Free workshops in support of general education with the use of educational robotics

About the project

Children have an inborn curiosity about the scientific disciplines, technology, engineering and mathematics. This is due to their general interest about the world – the way the world functions, the way that the different elements connect and interrelate. When this interest is not stimulated or encouraged on their road to maturity or during the course of education, it often disappears. From subject of natural excitement about the world, science becomes a boring and an abstract subject with an unclear practical application or purpose.

The **ER4SREM project "Educational robotics for science, technology, engineering and mathematics"** aims to encourage this curiosity of the children, showing them one really exciting hands-on application of science – robotics. We believe that inspiration with the scientific disciplines, especially in younger children, could be encouraged very successfully with a project-oriented approach, which aims to teach theoretical concepts form science, technology, engineering and mathematics through their practical application.

When assembling the robotics kits, adapted by the European Software Institute – Center Eastern Europe, children are learning by doing. They are learning by discovering, experimenting and having fun.

Project Partners:

Vienna University of Technology (TU Wien)	Austria
Европейски Софтуерен Институт – Център Източна Европа (ЕСИ ЦИЕ)	Bulgaria
Practical Robotics Institute Austria (PRIA)	Austria
University of Athens Educational Technology Lab (UoA)	Greece
AcrossLimits	Malta
Cardiff University School of Social Sciences (Cardiff University)	United Kingdom
Certicon (CE)	Czech Republic

The organization of the educational robotics workshops in Bulgaria is responsibility of the European Software Institute – Center Eastern Europe (ESI CEE).

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About the workshop

When:	Within the period between the months of February and July, 2016;
Where:	In school grounds, in groups with the child's classmates;
Duration:	Between 6 and 12 hours, organized in one or more school days;
Who conducts the workshop:	A team from ESI CEE in the presence and with the support of a teacher;
Price:	Free;
Prerequisites:	There are no requirements for prior knowledge or skills;

Technology used:

- Robo-kits based on Arduino;
- Visual programming sofware (Snap and/or Scratch);

Workshop activities:

During the educational robotics workshops the students will be able to learn the basic concepts of robotics through demonstrations and games with NAO – a humanoid robot. Together, with the support of the instructors and through visual instructions, the students will assemble an Arduino robot that they will program to perform simple tasks with visual programming software. In order to build the robot the children will be divided in groups. The workshop also includes a creativity seminar based on the mind-mapping concept of Tony Buzan, which aims to encourage the children to discover additional practical applications of robotics in various fields of science and in everyday life.
The kit is especially designed to be used safely by children - to assemble the parts you do not need to use a soldering iron or any sharp tools.

Feedback:

Before the actual workshop, the school will send out letters to all the parents describing the information that will be collected as feedback from the children, accompanied by a declaration for them to sign if they agree to for their child to provide us with this information. Any information collected will be treated with strict confidentiality and will serve only to improve the quality of the workshops. The questions will be related to the child's opinion on the workshop, on robotics and on the applied pedagogical approach.

Feedback from the children will be obtained in the form of an interview only after the consent of the parent and the child.