



# European Project Semester

## PROJECT OUTLINE

**Project dates:** March – June 2024

**Title:** finalizing and retrofitting of two 3D printing machines

**Project activity areas:** 3D Printing FDM, Mechanical design, Automatization, assembly.

**Keywords:** 3D Printing machine, Design, Onshape, Realization

**Tutor's name and coordinates**

Client – End-user: ENIT  
ENIT Technical Supervisor + contact:  
Foued ABROUG : [foued.abroug@enit.fr](mailto:foued.abroug@enit.fr)  
François GRIZET : [francois.grizet@enit.fr](mailto:francois.grizet@enit.fr)

**Project origin**

ENIT

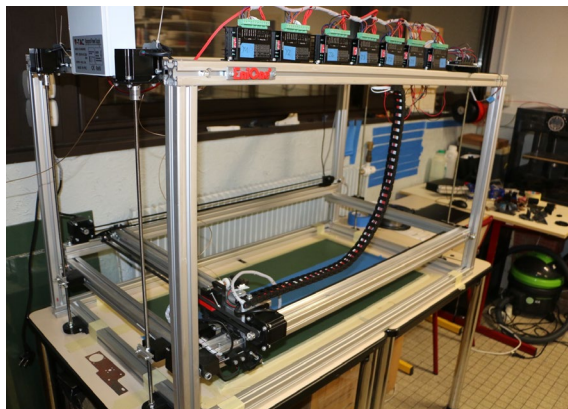
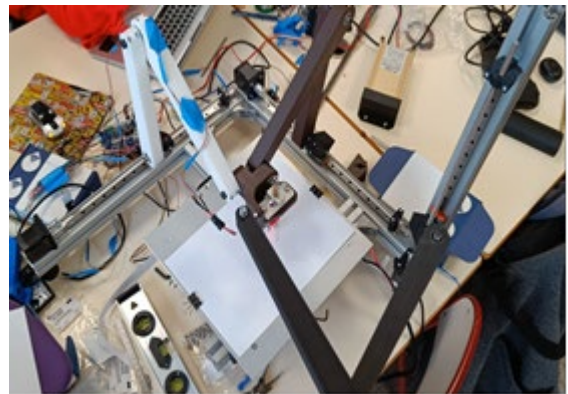
**Project technical background:**

Rich of its experience in making and retrofitting 3D printers, ENIT disposes of several 3d printing machines created by students and serve for teaching, research and exhibition events (open school day, science festival).

A new machine has been built last semester but not yet finished. Also an older more robust machine needs to be retrofitted for activities of 3d printing or laser cutting.

The aim of this project is to finish the new machine and retrofit the old machine so they can be used for student projects, creating parts for teaching, school events and research purposes.

The project will start with studying the existing technologies, choosing the modifications to be introduced to each machine in agreement between students and supervisors. The new version of the machines will then be designed and manufactured at ENIT.



**Studied topics:**

- Definition of requirements and technical specifications
- Analysis of the existing technologies and adopting a design
- Search and purchase of necessary components
- Design and realization of the rest of the parts of the machine
- Cabling, debugging and starting the machine
- Print test parts