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Arduino SYS-STEM for Schools

TEACH FOR FUTURE conference

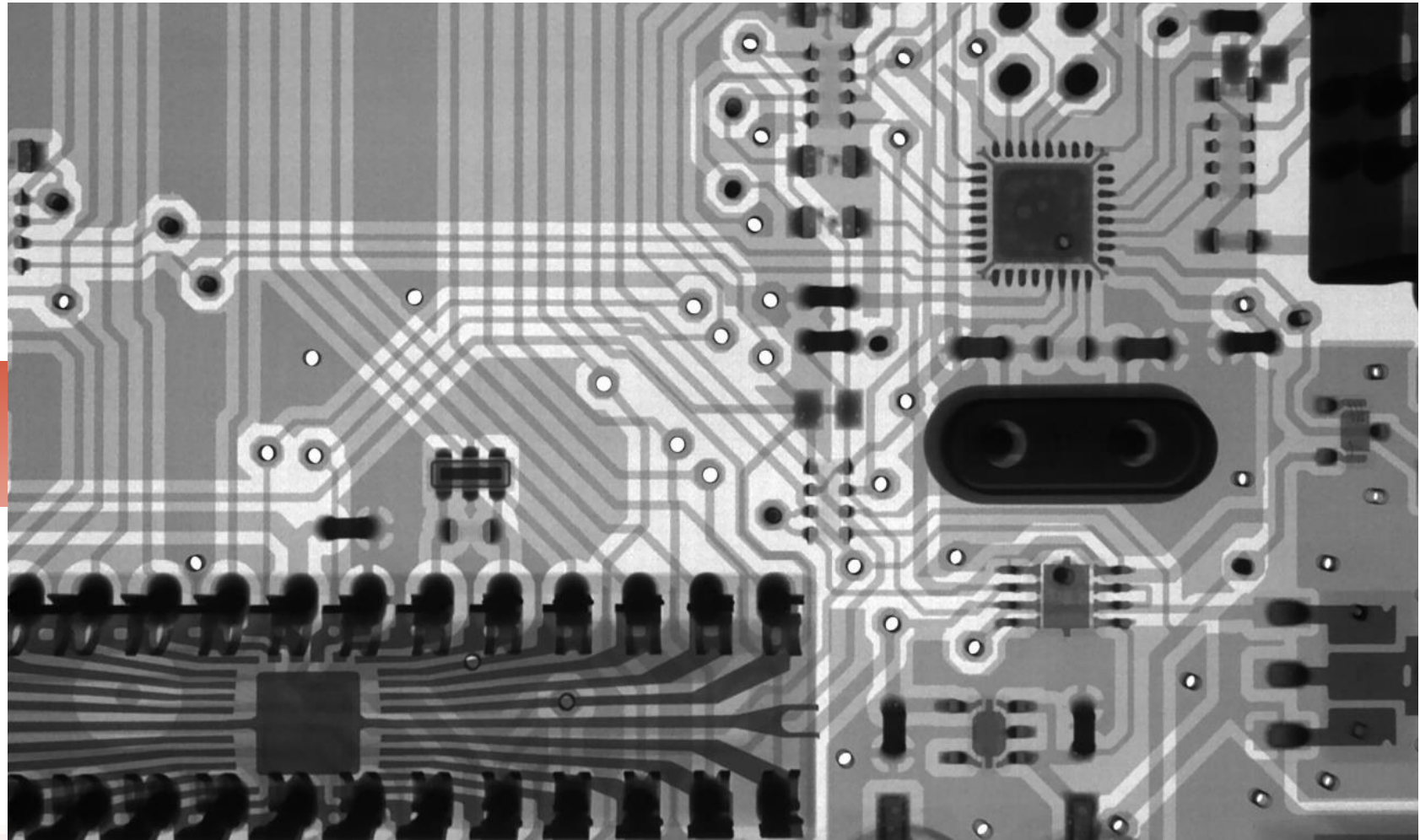


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KEPA LARRONDO

Politeknika Ikastegia Txorierri S. Coop





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SYS – STEM

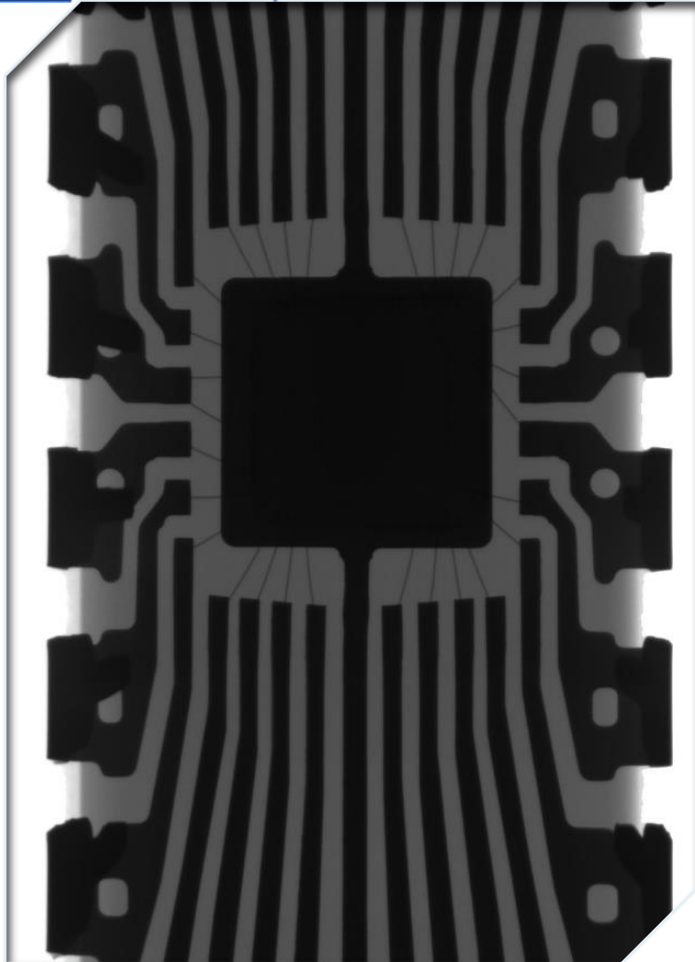
Full Title: **Arduino SYS-STEM for Schools**

Starting date: 01/10/2019

Duration (in months): 25



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PARTNERS

- Politeknika Ikastegia Txorierri S. Coop (Bilbao, ES)
- Instituto Politecnico do Porto (Porto, PT)
- Hellenic Mediterranean University (Heraklion, GR)
- Elektrostrojarska skola (Varazdin, HR)
- IDEC SA (Piraeus, GR)



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SYS - STEM

What will this project do and to whom it is addressed

- ▶ The Arduino SYS-STEM for Schools aims to provide teachers of 14-18 years old students with open access, quality, ready to use didactical materials in electronics and digital technology with which to realize "hands on" projects in Arduino via access to shared remote ArdLABs



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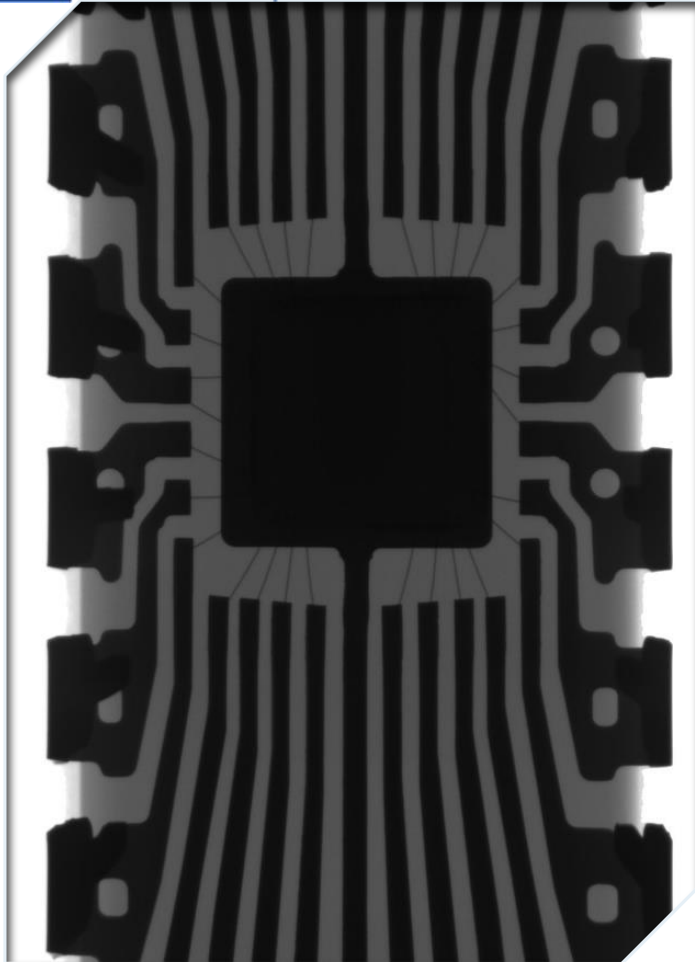
SYS - STEM

What will be the Intellectual Outputs of the project?

- ▶ *IO1 – SYS-STEM Methodology*
- ▶ *IO2 – SYS-STEM ArdLab Hub*



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IO1: SYS-STEM METHODOLOGY

The Methodology includes an attractive presentation on STEM and electronics today and a complete package of didactical materials in basic electronics using Arduino, including exercises and solutions and guidelines for delivery with different age and competence level learners.



Contents

- ▶ Introduction to Arduino
- ▶ Opportunities offered by STEM and electronics
- ▶ Training Modules for electronics and programming development using Arduino
- ▶ Real world examples

IO1: SYS-STEM METHODOLOGY



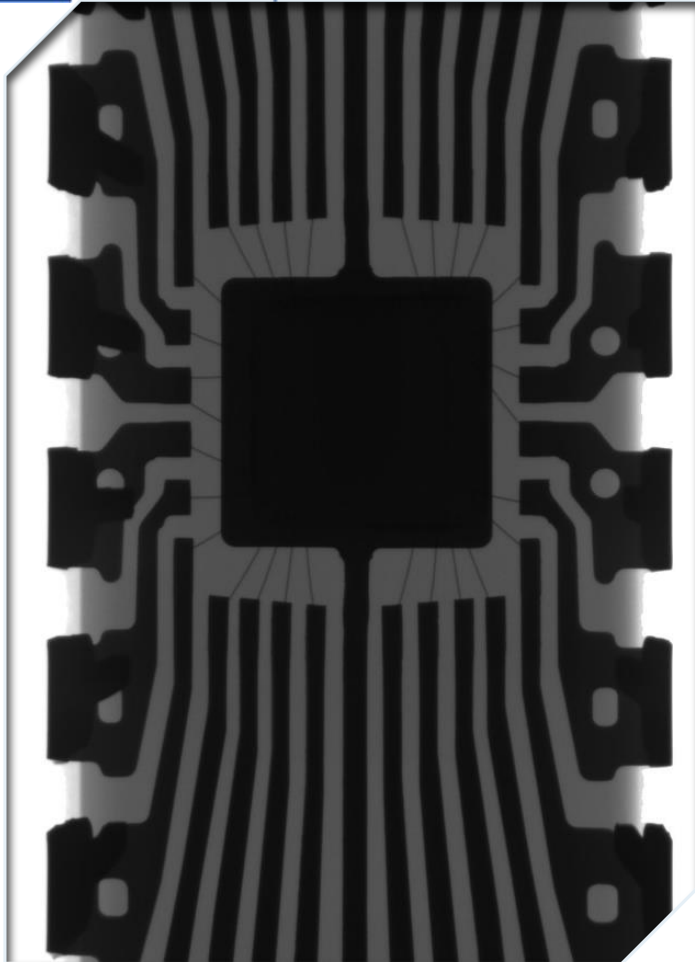
Training Modules: In detail

- ▶ Arduino board
 - ▶ Basic devices (sensors, switches, LEDs, etc)
 - ▶ First programs
 - ▶ Digital outputs, inputs and interrupters
 - ▶ Expressions
 - ▶ Decision making and control functions
- ▶ Analog signals
 - ▶ LCD
 - ▶ Servo Motors and sensors
 - ▶ Wireless applications
 - ▶ Real case programs

IO1: SYS-STEM METHODOLOGY



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IO2: SYS-STEM ARDLAB HUB

The SYS-STEM ArdLAB hub will be an online application which centralises and organises the reservations of time slots for the ArdLABs (Arduino Labs) operated by the project partners (and/or other future participants).

- It will allow the remote testing of experiments from students and schools without Arduino or electronics lab infrastructure.
- It will also allow the creation of an ArdLab community that shares their resources with students all over the world



Arduino Lab Hub

- ▶ Online access
- ▶ Allows the registration of schools and the creation of a community
- ▶ Will contain guidelines for creation of additional ArdLabs (e.g., created by schools or the community)
- ▶ Centralises all available Arduino Labs
- ▶ Allows the reservation of time slots for any available remote ArdLab
- ▶ Each ArdLab will have different features and potential for experiments to be used by students 14-18 years old

IO2: SYS-STEM ARDLAB HUB



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WEBSITE: <https://sys-stem.eu>



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THANK YOU FOR YOUR ATTENTION

For more information, please contact me at klarrondo@txorierri.net