

# DEVELOPMENT OF COMPOSITE STRUCTURAL AEROSPACE PARTS BY OUT-OF-AUTOCLAVE PROCESS

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## Abstract

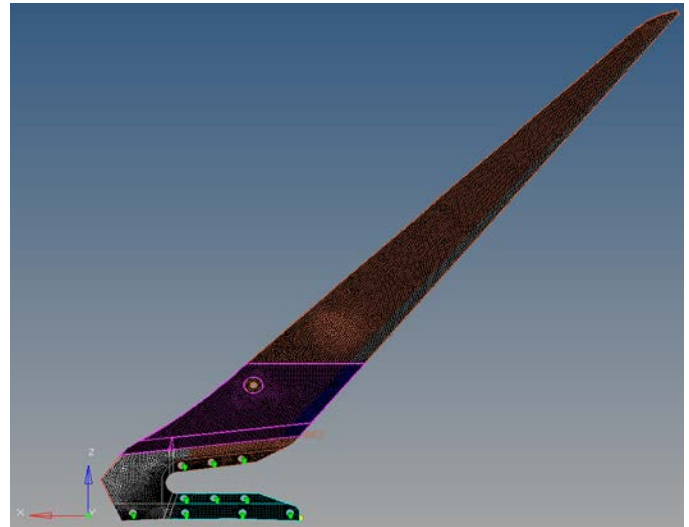
This project is a partnership between Magellan Aerospace and Centre technologique en Aérospatiale (CTA). Its scope is the development of an out-of-autoclave (OOA) process for the manufacturing of composite cable cutter that is now made from metallic materials.

Cable cutters are part of the wire strike protection system (WSPS) installed at the front of helicopters and provide a measure of protection against impacting horizontally strung cables by cutting them to prevent crashes.

The focus of the present project is to improve the selected OOA process set-up to obtain high performance composites and to develop a material property database for the current system. The main objective relies on the weight reduction when compared to traditional metallic parts. The target weight reduction is 50%.

The effect of important design and processing parameters on the quality of composite materials manufactured by OOA methods was evaluated to develop reliable OOA composite materials for structural parts. For that purpose, a series of experimental testing at the test coupon scale as well as numerical simulation were conducted.

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*Cable Cutter configuration design*

***The results indicate that structural aerospace composite parts with high performance can be manufactured using the developed OOA process***

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