



The project aims to facilitate students in the learning of science-technology subjects (STEAM subjects) by encouraging the development of critical thinking and creativity through learning experiences, including games that involve the creation of technological artefacts.



These activities aim to act on the motivation of students thus preventing early school leaving and promoting equality, social inclusion,, personal development, active citizenship and better employment in the digital age. The project involves 7 Technical-Professional Institutes (VET) in 5 different European countries. The Arduino board will be used to create self-propelled robots able to perform some pre-set tasks.

OUR WEB SITE

<https://robotsbologna.wordpress.com/>

Project partner:

-  **IES DR LLUIS SIMARRO**
Xativa, Valencia (Spagna)
-  **Ass.Empresarial de Penafiel**
Penafiel (Portogallo)
-  **Colegiul National Unirea**
Tirgu Mures (Romania)
-  **Srednja skola Dugo Selo**
Dugo Selo (Croazia)
-  **ITIS Q. Sella**
Biella (Italia)
-  **Xano Channel asociación**
Xativa, Valencia (Spagna)
-  **IIS Aldini Valeriani Sirani**
Bologna (Italia)

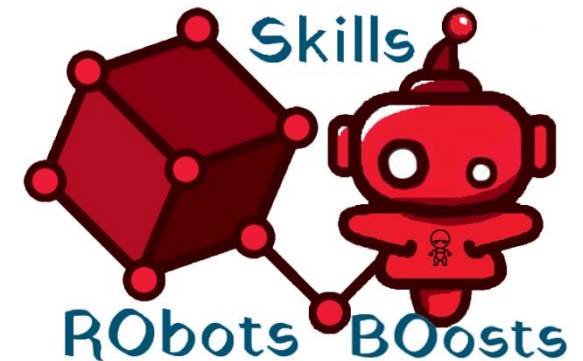
Project realized in collaboration with



Project sponsored by



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PRESENTATION

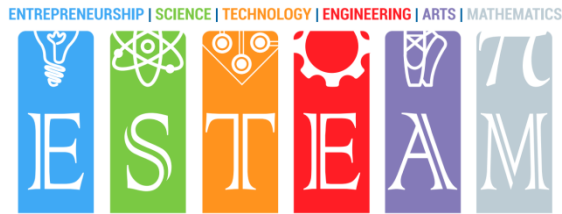


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ESTEAM and Robotics

The general objective of the project is to create within the schools, learning communities, in which the teachers together with the students meet and deepen the multidisciplinary techniques typical of robotics.



The approach to robotics, which generally arouses considerable interest and curiosity by the students, can become the theoretical-practical scenario to make a playful and direct experience of the ESTEAM methodologies (Entrepreneurship - Science - Technology - Engineering - Arts - Mathematics).

ESTEAM is an educational framework that aims to develop skills through the integration of five disciplinary areas, overcoming the separation between technical and scientific disciplines and humanities, as well as between theoretical knowledge and practical skills. The integration of the five disciplinary areas is based on an educational-laboratory path in which students are expected to: solve complex problems through multiple paths, effectively communicate plans and ideas, collaborate using all the available tools.

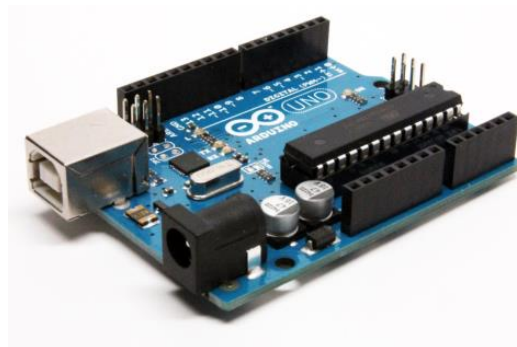
This is why ESTEAM is an educational framework, not a different curriculum path. It is not about learning different disciplines, but developing critical thinking in students, developing transversal skills and the key competences of the digital world, innovation, problem solving, learning to learn.

Teacher Guide

In the first phase of the project development, each partner will contribute to the creation of a Teacher Guide in English language to present the ESTEAM methodology and the basic principles of robotics implemented with the Arduino platform.

Training courses

The project considers that in every project partner institute basic courses are started for the use of Arduino, both for what concerns the hardware design problems, and for the development of programming skills necessary for the realization of simple projects.



Teachers Course

It will be activated starting from October 2018 for a total of 18 hours. It will be addressed to teachers of the school but also to external teachers.



Courses for students

In the first phase the students of two Computer studies classes will be involved. The course of about 20 hours will take place within the curricular timetable. After a selection, 25 students will continue the training with a further study of 18 hours extra curricular hours.

Competitions

The project includes a team competition at the end of the in-depth course, and a further moment of international competition in Spain in May 2019.