

Success Cases - Load Cell for Active Inceptors

- **Function & Architecture**
 - Airborne component to be fitted onto the Grip of Active Inceptors,
 - in charge of providing a force feedback to the inceptor's controller, and
 - based on a Dual full bridge strains for Pitch and Roll with independent power supply
- **Main requirements**
 - 2 Pitch, 2 Roll measurement channels ± 50 N with mechanical stop
 - Limit Load ± 500 N
 - Cross Sensitivity $< 5\%$
 - 2 million cycling strains
 - Compliant to DO160 : i) Environmental Requirements) , ii) Electromagnetic Compatibility
 - Temperature Operation -40°C to $+85^{\circ}\text{C}$
- **Product Specificity & Achievements**
 - Plug-In concept design, though specifically designed in the basis of customer's spec
 - Designed to and manufactured under aero and MIL standards. In particular:
 - [Strains adhesive and sealant manufacturing process](#)
 - [Assembling of Printed Circuit Board Assembly \(PCA\) using microscope soldering & inspection.](#)
 - [Functional and Performance PAT \(Production acceptance Test\)](#)
 - Precision CNC machined parts, made of AL7075-T6 and AISI 304
 - ZERO offset adjustment at PCA
 - Interface for Control GRIPs through MIL connectivity
- **Main skills involved & Value Added:**
 - Mechatronic approach as combining Electronic and Mechanical expertise
 - Component already tested and certified as part of a whole Active Inceptor
 - Component easily ready to be redesigned and to be plugged-in to any Stick design
 - Readouts totally configurable/suitable to any inceptor's controller
 - Customer Satisfaction regarding:
 - [Agility and Flexibility during the Design Phase](#)
 - [Performances and Robustness of the Build Standard](#)
 - Series production already launched \rightarrow Costs are being lowered

