MAKER SCHOOLS

http://makers-project.eu/

About the Project

3D technology is becoming cheaper and increasingly affordable. It will soon be available in many schools. 3D design and printing can benefit learning in all disciplines and enhance cross-curricular learning. Allowing students to co-create 3D designs can transform them from passive receivers of knowledge to active learners. Creating opportunities to combine Programming with 3D design can further strengthen the employability of students.

What do we want to achieve?

The project's overall objective is to enable the application of 3D design and printing in STEM education in secondary schools. We will provide teachers and students with learning/teaching resources on 3D design and printing, and on the application of the Python programming language in 3D design and creative explorations of 3D models. We will also seek to equip teachers with methodological and didactic guidance for the design and delivery of STEM education in the area of 3D technology.

Expected impact

With this project, we hope to raise awareness that 3D technology and its integration with Programming create many opportunities for improving the quality of curricular teaching and for delivering engaging and effective extracurricular STEM and STEAM (STEM and Arts) education.

Partners

Technical University – Gabrovo (Bulgaria)

Regional Directorate of Education – Stara Zagora (Bulgaria)

European Center for Quality (Bulgaria)

Directorate of Secondary Education in Chania (Greece)

Technical University of Crete – Laboratory of Distributed Multimedia Information Systems and Applications (Greece)

Muğla Provincial Directorate of National Education (Turkey)

Manisa Provincial Directorate of National Education (Turkey)

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3D Design for Education

Expected Results

Training Program: Introduction to 3D design and 3D printing

This training program will provide an overview of 3D design and printing technology, with step-by-step tutorials and sample hands-on exercises for applying the technology in the classroom. It can be used by teachers to design their own training, as well as by students who want to learn on their own.
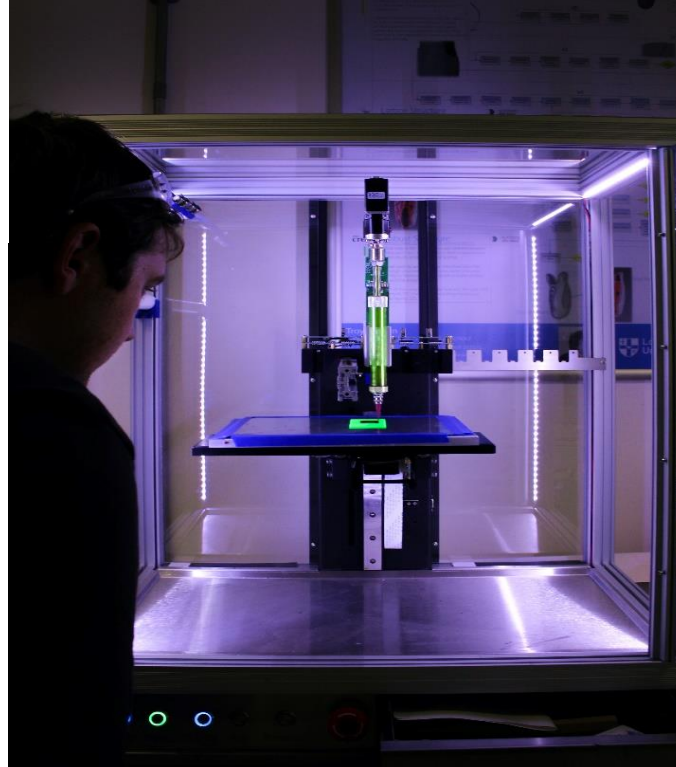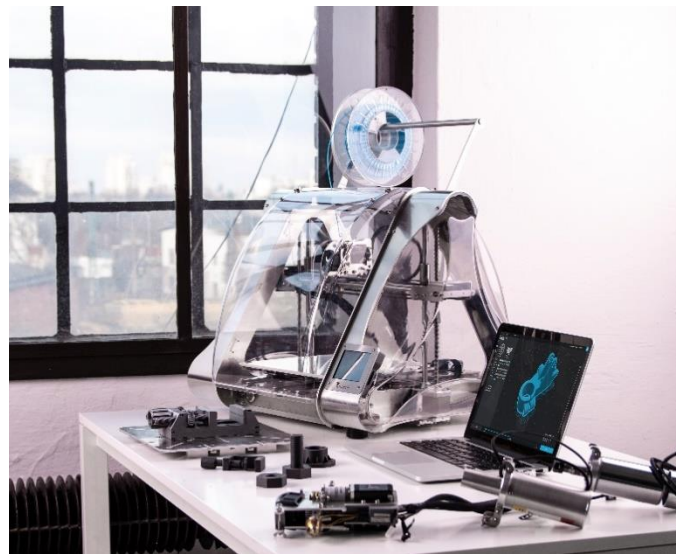
Training Program: Python for 3D printing and creative explorations of 3D models

This training program will provide tools, resources and support for combining Programming/Coding and 3D technology in extracurricular STEM education to achieve an engaging and effective learning in both fields. It can be used by teachers to design their own training, as well as by students who want to learn on their own.

Classroom Guide: Applying 3D Design, Printing and Programming in Learning Activities

This resource will provide guidance for teachers on organizing effective extracurricular STEM training focused on 3D design, printing and programming. It will provide help with building an effective learning environment, engaging students, and assessing their performance. It will also provide a structured guidance for teachers on how to develop new exercises and didactic materials for their students.

> **"The resources can be used by teachers to design their own training, as well as by students who want to learn on their own."**