

School students from Russia and Finland to be trained in the technologies of Industry 4.0



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The project "Practice-oriented children's education in the Industry 4.0 sphere on the basis of a unified open educational hardware platform" (KS1950, POETA, 2020-2022) is supported by [the South-East Finland – Russia CBC 2014-2020 Programme](#). The audience of the project consists of high and higher school students and teachers of South Karelia, Finland, St. Petersburg and the Leningrad Region.

The purpose of cooperation is the development and certification in the EU of a unique training platform, i.e., a system of instruction materials and hardware and software resources for teaching Industry 4.0 technologies: robotics, 3D printing, the Internet of Things, and programming.

Teachers at schools in the border regions will have at their disposal a set of guidelines for practical lessons and testing. The material support for classes will include the ROBBO universal hardware modules organized into a unified system (boards, sensors, etc.) and samples of program codes. A specially created information system will support organization of the educational process.

Marina Bolsunovskaya, Head of the Laboratory "Industrial Systems for Streaming Data Processing" of the Advanced Manufacturing Technologies Center of the National Technology Initiative (NTI SPbPU) notes:

"The implementation of the project will allow us to create complexes of technological and software solutions for teaching professions of the future. Students will be able to show their knowledge, and the learning process will become more vivid".

The developed methodology will be broadly presented among the target audience. For the teachers, more than 50 webinars on teaching methods in the field of robotics, additive technologies, cyberphysical systems and the Internet of Things will be provided. It is planned to attract more than 2,000 children from Finland and Russia to participate in numerous educational events: camps, open lessons, seminars and competitions.

Leonid Chechurin, professor, head of the Engineering Group at Lappeenranta-Lahti University of Technology adds:

"Our joint project is an opportunity to help schools and students master a kind of 'literacy' of a present-day innovator: the capacity to turn a computer or smart phone into a control unit for a robot or a 3D printer, the ability to write functional programs on their own, to understand how modern devices communicate with each other. Teaching children the technologies of the modern industry is also an attempt to show how much more exciting it is to use a computer as a tool, rather than as a game console, and that a fast mind is a lot more important than a fast processor."

Dmitry Arseniev, Vice-Rector for International Relations of SPbPU notes:

"The cross-border cooperation program of South East Finland and Russia is particularly focused on regional development, and the main task of all ongoing projects (and Polytechnic University already has six projects of the kind!) is to improve the quality of life, economy, and education in the respective border areas. The POETA Project is a striking example of combining the efforts of universities and science and technology companies to introduce new approaches to education, fully meeting the declared priority of the program, i.e., the development of a territory of innovation, high qualification and quality education. As a leading engineering educational institution, Polytechnic University pays considerable attention to working with talented youth, actively contributes to the spread of innovation in high school education, in the hobby groups, the FabLab movement and student projects."

