



European Project Semester

PROJECT OUTLINE

Project dates: October 2018 - January 2019

Title: Robotics for 3D printing – Rob3D

Project activity areas:
Mechanical design
Robotics

Keywords: Robot, 3D printer, design

Tutor's name and coordinates
Client – End-user: F.Chabert /ENIT
Technical ENIT Supervisor + contact:
François Grizet : francois.grizet@enit.fr
Farid Noureddine : farid.noureddine@enit.fr

Project origin
Industrial / Research / Teaching
Laboratory of Manufacturing Engineering
at ENIT – Center for Innovative Composite
Materials

Project technical background:

The Center for Innovative Composite Materials is a research center dedicated to the development and study of new polymer-based materials for industries. It is part of the Laboratory of Manufacturing Engineering at ENIT gathering about 100 researchers in mechanical and industrial engineering.

3D printing for polymeric materials has been studied at ENIT for many years to cover a wide range of areas : design and optimization of machines, studies to control the process parameters, physical phenomenon of adhesion of layers, mechanical properties of printed parts. The EPS project proposed hereby aims to participate to the installation of an all-new concept. The specificity of this future machine would be to have no limitation of the dimensions of printed parts, as it will be set up on a robot. This kind a machine is not commercially available, so it will be the first time it is developed.



Micro-extruder

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Robotics

Keywords: Robot, 3D printer,
design

Studied topics:

The project aims to design a clamp to connect the extruder on the robot, taking into account the limitations of each part of the machine : weight, accuracy of displacement, constraint of the printer, wiring of equipment and more.