

Buinho

Buinho Creative Hub

CATALOG OF ERASMUS TRAINING COURSES

SCHOOL YEAR 2024-25

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WHO WE ARE

Buinho is a non-profit organization, established in 2015, to promote digital skills and social innovation in rural areas of Portugal.

We are an accredited MIT Fablab, the only of the kind in our region ([link](#)). Our team is composed of designers, engineers, and Ph.D. researchers working in the digital and creative fields.

Since our early days, we have been coordinating Erasmus and other international educational projects, which helped us to implement new pedagogical practices at local public schools on a regional scope.

In 2021 we have been accredited in the field of School Education under the Erasmus+ Program, as coordinators of a regional schools' consortium. And in 2022 we started to offer a catalog of Erasmus training courses for teachers to further expand our educational project and be able to share best practices with teachers from Europe.



ERASMUS EXPERIENCE

Buinho has been participating in the Erasmus program since 2016. This is a selection of some of the projects Buinho coordinated until this moment, some of which have been distinguished as best and good practices from the Erasmus National Agency:

[Young Rural Makers](#) - 2017-2-PT02-KA105-004452

[Precious Plastic](#) (Good Practice) - 2018-2-PT02-KA105-005287

[Lingua Franca](#) (Good Practice) - 2019-2-PT02-KA105-006042

[Gota D'Água](#) (Good Practice) - 2020-2-PT02-KA105-007109

[Right to Repair](#) (Best Practice) - 2020-1-PT02-KA105-006586

[Youth Sensing](#) - 2019-3-PT02-KA105-006405

[Ewaste Learning Paths](#) (Good Practice) - 2021-1-PT01-KA210-SCH-000027311

[WeRepair](#) - 2021-1-PT01-KA210-ADU-000027409



ERASMUS SCHOOL CONSORTIUM - EIRA

All the Erasmus programs that we have coordinated gave us the experience to work in different fields of Education (Youth, Adult, and School Education). We have been considered a European best practice in the development of digital skills and sustainability, and were featured in important policy-making reports ([link1](#)) ([link2](#)).

But we would like to highlight the School Accreditation that was recently provided to Buinho for the period of 2021-2027. Although Buinho is not a school, our innovative work with schools from the Alentejo region was recognized by the Portuguese Erasmus National Agency, granting us the coordination of a consortium of 7 (seven) school groups of 6 (six) different local municipalities.

EIRA (the name of the consortium), has the accreditation number 2020-1-PT01-KA120-SCH-094762, and offers the possibility to enlarge the scope of collaboration and partnership with other European Schools, beyond the Erasmus training courses. All the Erasmus programs that we have coordinated gave us the experience to work in different fields of Education (Youth, Adult, and School Education). We have been considered a European best practice in

OUR TEAM

We are the persons responsible for delivering the best contents and supporting the schools to prepare the best professionals

Carlos Alcobia - Founder and general manager of Buinho, Carlos holds a PhD in Design and a large experience in the fields of digital fabrication, programming and maker education. Carlos is the main responsible for all the activities within Buinho.



Sara Albino - Founder and international coordinator, Sara holds a PhD in Management and a large experience in working with the Educational Sector and project manager. Sara is also responsible for pedagogic content development.

Hugo Camacho - With a Bachelor's and Master's Degree in Educational Psychology, Hugo has relevant academic training and experience in the educational field. Hugo manages the contents and logistics for all the courses given in more than twenty local schools and Erasmus courses.



Ivan Vuksanov - Ivan holds MA in Communication Design by the University of Lisbon. Ivan has a strong international experience working with both multinational and tech startups in Europe. His main fields are Design Thinking and Communication Design.

Mónica Reis - Mónica is executive producer of Buinho, being responsible for all the administrative and logistic support. Mónica holds an especialization in Maker Education and she will be contact person for the enrollment and support procedures.





OUR MAKERSPACE

Our Lisbon Makerspace is a two floor store, situated in the Carcavelos district, a mere 15 kilometers from downtown Lisbon. We offer an immersive experience to our participants, featuring a range of educational solutions such as eight 3D printers, a vinyl cutter, laser cutter, green

screen, robotics, electronics, 3D scanner technology, and more. The course is conducted entirely within a true Makerspace, providing a classroom environment for participants to learn how one operates.

[Link for google map location](#)





CULTURAL PROGRAM - CASCAIS

Just 30 km from Lisbon we can find the Portuguese favorite summer destination. Cascais is also called the “Charm of the Atlantic” due to its beautiful heritage, rich cultural life, great cuisine, and of course, its amazing beaches. Our tour will include

Paula Rego’s Museum, Condes de Castro Guimarães Palace, the Santa Marta Lighthouse, Cascais historical center, and a special visit to Europe’s most western point - Cabo da Roca.



CATALOG OF COURSES

We now present the descriptions of the courses offered for teachers, and for the school year 2024-25.

All these courses are eligible for Erasmus funding.

MAKERSPACES IN SCHOOL EDUCATION

Makerspaces provide hands-on, creative ways to encourage students to design, experiment, build and invent as they deeply engage in science, engineering and tinkering. In this course you will learn all about creating one in your school or school library



GENERAL DESCRIPTION

Based on the daily practice and experience of Buinho operating and managing a Fablab and several Educational Makerspaces, that we better explain how these spaces can operate to produce high-quality educational results. But this course offers more than this. It will also offer the possibility of participants to have a practical engagement and experience with the most popular equipment in Makerspaces nowadays.

This course is aimed at school coordinators or teachers that have the ambition to create and operate a Makerspace within their school premises.

MAIN OUTCOMES

Learning how a Makerspace can work in a school or library

Learning new innovative STEAM approaches like Toy Hacking

Learning about working methodologies and safety measures within a School Makerspace

Introduction to the Micro:bit and microcontrollers

Introduction to Electronics, 3D modelling, and computational thinking

Experiment with different digital fabrication technologies as Laser Cutters, 3D printers, or Vinyl Cutters

Experiment with different educational contents and methodologies, in particular PBL (Project Based Learning)





CONDITIONS

Target group - Teachers & school staff: pre-school level, primary level, secondary level, special needs, vocational education, and school management

Number of days - 5 (five)

Erasmus fee - 400€ (100% funded by Erasmus grant)

Included in the price - Course, Micro:bit, Bluetooth speaker, and online support

Cultural day - The cultural day will be in Cascais. We will visit museums and other popular attractions. We will finish the day with the highlight visit to Cabo da Roca (Europe's most Western point)

Location - All the "Makerspaces in School Education" courses will be given in Carcavelos (Lisbon)

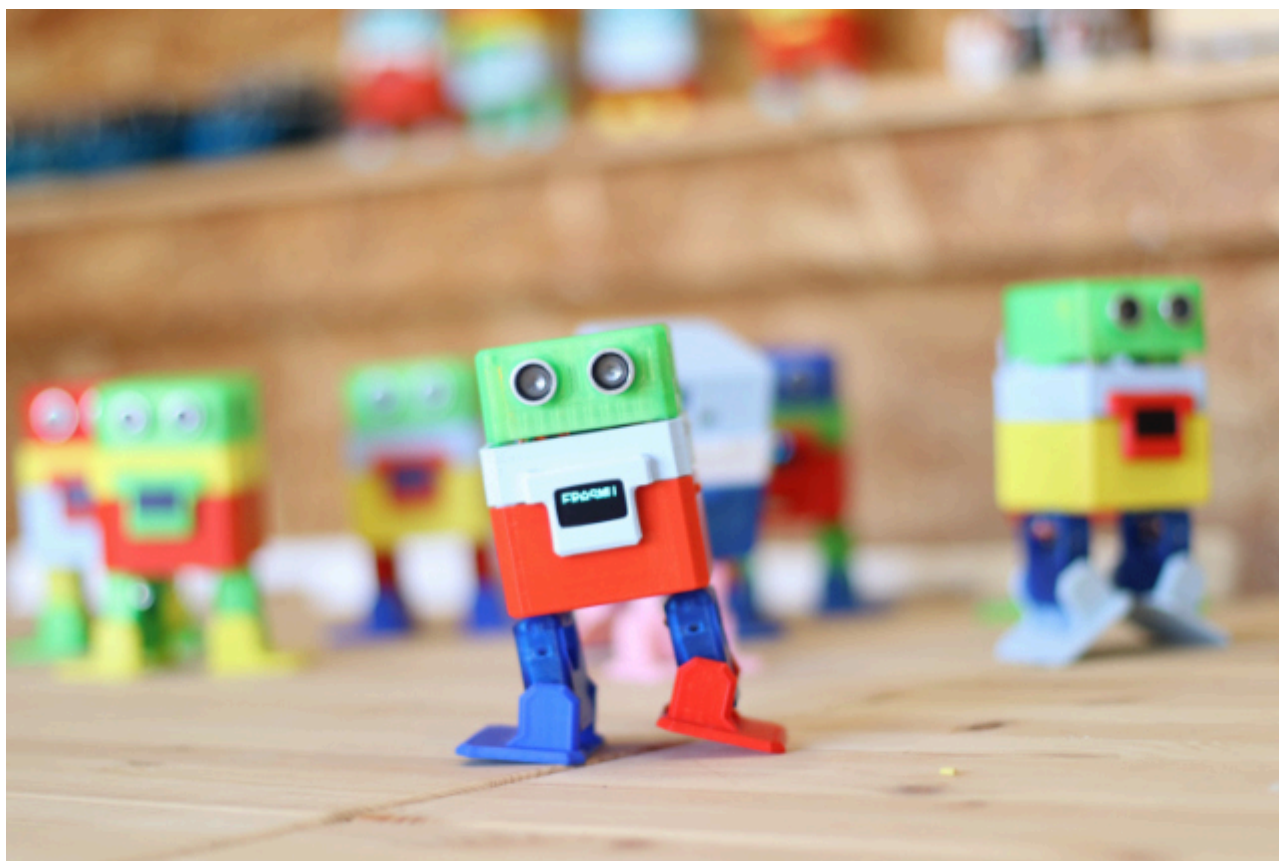
Available dates: 20-24 January; 24-28 March; 14-18 April; 12-16 May; 2-6 June; 7-11 July; 21-25 July; 15-19 September; 13-17 October; 27-31 October; 24-28 November; and 8-12 December

For more information please consult our webpage - [link](#)



BUILD YOUR ROBOT

Learn how to teach coding and robotics to elementary and middle school students. We will help you from zero, and at the end you will be ready to assemble your own robot.



GENERAL DESCRIPTION

The main motivations for designing this course were to share some of our extensive experience in the teaching of robotics in public schools, explore creative practices that also incentivize the learning of coding, and provide support to teachers in starting innovative practices in their schools even if having a limited budget.

By taking this course you will learn how to teach robotics and introduce coding in your classroom. This course is meant for teachers from different teaching years, with limited or no previous experience in robotics and visual coding, and that aim to become proficient and autonomous in digital skills.

MAIN OUTCOMES

- Learning how to teach robotics in the classroom with the Mbot and Otto bot robots
- Learning how to teach programming for robots with Ottoblockly
- Learning how to use Arduino and other micro controllers
- Learning how create low cost robots
- Learning how to develop STEAM activities while teaching robotics in the classroom





CONDITIONS

Target group - Teachers & school staff: pre-school level, primary level, secondary level, special needs, vocational education, and school management

Number of days - 5 (five)

Erasmus fee - 400€ (100% funded by Erasmus grant)

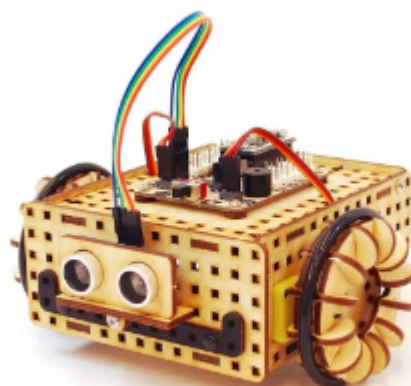
Included in the price - Course, Otto Bot Starter + Otto Bot Smart, and online support

Cultural day - The cultural day will be in Cascais. We will visit museums and other popular attractions. We will finish the day with the highlight visit to Cabo da Roca (Europe's most Western point)

Location - All the *"Build your Robot"* courses will be given in Carcavelos (Lisbon)

Available dates: 24-28 February; 26-30 May; 23-27 June; 29 September to 3 October; and 3-7 November.

For more information please consult our webpage - [link](#)



TOY HACKING

Toy hacking is like a robotics class... but better! We will learn electronics, coding, and basic robotics, while having fun. Toy hacking can also be an important and innovative way to teach circular economy, or to enable your school to contribute for the happiness of children in need



GENERAL DESCRIPTION

ToyHacking is a fun way to teach electronics, robotics, and even programming. It gives a new life to old toys, bringing new and engaging content that enhances their original function. Toy hacking is very popular with students and teachers all across Europe because it is a simple, costless and engaging activity to have with children that enable educators and teachers to introduce more complex subjects in the field of STEAM.

It can be a fluffy toy, a broken music piano, or an RC car. You will learn how machines work, how they are engineered, and hack into their electronic components to have access to unlimited learning experiences with those old toys.

MAIN OUTCOMES

- Learning basic electronics and soldering skills
- Learning how to use micro:bit microcontrollers
- Learning how to program and hack a function in a regular toy
- Learning how to make circuit bending and sound hacking
- Learning how to design adaptative toys for children with special needs





CONDITIONS

Target group - Teachers & school staff: pre-school level, primary level, special needs, and vocational education

Number of days - 5 (five)

Erasmus fee - 400€ (100% funded by Erasmus grant)

Included in the price - Course, Micro:bit, Bluetooth speaker, and online support

Cultural day - The cultural day will be in Cascais. We will visit museums and other popular attractions. We will finish the day with the highlight visit to Cabo da Roca (Europe's most Western point)

Location - All the "Toy Hacking" courses will be given in Carcavelos (Lisbon)

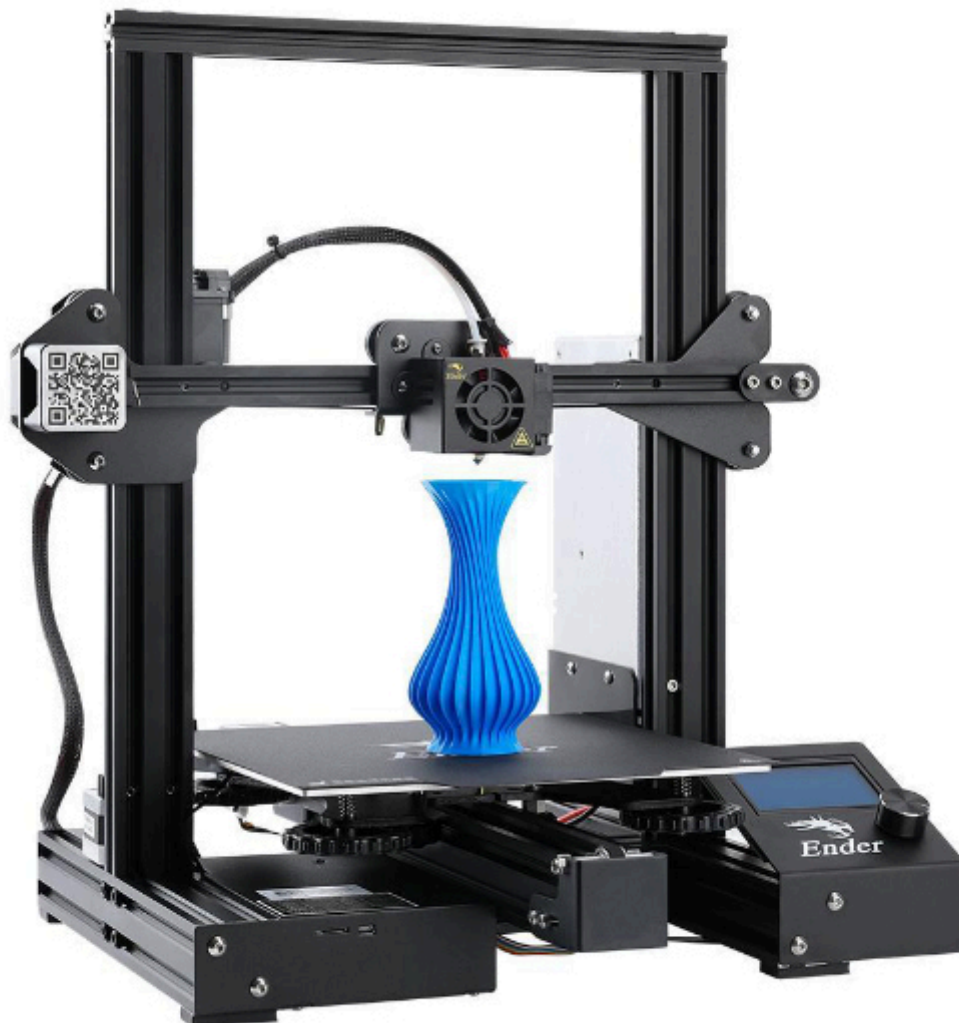
Available dates: 10-14 February; 21-25 April; 9-13 June; 14-18 July; 8-12 September; 20-24 October; and 1-4 December

For more information please consult our webpage - [link](#)



EVERYTHING ABOUT 3D PRINTING

In this course, teachers will learn by practicing the most important aspects of 3D printing. From 3D modeling, to mastering CAM, to optimizing 3D printing, this is a very hands-on course with a ratio of one 3D printer for each participant.



GENERAL DESCRIPTION

In the “Everything about 3D Printing” course, you will be given an individual Creality Ender 3 Pro 3D printer to work with during the entire course. We will have one 3D printer per participant to make sure you have the best learning experience.

All the tools will be provided, we just ask the participants to bring a laptop as it will be needed for software installation.

The training will take you through all that involves the use of a normal 3D printer – the initial testing, calibration, troubleshooting, improving printing results, slicing 3D models, and also 3D modeling.

MAIN OUTCOMES

- Learning how to work with a 3D printer autonomously
- Learning 3D modelling in free software Tinkercad
- Learning how to use free slicer software
- Learning how to develop educational activities within the classroom with 3D printing





CONDITIONS

Target group - Teachers & school staff: pre-school level, primary level, secondary level, special needs, vocational education, and School management

Number of days - 5 (five)

Erasmus fee - 400€ (100% funded by Erasmus grant)

Included in the price - Course, 3D Pen, and online support

Cultural day - The cultural day will be in Cascais. We will visit museums and other popular attractions. We will finish the day with the highlight visit to Cabo da Roca (Europe's most Western point)

Location - All the "Everything about 3D Printing" courses will be given in Carcavelos (Lisbon)

Available dates: 17-21 March; 19-23 May; 16-20 June; 22-26 September; and 17-21 November.

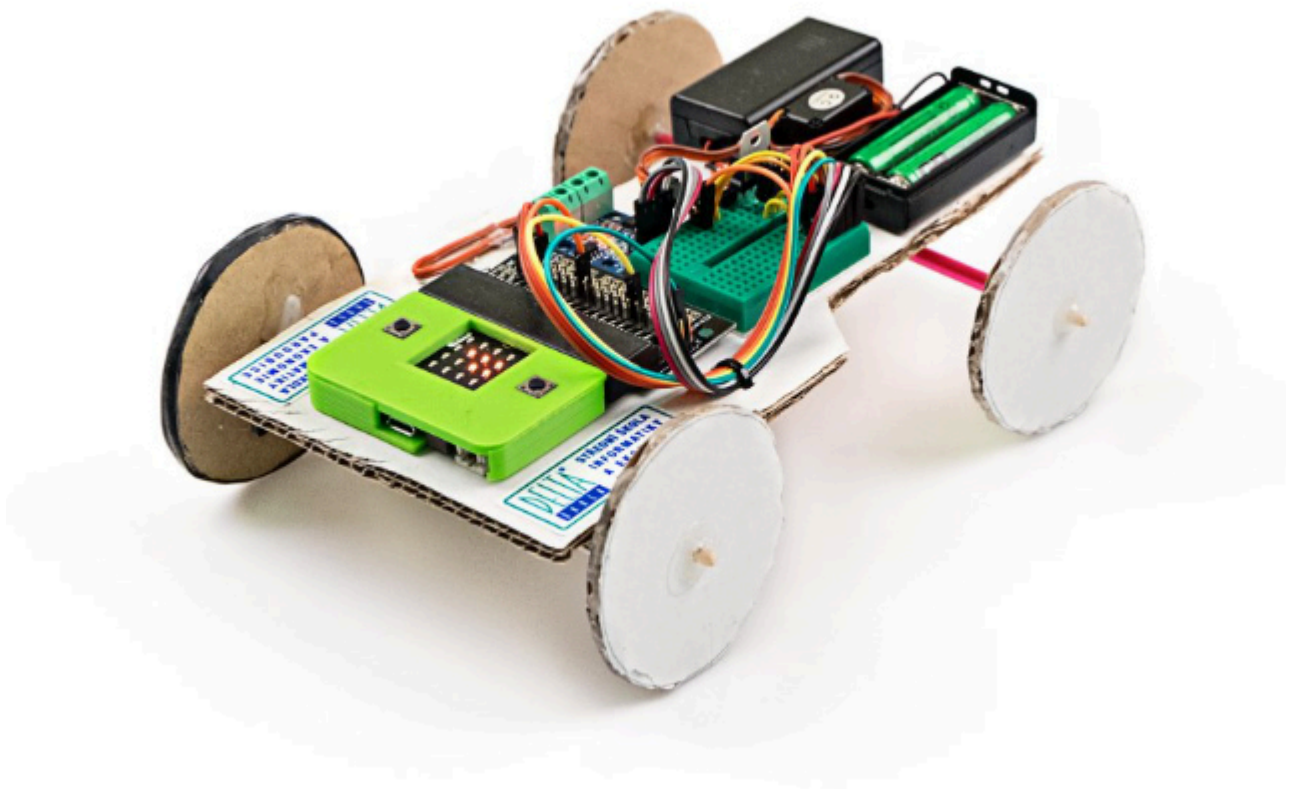
For more information please consult our webpage - [link](#)



Creative STEAM projects with Micro:bit

In this course, you will be given a collection of activities and projects that take advantage of the full potential of Micro:bit.

This course provides solutions for IT, Maths, Sciences, and even language teachers for digital learning in the classroom. This foundational course in Micro:bit will also allow you to teach electronics, coding, and robotics in a fun and creative way.



GENERAL DESCRIPTION

This course aims to impart a comprehensive set of best practices for utilizing the Micro:bit microcontroller, with a focus on utilizing it creatively for teaching Sciences, Computational thinking, Mathematics, Electronics, and Environmental Sciences in the classroom.

This course aims to expand the possibilities of the Micro:bit by introducing new ideas for its use, connecting it to external devices and components, and providing teachers with the tools to fully utilize its potential in STEAM activities. It is a comprehensive introduction to the Micro:bit, covering not only the basics but also innovative techniques that can be used to enhance the classroom experience throughout the school year.

MAIN OUTCOMES

- Learn basic electronics
- Learning how to use Micro:bit breakboards and extensions
- Learning project based learning and STEAM methodologies for the classroom
- Learn programming with Makecode for Micro:bit
- Learn innovative practices in circular economy as Toy Hacking for Micro:bit





CONDITIONS

Target group - Teachers & school staff: pre-school level, primary level, secondary level, special needs, vocational education, and school management

Number of days - 5 (five)

Erasmus fee - 400€ (100% funded by Erasmus grant)

Included in the price - Course, Micro:bit, and online support

Cultural day - The cultural day will be in Cascais. We will visit museums and other popular attractions. We will finish the day with the highlight visit to Cabo da Roca (Europe's most Western point)

Location - All the "Creative STEAM projects with Micro:bit" courses will be given in Carcavelos (Lisbon)

Available dates: 3-7 March; 7-11 April; 5-9 May; 30 June to 4 July; 6-10 October; and 10-14 November.

For more information please consult our webpage - [link](#)



Buinho

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*More than a fablab, more than a house, Buinho is an
open community for sharing experiences.*

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