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Pollution! Find a STEM solution!

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Primary and secondary school Pantovčak is an innovative school in downtown Zagreb, Croatia. The school is involved in many projects concerning STEM education.
Pollution! Find a STEM solution! is a two year long cross-curricular project that grew out of identified need to develop STEM and ICT skills more. Pisa results make evident that students' knowledge is poor and motivation for math and similar subjects is low. Implying priorities of European Commission, like e-learning, raises motivation and also develops basic skills and improves knowledge in science, math, physic, ICT. Main objectives are to increase students' interest in STEM education and careers and introduce them to all available new trends in technology, engineering and science in their region by visiting clean technology industries and strengthening links with them, to introduce some future digital jobs and prepare students for rapid technological changes by integrating ICT into classroom practice more, to highlight the importance of global environmental issues and improve the knowledge in the areas of sustainable development and renewable energy, to develop collaborative partnership between schools and the wider community in formal, non-formal and informal learning, to support multilingualism by publishing Open Educational Resources in 8 different languages and to strengthen the professional profile of the teaching profession. The project brings together 231 teachers and 2729 students from five different European countries in learning to think globally and work on activities that contribute to the community's well-being. There are altogether 33 activities, divided in 4 categories. STEM activities are focused on students building the devices for measuring air, light and noise pollution in their school and homes. They use the scientific method to analyze the data and compare the results with their peers to find a solution. Eskills, digital literacy and digital jobs are focused on introducing career opportunities in STEM and ICT, meetings with scientists and engineers, developing 21st century skills and eskills in order to make students more employable in the future. Clean technology activities will introduce students to, at least, 3 different clean technology and engineering facilities.
Universe Awareness project's vision is to use the beauty and grandeur of the Universe to inspire young children and encourage them to develop an interest in science and technology. The program also aims to introduce children to the idea of global citizenship and tolerance at a crucial stage of their development – to show them that they are part of an international community.
Workshops "Little scientists" consists of 5 modules for gifted students - during these modules the youngest students are introduced to scientific experiments. Experiments help children develop their skills at goal-setting, planning and problem-solving.
The largest value of the project is that it is based on key competences that teachers and students of the 21st century should have, it integrates critical thinking, bust the English language use through exploring and using on-line communication, collaboration and publication. Children get more curious and motivated about sciences. Through those experiences they are connecting their learning to real world problems and solutions.