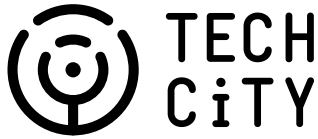


Aveiro 5G Challenges

Technical Sheet



Technical Sheet

1. Objective

This document briefly describes the available 5G resources for development, testing and demonstration of the projects submitted to Aveiro 5G Challenges. These resources include:

1. 5G connectivity between the coverage areas of the project and service centers.
2. Access to a 5G terminal set.
3. SIM Cards.
4. Computational capacity.
5. Operational support and advice regarding the use of the technological infrastructure.

2. 5G Network

2.1. 5G Geographic Coverage Area

The geographic area with 5G connectivity comprises, in the first phase, the city centre which includes Ria Central Channel, between Aveiro Congress Center and General Humberto Delgado Square.

2.2. Network Performance

The network will ensure the following minimum performance parameters, under optimal load conditions

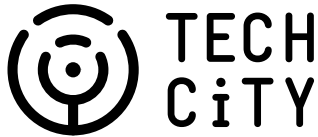
- Downlink Debit: 1,0 Gbps
- Uplink Debit: 100Mbps
- Latency: <8 ms

These values depend on the location of the terminals as well as the number of terminals connected simultaneously and with active traffic in the network.

3. Network Access

Using the 5G network requires the use of terminals with specific characteristics and the use of specific SIM cards.

After the end of Aveiro 5G Challenges, the participating entities will have 1 (one) month to make copies of their software, after that time, the VNF will be turned off and deleted. VPN access credentials will also be deleted.



3.1. Terminals

The transfer of 5G terminals to the entities involved in Aveiro 5G Challenges will be temporary for the purpose of testing and develop their projects. Each entity shall request the 5G terminals availability, at least 5 (five) business days in advance, and these are provided, upon availability, for a maximum of 3 (three) business days.

In the case of terminals with Android operating system, only the installation of Applications will be allowed. Changing settings or operating system is not allowed.

The entities involved in Aveiro 5G Challenges may use their own terminals, if they comply with the applicable technical specifications. Problem detection and correction will be supported within the available time package.

Compatible terminals (when publishing this document):

1. Huawei Mate 20x 5G
2. Oppo Reno 5G

3.2. SIM Cards

The terminals to be connected to 5G network must use specific SIM cards, to be provided by the Aveiro STEAM City project. A minimum of 2 (two) will be available per entity. Additional cards will be available for 3 business days, depending on availability.

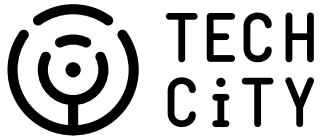
SIM cards must be requested at least two (2) weeks in advance.

4. Computacional Platform

Computational capacity will be available for instantiation of virtual entities (VNF), in the form of Virtual Machines (VM), over OpenStack. These VMs can be available in a central or edge data center (DC). The maximum number of VMs to be provided per partner are not defined yet, neither the maximum, individual and total capacities.

4.1. Access Platform

Access to the computing platform will be made by VPN, to an OpenStack tenant created by each of the external entities involved in Aveiro 5G Challenges. Access credentials will be defined and managed by Altice Labs and communicated to entities that require computational capacity.



5. Support

Aveiro 5G Challenges website will provide the contact information to request VPN access, computing resources, terminals and SIM cards. Technical contacts to be used to assist in resolving difficulties in using the 5G network and allocated computing resources will also be provided. A set of hours will be defined per project, to be used during the development of Aveiro 5G Challenges.