



# European Project Semester

## PROJECT OUTLINE

**Project dates:** March – June 2023

**Title:** Pneumatic test bench for railway applications

**Project activity areas:**

*Mechanical engineering – Conception – CAD Design*

**Keywords:**

*Mechanical design  
Railway engineering*

**Tutor's name and coordinates**

Client – End-user: **HOURAT (hourat-mecanique.com)**  
**BELLON Léo – l.bellon@hourat-mecanique.com**  
ENIT Technical Supervisor + contact:

**Project origin**

*Response to a request from "HOURAT"*

**Project technical background:**

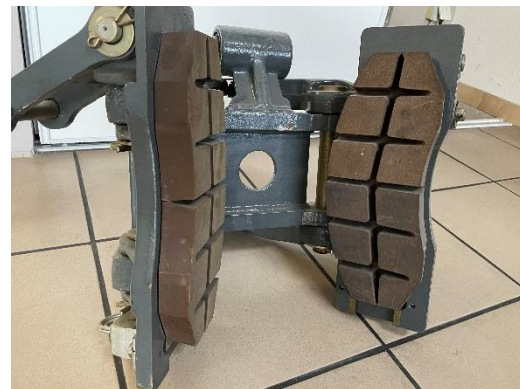
Our company HOURAT produces brake components for rail vehicles. For a number of these, we are obliged to carry out air pressure tests in order to check the conformity of the part.

At present, this test is carried out by subcontractors, but the various price increases are pushing us to develop this skill in-house.

The main objective of this project is to produce an operational test bench for our production. This subject will be divided into 3 main phases: firstly, design of a solution, prototyping and then the automation of the solution. Depending on the progress of the various work, these different phases may take place in several EPS.

**Design phase – main tasks:**

- Set up of specifications with the client
- Mechanical study of the product
- 3D Design
- First prototype



**Studied topics:**

- Mechanical design
- Material mechanics
- CAD
- Project management
- Fluid mechanics