

Press release

5**G**

5G trial platforms in the 26 GHz band: Agnès PANNIER-RUNACHER and Arcep present the first 11 projects selected

7 October 2019

In January 2019, the Government and Arcep issued a joint call for the creation of 5G trial platforms that would be open to third parties, and using the 26 GHz band – aka the millimetre wave band. The aim of this call was to pave the way for all players to embrace the possibilities this frequency band provides, and to discover new uses for 5G.

Today, **Agnès Pannier-Runacher**, France's Secretary of State to the Minister for the Economy and Finance, and **Sébastien Soriano**, Chair of the Electronic Communications and Postal Regulatory Authority (Arcep), presented the first eleven projects that have been selected.

Logistics, smart city, mobility, sports events coverage: more than a dozen projects responded to the call to create trial platforms.

The call for the creation of trial platforms has enabled more than ten projects to emerge. In addition to veteran telecom industry players (mobile network operators, telecoms equipment suppliers), several projects are led by "verticals" or consortia that do not specialise in telecommunications. Some projects are focused on one area in particular: logistics (smart ports, multimodal transport management, traceability), smart city (smart buildings), mobility (in-station services for trains or passengers) or covering sporting events. Other projects have a broader target and plan on hosting any kind of innovative enterprise.

The Secretary of State and the Arcep Chair are very pleased by the tremendous response to this call for proposals, which has received fifteen responses thus far.

Arcep awards frequencies for the first eleven projects

Eleven of the project proposals submitted have been selected thus far. Arcep analysed their technical maturity, before awarding them a licence to use 26 GHz band frequencies.

These licences authorise them to use wide frequency bands for a period of up to three years. The players whose projects were selected must have an operational 5G trial network by 1 January 2021 at the latest, and make it available to third parties to perform their own 5G trials. They must also publish the terms and conditions for accessing the trial network, and provide Arcep with a detailed report on the trials conducted through the platform, in particular the name(s) of the other party or parties that are using the platform to conduct 5G trials.

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Details on the eleven projects selected to date can be found in the annex. Arcep will also be examining new applications over the coming weeks.

The 26 GHz band: "uncharted waters" for mobile networks The next generation of mobile networks, 5G is promising a jump in technological performance that will open the way for a host of innovative uses in a wide variety of economic sectors. Several bands have been identified in a coordinated fashion in Europe for future 5G rollouts: • the 3.4 – 3.8 GHz band, whose award procedure will begin in a few weeks; the 700 MHz band, which was awarded to operators in France in late 2015; • the 26 GHz band, which will be allocated at a later date. Thanks in particular to its large bandwidth, the 26 GHz frequency band should enable unparalleled speeds and new uses, and was identified as a "pioneer" band for 5G. The Government and Arcep were therefore keen to encourage testing in real world conditions. One more reason for increasing the number of trials: up until now, these millimetre wave bands have never been used for mobile networks. 5G: one technology, three frequency bands identified PÉNÉTRATION PORTÉE DÉBIT À L'INTÉRIEUR La bande 700 MHz : déjà attribuée aux opérateurs (depuis fin 2015), elle est pleinement disponible depuis mi-2019. La bande 3400 – 3800 MHz : la première bande à faire prochainement l'objet d'une attribution, elle offre un bon ratio couverture/débit et est souvent identifiée, en Europe, comme la bande « cœur 5G ». La bande 26 GHz : bande « millimétrique », avec des fréquences très élevées jusqu'à présent utilisées pour les liaisons satellitaires ou d'infrastructure, elle permettra des débits très importants dans des cellules de petite taille.

Public authorities galvanised for the arrival of 5G

Because 5G is a key technology for stimulating innovation and furthering the economy's digital transformation, public authorities are committed to enabling industry business models to emerge and to supporting investments.

MINISTRY FOR THE ECONOMY AND FINANCE (MEF)

Drawing on the expertise of Directorate-General for Enterprise (DGE) teams, the Ministry of the Economy and Finance coordinates 5G projects and the national 5G roadmap, and ensures that industry players are fully mobilised. It liaises with all of the administrations involved, including the Directorate General for Risk Prevention (DGPR), the Directorate General for Health (DGS) and the National Network and Information Security Agency (ANSSI). The MEF also oversees the work of the "Digital Infrastructure" industry Strategic Committee whose aim is to create a cohesive ecosystem and lead ambitious projects, including support for 5G rollouts and smart territories.

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THE ELECTRONIC COMMUNICATIONS AND POSTAL REGULATORY AUTHORITY (Arcep)

Arcep awards frequencies for future 5G networks: it participates in releasing identified frequencies, and sets the technical terms and conditions governing their use. It proposes the terms of their allocation to the Government, notably selection procedures and licence-holder obligations. Lastly, it works to facilitate trials: a "5G pilot" window was created to allow players along the 5G value chain (businesses, industry and infrastructure players) to appropriate the technology and design innovative business models.

NATIONAL FREQENCY AGENCY (ANFR)

ANFR conducts negotiations within international spectrum organisations prior to deployments, notably to identify 5G frequency bands, to define then harmonise the technical conditions governing their use. Based on these elements, it then proposes a distribution of the frequency bands to the Prime Minister. It coordinates the installation of radio stations across the country, may take measurements and enforces compliance with radiofrequency radiation exposure limits. It monitors the compliance of the equipment and devices solid in the marketplace. Through presence in the filed, it also ensures the smooth coexistence of all of the frequency users, and intervenes in cases of interference.

NATIONAL AGENCY FOR FOOD, ENVIRONMENTAL AND OCCUPATIONAL HEALTH SAFETY (ANSES)

ANSES responsibilities include monitoring, providing expertise, research and information on a wide range of matters, including human health. Its work incorporates cross-cutting examinations of health issues, assessing health risks and including, when relevant, a humanities and social sciences perspective. ANSES will work on assessing the health impact and risks associated with 5G deployments, based on data on the exposure induced by the technology.

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ANNEX

5G trial platforms in the 26 GHz band: presentation of the first eleven projects selected (as of 7 October 2019)

Why have 5G trial platforms that are open to third parties? By fostering the development of 5G trial networks in the 26 GHz band, and by planning to make them accessible to innovative technology and service companies, the Government and Arcep wanted to lift two major obstacles to innovation: cost and the technical skills needed to install these networks, particularly for the players that are least familiar with telecommunications. These use case tests are meant to give the French ecosystem a head-start in this frequency band, by helping it to mature. They will provide initial feedback in identifying innovative types of use.

The project owners that have been awarded a licence as of 7 October 2019 are:

Universcience, at the Cité des Sciences et de l'Industrie (75)

Universcience, which covers the *Cité des Sciences et de l'Industrie* and the *Palais de la Découverte* science museums, set itself the mission of disseminating and sharing scientific and technical culture. This includes deciphering contemporary scientific advances to spark a desire to understand and engage with them. The *La Cité des sciences et de l'industrie* 5G trial platform will showcase innovative use cases to the public, during events and as part of temporary and permanent exhibits. This platform will also be open to the start-up ecosystem, to test and share solutions develop for use in 5G, notably through the Univers-tech programme's call for proposals, in Q4 2019.

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Saint-Quentin-en-Yvelines, at the Vélodrome National (78)

Saint-Quentin-en-Yvelines wants to create an open 5G trial platform for its National Velodrome, to rise to the challenges facing this future Olympic Games site. The region thus submitted a proposal in partnership with Nokia, Qualcomm, Airbus and France Television. Use cases will range from augmented reality replay of the different events, to applications enabled by progress in fixed and mobile audio and video equipment – including, for instance, to the use of AI (artificial intelligence) in sports media. Cases that make use of 5G technologies, where low latency and increased bandwidth will facilitate the envisioned scenarios.

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Bordeaux Métropole (33)

The aim of the 5G trial platform planned by Bordeaux Métropole is to capitalise on public lighting networks to deploy new infrastructures: 5G deployments are expected to bring ultra high-speed connectivity to very high-density areas. Bordeaux Métropole, in partnership with the trial's host operator, Bouygues Telecom, will manage a large ecosystem to develop as many use cases as possible, by bringing in key partners such as the Banque des Territoires, French Tech Bordeaux, Cap Sciences and Bordeaux Ecole Numérique.

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Le Grand Port Maritime du Havre (76)

HAROPA – The Port of Le Havre, working in tandem with companies operating in the port area, has proposed a 5G trial platform that will enable it to explore and test 5G applications in a port and industry-related context. This includes applications in the field of energy, such as operating smart grids and recharging electric vehicles. Other applications will focus more on logistical operations in the port area, notably operating container terminals. Working in concert with the Le Havre Seine Métropole urban community, Siemens, EDF and Nokia, this project follows through on the region's Smart Port City Programme.

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Paris-Saclay Nokia Campus (91)

Installed on the Nokia Paris-Saclay campus, the purpose of this trial platform is, among other things, to test and validate Nokia 5G products and solutions, while also making it available to clients and 5G ecosystem players to develop and test new use cases. Trials will be conducted in a real-world environment, both indoors and outdoors, thanks to Nokia 5G antennae installed at different heights on the rooftops, and in work areas. The programme also includes a start-up residency, working with Nokia and "Garage" R&D teams. Among the use cases developed by these start-ups there is a 5G-operated automated drone solution, a solution for delivering a unique acoustic experience during concerts, and a 360° virtual reality video solution.

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Etablissement Public d'Aménagement Paris la Défense (92)

The 5G trial platform will enable the Paris La Défense planning development agency and its partners to test original uses in the very dense urban environment of Europe's leading business district. The aim of the mechanism is to get a jump on 5G rollout scenarios, to experiment with uses cases that are deemed strategic and to test the feasibility and viability of a new model: a neutral operator scheme, installing antennae in buildings and on street furniture, and selling turnkey access to operators that will supply the networks.

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Bouygues Telecom, for the Lyon Part-Dieu train station, in concert with SNCF (69)

In the Lyon Part-Dieu train station, operator Bouygues Telecom wants to work in concert with France's national rail company, SNCF, to test both consumer applications, for the very large number of travellers who pass through the station (providing them with very high speed connections for augmented reality or mixed reality video chat applications), and for SNCF agents and the railway company's information system (extracting large quantities of technical data from the trains at the platforms).

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Bouygues Telecom, for an industrial zone in the city of Saint-Priest (69)

The purpose of the 5G trial platform will be to test "B to B" applications designed for the many enterprises in the city's industrial zone, to supplement Internet access via optical fibre. This improved connectivity for micro, small and medium businesses is intended to underpin the companies' digitisation and the emergence of a high-speed industrial IoT.

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Bouygues Telecom, for the cities of Vélizy (78) and Meudon (92)

The Bouygues Telecom Technopôle (technology park) is located in the dynamic business district of Vélizy-Villacoublay. The operator plans on deploying a trial network both indoors and out. The 5G trial platform will benefit from the high density of innovative companies in the area.

After the initial technical deployment phase, these networks will be opened up to third parties that are not specialised in telecommunications, which will be able to use them to test or provide their services. Third parties will be chosen in particular as part of the Bouygues group's *SmartX 5G* business incubator.

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Orange, for the Rennes railway station, in collaboration with SNCF and Nokia (35)

The 5G trial platform hosted by the new train station in Rennes, which opened in July 2019, plans on testing both use cases for passengers and professional tools for SNCF agents. One key goal is to make waiting a more pleasant experience. Different applications enabled by 5G hotspots have been envisioned, such as a service for virtually instantaneous film and TV programme downloads. For the development of professional tools, 5G would make it possible to design applications that require ultra high speeds (training in augmented reality, remote maintenance using augmented reality, processing massive volumes of train operating data).

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Orange, for the 5G Lab co-innovation space, in Châtillon (92)

The purpose of the 5G trial platform that Orange has planned for Châtillon is to enable Orange to test different 5G use cases in heavily trafficked areas: enhanced multimedia experiences for people on the move (4K/8K 360° high resolution video streaming, augmented, virtual and mixed reality), using 5G for video production, network gaming in the cloud, eSports tournaments, etc.). Intended to be non-specialised, this platform will host enterprises and start-ups wanting to develop consumer applications.

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Associated documents

For more information on the different authorised projects, visit Arcep's 5G trial scoreboard.

Arcep at a glance

The Electronic Communications and Postal Regulatory Authority (ARCEP), a neutral and expert arbitrator with the status of independent administrative authority (IAA), is the architect and guardian of internet, fixed and mobile telecoms and postal networks in France.

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