



5G Corridor project fiche – 5G FRÉJUS

5G FRÉJUS: inception study to prepare deployment of 5G in the Fréjus cross-border section between Italy and France



The project in a nutshell

5G FREJUS will deliver an inception study for the deployment of 5G and assess the effort needed to fully deploy the transport corridor between Italy and France across the Fréjus rail and road tunnels, with a neutral and agnostic passive and active infrastructure dedicated to the development of digital services.

The study will be carried out by Cellnex Italia, Open Fiber SpA, Cellnex France, Anas SpA, Accenture SpA, Rete Ferroviaria Italiana, together with Istituto Nazionale di Ricerca Metrologica.

Key facts

Length: 12.8 km (road), 13.7 km (rail)

Corridor: Fréjus cross-border section between Italy and France

Total EU grant: €400,723.00

Project duration: 6 months (January 2024 – June 2024)

Transportation mode: Road & Rail

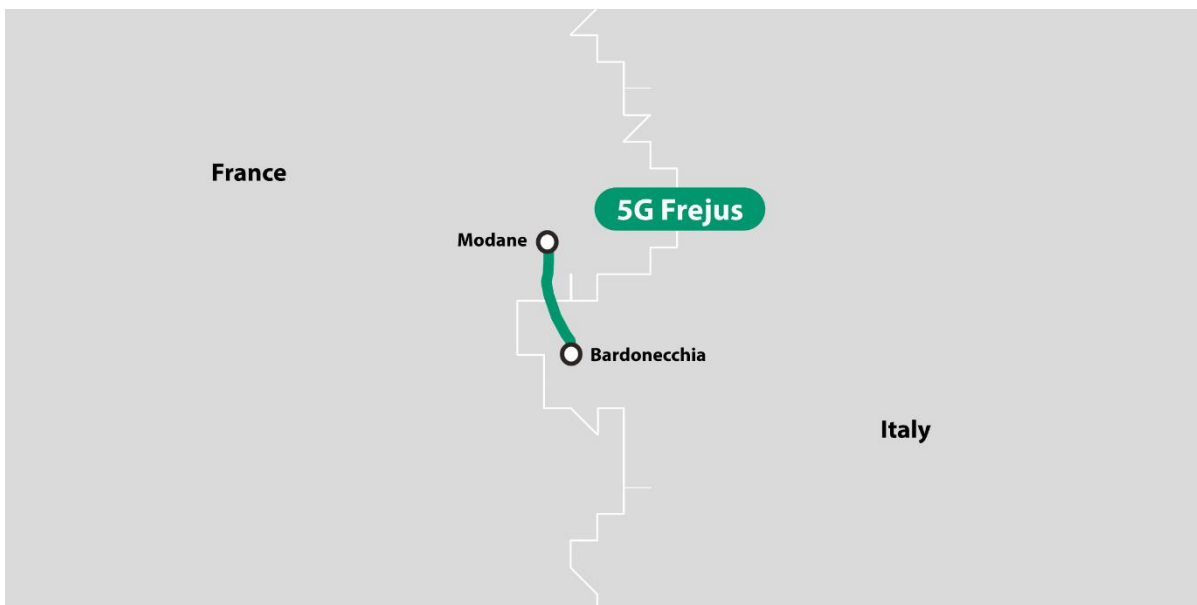
Spectrum bands: 4G bands (800MHz, 1800MHz, 2100MHz), 5G bands(700MHz, 3700MHz)

Standards: compliant to 3GPP



Service / Use cases:

	USER	ECOSYSTEM
RAIL	<ul style="list-style-type: none"> ▪ Connectivity stability in tunnels ▪ High bandwidth entertainment (gaming, streaming) ▪ Train as workplace ▪ Touristic and travel information <p>Rail-User (A)</p>	<ul style="list-style-type: none"> ▪ GSM-R dismission ▪ New FRMCS ▪ Increased train safety ▪ Increased train density on rail infrastructure ▪ Critical communications networks availability ▪ Train operations efficiency <p>Rail-Ecosystem (B)</p>
ROAD	<ul style="list-style-type: none"> ▪ Autonomous driving ▪ High bandwidth entertainment (gaming, streaming) ▪ Increased safety ▪ Touristic and travel information ▪ Increased driving experience through AR experience <p>Road-User (C)</p>	<ul style="list-style-type: none"> ▪ Traffic efficiency ▪ Emergency situation management ▪ Reduced accidents ▪ Reduced Co2 emissions ▪ Increased road security <p>Road-Ecosystem (D)</p>



What will it provide?

The study intends to thoroughly assess the opportunities to maximise synergies with the goal of deploying on the corridor very high-capacity networks resources anticipating the future needs as well as identifying quantum communications deployment across the border with minimal impact due to the significant synergies with existing and future passive infrastructures.

The main objectives of the study are:

- To assess the effort needed to fully provide the transport corridor between Italy and France across the Fréjus rail and road tunnel, with a neutral and agnostic passive and active



infrastructure dedicated to the development of digital services, in terms of administrative, legal, technical constraints;

- To map the list of applications that might be enabled by 5G coverage within the rail tunnel, defining requirements with focus on cross border dimension;
- To assess the dimensioning of appropriate fiber and dark fiber to serve the cross-border section of the corridor, and capture synergies in sharing common passive infrastructure and minimising impact on transport corridors operativity;
- To assess the opportunities to create synergies in the future deployment of 5G coverage, for quantum communication needs with due advance so as to create a resilient and reliable quantum communication system.

How will the project unfold?

The prospect study will focus on the goal of ensuring 5G coverage for public solutions also in the railway tunnel that address the traffic on rail and road across France and Italy in the mountainous region of Alps.

At the same time, the study will address the nearby areas providing access to the tunnel with relation to existing and future national and international fiber networks and backbones, and the possibility to leverage the optimal infrastructure sharing between transport and digital networks. The main focus will be on the functional architecture for DAS, including fiber and quantum communication in a complex cross-border dimension, the design of high-level radio system and the preliminary works regarding DAS, fiber and quantum communications.

How is it financed?

The project is funded by EU/CEF Digital Grant programme.

Total EU Contribution: €400,723.00

More information

[EU Funding & Tenders Portal | EU Funding & Tenders Portal | EU Funding & Tenders Portal | EU Funding & Tenders Portal \(europa.eu\)](#)

[5G Corridors Call 2: Selected Project Overviews | Shaping Europe's digital future \(europa.eu\)](#)



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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<https://guide.5gcorridors.eu/>

