WING

WING Project

The objective of this project is to evaluate the ability of textile technologies to meet high production rates of the aeronautics industry for large scale parts and complex geometry. Research activities include: preform architecture, tooling concepts and automated textile layup line.

Technical and economic impacts

- High deposition rate with regard to thermo-set technology
- Material waste reduced to a minimum
- Investments reduction

Keywords

Composite process // Textile preform // High production rate // Aeronautics // Productivity

Kick-Off meeting
april 2017

Installation of automated textile line at IRT JV
1st semester 2019

Definition of high production rate manufacturing line
october 2020

april 2017
Starting of the project

november 2017
Initial small scale feasibility parts

june 2020
Manufacturing demonstrator parts

october 2020
End of the project

INDUSTRIAL CONTEXT

Composites for aeronautical applications have been developed for several decades and their implementation has been largely mastered.

It is wide-body aircraft, performance-oriented programs that have led to an increase in the use of composites in aero-structures.

Thus, the designs, processes and means of implementation developed correspond to this field of application.

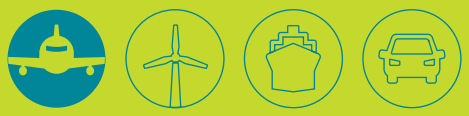
In fact, the state of the art in the manufacture of composite structures cannot be transposed in this as-is state to production rates of 5 or 6 times higher.

INNOVATIVES FEATURES

- Innovative textile architectures. Feasibility to be proven with a range of scale 1 trials.
- Design and installation of an automated textile line.
- Design of innovative tooling and definition of injection principles in order to reduce injection time and investments.

INDUSTRIAL APPLICATIONS

Check technical and economic viability of high performance aeronautics structure within a high cycle time and low cost. Results of the study will be transferred to wind or automotive industries.



Partners

- IRT JULES VERNE
- AIRBUS
- FIVES MACHINING
- LOIRETECH

Budget

- 5 688,00 K€

Equipment

- Automated textile layup line

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