



# European Project Semester

## PROJECT OUTLINE

**Project dates:** March – June 2023

**Title:**

*Study of Material Natural Ageing in Harsh Environment: application to the Pic du Midi de Bigorre 2877m above sea level*

**Project activity areas:**

*Plastic, material durability, material science, Laboratory science, Research & Developments, Environment protection*

**Keywords:**

*Polymer, durability, laboratory, ageing, natural ageing, harsh environment, mountain*

**Tutor's name and coordinates**

Client – End-user: [ReSEAcions.org](http://ReSEAcions.org)  
ENIT Technical Supervisor + contact:  
[Mathieu CHARLAS](mailto:Mathieu CHARLAS)  
[mathieu.charlas@enit.fr](mailto:mathieu.charlas@enit.fr)  
+33 6 47 03 17 04

**Project origin**

*Laboratory platform of the roof top of "Pic du Midi de Bigorre" observatory.*

**Project technical background:**

Technacol is a ENIT based company that transfers material technologies from academic laboratories to the industry. As part of its research activities, Technacol has set up a harsh environment platform on the rooftop of the "Pic du Midi de Bigorre" observatory at 2,877m above sea level in the Pyrénées mountain range at 1h30 drive from Tarbes.



This project aims to study the durability and ageing behaviour of a selection of common technical polymer in a harsh natural environment and compare it to polymers that are ageing in artificial laboratory environment (climatic chamber, UV test chamber...).

The aim is to be able to provide a guidance to Technacol's customers in field such as transportation industry, sport, buildings, etc

**Studied topics:**

- Material science
- Material durability
- Practical testings
- Laboratory tests
- Natural ageing
- Outdoor work