

## AUTOMATED PRE-PREG LAY-UP

# **APPLY PROJECT**

The objective of the APPLY project is to automate the prepreg fabric draping process by developing robotic end-effectors and a separator removal system, as well as a defect inspection device and the simulation of fabric behaviour during draping.



MARCH 2024 Specification of the requirement

**NOVEMBER 2023** 

Kick off meeting

#### | FEBRUARY 2026

Operational systems: Industrial prototypes of robotic end-effectors, automatic separator removal system, inspection system and data analysis tool. Simulation of robot trajectories validated

#### **INDUSTRIAL ISSUES**

In a context of increasing production rates and reducing costs, the automation of the manual draping process for prepreg fabrics represents a major challenge. Many aerostructure parts with complex geometries are produced in this way, and automating certain stages of the process would not only increase the application rate and repeatability, but also improve detection of potential defects.

#### APRIL 2025

**INNOVATIVE FEATURES** 

Validated proofs of concept: endeffectors prototypes, unit functions for separator removal, inspection methods on static bench. Fabric behavior modelling validated.

### NOVEMBER 2026

End of the project

#### INDUSTRIAL APPLICATIONS

The results of the project will enable industrial partners to reduce the strain on operators and prepare high-speed composite productions by concentrating manual tasks on the most complex operations. They will also reduce production costs while maintaining the conformity of the parts produced.

Simulation of the process and robotic trajectories as well as the consideration of the behavior of the material.

Development of automation processes: separator removal, fabric lay-up and lay-up, material inspection and defect detection.



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