2nd Edition

Aveiro 5G Challenges

PARTICIPATION RULES

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FOREWORD

The last decade intensified the change in our society, whose economic development paradigms and creation of business were modified by a society more entrepreneurial, with greater access to technological solutions that permits the development innovative and disruptive business models.

Having this in mind, governmental agents must improve and promote public policies to leverage the development of favourable ecosystems to create jobs, new services and goods, capable to increase value to the market.

"Aveiro 5G Challenges", hereinafter designated as ""**Aveiro 5G**", consists of an initiative to attract, trial and implement innovative projects of products and services operated in a 5G network.

CHAPTER I – GENERAL RULES

Article 1.º – Object

This document states the rules in relation to the submission of applications to the second edition of Aveiro 5G, promoted by the Municipality of Aveiro, within the project of Aveiro STEAM CITY (UIA03-084), cofounded by the European Union programme Urban Innovative Actions.

Article 2.º – Objectives

1. Aveiro 5G is an initiative that aims to:

   a) Promote and support new innovative projects to develop and test new solutions operable in a 5G platform;

   b) Enable the participants to develop and improve their projects, using new tools useful for its growth;

c) Attract and retain innovative organisations technology based in Aveiro 5G testbed and ecosystem;

d) Promote and fixate people and talented professionals in the area ITC in Aveiro Region.

Article 3.º - Definitions

1. For the purpose of the current rules, should be considered the following definitions:

   a) *«Startup»* - Entities with less than two years of activity, regardless their legal form.

   b) *«Scaleup»* - Entities with more than two years of activity and less than ten years, regardless their legal form, in a process of growth, access to new markets and increasing of employees;

   c) «R&D Institutions» - Equivalent organisations foreseen in subparagraph a) of the article 14º of the *Decreto-Lei* n.º 63/2019, from 16th May, which establishes the legal framework of research and development institutions, R&D units, Governmental Labs and Associated Labs;

   d) *«Project»* - Group of structured and correlated activities and tasks with the objective to develop a new service/product, a new process/market, new methodologies/organisation and new characteristics of products/services with economical potential;

   a) *«Participants»* or *«Entrepreneurs»* - People aged 18 or more taking part of a team or project.

Article 4.º - Beneficiaries

1. The second edition of this programme is addressed to:

   a) *Startups,*

   b) *Scaleups* or

c) R&D Institutions

2. Each project can only have a maximum of three elements per team, who will participate in the various phases of the program, in case of selection.

3. The organisation will exclude from this edition every organisation with a financial turnover of 50 Millions of Euros.

Article 5.º - Schedule and stages

The second edition of Aveiro 5G will be implemented with the following timeline:

- 11st January to 28th March 2021: Application submission period and technical clarification.

- 29th March to 13th April 2021: Selection of applications period.

- 14th April 2021: Announcement of 10 finalists.

- 28th April 2021: Kick-off event.

- 28th April to 30th September 2021: Development and trial stage.

- 17th to 26th May 2021: Training and Mentoring.

- 09th August 2021: Progress report delivery.

- 14th October 2021: Pitch Training.

- 15th October 2021: Final Pitch and 3 winners' announcement.

- 11st to 17th October 2021: *Demodays* @ Aveiro Tech Week 2021.

CHAPTER II - APPLICATION

Article 6.º - Application submission and deadlines

1. Each application must respect the requisites stated in article 8ª and must be submitted until 11h59pm by the **28th of March 2021** (GMT time), using the application form available in the website www.aveirotechcity.pt.

and also available in
Annex I.

2. Each organisation must submit only one application.

3. During the application submission period, Aveiro 5G organisation will share a permanent
contact for further technical queries about the local 5G ecosystem and to clarify about
the technical feasibility of the proposals submitted by the participants. This support is
provided by Altice Labs, partner responsible for the development of the 5G platform,
which will reply to participants' questions within 5 working days.

4. In parallel, in programme's website, a technical document will be available listing the
characteristics of the 5G infrastructure (Annex II).

Article 7.º - Application's documents

1. The application must include the submission form available in the website and properly
completed.

2. The participants can also voluntarily include, in a field created for the purpose,
additional documents such as: business model, portfolio, leaflets, videos or other
elements to illustrate the project.

Article 8.º - Projects' requirements

1. The submitted projects must be developed and tested in the local 5G testbed of the
Municipality of Aveiro.

2. The submitted projects must conduct to new solutions, products or services to existing
markets or, in a disruptive perspective, leverage the development of new markets and
concepts.

3. Projects should be well considered in terms of their technical feasibility, presenting a
degree of maturity equal to or greater than TRL 2 and equal to or less than TRL 7,

according to TRL - Technology Readiness Levels, available [here](#)). Aveiro 5G Challenges is a program that aims to support the development and implementation of projects and, as such, projects must be proposed and designed regarding program deadlines.

4. Projects must also belong to the participants, being those the responsible, in all legal terms, for their authorship.

5. Each team must identify one of the elements to be the representative of the project throughout the program, and must also ensure the participation of at least one member in all phases of the contest, namely: training and mentoring Sessions, online sessions during development phase, *final pitch* e *demodays*, under penalty of not being granted the monetary support referred in paragraph a) of n.º1 of article 17.

Article 9.º – Invalid applications

1. Applications in any of the following situations are considered invalid:

   a) Submitted after the deadline referred in Article 6;

   b) Fail to submit all the requested documentation as described in Article 7;

   c) The information provided is false;

   d) Do not comply with the requirements set out in Article 8;

   e) If there is any other irregularity with the application.

2. Applications that fall in these previous situations will be automatically eliminated from the competition and competitors will be notified.

Article 10.º – Selection Process and Evaluation

1. Applications will be evaluated by a Jury, in accordance with Article 11, taking into account the following criteria, score and weighting:

Selection Criteria	Score	Weight	
Project			
Maturity	(1-5)	15%	
Innovation	(1-5)	20%	**50%**
Scalability and Trading Potential	(1-5)	15%	
5G Infraestruture			
5G Infrastructure Utilization	(1-5)	20%	
Development and trial Potential	(1-5)	15%	**35%**
Team			
Technical Competences/Skills	(1-5)	5%	
Methodology / Implementation Organization	(1-5)	10%	**15%**

100%

2. From this selection, a maximum of 10 projects will be selected to take part in the program and that compete for the final prize.

3. To the previous evaluation, Jury will give additional weight considering the nature of the beneficiaries:

   a) Startups increased by 15%.

   b) Scaleups increased by 10%.

   c) R&D institutions increased by 5%.

Article 11.º - Jury

1. The selection of 10 projects will be made by a Jury composed by five elements, representative of:

   a) Municipality of Aveiro.

   b) University of Aveiro.

c) Altice Labs.

d) Ericsson (Portugal).

e) Beta-i.

2. The Jury evaluates the projects based on the information provided in the application form and documents referred in Article 7, and in accordance with the evaluation criteria set out in Article 10.

3. In the event of a tie, the decision of a tiebreak, rests with the president of the jury, appointed by the Municipality of Aveiro.

4. The jury's scores and decisions, transcribed and disclosed by the candidates, are sovereign and without appeal.

CHAPTER III - PROGRAMME

Article 12.º - Training and Mentoring

1. The training and mentoring sessions of Aveiro 5G will occur in the following dates, in a place indicated later:

   - 17th May 2021: Workshop *Validation Techniques* | *Mentoring*
   - 18th May 2021: Workshop *Competitors Analisys* | *Mentoring*
   - 19th May 2021: Workshop *5G Ecossystem I*
   - 20th May 2021: Workshop *5G Ecossystem II* | *Mentoring*
   - 21st May 2021: Workshop *Building Hypothesis* | *Mentoring*
   - 24th May 2021: Workshop *Talking to Customers* | *Mentoring*
   - 25th May 2021: Workshop *Costumer Jorney & Emphathy Maps* | *Mentoring*
   - 26th May 2021: Workshop *Value Proposition & Pilot Canvas* | *Mentoring*

2. Training sessions will be conducted by professionals of proven experience in workshops and training sessions.

3. After the training sessions and during the development phase, each team will have access to fortnightly mentoring sessions, over 4 months, which can take place in person or remotely, according to the convenience of the participants and mentors. The scheduling of these sessions is responsibility of the candidates.

4. The list of mentors and trainers will be announced on **14th of April 2021**, in parallel with the announcement of the 10 finalist projects.

5. Each team must be represented in each training action with at least one element, however, it is possible and desirable, the participation of all elements of the team, under penalty of not being given the monetary support referred in Article 17.

Article 13.º – Development and Trial

1. Development and trial phase, held between **28th of April and 30th of September 2021**, will enable the ten final projects to access the 5G Infrastructure to test the applicability and future success of the project in real context.

2. During the development and trial phase, teams will have access to:

    a) Technical helpdesk related to 5G infrastructure, provided by Altice Labs.

    b) Co-work space in the business Incubator of the Municipality of Aveiro.

3. Until **09th of August 2021**, each team shall submit a brief progress report (Annex III), identifying the steps and works developed, the mentoring meetings carried out or other relevant information, reported as 31st of July 2021. The progress report will allow the organization to follow the work and results that are being achieved during development phase.

Article 14.º – Pitch Training and final Pitch

1. On **14th of October 2021** will be held the workshop "Pitch Training" where participants will develop their presentation techniques.

2. The final pitch of each project will take place on **15th of October 2021**. Each team has a maximum of 5 minutes to present their project and can use audiovisual tools if necessary.

3. Both sessions will be held in place indicated later.

4. The **three project winners will be announced in this event**, according to Article 16.

Article 15.º – Demodays and Winners Session

1. Demodays will be held between **11st and 17th of October 2021**, within the Aveiro Tech Week 2021 event, to present Aveiro 5G Challenges ten projects to the community, participants, guests and speakers.

2. Finalist entities must therefore ensure the good development of solutions, as well as their demonstration during Demodays.

Article 16.º - Winners Evaluation and Selection

1. The selection of the three Project winners will be made by a Jury composed by five elements, representative of:

   a) Municipality of Aveiro;

   b) University of Aveiro;

   c) Altice Labs;

   d) Ericsson (Portugal);

   e) Cluster TICE.PT.

2. The Jury evaluates the projects based on the following criteria, score and weighting:

Winners Selection Criteria	Score	Weight	
Project			
Maturity	(1-5)	15%	
Innovation	(1-5)	20%	**50%**
Scalability and Trading Potential	(1-5)	15%	
5G Infraestruture			
Obtained results using the 5G infraestruture	(1-5)	20%	**40%**
Level of evolution and development in the trial phase	(1-5)	20%	
Pitch			
Ability to explain/communicate the project	(1-5)	10%	**10%**

100%

3. Each member of the Jury gives to each project, and for each of the criteria mentioned, a score between one to five points, corresponding: 1 - not relevant, 2 - little relevant, 3: relevant, 4: very relevant and 5: quite relevant.

4. The total is established by the sum of the scores obtained in each criteria and the respective weigh.

5. In the event of a tie, the decision of a tiebreak, rests with the president of the jury, appointed by the Municipality of Aveiro.

6. The jury's scores and decisions, transcribed and disclosed by the candidates, are sovereign and without appeal.

CHAPTER IV - PRIZES & FUNDING

Article 17.º - Funding

1. The 10 selected projects of Aveiro 5G Challenges benefit from the following support:

   a) €2.000,00 to cover participation and demonstration costs, especially at the Aveiro Tech City Week 2021 event, which will take place on the week of 11st and 17th October 2021.

   b) Participation in training workshops;

   c) Access to a network of mentors and experts from specific business areas;

   d) Access to 5G infrastructure to develop and test their projects;

   e) Access to networking events and Aveiro's entrepreneurial ecosystem;

   f) Free co-work space at the Business Incubator of the Municipality of Aveiro during the Development & Test phase.

2. The €2,000.00 (two thousand euros) will be paid after participating in at least 75% of the training sessions and will be paid by bank transfer, in an account indicated by the representative of each team, who is responsible and undertakes to incorporate the prize in the development and demonstration of the project.

3. Project promoters must guarantee the participation of at least one member of the team, in all phases of the contest, including training and tutoring, under penalty of not being granted the monetary support referred to in paragraph a) of the previous number.

Article 18.º - Prizes

1. The three winners will receive, each, a cash prize of €25,000.00 to support the development of the proposed solution. The final prize already includes the € 2,000 related to the participation prize.

2. The prizes will be paid by bank transfer to an account indicated by the representative of each team, who is responsible to invest the prize in the development and implementation of the project.

3. Any fees or taxes applied to the award are supported by the winners.

CHAPTER V – CLAUSES

Article 19.º – Obligations and responsibilities

2. The 10 projects of Aveiro 5G Challenges commit to:

   a) Comply with the directives set in these participation rules and other accompanying documents, as well as provide information about their project, whenever requested;

   b) Attend and actively participate in each phase of the program, as referred in n.º 5 of Article 8, developing and testing their project in Aveiro Municipality.

Article 20.º – Intellectual propriety

1. The intellectual property of the solutions and materials, as well as the knowledge acquired and documentation inherent to them, will be the sole and exclusive property of the participating teams.

2. None of the teams may develop products and other components without the prior written consent of the party to whom their respective industrial/intellectual property rights belong.

3. The teams will be responsible for any third party licenses necessary for the correct functioning of the submitted solution, and assume all responsibility from third party claims regarding copyright as well as industrial property rights.

4. Participants accept the collection of communication content for dissemination of Aveiro 5G Challenges to the general public, without prior notification.

Article 21.º - Final Clauses

1. The organization guarantees the confidentiality of the submitted applications, as well as the anonymity of the beneficiaries that will not be selected.

2. Participants automatically agree to the use of images, voices and names for the disclosure and promotion of Aveiro Urban Challenges, without charge or term of retribution.

3. The organization reserves the right to modify these rules, as well as the Jury composition.

4. If there is any dropouts, participants must communicate by email (aveirotechcity@cm-aveiro.pt) and the jury may reinstate other projects/participants.

Article 22.º - Omissions

Any situation not foreseen in these rules, as well as any questions or problems that arise during the program, should be communicated to the organization by email (aveirotechcity@cm-aveiro.pt), that will act accordingly.

ANNEX I – APPLICATION FORM

1. ENTITY/ORGANIZATION

- Name *

- Type * (Startup / Scaleup / Instituição de I&D)

- Website/Linkedin

- Responsible for the team/project (name, email and mobile) *

2. PROJECT

- **Name ***

- **Short description of the project (maximum 1000 words) ***

Project description (type of product/service to be developed)

- **What problem/need or opportunity are you looking to address or benefit from the project? ***

Short explanation of potential users or customers, what problem will be answered or what opportunity will be created by the development of the project. If possible give detailed responses with quantitative or qualitative data.

EVALUATION CRITERIA: Project Maturity

- **What technology underpins the product or service? ***

Clear and objective description of the current stage and the next critical steps in solution development. Participants should be aware of what type of information is transmitted in order to avoid disclosure of confidential information. In other words, we suggest not the explanation on how technology works, but rather what it does and how it meets customer needs.

EVALUATION CRITERIA: Innovation of the Project

- What makes the solution innovative and how? *

Clearly provide a description, in 2 or 3 sentences, of the benefits to customers and how it overcomes existing problems. We advise the answer to be as quantitative as possible, such as avoiding expressions such as "is better or faster than...", by choosing arguments such as "allows a improvement by XX%".

EVALUATION CRITERIA: Innovation of the Project

- Is there opportunity for global impact?

Description of generic market characteristics in which the product or service is inserted and to what extent your value proposition makes the solution attractive.

EVALUATION CRITERIA: Scalability and Commercialization Potential

How important is the 5G infrastructure for the concept and technical development of the project?

EVALUATION CRITERIA: 5G Infraestruture

3. TEAM

- Number of Elements (maximum 3) *

- Names, emails and cellphone numbers *

EVALUATION CRITERIA: Team/Promotors Skills/Competences

- Which is the role of each member in the project *

Describe the skills, knowledge and experience of each member and their role within the project.

4. ANNEXS

Participants will be able to add documents such as business model, portfolio, prototypes or videos.

5. FINAL CONSIDERATIONS

By submitting the application, participants declare that:

- The information is reliable and true.

- They are responsible for any claims about intellectual and industrial property rights or improper access to third party data and information.

- Accept additional information required by the organization

ANNEX II – TECHNICAL ANNEX

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 develop of Aveiro 5G Challenges.

ANNEX III - PROGRESS REPORT

The following progress report reflects the work developed up to 31st July 2021, and must be sent by each team to aveirotechcity@cm-aveiro.pt by 9th of August with email's subject "Name of the project – Progress report – Aveiro 5G Challenges".

1. PROJECT IDENTIFICATION

Name of the Project

2. DEVELOPED ACTIONS AND ACTIVITIES

Description of the work done to develop and implement the project. Specify and detail which actions were developed and, if possible, schedule them over time.

3. MENTORSHIP

Description of the sessions with the Mentor(s) and the work plan that resulted from each session.

4. TEAM

Description of the work done by each team member and how they are assigned to the project.

4. TEAM MEMBERS

NAME ELEMENT 1:   % AFFECTATION

NAME ELEMENT 2:   % AFFECTATION

NAME ELEMENT 3:   % AFFECTATION