

R&D PROJECT



Figure 1-5: Road operator management levels

PROJECT TITLE

Sustainable 5G deployment model for future mobility in the Mediterranean Cross-Border Corridor

Acronym

5GMED

PROJECT CONTENT

State-of-the-art

5GMed brings together key stakeholders of the “Barcelona – Perpignan” cross-border section of the Mediterranean corridor, including MNOs, road and rail operators and neutral hosts, complemented with innovative SMEs developing AI functions, and selected R&D centers with a proven track record in 5G research and innovation. Given the proximity of the E15 highway and the high-speed rail track in the considered cross-border section, the 5GMed consortium will demonstrate how a multistakeholder 5G infrastructure featuring a variety of technologies, including Rel.16 5G NR at 3.5 GHz, Rel.16 NR-V2X at 5.9 GHz, unlicensed mm-wave, network slicing and service orchestration, can be used to jointly deliver CCAM and FRMCS services. The considered CCAM use cases include Remote Driving in cross-border open roads to enable safe fallback operation in Level 4 autonomous driving, and the massive sensorization of road infrastructures enabling AI-powered traffic management algorithms in the presence of legacy vehicles. The considered FRMCS use cases include performance services where AI-functions running on the infrastructure side analyze camera feeds from high speed trains in real-time, and business services providing high-speed internet to passengers and in-train neutral hosting capabilities to MNOs. A Follow Me Infotainment use case will demonstrate live migration of media functions across cross-border scenarios both in automotive and railways environments.

GENERAL OBJECTIVES

5GMed will demonstrate advanced CCAM and FRMCS services along the “Barcelona – Perpignan” cross-border corridor, enabled by a multi-stakeholder compute and network infrastructure deployed by MNOs, neutral hosts, and road and rail operators, based on 5G Rel.16 and offering support for AI functions.

PROJECT TASKS

- I. Project Management
- II. Use Case definition and Trial specification
- III. Technological extensions for scalable and multi-tenant 5G Infrastructure in main transport paths
- IV. Automotive use case technology development and initial validation
- V. Railways use case development and initial validation
- VI. Use case validation in cross-border corridor and small scale
- VII. Enabling cross-border 5G deployment and business across Europe
- VIII. Impact Maximization

RESULTS AND CONCLUSIONS

The project is currently in its on-going phase

- ❖ RETEVISION I
- ❖ FUNDACIO PRIVADA IZCATSA
- ❖ EIGHT BELLS LTD
- ❖ ATHENS TECHNOLOGY CENTER
- ❖ ATOS IT SOLUTIONS AND SERVICES
- ❖ ABERTIS AUTOPISTAS ESPAÑA SA
- ❖ AXBRYD S.R.L.
- ❖ CELLNEX FRANCE SAS
- ❖ COMSA INDUSTRIAL
- ❖ CENTRE TECNOLOGIC DE CATALUNYA
- ❖ HISPASAT SA
- ❖ ANADOLU ISUZU OTOMOTIV S.ve T.A.S.
- ❖ FUNDACIO BARCELONA MOBILE WORLD CAPITAL FOUNDATION
- ❖ IRT ANTOINE DE SAINT EXUPERY
- ❖ NEARBY COMPUTING SL
- ❖ SNCF
- ❖ TERRA3D
- ❖ VALEO VISION SAS
- ❖ VODAFONE ESPAÑA,
- ❖ INST.DU VÉHICULE DÉCARBONNÉ
- ❖ LINEA FIGUERAS PERPIGNAN S.A

BUSINESS AREAS

Área Técnica e Innovación I+D+i
COMSA INDUSTRIAL

DURATION
2020-2023

BUDGET
15.717.821,75 Euros

KEYWORDS
5G, Multi-tenant, CCAM and FRMCS, Network infrastructure

RESPONSABLE
Coordinador del proyecto:
Manuel Alfageme (Comsa Industrial)

EXTERNAL FINANCING