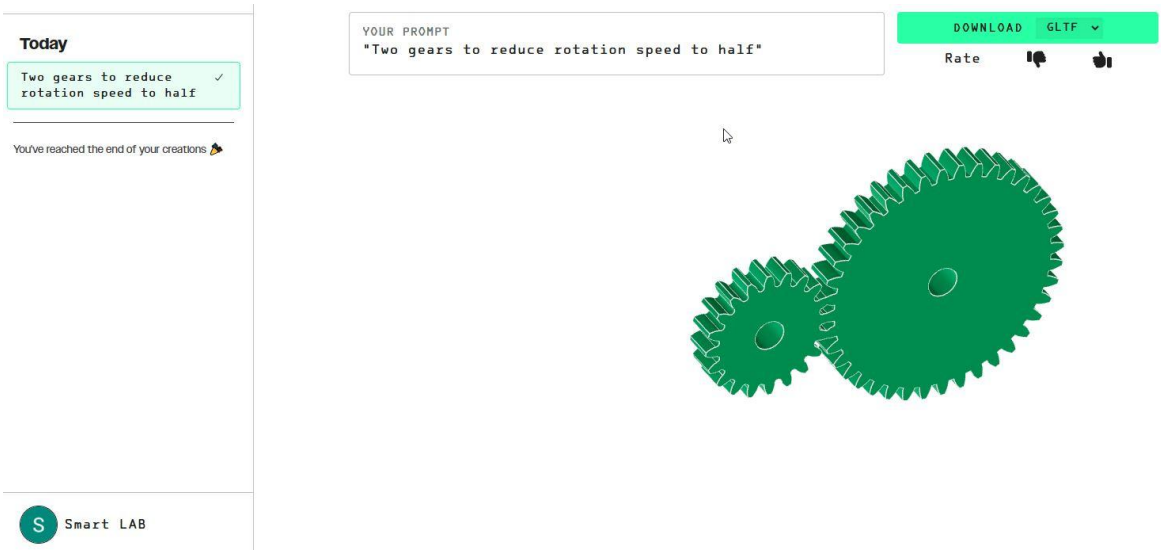
Innovation unleashed: the latest in AI and state-of-the-art equipment interconnected and tested in a high school SMART lab.

In an effort to remain at the frontier of educational innovation, the "Anghel Saligny" Technological High School in Bacău has implemented a state-of-the-art SMARTLAB laboratory, equipped with advanced 3D printers, including a 3D food model and various software integrated with artificial intelligence (AI).

The SMARTLAB lab at the "Anghel Saligny" Technological High School in Bacău not only provides access to advanced technologies, but also distinguishes itself by adopting and integrating the latest AI technologies: installing and testing LLM models on its own server and accessing them from the network. This initiative allows students to experiment with working with various AI models both on the network and locally, as well as to create 3D models using innovative techniques such as "text-to-3D" and "text-to-CAD".



The openness and close collaboration between the principals, the teaching staff and the technical team composed of the high school's systems engineer and computer scientist were key to this project.

3-in-1 3D printer Snapmaker A350T: Versatility and innovation in education

One of the most remarkable pieces of equipment in the SMARTLAB lab of the "Anghel Saligny" Technological High School in Bacău is the 3-in-1 3D printer Snapmaker A350T.

This advanced device is a combination of 3D printer, laser engraving machine and CNC milling machine, all integrated into one modular system.

Technical Features

The Snapmaker A350T's Snapmaker A350T is characterised by its ability to switch fluidly between different functions, giving students and teachers the ability to explore a wide range of projects. Whether it's 3D printing for prototyping, laser engraving for artwork, or CNC milling for precise parts, this machine offers flexibility and precision.

Use in an educational context

Within SMARTLAB, the Snapmaker A350T serves as a valuable resource for hands-on learning. Students can understand the basic principles of mechanical design, computer-aided design (CAD) software and additive manufacturing by working directly with this equipment. It also allows them to see how abstract concepts in the classroom are transformed into tangible physical objects, which can increase understanding and knowledge retention.

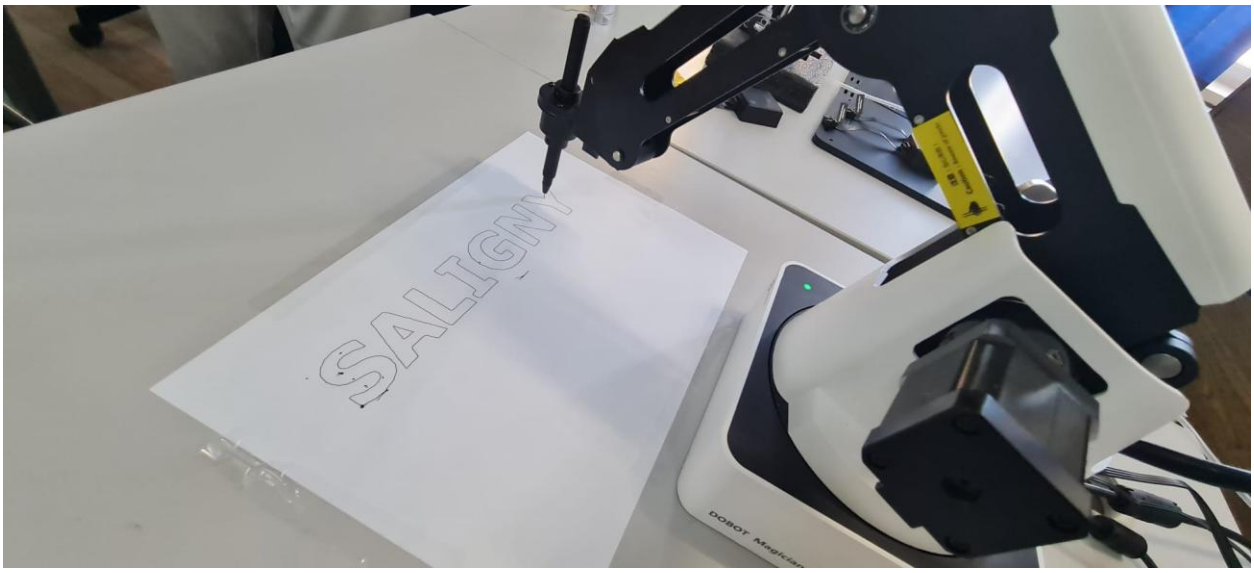
Educational benefits

Adopting Snapmaker A350T in the curriculum not only supports the development of students' technical skills, but also stimulates them to think critically and collaborate. Projects produced using this printer can range from complex architectural models to personalised artistic creations, giving students the opportunity to explore different areas and applications.

The Snapmaker A350T 3-in-1 3D printer adds a vital dimension to the SMARTLAB lab's facilities, reinforcing the commitment of the "Anghel Saligny" Technological High School to provide a cutting-edge technological education. By facilitating access to multi-functional technologies, the highschool aims to train not only competent users of technology, but also innovators capable of contributing to creative and effective solutions to the problems of the future.

Diversity of technological equipment

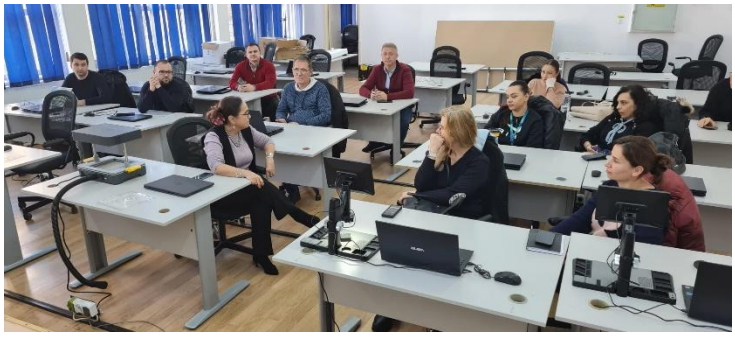
SMARTLAB is equipped with a wide range of other state-of-the-art equipment: virtual reality glasses, portables digital microscopes with full HD 10 inch display and PC connectivity, 360 camera, 3D scanner, 3D vacuum former, a 75 inch interactive display, Arduino robotic KITs and last but not least, a programmable DOBOT Magician robotic arm, complemented by a Vision Kit. The DOBOT Magician is a highly versatile device designed to give students hands-on experiences in robotics. The arm can perform a variety of automated actions, from manipulation and sorting to writing and drawing.



The integration of the Vision Kit

Vision Kit brings an additional level of functionality to the DOBOT Magician robotic arm, allowing it to perform complex tasks requiring visual recognition. This includes identifying objects, sorting them by colour or size and performing precise operations based on visual input. This kit is an impressive example of how cutting-edge technologies can be used to improve the understanding and application of scientific concepts in an interactive and engaging way.

Developing policy on the use of AI and the role of the technical team



In parallel to hardware innovations, active discussions are taking place to develop a policy for the ethical and effective use of artificial intelligence in educational processes. The tech team plays a crucial role in these discussions, ensuring that all technologies, including AI and robotics, are used in a way that maximises educational benefits without compromising the integrity or equity of learning.

Conclusions

By providing state-of-the-art equipment and close collaboration between all actors involved, the "Anghel Saligny" Technological High School in Bacău reconfirms its commitment to be at the forefront of educational innovation. Students not only learn about technology, but become active participants in using and understanding it, thus preparing themselves for the challenges of the future. The SMARTLAB, with all its facilities, including the DOBOT Magician robotic arm and associated Vision Kit, is a vibrant example of how education can evolve in step with technology, training not only users, but also innovators and technology leaders.