



## EFIP and EFORB Projects – Devices for Aircraft Structures Assembly

### Motivation

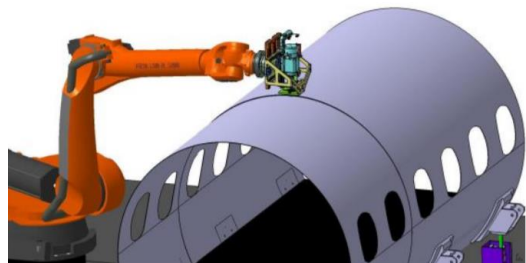
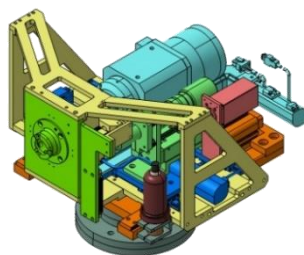
The growing demand of aircraft production requires the application of automation technologies to reduce the lead time manufacturing process and improve the product quality.

### Objective

Development of two robotic devices mounted in an industrial anthropomorphic robots operating in aeronautical fuselages to complement the necessary tasks for the automation of aircraft structural assembly.

### Approach

The EFIP (Effector of Drilling and Fasteners Inserting) is an end-effector designed and built with several modules to perform automatic drilling operations, sealant application and inserting fasteners at the junction of two circular sections of an aircraft fuselage. The EFORB (Robotic Orbital Drilling End-effector) is a device developed to perform automatic orbital drilling, including modules of lubrication, cleaning and suction.



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