AXIS of INTERNVENTION - OBJECTIVES

1st AXIS
EDUCATION

Aveiro intends to continue the innovative work developed under the STEAM Education program, that was implemented in all levels of education: 1st cycle to Secondary level. It includes, among others, the Tech Labs in partnership with the University of Aveiro and the Steam Platform UBBU.

2nd AXIS
TRAINING

We intend to support our companies in the creation, attraction and retention of talent that supports the digital transformation and economic growth of our ecosystem, while also promoting the intensification of collaborative work between our Scentific Community and the Culture and Creative Sector.

3rd AXIS
TECH, SERVICES & APPs

With our Living Lab we aim at supporting Tech Companies in the test and development of innovative projects in the fields of telecommunications, IoT and Smart Cities, that can also contribute, whenever possible, to offer better services to our citizens or visitors

4th AXIS
CHALLENGES

We aim at involving companies, startups, R&D Centres, local associations and citizens in general, in the process of Digital Transformation of our City, making them active agents in that process.

ACTIVITIES

1st AXIS
EDUCATION

- Tech Labs in Schools – 1st, 2nd & 3Rd Cycle
- Tech Labs in Schools – Secondary Level
- STEAM training for teachers
- STEAM resources platform UBBU
- *Escola Ciência Viva*
- STEAM RESIDENCES
- STEAM European Network

2nd AXIS
TRAINING

- Tech City Bootcamp
- Labour Observatory
- STEAM Training | Aveiro Social and Educational Alliance
- CIRA
- Criatech Artistic Residences
- MTF Labs

3rd AXIS
TECH, SERVICES & APPS

- Aveiro Tech City Living Lab
- Urban Platform
- Aveiro Municipal Card
- Use Cases to Support Digital Transformation [Culture, Environment, Energy, Mobility]
- European Structural Funds Projects [Horizon Europe | P2030 | PRR | Others]

4th AXIS
CHALLENGES

- Aveiro Tech City Challenges
- Participatory Budget with Direct Intervention
- Aveiro Young Creator
- Art & Tech Events [Dance, Theatre, Music]
- Aveiro Tech City Open Days

EDUCATION

GOAL

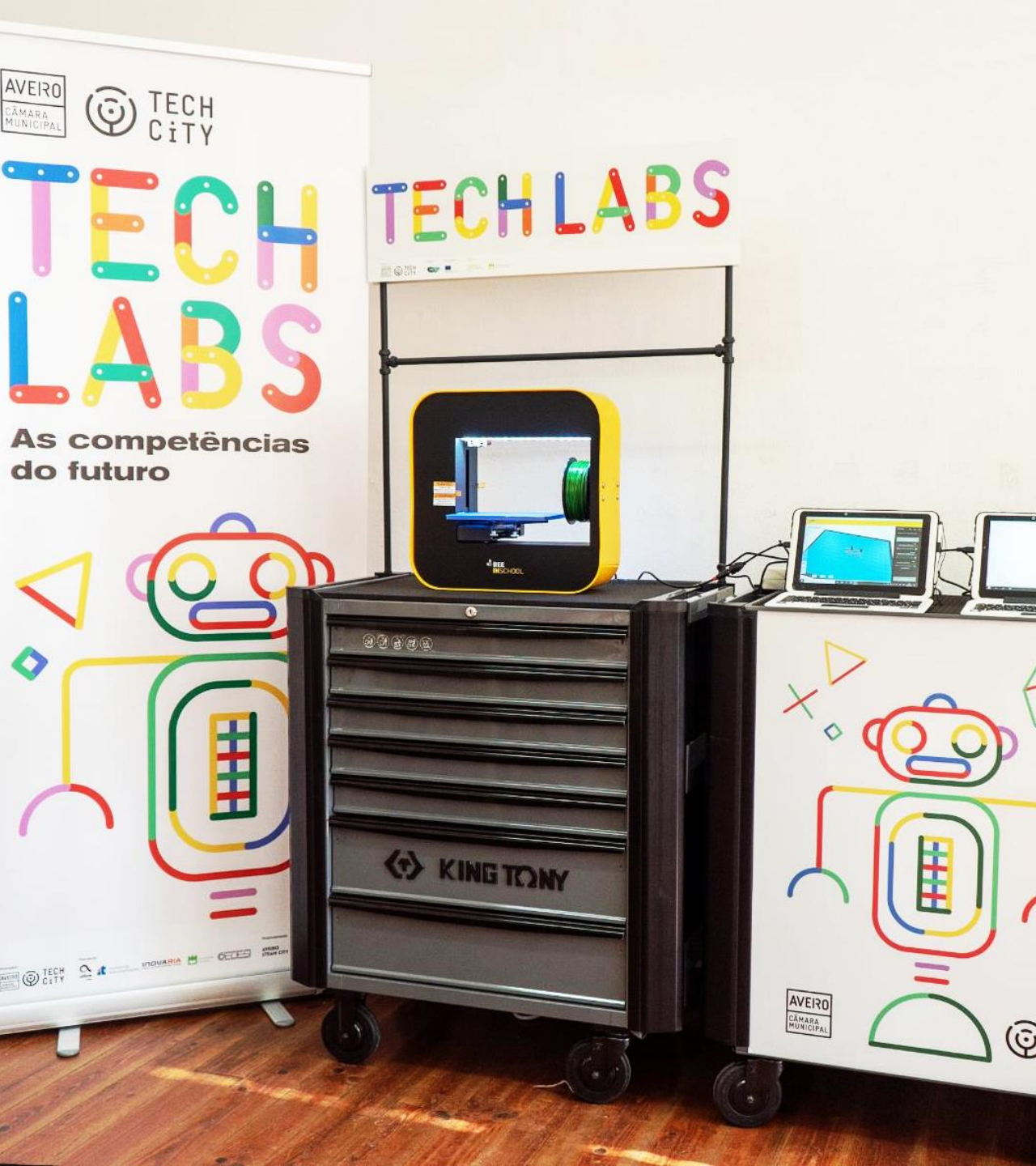Develop a society based on knowledge, ready to succeed in the digital era.

— TECH LABS IN SCHOOLS

— STEAM TRAINING FOR TEACHERS
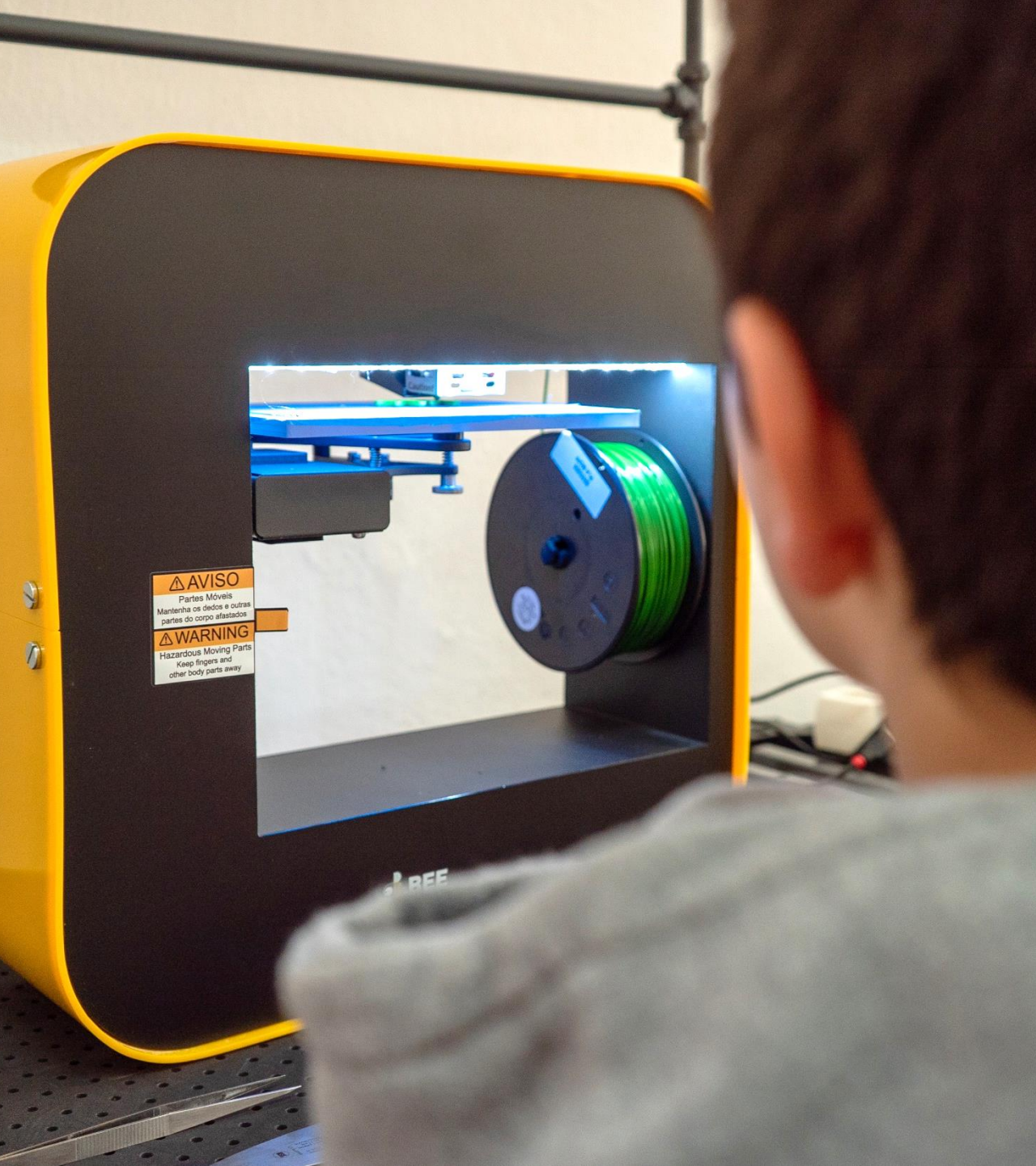
— ESCOLA CIÊNCIA VIVA

— UBBU

— REINFORCING THE A

— TECH LABS IN SCHOOLS

Our main **objectives are:**
• To promote the knowledge in science, technology, engineering, arts and mathematics
• To consolidate critical analyses, self-learning, collaborative work and problem solving's resilience in our students
• To offer all the relevant skills and necessary knowledge to our teachers, that will be the Change Agents in Schools, to implement this programme.

— TECH LABS IN SCHOOLS

1st Cyle of Education:
[launched in 2019-2020]
- 31 Tech Labs equipped with 3D printers, robotic kits and electrical circuits kits.
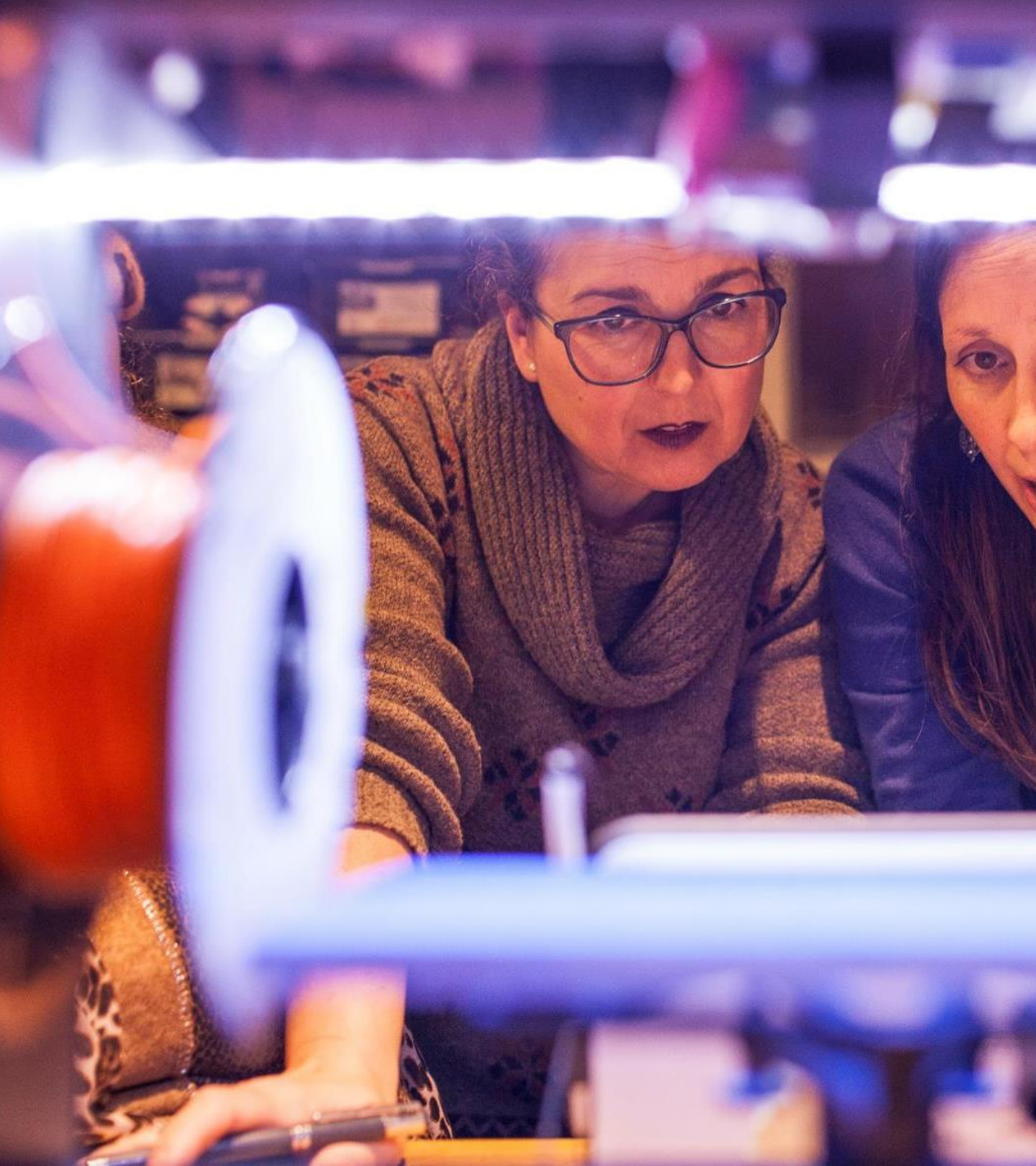- 2325 students from primary school engaged

2nd and 3rd Cycle of Education:
[implemented in 2021/2022]
- 10 Tech Labs
- 1032 Students engaged

Secondary Level:
[launched in 2019-2020]
- 4 Tech Labs
- 637 students engaged

EDUCATION

— STEAM training for teachers

Training programme + classroom follow-up.

Primary Schools
Engaged teachers: 141
Training scheme: 293-hour
Training follow up in schools: 1318-hour

Intermediate Schools
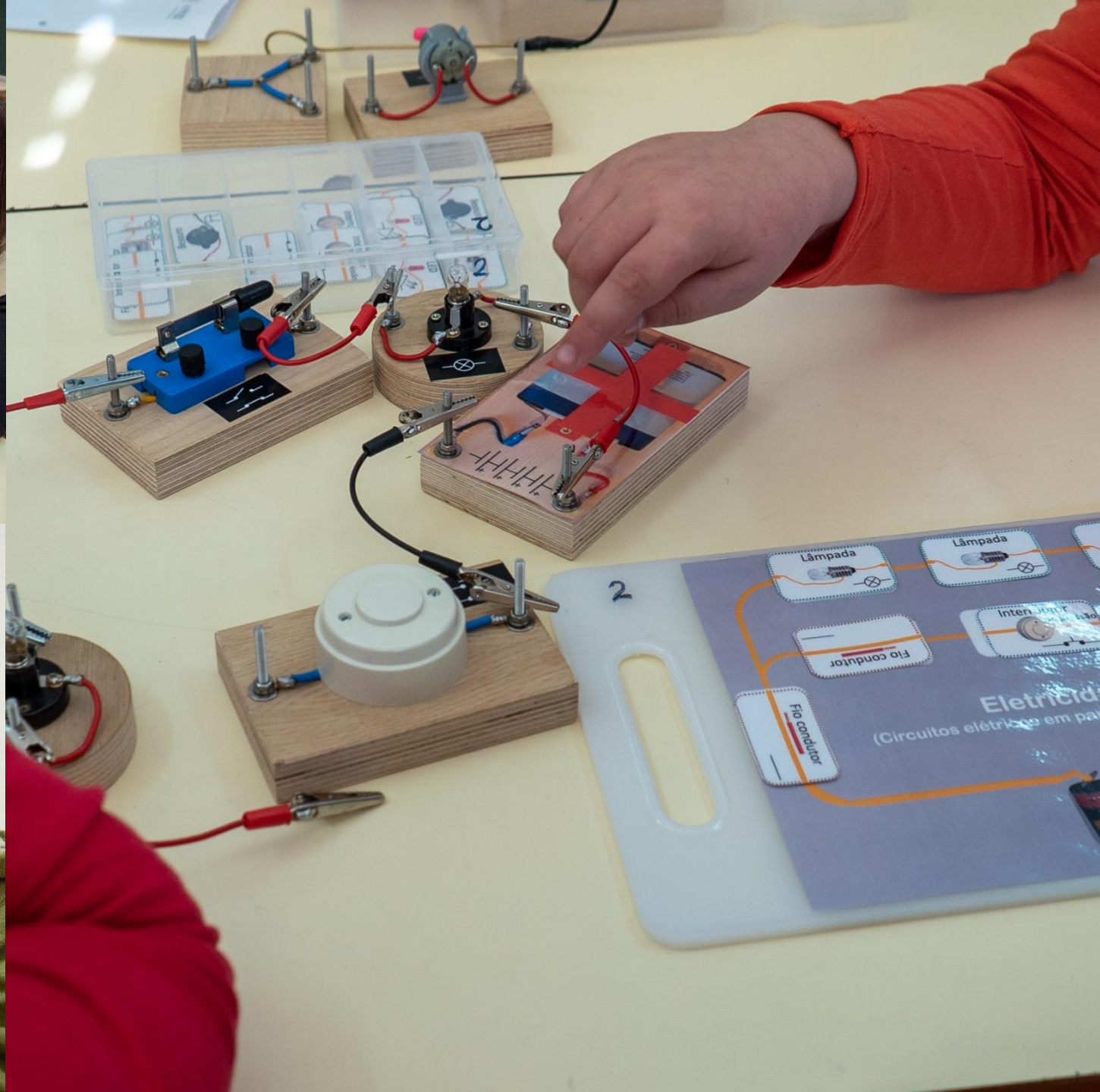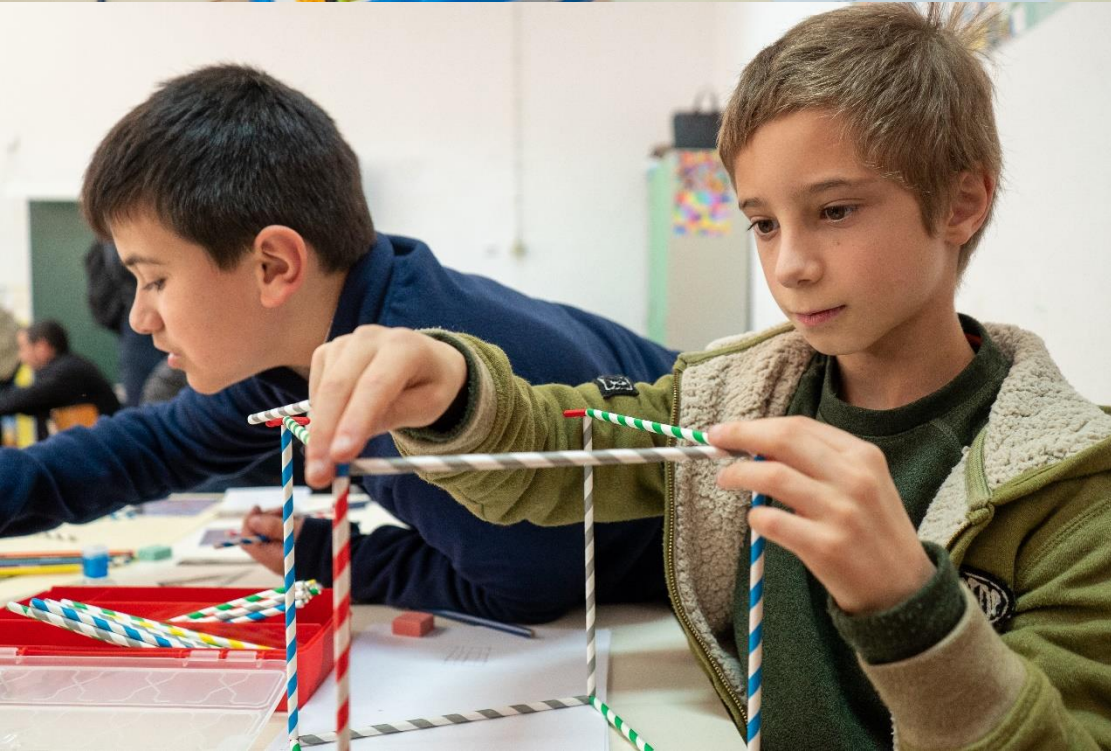Engaged teachers: 54
Training scheme: 120-hour
Training follow up in schools: 120-hour

High School
Engaged teachers: 16
Training scheme: 34-hour
Training follow up in schools: 150-hour

— THE VOICE OF THE USERS

Marco Aurélio
Teacher | Tech Lab

"The Tech Lab project, according to my perspective, is very important in two dimensions: i) Technological dimension - empowers trainees (teachers) with technological tools with enormous applicability to students and to school community, creating this greater form of involvement of all in the learning process; ii) Innovation dimension - the tools used are very innovative and create bridges for new research and new teaching processes and methodologies: more updated and strategically aligned with students' self-motivations."

"In my opinion, the Tech Lab project brought the long-awaited innovation to schools and teaching. It equipped the schools with innovative materials (especially 3D printers, Makey Makey boards - new to most of the students), electronics and robotics materials, among others. This wealth of materials allowed creation of spaces for creation and experimentation, collaborative and creative spaces, centred on the student/learner."

Ana Brito
Teacher | Tech Lab

— *Escola Ciência Viva*

Escola Ciência Viva is an educational fully dedicated to STEAM education

Engaged Schools: 31 (Total of schools in the Municipality of Aveiro)
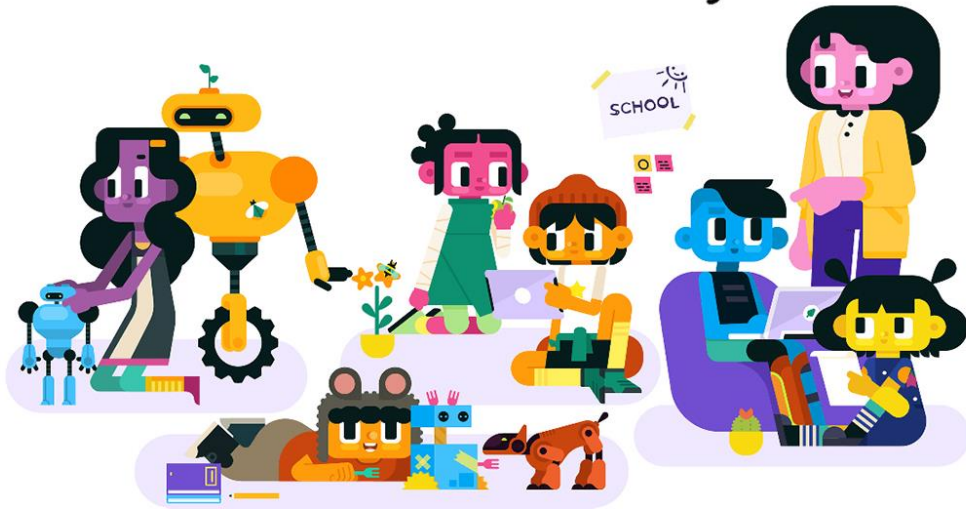Engaged students: 750 per year
Engaged teachers: 45 per year
Implementation period: from the 2019 / 2020

— STEAM resources platform

UBBU is a STEAM Education Resources Centre dedicated to **primary schools** and promotes:
• Learning by doing activities;
• The development of basic knowledge in computing science, logic thinking and problem solving capacities.

Engaged Schools: 27
Engaged Students: 2342
Engaged Teachers: 131

[2019/2020-2020/2021-2021/2022]

ubbu
code literacy

— Reinforcing the A

**STEAM Residency with Oulu >
European STEAM Network**

- The STEAM Artistic Residencies aim to explore the A of Arts in the STEAM educational process, through the involvement of artists, teachers and students from different countries in the same creative process.

Education European Network

2nd AXIS

TRAINING

GOAL

Enabling the future of labour skills in local professionals and human resources.

— **AVEIRO TECH CITY BOOTCAMP**

— **LABOUR OBSERVATORY**

— **STEAM TRAINING | AVEIRO SOCIAL AND EDUCATIONAL ALLIANCE**

— **CIRA**

— **CRIATECH ARTISTIC RESIDENCIES**

— **MTF Labs**

TRAINING

— **AVEIRO TECH CITY BOOTCAMP**

Coding skills for non-geeks only! A smart strategy to train human resources and retain talents in the Aveiro Region.

3 Bootcamps
59 Trainees
75% of employability rate

Aveiro Tech City Bootcamp

João Correia
Trainee | Bootcamp

"This initiative was spectacular to launch me into the job market as a programmer. Since I was already studying programming before joining the course, I was looking for a training opportunity that would capture the attention of companies. That said, I couldn't be more satisfied with my choice.

It was definitely an opportunity that positively changed my life. I got a good job in an area that I love and being able to learn and be challenged every day is very good. I would recommend to anyone who has a taste for programming to opt for such an initiative."

"The structure of classroom training leads to the development of soft skills that are an asset for the business community and for the integration of the trainee in the work context. The internship offered at the end of the classroom training is extremely important for the consolidation of the syllabus and for the launch of new careers. Without a doubt, the Aveiro Tech City program acts as a facilitator of opportunities and a launching pad. It allowed me to enter into a market that I was aiming for in a short period of time. This initiative put me on the path to professional success."

Tiago Silva
Trainee | Bootcamp

— LABOUR OBSERVATORY

Aveiro Labour Observatory aims to contribute to the development of skills and to the retention of human talent in Aveiro, identifying training needs and developing training programs to meet the challenges of the business environment in Aveiro.

DIAGNOSE [2019-2020]
- 300 questionnaires + 20 1-1 interviews to Industry | ICT | Tourism professionals
- 5 Workshops
- **Prospective analysis by the University**

ACTIVITIES [2021]
- **8 pilots training courses** | 25 hours each about digital and tech skills for the Local Workforce | Implementation from **November 2021 to February 2022**
- **4 workshops** for students, undergrads and young professionals | **Implemented in June 2021**
- **4 long term programs** with university credits | Implementation from **September to December 2021**

aveiro education
and social alliance

— STEAM TRAINING

Aveiro Education and Social Alliance (Aveiro Alliance) translates an ambition to deepen and accelerate the vision for teaching and learning in order to enhance the qualification with quality of young people and adults.

2023-2026:
- +230 students with new degrees in STEAM Areas
- +6450 Active adults involved in STEAM training courses for the upskilling of competences

— CIRA

OBSERVATORY OF NON SUPERIOR EDUCATION AND TRAINING IN THE REGION OF AVEIRO — its main purpose is to strengthen the information, knowledge and capacity building of the system of actors for educational action in the region, namely in the response to the monitoring of dynamics and projects and in the response to educational and training challenges, in a context of competitiveness, sustainability and regional cohesion.

SPECIALIZED TECHNOLOGICAL CENTERS — under the Recovery and Resilience Plan (PRR) it is planned to improve the technical and pedagogical capacity of educational and training spaces, contributing decisively to the modernization of vocational education and training by increasing the quality and diversity of training supply, giving priority to courses aimed at specialized practical training in areas of high technological intensity and the new economy, increasing the skills and qualifications of students at the end of compulsory education and contributing to innovation and resilience of the Portuguese economy. By 2025, at a national level, 365 Specialized Technological Centers will be installed, 13 of which will be in the Aveiro Region.

TRAINING

— AVEIRO CRIATECH ARTISTIC RESIDENCES

Partnership with ESAD (School of Arts and Design) and UA (university of Aveiro)

1st Edition
2 guests artists: Michael Dean e Cadie Desmeules
24 Selected Participants
18 Successfully Concluded (few withdrawls due to Covid-19 contrains)

2nd Edition
1 guests artists: Patrícia J. Reis
20 Participants (limit)
2 Prizes: 1400€ each

TRAINING

— #MTFLabs

Innovation prototyping event that brings together a carefully curated group of experts selected from the global MTF community together with regional ecosystems of creators, researchers and entrepreneurs.

The event intends to:

- promote the digital transformation of the municipality and companies.

- Reinforce the artistic component as a strategic investment for the region, positioning Aveiro in the development of activities enhancing creative and artistic industry;

#MTFLabs Aveiro gathered annually around 50 experts from around the world with different backgrounds to collaborate in innovative projects with music as social glue.

3 Editions: 2020 | 2021 | 2022

Curation: Michela Magas

"This programme allowed me to expand my knowledge and see new artistic projects, deepen technical skills in prototyping and learn new tools, such as, TouchDesigner software. In fact, I ended up using it in two works that I developed with my Suspicious Collective during the pandemic opening window in summer 2020: Compasso Incerto at Lisboa Soa, and Prana at Criatech.."

João Oliveira
Participant | Aveiro Criatech Artistic Residences

"MTF Labs Aveiro 2020 was wonderful, we are both feeling so honoured to have been able to participate and get to also visit Aveiro. We'd say it was refreshing, inspiring, and a great opportunity to visit a wonderful place and collaborating with other artists
The program allowed to explore new artistic and creative aspects and new ways of working. We never had the chance of doing a live performance before, and this experience opened a new world of opportunities for us. We've been collaborating actively with at least 2 different artists we met during MTF, with one of them there's an artist residency project we're doing together."

Sofia Crespo
Participant | #MTFLabs

TECHNOLOGY, SERVICES & APPS

— AVEIRO TECH CITY LIVING LAB

— URBAN PLATFORM

— USE CASES: CULTURE, MOBILITY, ENVIRONMENT AND ENERGY

— HUB at ATLAS building

— CITIZEN CARD

TECHNOLOGY, SERVICES & APPS

— AVEIRO TECH CITY LIVING LAB

The Living Lab infrastructure aims to be a space for testing innovative solutions, where multiple stakeholders collaborate in the development, validation and testing of novel technologies and services in a real context.

What do we have?
. 16 kms of the latest generation fibre technology;
. 44 reconfigurable radio units with a different set of sensors for data collection;
. 5G network, that includes four macro cells and one 5G Core device;
. Urban digital platform.

To whom?
At the service of **researchers, digital industries, startups, scaleups, R&D centres, entrepreneurs and other stakeholders** interested in developing, testing or demonstrating new IoT and Smart Cities products or services.

TECHNOLOGY, SERVICES & APPS

— URBAN PLATFORM

City Dashboard for the decision makers in the City + Data aggregation layer + ISO 37120

Data aggregation from

- IoT devices
- Management systems
- Operational and Financial data series
- External datasets

Main data types

- Energy
- Environment
- Mobility
- Communications
- Garbage collection
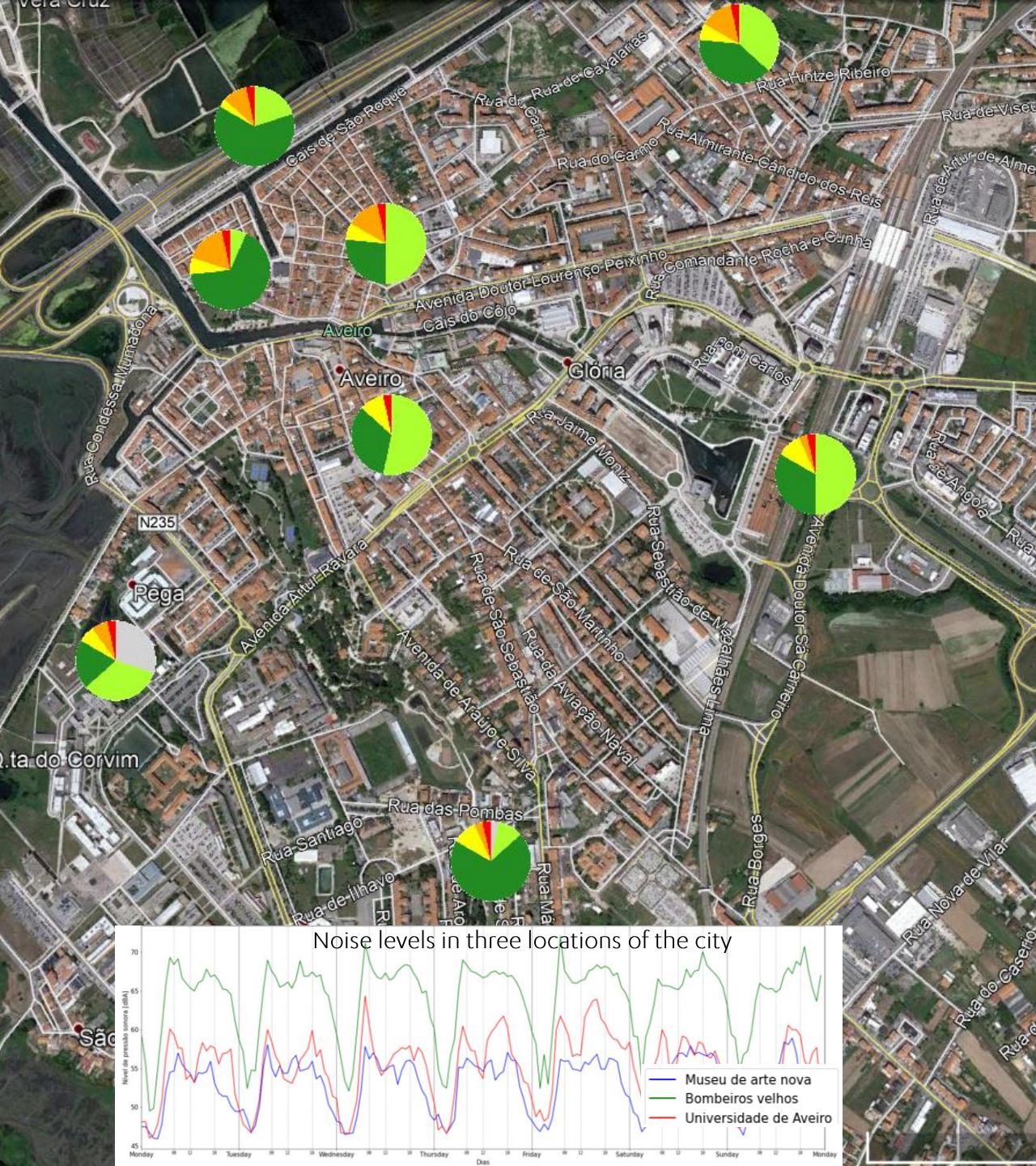- Economic performance
- Financial performance
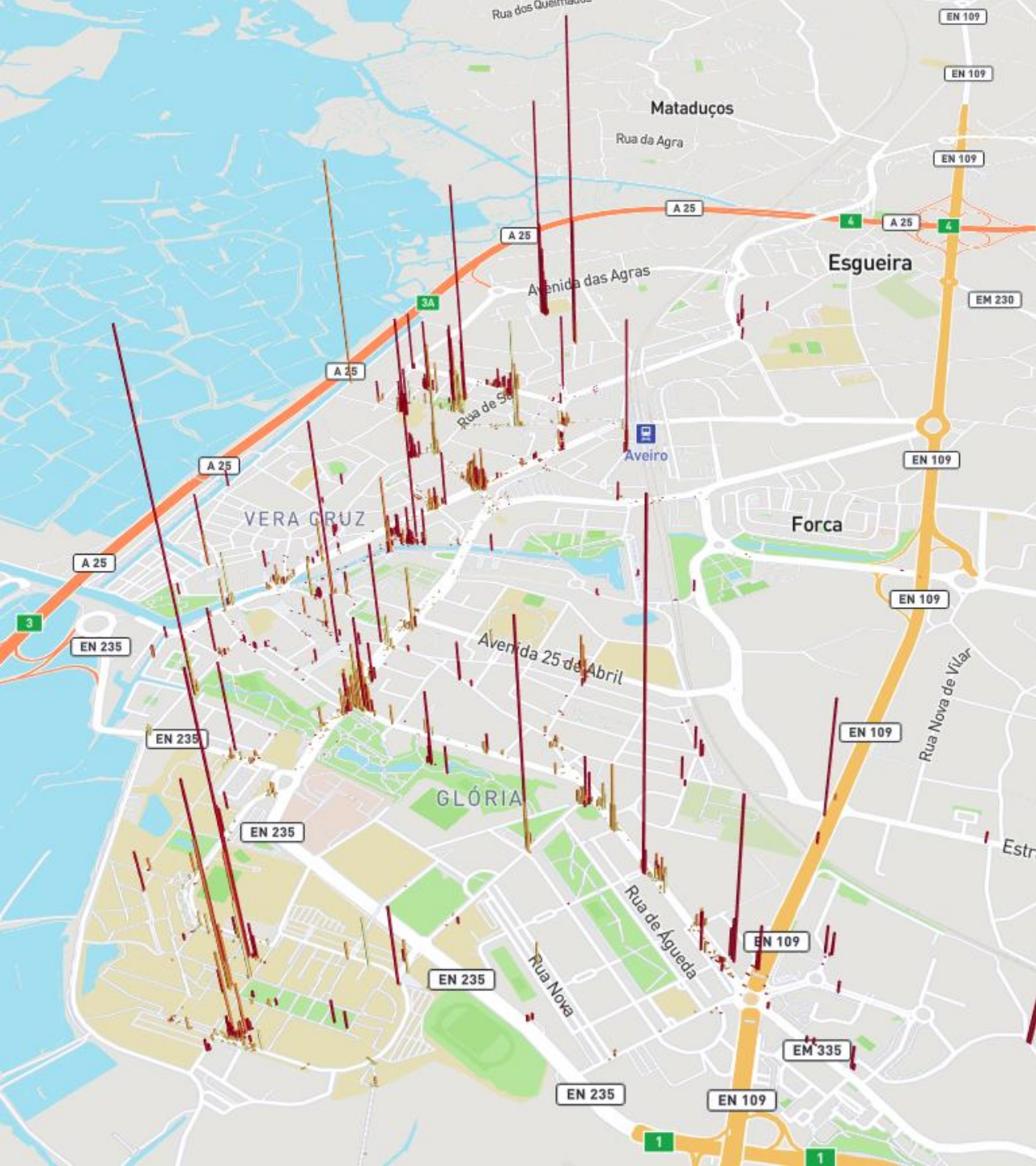
— URBAN PLATFORM

Individual and cross-domain data analysis (i)

In this example, decision makers and city planners can visualize the waiting times city's streets, in different periods of the day.

This data is collected from the mobility sensors in the bicycles owned by the participants of the mobility challenge.

Noise levels in three locations of the city

TECHNOLOGY, SERVICES & APPS

— URBAN PLATFORM

Individual and cross-domain data analysis (ii)

In this example, decision makers and city planners, citizens and other stakeholders can visualize air quality level in one specific day (very good, good, moderate, low) in each sensor installed in the Living lab.
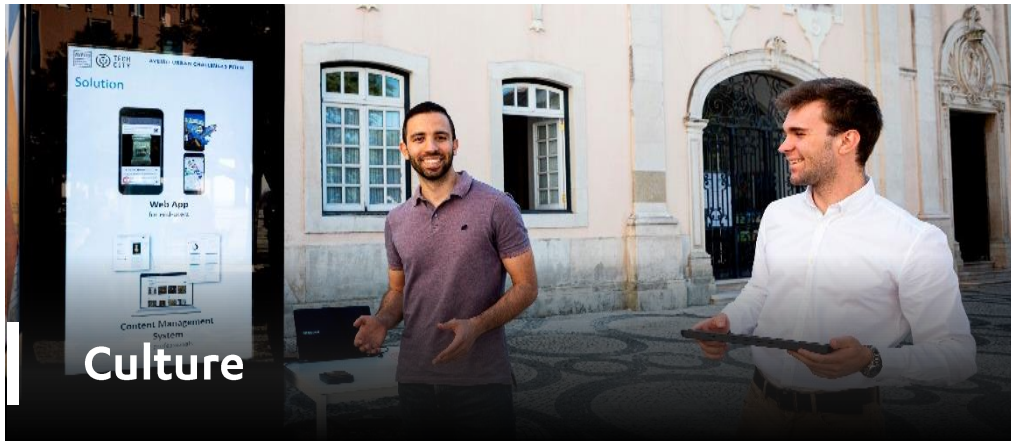
In the bottom graph, it is presented the noise levels in each location, which has a direct relation with the mobility in the area.
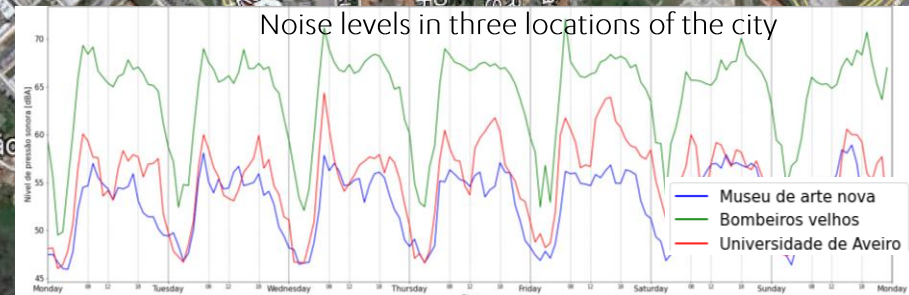
TECHNOLOGY, SERVICES & APPS

— USE CASES

Culture

Energy

Environment

Mobility

TECHNOLOGY, SERVICES & APPS

— HUB at ATLAS building

Immersive experimentation equipments over the data available in the urban platform.

Focused in the citizen experience. Data is processed and exposed in order to enhance user experience for non-technical audience.

Focus on building data awareness to the citizens and enhance the startup ecossystem to increase public data utilization to develop innovative products and services in Aveiro.

Located in na iconic building in the City center (edifício Fernando Távora) it was opened to the publin in October 2021

TECHNOLOGY, SERVICES & APPS

— European Structural Funds Projects

Under the Aveiro Tech City initiative, the Municipality of Aveiro and its partners will seek to make the most of existing opportunities under the Structural Funds [Horizon Europe | P2030 | PRR | Others].

The networking and articulation between agents in this process will be preponderant to ensure that the projects to be approved and executed are not only aligned with the objectives of this initiative, but also properly articulated among themselves.
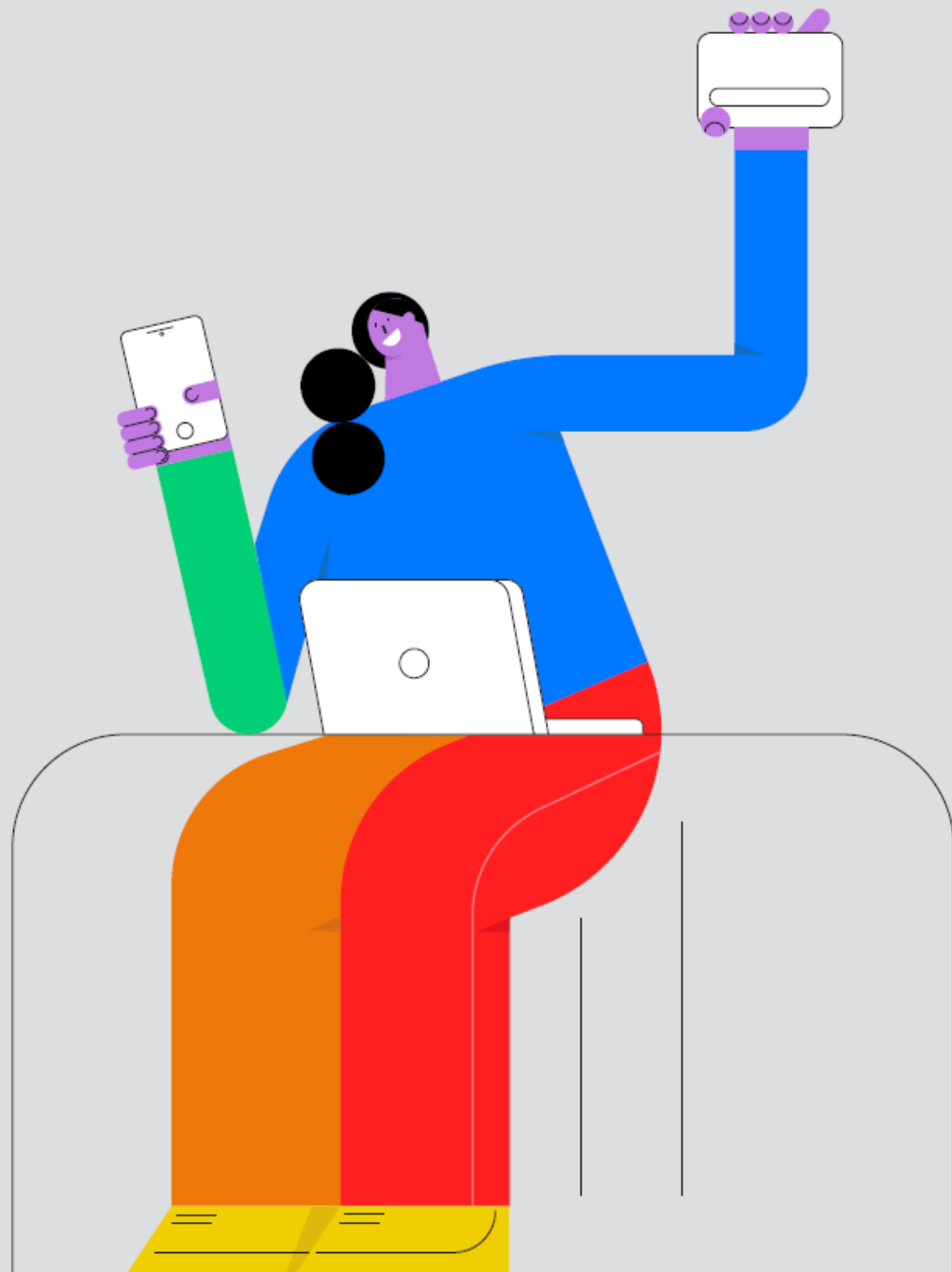
TECHNOLOGY, SERVICES & APPS

— CITIZEN CARD

The CARD4ALL project is a transfer network focused on the implementation of services and technologies through a citizen card system.

The development of digital tools allows to improve the relation between citizens and cities, enabling interaction and access to services, whilst services provision become more efficient and optimised.

Additionally, can also be used as a tool to promote social inclusion policies, sustainable mobility and quality of living, fomenting the construction of a smart city, collecting and correlation of data to a continuous improvement of its services.
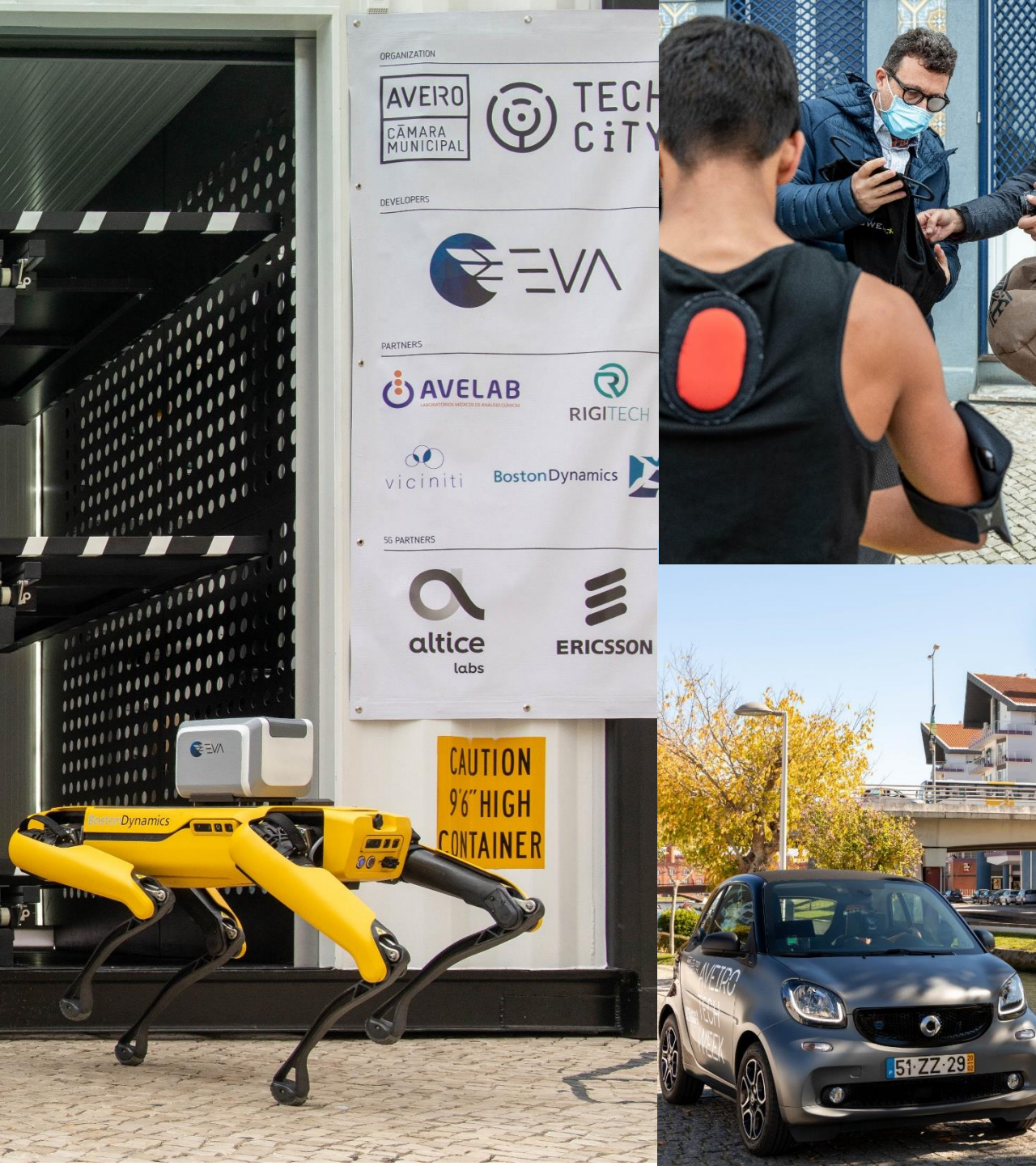
4ᵗʰ AXIS

CHALLENGES

— AVEIRO TECH CITY CHALLENGES

— MOBILITY CHALLENGE

— Participatory Budget with Direct Intervention

— AVEIRO TECH CITY CHALLENGES

Objective: Attract and retain talent in Aveiro.

Beneficiaries: Startups and Scaleups

Programme's package:

. Free access to Aveiro Living Lab

. Training programme

. Global Prize = 120.000.00€

. 1 Edition: 2022

— **THE VOICE OF THE USERS**

Matteo Beccatelli
Biometrica, Italy

"Biometrica's team enjoyed the participation to Aveiro's tech city. The victory helped our team to gain awareness of how our project could bring advantages to people. Stakeholders appreciated very much the victory and it helped us to gain a good reputation in our territory.
The Aveiro 5G Challenge was a good chance because the environment of Aveiro tech city was young, dynamic, technologic and innovative. Biometrica strongly believes in this values. The participation, and the victory, to a challenge like "5G challenge" gave us more self-confidence. It had a strong impact on Customer and / or people interested in our project."

"Aveiro Urban Challenges programme was a turning point to Kuglit Energy, which allowed us to run a pilot integrated in a "living lab", collecting real time hot water usage data from 10 sites, 5 of them in municipal buildings, and from this information develop our smart algorithm. From this pilot we were able to co-write two papers for the smart grids sector with E-Redes, formerly known as EDP Distribuição, and we are triggering a second pilot for EDP Inovação and Eletricidade dos Açores. In parallel it enabled us to have access to 100k investment, through the Innov-ID call, Portugal Ventures' portfolio."

Tiago Bandeira
Klugit, Portugal

— MOBILITY CHALLENGE

Goal:

- Promote the utilization of personal bicycles through the gamification of rides.
- Gather critical data on quality of urban space for cyclists
- Improve and correct public space and therefore quality of living.

Open Call for citizens → 180 bike brake sensors with communication in real time to the Urban Platform.

Three local cyclist associations managed the delivery of the sensors.

— **Participatory Budget with Direct Intervention**

This activity enhances public participation by giving citizens the opportunity to directly lead the execution of a value-added initiative for the community.

OPAD 2021

• 17 applications

• 7 winning projects

• CMA investment of 131.887,11 €

OPAD 2022

• 23 applications

• 10 wining projects

• CMA overall financial support set at 150.000,00€
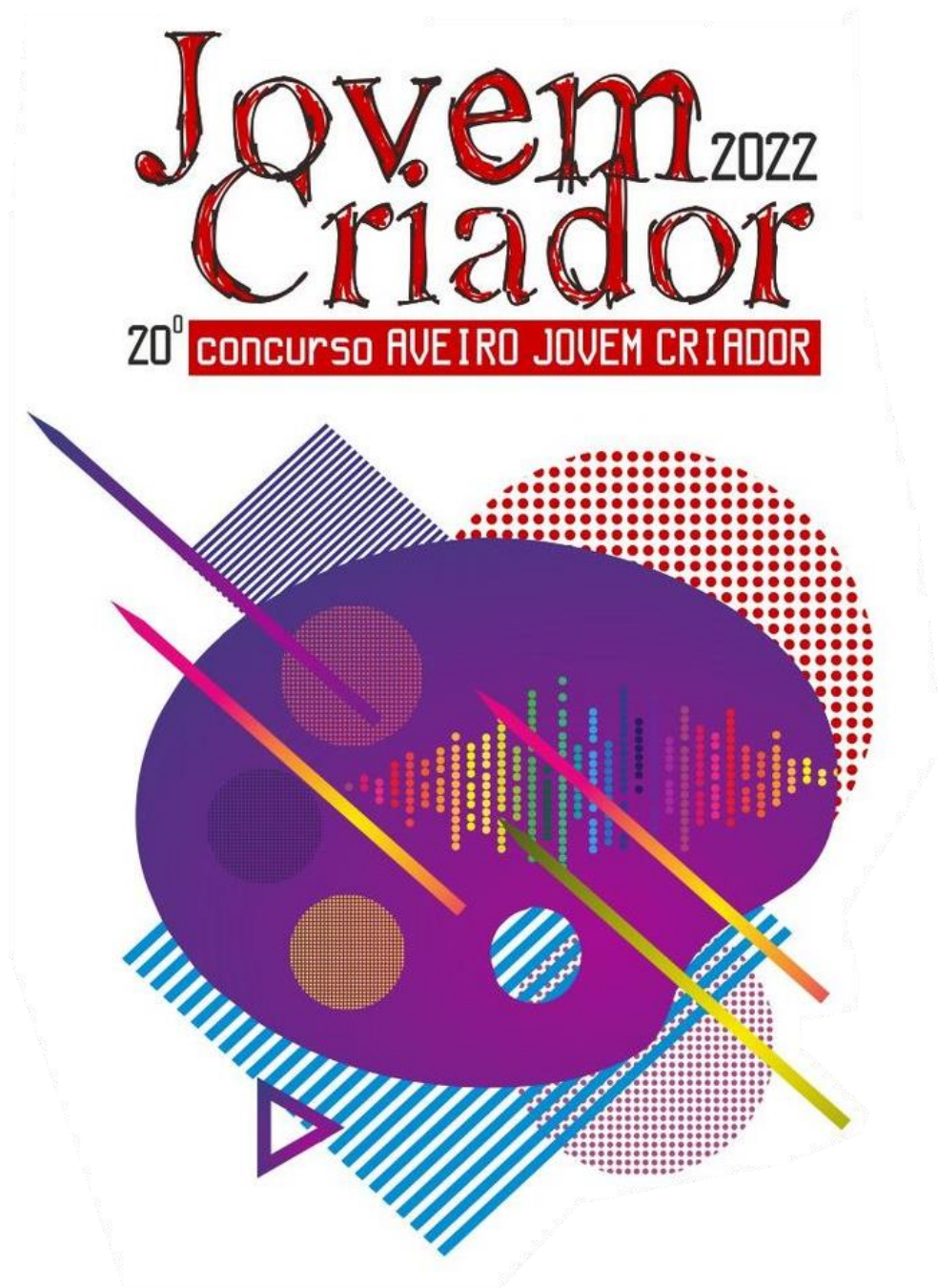
CHALLENGES

— Aveiro Jovem Criador

Nationwide competition concerning the artistic areas of Digital Art, Writing, Photography, Music and Painting.

Objectives:
Encourage participation and artistic promotion in young people with the use of creation, as catalyzing vectors for the development of new talents.

Target audience:
12 - 17 and 18 - 35 years old

ECAD**AV** 2022

— ART & TECHNOLOGY

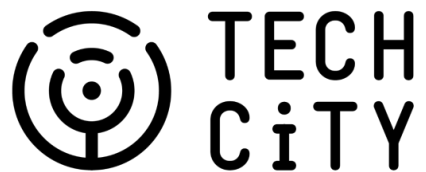**Fields:** Dance | Theater | Music

This events is a public demonstration, in the form of a show, of the work developed in the municipality, in the various aspects of dance, music, and theater.

Objectives:
To provide a space for sharing and disseminating the work developed in the area of dance.

Target audience:
Participants from Schools, Associations, Academies, Clubs, Gymnasiums and informal groups, with work in the respective areas.

— OPEN Day

Promotion of visits by the academic community to the most relevant companies for the economic development of the Aveiro region.

Objectives:
- Bring the municipality closer to the companies;
- Strengthen the link between the academic and scientific community and the business fabric, thus complementing the theoretical-practical content of the learning process, with the maximum intention of developing strategic partnerships with mutual benefits.

Partners:

Aveiro University | AAUAv | Inovaria | AIDA

— AWARDS (3)
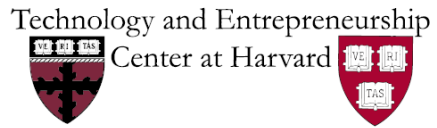
2020

Innovation in Community Engagement Award

University of Harvard

Category: Community engagement

2022

European Enterprise Promotion Awards

EEPA

Category: STEAM Education

THE EUROPEAN CAPITAL OF INNOVATION AWARDS**22**

Aveiro

European Innovation Council

3RD PLACE
European Rising Innovative City

EVENTS

OBJETIVES

Show to the public the characteristics of local culture; Exposure of partners; Generate knowledge about a particular area; Bring the municipality and citizens closer; Involve the community.
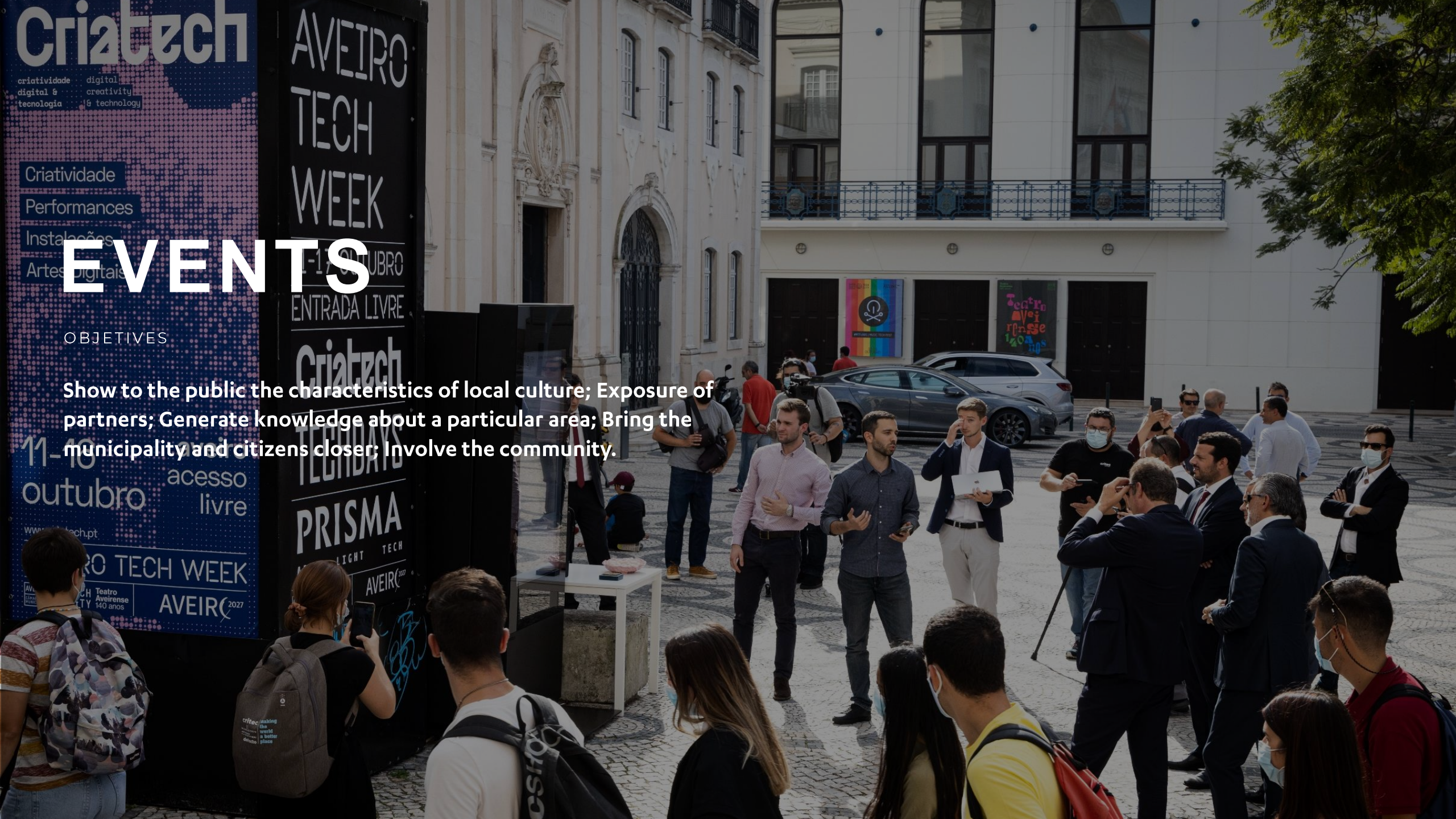
— CONCLUSIONS

Strategic objectives:

- Stimulate the competitiveness and attractiveness of Aveiro.

- Transpose research into reality.

- Accelerate the process of digital transformation in Aveiro' community.

- Promote citizens' digital skills and boost innovation in education.

- Promote a collaborative culture and develop projects in co-creation.

- Ensure compliance with the highest ethical standards in the implementation of technological solutions for the cities of the future, namely regarding the privacy and security of data and people.

- Ensure the quality of life of our citizens and the sustainable development Aveiro.

AVEIRO TECH REGION

The focus on knowledge, skills, competitiveness, sustainability and innovation, allows the Region of Aveiro to be identified as an innovation arena on a European scale, creating a brand such as "Aveiro Tech Region", taking advantage of the dynamics of the ECIU European University Project (of which the University of Aveiro is part) and promoting the necessary articulation between future needs and adequacy of skills, particularly through the promotion of projects such as the project led by the Municipality of Aveiro, the Aveiro STEAM City on an Intermunicipal scale.

In Integrated Strategy for Territorial Development of the Aveiro Region (EIDT-RA 2030)

AVEIRO
TECH
WEEK

TECNOLOGIA,
ARTE &
CULTURA

WWW.AVEIROTECHCITY.PT

altice labs