



# European Project Semester

## PROJECT OUTLINE

**Project dates:** September – December 2021

**Title:** Robotic machining in the industry 4.0

**Project activity areas:** Industrial robotics, industrial automation, industry 4.0

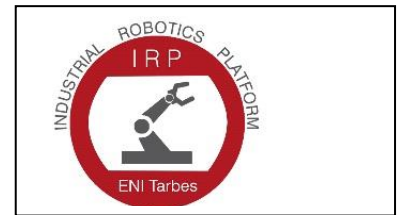
**Keywords:** Robotic polishing, CAD in robotics, artificial vision, automated path planning

**Tutor's name and coordinates**

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**Project origin:**

INDUSTRIAL  
ROBOTICS  
PLATFORM



**Overview/Project technical background**

The advantages of robotization in both manufacturing times and quality of the products explain the choice of many companies for this technique today, and most likely, their number will increase in the near future.

Our recent developments deal with robotic machining especially for the tasks where no high precision is required like polishing or deburring. Compared to the CNC machining, many problems are still unsolved because robots were not specifically designed for machining. Therefore, this is a very interesting field for current engineering students.



**Studied topics**

The expected developments concern the coupling of the vision system with the robot. Based on both software Labwindows and Vision Assistant, studies will be achieved to make parts localization to achieve an automated trajectory generation. A CAD software like Kuka Simpro and PowerMill will be used.

This theme is relevant for students coming from engineering background, especially in mechanical, electrical or computer engineering studies. Then, the final tasks will be specified more precisely, internally with the EPS group according to the background/knowledge of each group member under the control of the management supervisor.