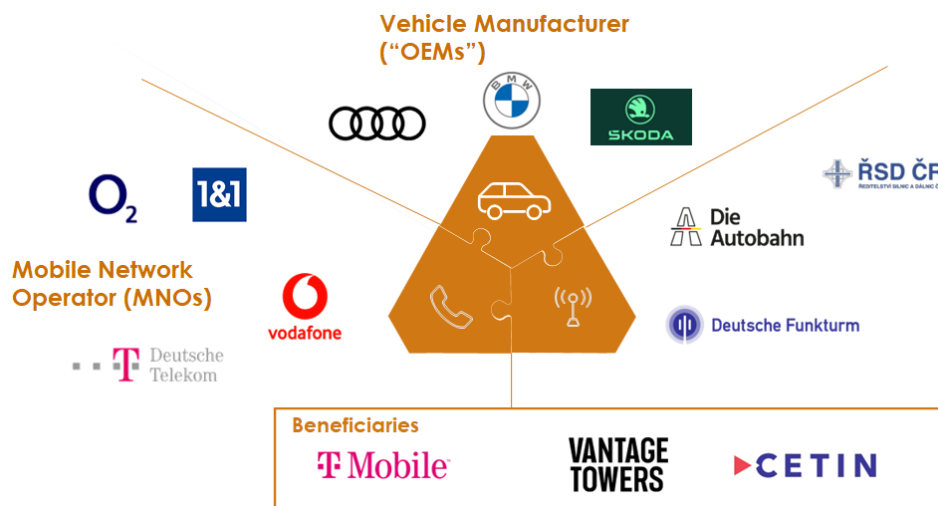
5G Corridors project fiche – 5G Carolina

5G Carolina: Cross-border Highway 5G Corridor Munich-Prague



The project in a nutshell

5G Carolina is a joint effort from T-Mobile CZ, together with CETIN and Vantage Towers AG as part of a consortium of 13 partners, that aims explicitly at preparing the 5G systems deployment needed along the 5G Corridor Munich-Prague to enable CCAM throughout the network across all Mobile Network Operators and Vehicle Manufacturers.



Key facts

Length: 70 km

Corridor: Nova Hospoda (Czech Republic) - Rozvadov/Waidhaus - Wernberg-Köblitz (Germany)

Total EU grant: €238,000



Start and end date: January 2023 - June 2023

Transportation mode: Road

Spectrum bands: Low - (700 MHz), Mid - (1800/2100 MHz) and C-Band (3,6 GHz) and mmWaves (26-28 GHz)

Standards: 5G SA Rel-16+

QoS: CCAM requirements for 5G Highway corridors (SLA)

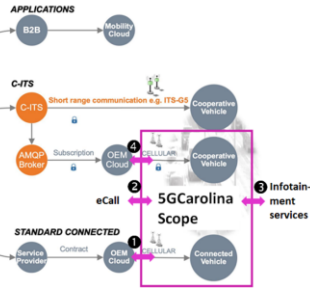
1. RSRP better than -105 dBm
2. Latency better than 20 ms
3. Download better than 200 Mbit/s
4. Disruption shorter than 1 s (seamless handover)
5. Support of Multi-active SIM

Service / Use cases:

- SLA-based CCAM (Cooperative, Connected and Automated Mobility) Services
- CCAM Infrastructure used also in remote areas - Seamless Handover (on border crossings)
- CCAM Services for road safety - use cases such as collision warning avoidance, Emergency Trajectory Alignment and Platooning
- Enhanced user experience - 5G for infotainment
- New Generation of e-Call

The 5GCarolina project is clearly focused on provision of cellular technologies for:

1. "Connected Vehicle" – bundle of telediagnosics & info exchange services between the OEMs' clouds and connected vehicle more than 20 mil. cars in EU are actively using this service
2. "eCall" – EU wide Emergency services (112) – with 35 mil. eCall equipped Vehicles by end of 2023
3. "Infotainment Services" – bundle of entertainment services for vehicle occupants (smart phone use, hotspot, connectivity to infotainment etc.)
4. CCAM Services – bundle of Cooperative, Connected & Automated Mobility services supporting safe, secure & assisted/autonomous driving

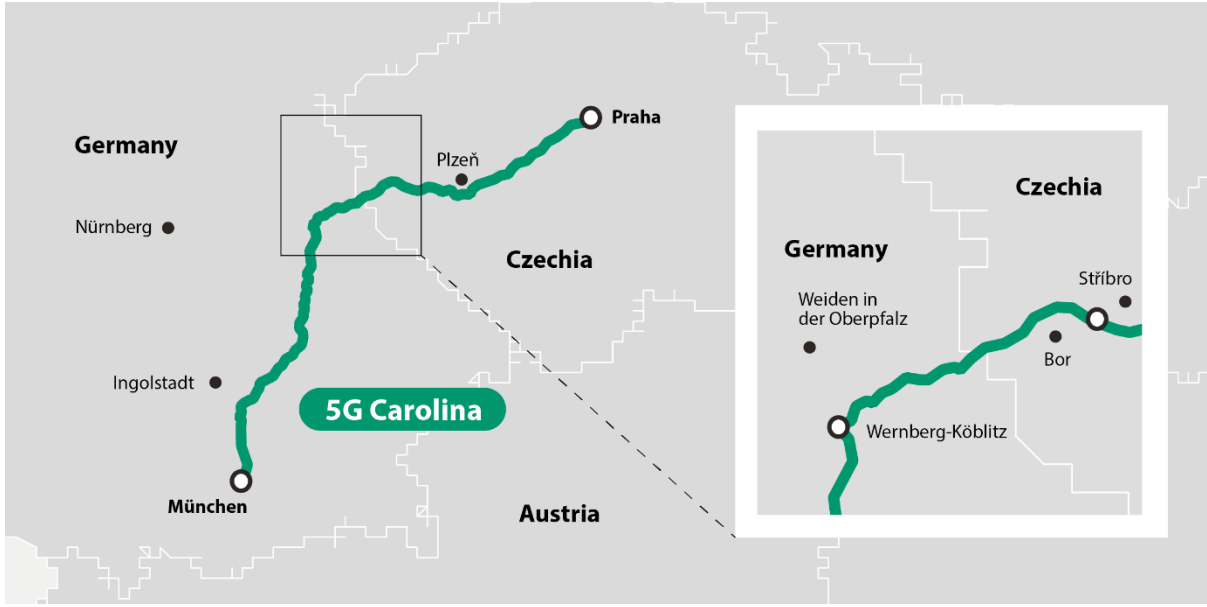


Use Cases

1. Cooperative Lane Change (CLC)
2. Emergency Trajectory Alignment (EtrA)
3. Cooperative Collision Avoidance (CoCA)
4. Collective Perception of Environment (CPE)
5. Platooning (PLAT)

Examples

- Overtaking, Lane merging, Highway entering
- Pedestrian/animal, Static obstacle/non-CCAM vehicle
- Edge case of CLC (fast decision)
- Panic braking, Traffic jam ahead
- Preparation before overtaking
- Cars driving in a convoy



What will it provide?

The inception study will define and categorize OEM use cases and requirements for CAM services. It

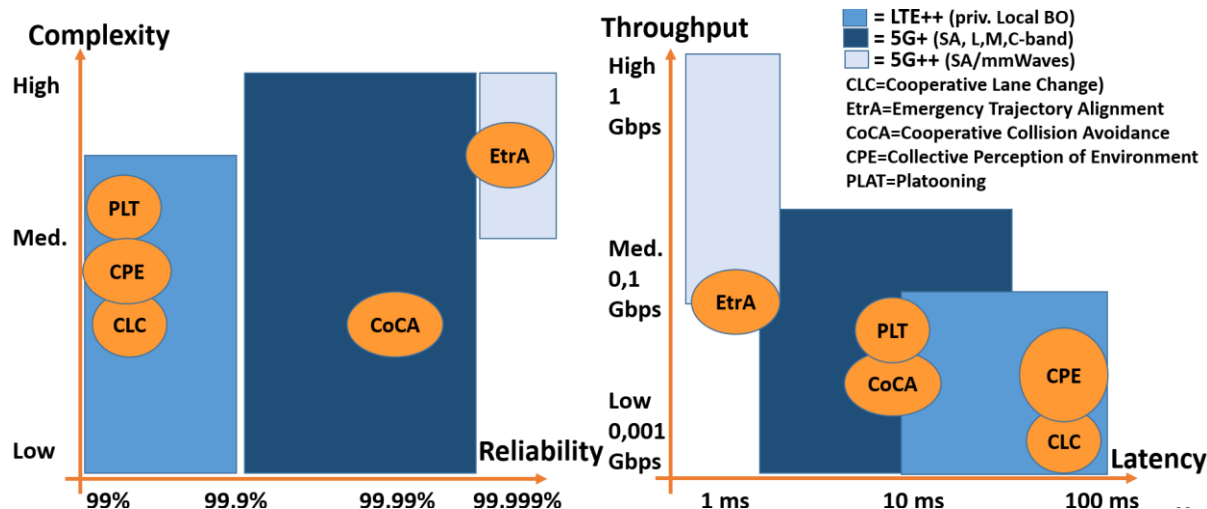


will design the 5G technology MNO architecture to provide stable, high-performing, and secure CCAM services. Furthermore, it will prepare the implementation of passive infrastructure for installation, support, and operation of MNO services and validate compliance of 5G CAM services with EU/national laws and regulatory conditions.

An evaluation of best practices in synergistic projects will be undertaken to accelerate the rollout of 5G corridors to the West-East and North-South (e.g., corridors to Bologna and Carlsbad).

How will the project unfold?

The project will identify five key 5G application areas relevant to the Bavarian-Czech corridor. Also, it will explore government funding opportunities in Bavaria, Germany, the Czech Republic, and the EU. Following this, specialized working groups of Czech and Bavarian experts will be formed, focusing on eHealth, Industry 4.0, Connected Mobility, and Smart Regions. These groups will collaborate to set the conditions to implement pilot projects showcasing 5G applications. Simultaneously, the project will address operational and security aspects of the corridor, implementing the EU toolbox for 5G cybersecurity.



CCAM-Service Requirements on Cellular Infrastructure

How is it financed?

The project is funded by EU/CEF Digital programme.

Total EU Contribution: €238,000

More information

<https://www.munich-prague.org/5gcarolina.html>

[Funding and tenders project page](#)

<https://guide.5gcorridors.eu/wp-content/uploads/2023/10/5gcarolina.pdf>



About

The ambition of the GUIDE project is to bring together the relevant stakeholders from the ecosystem of 5G Corridors across the European Union (EU) and to help them get the maximum value from the CEF Digital programme, ensuring that future CEF Digital work programmes progressively address the actual needs of the stakeholder communities.

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