AVEIRO
CÂMARA MUNICIPAL

TECH CiTY

AVEIRO STEAM CITY

UIA

2nd Edition

Aveiro 5G Challenges

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 within the presented areas;
2. Computational resources - Edge Cloud - for hosting services;
3. Access to 5G terminals for testing;
4. 5G SIM Cards.
5. Operational support and advice regarding the use of the technological infrastructure.

2. 5G Network

2.1. 5G Geographic Coverage Area

Presently, the geographic area with 5G connectivity comprises the city centre, which includes Ria's Central Channel, between Aveiro Congress Centre 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.

Note: These parameters may suffer come changes in the second quarter of 2021, due to the results of the 5G frequency auction currently underway.

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 projects' development. 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.

Terminals have Android operating system and 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. Technical support will be provided within the available time package.

Available terminals (for the time being):

- Huawei: (i) Mate 20x 5G, (ii) 5G CPE Win H312-371, (iii) Huawei 5G CPE Pro 2, (iv) 5G Mobile Wi-Fi Pro
- Xiaomi: Mi 10 Lite 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. Computational 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 centre (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

Support requests must be sent to the following email addresses:

1. Aveiro5GMentor: aveiro5Gentor@alticelabs.com
    - Information regarding:
        1. 5G communication integration and exploration by 5G Challenge projects
        2. Storage / computation
2. Aveiro5GTech: aveiro5GTech@alticelabs.com
    - Information regarding:
        1. 5G connectivity
        2. Storage / computation supplied by the project
        3. Terminals and SIM cards
        4. VPN access