

FRÉJUS TUNNEL: CELLNEX, FS GROUP, ACCENTURE, AND OPEN FIBER JOIN FORCES TO BRING 5G UNDER THE ALPS

Cellnex Italy and Cellnex France, together with FS Group (ANAS and RFI), Accenture, and Open Fiber, with the support of the Ministry of Enterprises and Made in Italy (MIMIT), the Piedmont Region, and the National Institute of Metrological Research (INRiM), will contribute to the development of 5G infrastructure in Europe with a feasibility study aimed at ensuring 5G mobile technology coverage in the two tunnels, railway and road, of the Fréjus that connect Italy to France.

Milan, Turin 27 February, 2024 - Cellnex Italy and Cellnex France, companies of the Cellnex Telecom group, together with the companies of the FS Group, Rete Ferroviaria Italiana and ANAS - respectively managers of the railway and road infrastructure -, Accenture and Open Fiber, in collaboration with the Ministry of Enterprises and Made in Italy (MIMIT), the Piedmont Region, and the National Institute of Metrological Research (INRiM), will contribute to the development of 5G infrastructure in Europe through a feasibility study aimed at identifying the works, criticalities, and costs necessary to ensure 5G technology coverage in the two tunnels of the Fréjus between Piedmont and the French territory. The study for the Fréjus tunnel, which is part of the Mediterranean corridor of the Trans-European Transport Networks (Ten-T), has received 50% European co-financing from the HaDEA, an executive agency of the European Commission. The study, which will end in June 2024 after 6 months of work, is part of the projects assigned in December 2022 to Cellnex for the development of 5G infrastructures on transnational road and railway corridors.

In fact, to achieve complete 5G coverage and ensure high-performance fiber optic network connections (VHCN) for Trans-European transport networks, it is necessary to ensure coverage of roads, highways and tunnels, both rail and road, that are part of the transport axes connecting the various European countries. The main objective of this study, co-financed by the European Commission's "Connecting Europe Facility (Cef-2) Digital" funding program aimed at improving digital connectivity infrastructures, is to promote rapid deployment and adoption of ultra-high-speed networks, including 5G systems, within the key transport infrastructures in all EU territory.

Cellnex Italy and Cellnex France, as project leaders, together with FS Group (ANAS, RFI), Accenture and Open Fiber, will collaborate with the Piedmont Region to study the works necessary to ensure 5G connectivity both in the A32 highway section that includes the Fréjus Tunnel T4 (for a total of 12.87 km), and in the railway tunnel section of the Fréjus (for a length of 13.7 km), with 5G solutions open to all mobile operators.

In particular, Accenture will work on defining the technological implications of the project through use cases, with evaluations on the installation of secure, connected and digital telecommunications systems, which will house the antennas of all mobile operators and other innovative services, such as IoT sensors, and the creation of DAS (Distributed Antenna System) and Small Cells dedicated to ensuring signal coverage (data and voice) inside the two tunnels. DAS systems consist of a network of mini-antennas with minimal visual and electromagnetic impact and provide coverage in indoor environments, where the cellular signal struggles to reach.

Comunicato Stampa

These solutions will be crucial for preparing infrastructures for the mobility of the future and ensuring increasing safety for users. The project will also evaluate the integration of cutting-edge technologies enabling the implementation of Smart Roads and particularly the creation of Cooperative ITS (C-ROADS) V2X networks for communicating traffic information to equipped vehicles. The intervention will also enable the monitoring of radio mobile systems for detecting the operational status of the call service, particularly inside tunnels, and will finally promote the development of technologies for autonomous driving. The project will also consider the needs of recent quantum communication technologies, with appropriate foresight, to create a fiber optic infrastructure linking Italy and France ready to host innovative quantum communication systems.

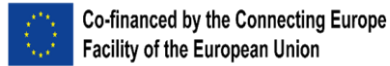
"We are proud to contribute with this study to the digitalization of European mobility. Our goal - says **Luca Luciani, CEO of Cellnex Italy** - is to create increasingly smart, safe, and efficient highways and railways using shared network infrastructures and cutting-edge technologies, including proprietary solutions like TEZE, a virtual SOS capable of monitoring radio mobile systems and the operational status of the emergency call service inside tunnels. The implementation of 5G coverage - adds **Luciani** - will also provide the areas involved in the study, and their residents from both Italy and France, with the opportunity of obtaining low-impact, more efficient communication networks with higher speeds that can reduce the existing digital divide and offer greater opportunities for development and competitiveness".

"We are proud to actively participate in this project by fielding Accenture's best skills in defining the use cases and technological implications that will make the study scalable," said **Michele Marrone, Head of Cloud First Networks services in Europe for Accenture**. "The convergence of the telecommunications and transportation sectors is one of the most significant trends in the current technological landscape. The spread of 5G, IoT and artificial intelligence is opening up new possibilities for the mobility of the future, creating an integrated ecosystem that will improve the security, the citizen experience and the efficiency of transport systems."

Nicola Grassi, Chief Technology Officer of Open Fiber, stated: "Optical fiber is an indispensable medium for transferring data at extremely high speeds. Even 5G technology requires that the cells from which the radio signal is transmitted be reached by fiber networks. The study we are undertaking with our partners is of fundamental importance because through it we will be able to identify the necessary infrastructure, critical points, and costs required to ensure 5G coverage in the Fréjus tunnel, thus contributing to the promotion of rapid diffusion and adoption of ultra-high-speed networks not only in Italy but also in Europe."

"Anas - stated **Mauro Giancaspro, Director of Technology Innovation & Digital Spoke at Anas (Infrastructure Division of the FS Group)** - is involved in the study to evaluate and identify areas where telecommunication equipment can be hosted along the road sections adjacent to the Fréjus tunnel (SS335). Drawing upon its qualified expertise in Smart Road technology, Anas will provide additional contributions: support for the legal and administrative management of installations, as well as for the preliminary civil engineering design phase preceding the installation of optical fiber and the use of Distributed Antenna Systems (DAS) technology, designed specifically to ensure connectivity in hard-to-reach locations."

"The digitalization of European mobility - states **Pietro Asinari, Scientific Director of INRiM** - also encompasses the study and development of innovative solutions such as quantum communication. The European Commission, through the EuroQCI initiative (European Quantum Communication Infrastructure), aims to deliver services in this technological sector by the end of the decade. Therefore, studies on large mobility infrastructures should also



Comunicato Stampa

encompass this area of innovation. INRiM coordinates the implementation of EuroQCI in Italy through the QUID project, which includes significant activity on digital infrastructures. Hence, INRiM aims to provide the territories involved in this study, both in Italy and France, with the opportunity to actively participate in communication networks with higher levels of innovation, offering the European Union a foothold in cross-border connections with quantum technologies in large continental infrastructures."