5G cross-border deployment study between Slovenia and Croatia on the Mediterranean corridor

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- TRANSMITTERS AND COMMUNICATIONS LTD

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Project Overview

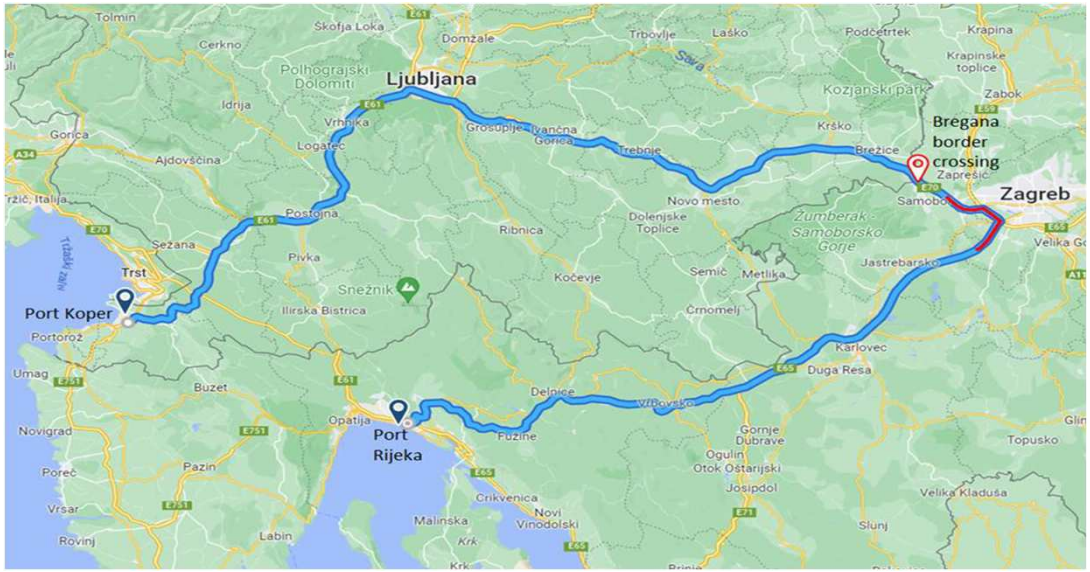
EUR 5G-ADRIA: Study for 5G Cross-Border Deployment

Project Focus:

The 5G-ADRIA project aims to lay the groundwork for 5G infrastructure, specifically tailored to support future traffic-related services along the TEN-T transport corridors in Slovenia and Croatia. The study will identify what passive and active infrastructure is needed for 5G for different service scenarios, calculations and financial forecasts will also be provided.

Geographical Scope:

Defined corridor: Koper (Bertoki: junction towards Luka Koper) – Ljubljana – border crossing Bregana – Zagreb – Rijeka (Škurinje; D403; junction towards Luka Rijeka)



Road Section	Section Lenght (km)	TEN-T Lenght (km)
Slovenia Koper-Bregana	207	207
Croatia Bregana-Rijeka	171	149
Total	378	356

Project Objectives & Outcomes

Primary Objectives:

- Develop open-access infrastructure scenarios for 5G deployment.
- Focus on standalone roaming, RAN sharing, and open access for CAM applications.
- Ensure ultra-high reliability, security, low latency, and high throughput, crucial for advanced transport and logistics applications.

Expected Outcomes:

- Clear identification of passive and active infrastructure needs for 5G across different service scenarios.
- Documentation of four distinct service scenarios catering to diverse needs.
- Financial forecasts and calculations that will provide insights into project feasibility.

Project duration: January 2024 – June 2024
Total cost (in EUR): 1.470.450
CEF Funding (in EUR): 735.225

Band Utilization and QoS Targets

Spectrum bands used or enabled

N28 and N78 will be in focus, it might show some other bands are necessary for more complex infrastructure scenarios

Targeted QoS:

- **Response Time**: user response in the specific time frame
- **Realibility:** without unexpected failures
- **Availability:** accessibility to users whenever needed
- **Scalability:** to handle increasing loads and users without significant degradation
- **Security:** protection of sensitive data and resources

Use case enabled
Basic, advanced, and future-proof scenarios

Scenario 1: Supporting Non-Critical Informational Services

Typical services: Traffic event alerts (congestion, accidents, wrong-way driving, emergency vehicles, weather conditions), variable message sign transmission, coordinated traffic flow management, the transmission of basic enriched information to vehicles (animations, video display), multimedia content delivery (infotainment: web, streaming music and video), basic information support for V2V services, support for autonomous driving up to L2.

Scenario 2: Supporting Basic Critical and Advanced Informational Services

Typical services: (in addition to Scenario 1): Accident warning through shared sensor data (vehicles, infrastructure), incorporation of surrounding data and knowledge of conditions around curves or at other branches of intersections, implementation of data processing algorithms and rapid alerts, richer set of transmitted sensor data (radar system, video), synergistic integration of V2V, V2N, V2I, and V2C services, support for autonomous driving up to L3.

Scenario 3: Support for Advanced Services Towards Full Autonomous Driving

Typical services (in addition to Scenarios 1 and 2): Sharing of driving intent (future maneuvers), coordination of driving between vehicles and between vehicles and infrastructure, full cooperative driving, incorporation of multiple traffic modalities (VRUs), support for profiles and requirements for autonomous driving L4 and beyond.