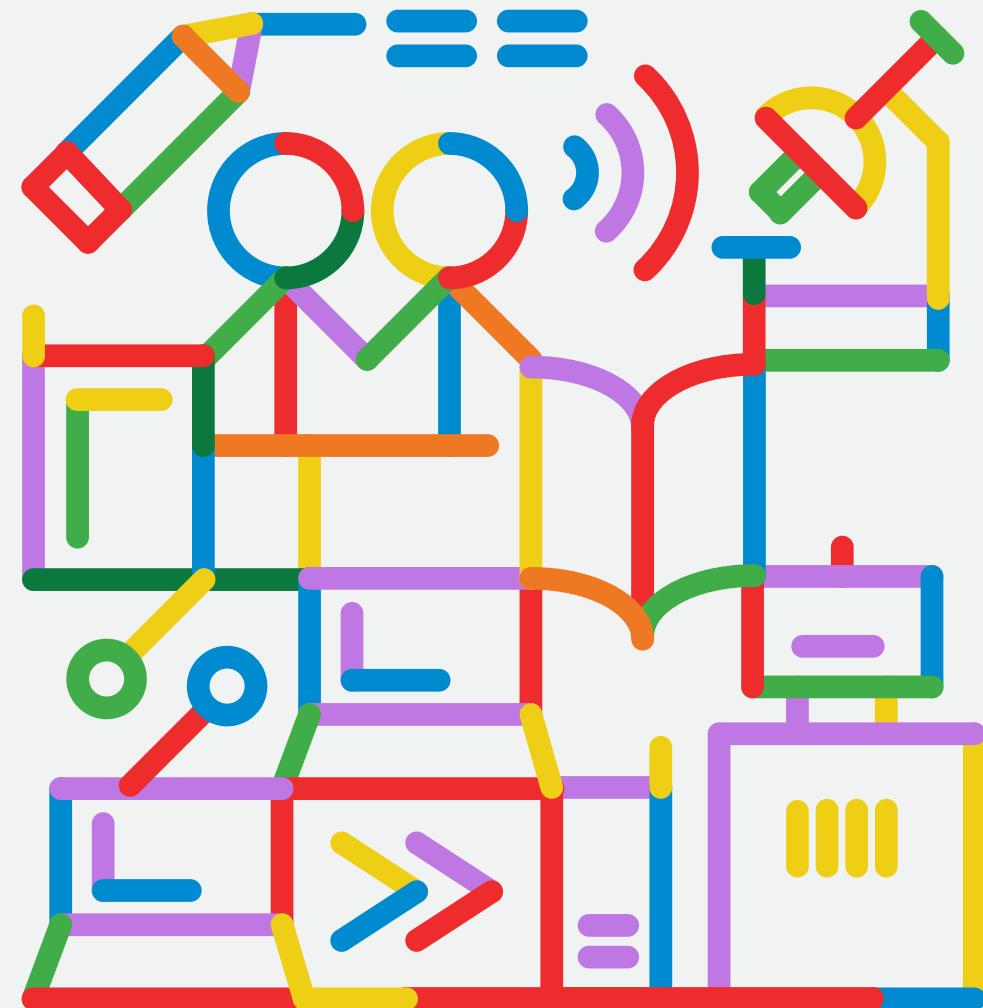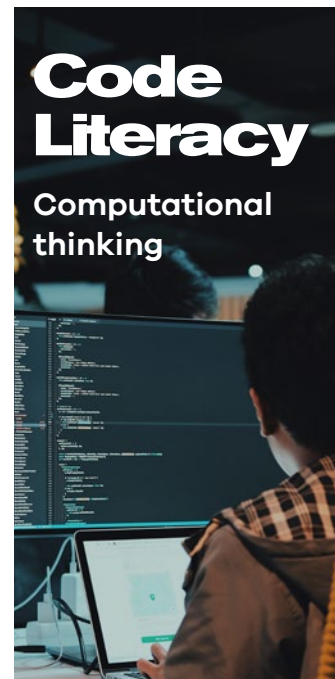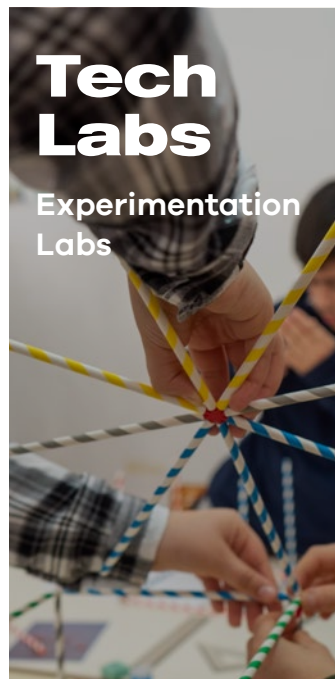## What is it?

The **STEAM (Science, Technology, Engineering, Arts and Mathematics)** educational programme emerges with an innovative and cross-disciplinary approach. It's an education methodology that intersects different areas of expertise with the objective to prepare students for the future jobs, based in STEAM competences.

Objectives

• To promote the knowledge in science, technology, engineering, arts and mathematics
• Endow students with creative and innovative tools
• Consolidate critical analyses, self-learning, collaborative work and problem solving's resilience in our students.
• Offers all the relevant skills and necessary knowledge to our teachers, working as Change Agents in Schools, to implement the programme.

Tech Labs
Experimentation Labs

Ciência Viva
Science Educational Outreach

Code Literacy
Computational thinking

PROMOTING A KNOWLEDGE BASED SOCIETY

THE MOST IMPORTANT TECHNOLOGICAL BREAKTHROUGHS OCCUR WHEN DIFFERENT FIELDS OF EXPERTISE WORK TOGETHER. GET TO KNOW HOW THESE ACTIONS WILL PREPARE THE NEW GENERATIONS, TEACHERS AND EDUCATORS TO THE SUCCESS IN THIS NEW DIGITAL ERA

AVEIRO CÂMARA MUNICIPAL — TECH CITY

More information in:
www.aveirotechcity.pt

AVEIRO CÂMARA MUNICIPAL — TECH CITY
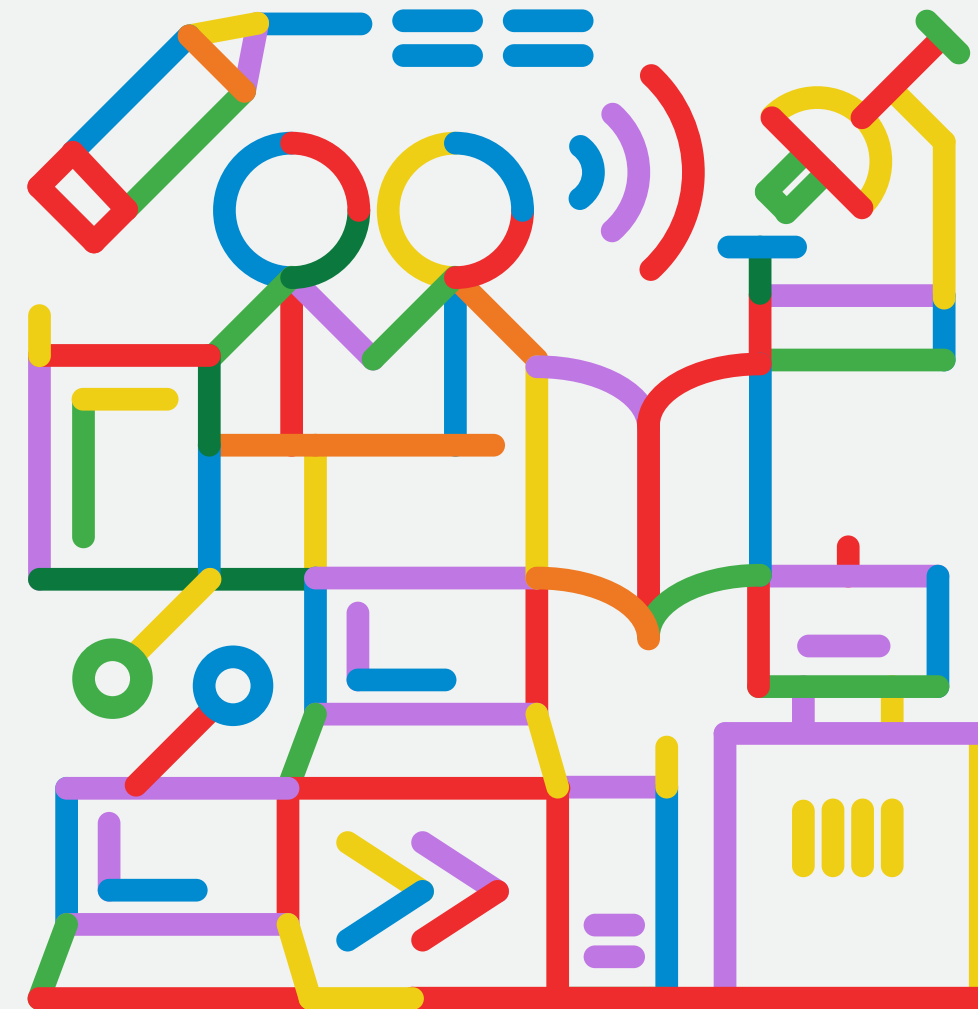
PROMOTING A KNOWLEDGE BASED SOCIETY

STEAM

Education is a crucial cornerstone of the City of Aveiro's political strategy, to develop a region knowledge-based and to prepare the new generations with the relevant skills to succeed in the digital era. Within the scope of Aveiro Tech City strategy a variety of activities are being implemented to promote the development of STEAM skills and stimulate student's enthusiasm in these areas of knowledge, using experimentation spaces and its contact with ICT languages in an efficient, responsible and critical approaches.

We are installing Techlabs in our school's network, equipped with 3D printers, robotic kits, electrical components and other learning materials. This initiative is an important vehicle to stimulate teaching in our children and youngsters. Schools will involve students in coding activities, promoting new competences never explored before.

In parallel, we are also training and supporting all the local teachers to ensure project´s implementation.

Within the code literacy we have deployed a digital platform of STEAM's contents and a Computation Sciences Introduction Course, in order to empower our youth with the necessary skills for the future of the job market, leveraging opportunities and success in their professional and educational careers.

We are building capacity to bloom.

We are investing in training to build an economy based in knowledge, innovation and technology, capable to attract and retain great talent to improve region's competitiveness.

José Ribau Esteves
Mayor of the City of Aveiro

Tech Labs

The Tech Labs project aims to develop interest and foundational skills and knowledge in STEAM competences in students and teachers from all educational levels. Teachers will assume a fundamental role in the process, as Change Agents, transferring knowledge to students by using innovative teaching methodologies. Teachers' support is driven by a training programme to obtain the necessary skills to deliver the project.

The objective is to promote students' enthusiasm in Science, Technology, Engineering, Arts and Mathematics, through the use of robotics kits, electrical equipment and 3D printers, which will consolidate critical thinking, self-learning and collaborative work.

This activity aims to promote STEAM competences not only at local Schools, but also, in other Municipal Services, namely the City's Library and Municipal House of Citizenship.
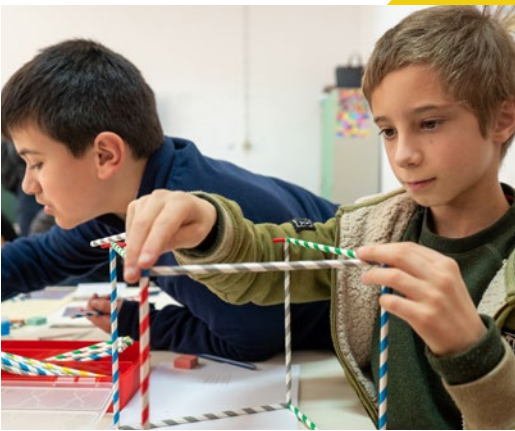
PRIMARY SCHOOLS

- **Implementation Period:** from the 2019 / 2020 school year
- **Schools:** 31 (Total of schools in the Municipality of Aveiro)
- **Engaged students:** 2985
- **Engaged teachers:** 140
- **Teachers training scheme:** 200-hour training by the University of Aveiro
- **Training follow up in schools:** 830-hour by the University of Aveiro

Program: UIA Funding: European Union European Regional Development Fund Partners: FÁBRICA CENTRO CIÊNCIA VIVA aveiro / universidade de aveiro theoria poiesis praxis

INTERMEDIATE SCHOOLS

- **Implementation Period:** from the 2020 / 2021 school year
- **Schools:** 10 (Total of schools in the Municipality of Aveiro)
- **Engaged students:** 3919
- **Engaged teachers:** 34
- **Teachers training scheme:** 50-hour training by the University of Aveiro
- **Training follow up in schools:** 272-hour by the University of Aveiro

Program: Educ@RA Funding: Região Aveiro / CENTRO 2020 / PORTUGAL 2020 / European Union Partners: FÁBRICA CENTRO CIÊNCIA VIVA aveiro / universidade de aveiro theoria poiesis praxis

HIGH SCHOOL

- **Implementation Period:** from the 2019 / 2020 school year
- **Schools:** 4 (Total of schools in the Municipality of Aveiro)
- **Engaged students:** 3690
- **Engaged teachers:** 16
- **Teachers training scheme:** 34-hour training by the University of Aveiro
- **Training follow up in schools:** 128-hour training by the University of Aveiro

Program: Educ@RA Funding: Região Aveiro / CENTRO 2020 / PORTUGAL 2020 / European Union Partners: FÁBRICA CENTRO CIÊNCIA VIVA aveiro / universidade de aveiro theoria poiesis praxis

Code Hero

CodeHero is a Computing Science Introduction Course, which aims to teach coding and software development skills in JavaScript´s language to High School's students and other participants, deal for those who wish to have the first immersive experience in the word of coding.
This course will teach the required foundation skills to follow a professional path in ITC and Computational areas.

- **Implementation period:** 1st edition 2020 | 2nd Edition 2021
- **Target:** High School's students and others who desires to attend

Program: UIA Funding: European Union European Regional Development Fund

Escola Ciência Viva

Escola Ciência Viva is an educational project delivered by the University of Aveiro, by the Ciência Viva and by the City of Aveiro, based in Fábrica Centro Ciência Viva, fully dedicated to STEAM education. This initiative applies the resources from the Modern Science Museology to the educational programme of the primary schools, combining an educational programme with hands-on work and experimental education in science outreach in an educational environment.

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

UBBU

The UBBU projects is dedicated to teachers and schools from primary schools and promotes the development of basic knowledge in computing science, logic thinking and problem solving capacities. It also improves the skills in the different domains of STEAM education, especially in mathematics.
The UBBU is a platform offering an educational programme to each grade of primary schools with approximately 100 different contents, developed in accordance with the objectives of the Sustainable Development of the United Nations, which prepares children and youngsters to the competences of the future.

- **Implementation period:** from the 2019 / 2020 school year
- **Schools:** 13
- **Engaged students:** 2288
- **ngaged teachers:** 99
- **Teachers training schemes:** Online training + 100 hours on site
- **Training follow up in schools: :** 156 hours

Program: UIA Funding: European Union European Regional Development Fund