AVEIRO
CÂMARA
MUNICIPAL

TECH
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Aveiro Tech City Challenges

Participation Rules

ÍNDICE

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 Tech City Challenges", launched under Aveiro Tech City iniciative, is a programme that promotes and supports the development of innovative ideas and projects that respond to urban challenges launched by the Municipality of Aveiro.

The initiative Aveiro Tech City concurs as one of its main objectives to assume the city of Aveiro as a living laboratory, promoting the use of the Aveiro Tech City Living Lab - only laboratory in Portugal with an operational 5G network in the urban center of a City - to support and promote innovative projects in the fields of Smart Cities, Internet of Things, Mobility, Environment, Sustainability, Energy, Waste, Tourism, Industry 4.0, Health and Safety.

It is also intended to attract to Aveiro the most innovative and disruptive projects, developed by companies, R&D centers or higher education institutions, which will allow us to have a vision of what future cities will be like.

In this context, the program "Aveiro Tech City Challenges" aims to give the opportunity to companies and R&D centers to develop and test innovative solutions and products, in a real environment, in the area of Smart Cities and the Internet of Things.

CHAPTER I - GENERAL RULES

Article 1.º - Object

This document states the rules in relation to the submission of applications to the first edition of Aveiro Tech City Challenges, promoted by the Municipality of Aveiro, within Aveiro Tech City iniciative.

Article 2.º - Objectives

Aveiro Tech City Challenges is a programme that aims to:

a) Support the implementation of new projects/solutions to solve urban challenges.

b) Provide business opportunities to entrepreneurs and companies with projects in a development phase.

c) Assume the city of Aveiro as a "living lab" and "testbed", capable of attracting and capturing innovative technology-based projects and organizations to enjoy this ecosystem.

d) Promote and support the emergence/dissemination of innovative projects in the area of Smart Cities, Internet of Things, Mobility, Environment, Sustainability, Energy, Waste, Tourism, Industry 4.0, Health and Defense.

e) Promote the attraction and retention of talent in the Municipality of Aveiro.

f) Promote the Aveiro Techdays event as the main exhibition at national level of urban technological solutions applied in a real scenario and with the involvement of companies and R&D.

Article 3.º - Definitions

For the current rules, should be considered the following definitions:

a) «Startup» - Entities with less than two years of activity, regardless their legal form (including Individual Entrepreneurs or Independent Workers), with less than two years of activity.

b) «Scaleup» - Entities with more than two years of activity and less than ten years, regardless their legal form (including Individual Entrepreneurs or Independent Workers), 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 14 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.

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

Article 4.º - Beneficiaries

1. The programme is addressed to three types of beneficiaries:

   a) *Startups*.

   b) *Scaleups*.

   c) R&D Institutions.

2. The application must be submitted by one or more members from an organisation. Each team must have one to three members, and if selected, must participate in the different stages of the programme.

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

4. Are excluded applications submitted by Aveiro Tech City initiative partners, namely: University of Aveiro, Instituto de Telecomunicações, Altice Labs, PCI and National Cluster TICE.PT.

Article 5.º - Categories and Challenges

1. Aveiro Tech City Challenges fall under the following two categories:

   a) **Urban Challenges** – are presented three challenges, with different themes and objectives:

      o **Urban Challenge #1** – **Surveillance Drone Platform** – System for automatic detection of waste and residues, through the use of Drones.

- o **Urban Challenge #2 - Digital Construction Book** – implementation of a digital construction book that supports the municipality's service of private constructions inspections and supervision.

- o **Urban Challenge #3 - Integrated Management of Sports Infrastructures** – Integrated and shared management of IE (sports) that allows the sharing of resources between entities, communication, and use by the public.

b) **Aveiro Tech City Living Lab** - it is intended to select two projects that take advantage of the existing infrastructure in Aveiro (see Annex I) and that intend to develop projects in the area of Smart Cities and Internet of Things.

2. Candidate solutions must fit into one of the two categories presented above. The details of the urban challenges refered in subparagraph a) are described in Annex II.

Article 6.º - Schedule and Stages

Aveiro Tech City Challenges will be implemented with the following timeline:

- 31st of March to 31st of May 2023: Application submission period.

- 1st to 9th of June 2023: Pre-Selection Period of Semi-finalist projects.

- 12th of June 2023: Announcement of 25 projects to participate in Aveiro Tech City Pitch.

- 17th of June 2023: *Aveiro Tech City Pitch* | Selection and Announcement of **5** finalist projects.

- 22nd of June 2023: Kick-off Event.

- 23rd of June to 22nd of September 2023 [3 months]: Development and Trial stage.

- 22nd September 2023: Progress Report delivery including a proposal of demo and presentation of the solution during Aveiro Tech Week 2023.

- 02nd to 07th of October 2023: Demodays @ Aveiro Tech Week 2023.

- 06 or 07th of October 2023: Final Pitch.

- 23rd of September to 22nd of December 2023 [3 months]: Final Tests and Conclusion of the challenges.

- 22nd of December 2023: Delivery of the final report.

CHAPTER II - APPLICATION

Article 7.º - Application submission and Deadlines

1. Each application must respect the requisites stated in Article 9 and must be submitted until 11h59pm by the **31st of May 2023** (*GMT time*), using the application form available in the website https://www.aveirotechcity.pt/, whose model is described in Annex III.

2. Each beneficiary must submit only one application.

Article 8.º - Application's Documents

1. The application is necessarily composed by the Application Form, available on the program's website (https://www.aveirotechcity.pt/pt) and duly completed.

2. The applications must state clearly which category they fall in and which challenge they respond to.

3. Participants must attach documents, images or videos that demonstrate the portfolio, the working status of the prototypes or products, or that clearly illustrate the solution being applied and its maturity.

4. Candidates must also attach one of the following documents, issued by an organization supervised by the Country of origin: Permanent Certificate or Company Registry, in the case of companies; Declaration of the beginning of Activity, in the case of Individual Entrepreneurs or Independent Workers.

Article 9.º - Project's Requirements

1. Projects should lead to the emergence of new solutions, products or services for existing markets, or from a disruptive perspective, to foster the development of new markets or concepts based on the challenges presented in Article 5.

2. Projects should be well considered in terms of their technical feasibility, presenting a degree of maturity equal to or greater than TRL 3 (*experimental proof of concept*) and equal to or less than TRL 7 (*system prototype demonstration in operational environment*), according to *TRL - Technology Readiness Levels*, available [here](#)). Aveiro Tech City Challenges is a programme that aims to support the initial development and implementation of projects and, as such, projects must be proposed and designed regarding programme deadlines.

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

4. Each team must identify their representative throughout the programme, and must also ensure the participation of at least one member in all phases of the contest, namely: Aveiro Tech City Pitch, training sessions, final pitch and demodays, under penalty of not being granted the support and monetary prizes referred in Articles 21 and 22.

Article 10.º - Invalid Applications

1. Applications in any of the following situations are considered invalid:
   a) Submitted after the deadline referred in Article 7.
   b) Fail to submit all the requested documentation as described in Article 8.
   c) Do not comply with the requirements set out in Article 9.
   d) If the information provided is false or 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 11.º - Pre-Selection and Evalution

1. From the submitted applications, 25 projects will be pre-selected to participate in the Aveiro Tech City Pitch event, under the terms referred in Article 14, and according to the following limits per category:
   a) Urban Challenge #1 – 5 (five) semifinalists, from which 1 (one) winner will be selected.

b) Urban Challenge #2 – 5 (five) semifinalists, from which 1 (one) winner will be selected.

c) Urban Challenge #3 – 5 (five) semifinalists, from which 1 (one) winner will be selected.

d) Aveiro Tech City Living Lab - 10 (ten) semifinalists, from which 2 (two) winners will be selected.

2. Applications will be evaluated by a Jury, in accordance with Article 12, taking into account the following criteria, score and weighting:

Pre-Selection Criteria	Score	Weight	
Solution			
Maturity	(1-5)	20%	
Innovation	(1-5)	20%	**75%**
Response to the challenge - relevance and impact of the solution	(1-5)	20%	
Adequacy and justification of the budget	(1-5)	15%	
Company			
Competences/Skills	(1-5)	15%	**25%**
Work Methodology / Implementation Organization	(1-5)	10%	

100%

3. For the purpose of the evaluation referred in the previous number, the Jury may request additional elements and/or request the scheduling of a clarification session with the candidates for the demonstration of the actual state of development / maturity level of the solution.

4. 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 12.º - Jury

1. The pre-selection will be made by a Jury composed by nine elements, representative of:

a) Aveiro Tech City iniciative, as chairman of the Jury.

b) Urban Management Division of the Municipality of Aveiro.

c) Education and Sport Division of the Municipality of Aveiro.

d)   Municipal Police Division of the Municipality of Aveiro

e)   Instituto de Telecomunicações.

f)   Altice Labs.

g)   University of Aveiro.

h)   PCI – Creative Science Park of Aveiro Region

i)   TICE.PT – National Cluster of ICT and Eletronics.

2.   The Jury evaluates the applications based on the information provided in the application form and on the documents referred to in Article 8 and on any additional clarifications that may be requested, as provided for in Article 11.

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.

Article 13.º - Communication of Pre-Selected Projects

Applicants will be notified by email about the admission or exclusion of their application until the 12th of June 2023.

CHAPTER III - PROGRAMME

Article 14.º - Aveiro Tech City Pitch

1. The 25 pre-selected projects shall participate in Aveiro Tech City Pitch, which will be held on **17th of June 2023**, in a place indicated later, where the promoters will have the opportunity to present the candidate projects.

2. Each team will have 5 minutes to present their solution, using audiovisual tools if necessary.

3. Each team participating in the Aveiro Tech City Pitch will receive a financial support of € 500.00 (five hundred euros) to support travel and accommodation costs for **on-site participation** in the event, in accordance with Article 21.

4. Payment of the support referred in the previous number only applies to cases in which the beneficiaries makes his pitch in person. If the presentation is made online, by an option of the competitor or due to organization reasons, there will be no payment for this support.

5. Five projects will be selected from Aveiro Tech City Pitch, according to the limits indicated in the following paragraphs and in accordance with Article 15.

    a) Urban Challenge #1 – 1 (one) winner.

    b) Urban Challenge #2 – 1 (one) winner.

    c) Urban Challenge #3 – 1 (one) winner.

    d) Aveiro Tech City Living Lab – 2 (two) winners.

6. The five selected projects will benefit from monetary support of €20,000.00 (twenty thousand euros), in accordance with Article 22.

Article 15.º - Selection and Evaluation of "Aveiro Tech City Pitch"

The projects participating in Aveiro Tech City Pitch will be evaluated by a Jury, in accordance with Article 16, taking into account the following criteria, score and weighting:

Selection Criteria	Score	Weight

Solution			
Maturity	(1-5)	20%	
Innovation	(1-5)	20%	60%
Response to the challenge - relevance and impact of the solution	(1-5)	20%	
Beneficiaries			
Demonstration of Competencies and Ability to execute the solution	(1-5)	25%	25%
Pitch			
Ability to explain/communicate the project	(1-5)	15%	15%

100%

Article 16.º - "Aveiro Tech City Pitch" Jury

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

    a) Aveiro Tech City iniciative, as chairman of the Jury.

    b) Urban Management Division of the Municipality of Aveiro.

    c) Education and Sport Division of the Municipality of Aveiro.

    d) Municipal Police Division of the Municipality of Aveiro

    e) Instituto de Telecomunicações.

    f) Altice Labs.

    g) University of Aveiro.

    h) PCI – Creative Science Park of Aveiro Region.

    i) TICE.PT – National Cluster of ICT and Eletronics.

2. The Jury evaluates the projects based on the pitch and in accordance with the evaluation criteria set out in Article 15.

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.

Article 17.º - Development & Trial

1. Development and trial phase, held between **23rd of June and 22nd of September 2023**, will enable the five final projects to access information and data to test the applicability and future success of the project in real context.

2. During the development phase, a co-work space is available in the Business Incubator of the Municipality of Aveiro in order to team members develop their projects. This space must be requested by email (aveirotechcity@cm-aveiro.pt) to Aveiro Tech City Challenges organization.

3. During the development phase, each team will have access to one-to-one mentoring, whose scheduling is the responsibility of the candidates and whose sessions can take place in person or remotely, according to the convenience of the participants and mentors.

4. For each challenge, will be identified mentor(s) responsible for the theme that fits the solution presented by the candidates and who will accompany the development of the project.

Article 18.º - Progress Reports

Each team must deliver two progresso reports, according to the template in Annex IV. It must be identified all activities, meetings and mentoring support and other relevant information that will allow proper evaluation in that period.

a) Progress Report – Until 22nd of September 2023 – Must include also the proposal o structure of the demonstration to be carried out during Aveiro Tech Week 2023 (artcle 19.º).

b) Final Report – Until 22nd December de 2023.

CHAPTER IV - FINAL PITCH & DEMODAYS

Article 19.º - Demodays and Wrap up Session

1. The five projects/solutions developed within the scope of Aveiro Tech City Challenges **must be publicly presented** to the community, between **2nd to 7th of October 2023**, as part of Aveiro Tech Week 2023 events programme.

2. The presentations referred in the previous number consist in a **real demonstration of the developed solution**, which will occur in places and times to be later defined by the Municipality of Aveiro, according to the type of solution and target audience.

3. The beneficiaries of the five projects must guarantee the good development of the solutions, and, if necessary, allocate part of the monetary prize attributed within the scope of Aveiro Tech City Challenges, referred in Article 22, to demonstrate their solution during Demodays.

Article 20.º - Final Pitch

1. The final pitch will take place on 6th or 7th **October 2023** at a place that the organization may indicate.

2. Each team will have 5 minutes to present their project, using audiovisual tools if necessary.

3. The main goal of the Final Pitch is for teams present the "final product" that was developed to meet the challenge presented. The project must be positively evaluated by the mentors who accompanied the development of the project so that the payment of the second tranche of the award can be authorized, as expressed in Article 22.

CHAPTER V - PRIZES & FUNDING

Article 21.º - Funding

1. Each of the twenty-five pre-selected projects benefit from the following monetary support to cover travel and accommodation expenses for on-site participation in Aveiro Tech City Pitch, mentioned in Article 14:

   a) 500,00€ (five hundred euros) for entities headquartered outside the territory of mainland Portugal.

   b) 250,00€ (two hundred and fifty euros) for entities based in mainland Portugal.

2. The payment of the support referred to in the previous point applies only to cases in which the competitors participate in the event in person. If, at the option of the competitor or for reasons of organization of the event, the presentation is made online, there will be no place for the payment of this support.

3. The five selected/winners projects benefit from:

   a) Monetary support referred in number 1 of the present article.

   b) Possibility to access to the global prize of €20,000.00 (twenty thousand euros).

   c) Access to a network of mentors and experts specialized in certain business areas.

   d) Access to data provided by the Municipality of Aveiro.

   e) Free cowork space at the Business Incubator of the Municipality of Aveiro during the period from 1st of June to 30th of November 2022.

4. The monetary support referred to number 1 of this Article will be deposited up to 15 working days after the Aveiro Tech City Pitch event and after the delivery of the documents indicated in paragraph b) and c) of number 5 of this Article.

5. The payment of the monetary support implies:

   a) The existence of a bank account in euros.

   b) The delivery of updated non-debt certificates to the Tax Authority and Social Security, issued by a body supervised by the Government of the applicant's Country.

   c) Delivery of IBAN proof, owned by the applicant entity.

Article 22.º - Prizes

1. The five finalists will receive a cash prize of € 20,000.00 (twenty thousand euros) [including the monetary support referred in paragraph a) of the number 2 of the Article 21] to support the development of the proposed solution.

2. The prize will be paid in two parcels, each one worth € 10,000.00 (ten thousand euros), being the first tranche paid after the participation in the event *Aveiro Tech City Pitch* and the second tranche will be paid after the conclusion of the project and the delivery of the final report and only after a positive evaluation by the mentors who accompanied the project.

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

4. If participating teams do not demonstrate satisfactory progress in developing their solutions, and/or do not attend in the various program activities, the organization reserves the right to

cancel payment of the second prize parcel or trigger the legal mechanisms to be reimbursement of the first prize parcel, already paid.

6. The payment of the cash prizes implies:

   d) The existence of a bank account in euros.

   e) The delivery of updated non-debt certificates to the Tax Authority and Social Security, issued by a body supervised by the Government of the applicant's Country.

   f) Delivery of IBAN proof, owned by the applicant entity.

CHAPTER VI - CLAUSES

Article 23.º - Obligations and Responsabilities

The participants of Aveiro Tech City Challenges commit to:

   a) Comply with the directives set in these participation rules and other guidelines given by the organization of Aveiro Tech City Challenges, as well as provide information about their project, whenever requested.

   b) Attend and actively participate in each phase of the programme, namely: Aveiro Tech City Pitch, final pitch and demodays, under penalty of not being awarded the monetary support referred to in Articles 21 and 22.

Article 24.º - Intellectual Property, Communication, licenses and oprtaion costs

1. The intellectual property of the solutions presented is acknowledged to the participants/promoters of the projects.

2. The solutions developed within the scope of the Aveiro Tech City Challenges, including the respective hardware and software, cloud and telecom costs in the first year of operation, will be assigned to the Municipality of Aveiro in exchange for the monetary prizes awarded for their development, safeguarding the possibility of an eventual agreement for the provision of additional maintenance services for these same solutions.

3. 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.

4. The teams will be responsible to support 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.

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

Article 25.º - Final Clauses

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

2. Participants automatically agree with the dissemination of their projects, using images, texts, voices, names and brands, in any means of dissemination and promotion, without charge or term of retribution.

3. The organization reserves the right to modify these rules, as well as the Jury composition, in case of *force majeure*.

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

Article 26.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 – URBAN CHALLENGES

URBAN CHALLENGE #1 **– Surveillance Drone Platform**

SCOPE:

Following the vast majority of Inspection Actions, notifications are sent to violators with a deadline, with the objective of restoring legality, namely, at the level of Urban Supervision, but especially for Land Cleaning, whether unhealthy or fuel management.

The aforementioned Notifications presuppose a prior Inspection Action where all the necessary elements are collected for the identification, of the subject as well as of its holder.

After the deadline, the Notifications need verification, which is nothing more than the travel of a Team of Municipal Police Officers to the land, to acquire a photographic record, of the situation, often at the limit of the municipality territory.

This context could be an opportunity to implement Unmanned Aerial Vehicles (UAVs), aka DRONE in support of enforcement actions.

DEVELOPMENT:

With the massification of the use of such Unmanned Aerial Vehicles (UAVs), aka DRONE, in various sectors of activity we will have, in the short term, clarification of this use as well as the publication of appropriate legislation.

Legality issues aside, we understand the use of Drone very beneficial, practical, efficient and effective as a complement to the activity of Surveillance.

In addition to being able to be used in preventive supervision through the verification of the execution of any constructive elements in sometimes inaccessible places, it would also be used for the objective verification of the situations that we need to validate as photos after notification.

The Environmental scourge with the deposition of RCD's (Construction and Demolition Waste) and other domestic materials in places of very difficult access, could be deterred with an Equipment that without Prior Notice would leave in Video Surveillance Mission by the county. Launched from the Base (Municipal Police Facilities in the Park of Fairs and Exhibitions of Aveiro), or closer to the sites, through a vehicle of the Municipal Police, where it is necessary to verify, it would quickly identify situations of illegality for consequent Inspection, objective and effective.

Drones are Unmanned Aerial Vehicles (UAVs), in addition to real-time driving, allow the autonomous collection of data through a prior programming of flight coordinates in which depending on the

objectives of the photographic survey the most appropriate parameters are defined. This collection, if integrated in an inspection management platform, would allow the documentary treatment of the entire mission.

Mission examples and description of the digital process:

1. Verification of land clearing (unhealthy and fuel cleaning), knowing the location of the land to be checked, the flight coordinates and the place to be checked were introduced and quickly, objectively and effectively, we would have access to the current situation of the land to be verified.

2. The images collected by the drone would be sent to a computer platform and then analyzed in the Process by the Agent who closed it or continued with the diligences according to the case.

3. In this case where the operation is fully programmed, there would be no inconvenience to be carried out in outsourcing, in which the drone could be hosted and operated by a private company.

4. Verification of events that occur in urban channels, such as clandestine discharges of residual effluents and that through aerial sweeping, in a given area, could facilitate the location of its origin, with the identification of possible sources of contamination. In these cases the drone should be operated by an Police Officer with specific training for this purpose.

5. In cases where the use of the drone is intended for surveillance and surveillance in real time, as is the case of the deposition of RCD's and other household materials in places of very difficult access.

The following technical characteristics of the complete solution (Drone + Digital Supervisory Management Platform) should be the following:

- The Drone to be supplied must have the following minimum characteristics:
    - Minimum operating time on a single battery: 40 minutes;
    - 2 packs of batteries extra to those equipped with the drone, in order to triple the minimum operating time from 40min to 120min.
    - Image sensor with a minimum of 20MPix
    - Minimum resolution of 4K / 60fps
    - Adjustable image aperture f/2.8-f/11
    - Omnidirectional obstacle detection
    - Ability to transmit real-time video in HD and up to 15km
    - Ability to fly by "waypoint flight"

- o Should include an operation console.
- Software with implementation with "opensource" tools / frameworks
- Platform with fully responsive backoffice, allowing you to run in browsers on a PC, tablet and smartphone.
- The platform should have a work area for mission management with two types (a) automatic and (b) manually piloted. Mission management should allow the recording of the coordinates and orientation of the drone in real time, marking in a timeline and geographical the records made (photos and videos)
- The platform should have a separate mission management area, which will be used for the procedural handling of each occurrence. The occurrence should allow to automatically generate a PDF/A file with the metadata of the occurrence (mission, date/time, duration, route, locations, evidence such as photos and snapshots of videos taken and links to the videos.
- Hosting of the backoffice solution, storage for the records and occurrences made, API and interfaces for the mobile application developed and support of operation and computer security in a period of 1 year after the end of the challenge;

MENTORSHIP:

Paulo Mesquita | Divisão de Polícia Municipal e Fiscalização | pmesquita@cm-aveiro.pt

URBAN CHALLENGE #2 **–** Digital Construction Book

SCOPE:

In accordance with the RJUE - Decree-Law no. 555/99, of 16/12, in its current wording, and Ordinance no. 113/2015, of 22/04, which defines the instructive elements, all works subject to licensing or prior communication, must have on the site of the work, stamped by the Municipality to register the state of execution of the works, by the technicians in charge of the construction.

In accordance with Article 97, the construction book of the RJUE holds all relevant facts relating to the execution of licensed works or subject to prior communication must be recorded by the respective director of work in the construction book. It must be kept at the construction site for consultation by the municipal officials responsible for the supervision of works.

In addition to the respective start and completion dates, all the facts that imply its stop or suspension, as well as all the changes made to the licensed or communicated project, are mandatorily recorded in the construction book.

DEVELOPMENT:

It is intended to create a digital platform to support the digital construction book, with online access by the municipal supervision and those responsible for the work. This should allow a more adequate and precise recording of the necessary interventions, the joining of photographs and other documents considered relevant, such as the transport of waste, as well as the control of the attendance and date of technical visits, which allows to manage more adequately the expiry of licenses.

At the end of the work the application must generate a digitally signed PDF/A file that is attached to the application for authorization of use in the CMA works process management system (SPO), not being a requirement to make the new application compatible with the SPO.

The digital construction book should be a digital platform that supports login access for various types of users.

The owner of the work creates an instance of the book and fills the opening title with the basic data of the book: holder of the license, Identification of the technician responsible for the supervision of

the work; Identification of the coordinator and authors of the project; Identification of the construction company; Identification of the director of the work; Type of work to be performed; Identification of the building. At this stage, each user identified by the developer receives an email sent by the platform to register and authenticate.

The developer informs the CMA together with the application for issuance of the permit, of the electronic identification of the construction book.

The CMA/DGU validates the book and gives access to the DPMF for inspection together with the issuance of the work permit.

Immediately after the issuance of the license or, in the case of admission of prior communication, until the moment in which the interested party may start the works, in accordance with paragraph 2 of article 36-A of the legal regime of urbanization and construction, they must be entered in the digital book, by the services of the licensing entity, the following elements:

> a) Number of the license permit or the title of admission of prior communication for the accomplishment of the work;

> b) Identification of the holder of the license or the title of admission of prior communication, when it does not coincide with the holder of the license or the admission of prior communication for the accomplishment of the work;

> c) Date of issuance of the license or admission permit of prior communication and period granted for the completion of the works.

They must contain the possibility of registry by the developer in the opening of the abovementioned elements, if necessary.

A construction book consists of:

> - Opening Term;

> - A part intended for the recording of facts and observations concerning the execution of the work and the periodic recording of its state of execution; technical visits to the site must be recorded;

> - Another part intended for the registration of the main characteristics of the building and the constructive solutions adopted;(pursuant to the 26th of Ordinance no. 1268/2008, of 6 November, does not yet apply)

> - Possibility to attach files;

> - Termo de encerramento. O termo de encerramento deve ser lavrado, concluída a execução da obra, assinado digitalmente, pelo titular do alvará de licença e pelo diretor de fiscalização da obra.

At the conclusion of the work, the technical director must expressly indicate in the digital book that it is executed in accordance with the approved project, with the licensing conditions and with the use provided for in the construction permit, and also that all the changes made in the book are in accordance with the legal rules and regulations in force. Where the building is subject to the horizontal ownership regime, these particulars shall be referred both to the common parts and to each of the fractions.

Upon completion, and with the book completed, the developer generates a digitally signed PDF/A file.

The following technical characteristics shall be ensured:
- Implementation with "opensource" tools/frameworks
- All authentication/login and digital signature processes of documents and procedural steps of the digital construction book must use the AMA authentication platform – "autenticação.gov.pt" (citizen card support and digital mobile key)
- Fully responsive website, allowing you to run in browsers on a PC, tablet and smartphone. The actions of smartphone do not include signature with citizen card but with digital mobile key.
- Hosting of the backoffice solution, API and interfaces for the developed application and support of operation and computer security in a period of 1 year after the end of the challenge;

Relevant legislation (in original Portuguese Language):

"Decreto-Lei n.º 555/99, de 16 de dezembro, na sua atual redação:

Artigo 97.º - Livro de obra

1 - Todos os Factos relevantes relativos à execução de obras licenciadas ou objeto de comunicação prévia devem ser registados pelo respetivo diretor de obra no livro de obra, a conservar no local da
sua realização para consulta pelos funcionários municipais responsáveis pela fiscalização de obras.

2 - São obrigatoriamente registados no livro de obra, para além das respetivas datas de início e conclusão, todos os factos que impliquem a sua paragem ou suspensão, bem como todas as alterações feitas ao projeto licenciado ou comunicado.

3 - O modelo e demais registos a inscrever no livro de obra são definidos por portaria dos membros do Governo responsáveis pelas obras públicas e pelo ordenamento do território, a qual fixa igualmente as características do livro de obra eletrónico."

Portaria n.º 1268/2008, de 6 de novembro |
Define o modelo e requisitos do livro de obra e fixa as características do livro de obra electrónico
Artigo 24.º

As entidades licenciadoras poderão, através de regulamento municipal, autorizar a elaboração, manutenção e preenchimento do livro de obra através de meios electrónicos, conquanto a forma e os procedimentos adoptados na referida regulamentação garantam a efectividade e o cumprimento integral dos deveres previstos, na lei e na presente portaria, aplicáveis às pessoas, técnicos e entidades nele previstos e, nomeadamente, que garantam:

a) A segurança, a manutenção, a integridade, a fidedignidade e a inadulterabilidade do livro de obra;

b) De forma imediata e permanente, a disponibilidade, a acessibilidade, a consulta e o preenchimento do livro de obra no local de execução da obra, por qualquer pessoa, técnico ou entidade que deva lavrar registo de facto ou observação;

c) A identificação e validação fiável da autenticidade da identidade e dos registos, por assinatura digital ou forma com segurança equiparável, de qualquer autor de registo e no momento da realização do registo, ainda que a sua intervenção para efeito de registo de facto ou observação seja meramente ocasional ou no desempenho de funções de fiscalização, suficientes para consubstanciar a responsabilidade criminal prevista no artigo 100.º, n.º 2, do regime jurídico da urbanização e edificação;

d) O preenchimento do termo de abertura e de encerramento, com identificação e a validação fiável da autenticidade da identidade e das declarações, por assinatura digital ou forma com segurança equiparável, de todas as pessoas obrigadas à sua subscrição, suficientes para consubstanciar a responsabilidade criminal prevista no artigo 100.º, n.º 2, do regime jurídico da urbanização e edificação;

e) Seja possibilitada a qualquer interessado a consulta junto da entidade licenciadora, nos termos dos n.os 19.º e 20.º da presente portaria, devidamente adaptados e sem prejuízo do seu conteúdo, da parte do livro de obra destinada ao registo das principais características da edificação e das soluções construtivas.

Artigo 25.º

Sem prejuízo do disposto no número anterior, as entidades licenciadoras poderão ainda, através de regulamento municipal, autorizar a elaboração, manutenção e preenchimento da parte do livro de obra destinada ao registo das principais características da edificação e das soluções construtivas, através de meios electrónicos, conquanto sejam garantidas as condições previstas na alínea a) do número anterior, e ainda:

a) Sejam garantidas a identificação e a validação fiável da autenticidade da identidade e dos registos, por assinatura digital ou forma com segurança equiparável, dos autores dos registos;

b) Seja mantida no local da execução da obra uma cópia actualizada da parte do livro de obra destinada ao registo das principais características da edificação e das soluções construtivas; e

c) Seja possibilitada a qualquer interessado a consulta junto da entidade licenciadora, nos termos dos n.os 19.º e 20.º da presente portaria, devidamente adaptados e sem prejuízo do seu conteúdo, da parte do livro de obra destinada ao registo das principais características da edificação e das soluções construtivas.

Artigo 26.º

1 - A presente portaria entra em vigor no dia seguinte ao da sua publicação.

2 - As disposições da presente portaria respeitantes à parte do livro de obra destinada ao registo das principais características da edificação e das soluções construtivas adoptadas, com impacte na qualidade e funcionalidade do edificado, a que se reportam, nomeadamente, os n.os 1.º, alínea c), 2.º, alínea d), 8.º, alínea d), 11.º a 13.º e 22.º, apenas entram em vigor com a entrada em vigor de diploma que venha alterar ou revogar o Decreto-Lei n.º

68/2004, de 25 de Março, e que preveja, sem prejuízo da sua manutenção transitória, a extinção da obrigação de elaboração da ficha técnica da habitação a que se reporta o artigo 4.º daquele decreto-lei, aplicando-se as referidas disposições da presente portaria às operações urbanísticas sujeitas a procedimento de controlo prévio a que seja aplicável a obrigação de elaboração de bilhete de identidade do imóvel, quando este venha a ser criado.

MENTORSHIP:

Sónia Pires Pereira | Urban Management Division | spereira@cm-aveiro.pt

URBAN CHALLENGE #3 – **Integrated Management of Sports Infrastructures**

SCOPE:

The Municipality of Aveiro (CMA) manages a set of sports infrastructures, to be designated: Pavilions and their gymnasiums, multi-sports and Tennis Court, as well as other public facilities used by the community for sports practice.

It is therefore important to increase rates of use and sharing of these infrastructures by the population, through the creation of a digital platform that allows the promotion / presentation of existing infrastructures and the respective pre-scheduling of spaces.

The platform should consist of a responsive web / WebAPP interface for public access and a "backoffice" that is accessed by the managers of the sports spaces. The platform should consist of a responsive web / WebAPP interface for public access and a "backoffice" that is accessed by the managers of the sports spaces.

The digital platform should consist of a website / WebAPP for mobile phone, compatible with Android and IOS. For those interested can find all the information about the sports offer of the Municipality, both at the level of sports facilities, as well as at the level of the available modalities.

The software must be intuitive and simple, to allow the public to book the sports facility and/or book classes.

DEVELOPMENT:

It is intended to present innovative proposals for a Web platform and WebAPP for public access aimed at the promotion and reservation of shared spaces of sports infrastructures and sports modalities, and a backoffice with the following functional characteristics:

- Public WebAPP
    - Infrastructure visualization module
        - List view
        - Geographical view (including geographical coordinates)
        - View of photos and attributes of each space (e.g. capacities, opening hours, etc.)
    - Infrastructure scheduling module
        - Registration form with selection of:

- Identification and contact details of the applicant (email and mobile phone)
- Requested infrastructure
- Desired time slot registration with automatic real-time verification of availability
- Submission with issuance of QR-Code with reservation code
  - Inquiry form, editing and cancellation of reservation:
    - Presentation of the reservation code and obtaining the reserved space, dates and times and status (accepted / canceled)
    - Option to change reservation and cancel reservation
  - Email communication module
    - Sending an email in the reservation, change and cancellation actions of the reservation
- It should be possible to adapt graphic style to the image of the website of the Municipality of Aveiro
- Management "Backoffice" should allow:
  - Login of multiple users with the following profiles:
    - managers of sports venues (only access to the spaces managed by them and acceptance/rejection of their reservations)
    - Administrator (full access to the platform and allocation of sports infrastructures to space managers)
  - The editing of content related to shared sports infrastructures (names, locations, written attributes, schedules, photos, etc.)
  - The editing of content related to shared sports (names, locations, written attributes, schedules, photos, etc.)
  - The management of reservations made (accept, propose change and reject reservation)
  - The sending of a customized message when rejecting or changing the reservation

The following technical characteristics shall be ensured:
- Implementation with "opensource" tools/frameworks
- Website to the public and fully responsive backoffice, allowing you to run in browsers on a PC, tablet and smartphone
- WebAPP compatible with Android and IOS

- Hosting of the backoffice solution, API and interfaces for the developed mobile application and support of operation and computer security in a period of 1 year after the end of the challenge;

MENTORSHIP:

José Manuel Batista | Education and Sport Division | jmbaptista@cm-aveiro.pt

ANNEX II – AVEIRO TECH CITY LIVING LAB

The Aveiro Tech City Living Lab (https://www.aveirotechcity.pt/pt/atividades/aveiro-tech-city-living-lab) covers the entire city of Aveiro, supported by an infrastructure network of optical technology and radio network, connecting more than 40 radio units and about 16Km of fiber. The network provides short and long range communications (5G, LoRa, Wi-Fi, V2X - Vehicular to everything), mobile and fixed sensors for data collection (such as environmental sensors, mobility sensors, Lidars, Radars and video cameras) and advanced computing units, covering the urban area of the city of Aveiro. These units are distributed throughout the city of Aveiro through two types of fixed structures (in 44 locations): on poles designed to integrate this technology and in building facades.

The infrastructure of Aveiro Tech City Living Lab includes a set of equipment installed in the urban center, which allow a set of monitoring or interaction functions with users, for example:

- Experimental telecommunications antennas 5G, LTE/UMTS, Lora, Point-to-point connections of microwaves, Wi-Fi, ITS-G5 and C-V2X (for communication with people, sensors, cars, among others)

- 20 Environmental Stations, for measurement of air quality, noise and meteorological conditions

- Mobility sensors

- Radars and LiDARs (Light Detection And Ranging) in key areas of the city

- Smart seats

- Smart breaking lights for individual bicycles

- 22 Bike-sharing stations with wi-fi network of the new BUGA system – public system of bicycles sharing in the City of Aveiro [to be operationalized in 2022]

- Wi-Fi antennas

- 10 electric charging stations for maritime-tourist vessels in the city's urban channels [to be operationalized in 2023]

- Smart parking sensors installed in periphery parks around the city.

- Connected Autonomous mobility systems.

This living lab is available to research centers, companies and universities, so that they can develop, test and validate innovative concepts, new products and services, assuming itself as an ecosystem of open innovation, with a set of services available.

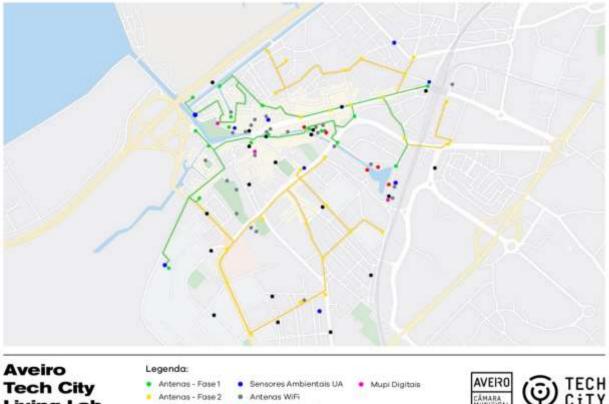The open radio communications network enables a wide variety of tests, such as:

- Systems testing, allowing the installation of new equipment in the network terminals, which will be interconnected and connected to a central system through a fiber optic network;

- Testing applications for city managers and citizens;

- Monitoring at various levels, such as radio spectrum used in the territory, environmental, mobility;

- Testing of reactive solutions for the improvement of the city, in the areas of the environment, energy and mobility, such as for the prevention of accidents on the road.

- Interactive mobility, allowing the integration of new vehicular sensors.

- Access to city data, its services, citizens, weather conditions, etc.

- Autonomous mobility, for autonomous and multimodal driving.

- Critical and emergency scenarios in cities

- Smart parking

The communications infrastructure also includes a 5G network, covering the city's urban area, which provides 5G communications in non-standalone (NSA) and standalone (SA) mode to projects and end users, using a 5G core managed by Altice Labs. Also within the scope of the Aveiro Tech City Living Lab, 10 Aveirobus buses and 3 Veolia trucks are equipped with environmental and mobility sensorization units and communication units. Through these units it is possible to obtain a map of the city and the various roads at the level of environmental sensorization (temperature, humidity, pressure, pollution, noise, among others) and other mobility parameters (speed, acceleration, braking, among others), to detect congested and/or dangerous areas.

**Aveiro
Tech City
Living Lab**

Legenda:

- Antenas - Fase 1
- Antenas - Fase 2
- Estações BUGA
- Sensores Ambientais UA
- Antenas WiFi
- Bancos Conectados
- Mupi Digitais

ANNEX III – APPLICATION FORM

1. ENTITY/BENEFICIARY

- Name *
- Type * (Startup / Scaleup / R&D Institution)
- Website/Linkedin
- Responsable for the team/project (name, email and mobilel) *

2. SOLUTION/PROJECT

- Name *
- Category (choose one of) *
    . Urban Challenges (choose one of the three):
        Urban Challenge #1
        Urban Challenge #2
        Urban Challenge #3
    . Aveiro Tech City Living Lab

2.1. Short description of the project (maximum 1000 words) *

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

2.2. 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 + Response to the theme/challenge

2.3. 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

2.4. 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 + Project Maturity

2.5. 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: Project Maturity

2.6. What tasks will be carried out during the development and testing phase in order to guarantee the public presentation of the solution in October 2023? *

Present a schedule and/or calendar of the actions to be developed and the allocation of human resources to these actions.

EVALUATION CRITERIA: Technical skills and work methodology for project development

2.7. Describe in detail the costs of human resources and equipment/services incurred in project development tasks identified in the previous question and how it's ensured that the cost limit of €20,000 is sufficient to guarantee the success of the proposed objectives. *

Present the necessary investments for the solution/project to be publicly presented in October 2023.

EVALUATION CRITERIA: Adequacy and justification of the budget presented

3. TEAM

- Number of elements (maximun of 3) *
- Names, emails and mobiles *
- Qual o papel de cada membro no projeto *
- 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.

EVALUATION CRITERIA: Team/Promotors Skills/Competences

4. ANNEXES

Participants must attach to their application:

- Documents, images or video that demonstrate the portfolio, the working status of the prototypes or products or that clearly illustrate the solution being tendered.
- Permanent Certificate or Company Registry, in the case of companies; Declaration of the beginning of Activity, in the case of Individual Entrepreneurs or Independent Workers.

5. FINAL CONSIDERATIONS

By submitting the application, participants declare that:

- The information is reliable and true.

- The submited projects have a maturity level equal to or greater than TRL 3 (experimental proof of concept) and equal to or less than TRL 7 (System prototype demonstration in operational environment).

- 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 IV – PROGRESS REPORT

This progress report is reported on Click here to write the date

1. PROJECT IDENTIFICATION

Project Name

Click here to write

2. ACTIONS AND ACTIVITIES DEVELOPED

Description of the work carried out to develop and implement the project. Try to specify and detail the actions developed

and, if possible, schedule them over time.

Click here to write

3. MENTORING

Description of the sessions conducted with the Mentors and the work plan that resulted from each session.

Click here to write

4. TEAM

Description of the work carried out by each member of the team and the allocation to the project.

Click here to write

5. TEAM IDENTIFICATION

Name Element 1: Click here to write   % Allocation: Click here to write

Project Role: Click here to write

Name Element 2: Click here to write   % Allocation: Click here to write

Project Role: Click here to write

Name Element 3: Click here to write   % Allocation: Click here to write

Project Role: Click here to write