



# European Project Semester

## PROJECT OUTLINE

**Project dates:** September – December 2023

**Title:** Design and fabrication of a 3D printer

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

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

**Tutor's name and coordinates**

Client – End-user: ENIT  
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**Project origin**

Design and manufacturing of an FDM 3D printer

**Project technical background:**

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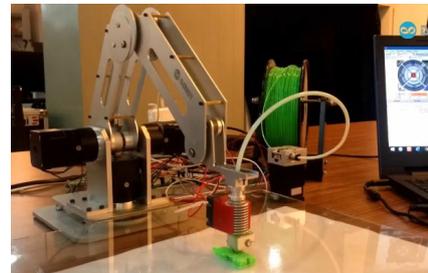
Rich of its experience in making and retrofitting 3D printers, ENIT proposes a project to create a variation of an FDM 3D printer, among the know list of existing 3D printers [1].

This machine to be built could be using a robotic arm, or a belt type printer. (See opposite photos).

We have already built several 3D printers which are used as part of student projects.

The machine to be built should be able to serve in student projects, creating parts for teaching and research purposes, and able to create voluminous parts, bigger than 30cm\*30cm\*30cm.

The project will start with studying the existing technologies and choosing a variation to be built in agreement between students and supervisors, the machine 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

[1]: <https://www.3dnatives.com/en/four-types-fdm-3d-printers140620174/#!>