

# Industrialization of Carbon Fiber Processes

Process engineering, automation projects, and technology demonstrator manufacturing



Aeronautical companies have introduced new composite materials in the manufacturing of components in order to reduce the weight of the aircrafts and optimize fuel consumption. The increasing use of composites has made the manufacturing process more complex, with high ratios of skilled labor and large energy consumptions.

To improve productivity, assembly times can be shortened by integrating components in a single operation or costs can be reduced through innovations in CFRP material formation processes that are alternatives to the existing ones (press hotforming, drape forming, etc.).

## **Our solution**

Applus+ Laboratories is a specialist in the development of new CFRP component manufacturing processes for aircraft. Our services include:

- Development of the product's technical specifications and process design
- Production of technology demonstrators for process validation
- Development and validation of new forming processes for composite materials
- 3D woven preform production
- Production of limited series of CFRP components using RTM
- CFRP component machining

We have a composite material manufacturing laboratory and a technical development office, where we design and configure test benches for specific component processes.

To validate new process, our engineers develop prototype pre-industrialization benches to manufacture pre-series components.



Applus+ Laboratories takes part in RandD programs and works according to the client's specifications to develop new products, especially for the aeronautics industry.

### **Benefits**

- Determine the possibilities and limits in using innovative technologies in the manufacturing of CFRP components
- Reduce the costs and cycle times in CFRP component production processes
- Have a team of experts in composite materials and manufacturing processes.