




Your custom  
Avionics  
Development  
has never been so easy

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Discover Why

Contact us:

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# Case Study

Competition solution: 20 Kg



We recently developed a custom power distribution system for a Part-23 Aircraft. Our competitors proposed a system composed by 3 boxes for a total weight of 20 Kg.

Thanks to STEP 1 and 2 of our development process, explained in the following pages, we managed to deliver a product with superior characteristic. This SYSTEM-IN-A-BOX, developed in just 9 months, weights just 3 Kg, has more functionality and higher reliability figures.

Our solution: 3 Kg



By using latest solid state technology, this Power Distribution Unit is capable of managing 3 KW of electrical power from 3 sources and delivery it to 48 loads using our proprietary Electronic Circuit Breaker technology.

This is what we mean  
by disruptive design.

It can be achieved for  
all on-board systems.

Ask us.

Member of:



# Aircraft Systems

Brancaro Industries can offer you a baseline of zero non-recurring cost COTS devices already developed and proven in flight. If your application needs a custom design, we strive to propose you the best cost-effective solution, integrating, where possible, our already existing designs. In this way we lower your development cost and we minimize the risk.



ELECTRIC POWER  
GENERATION AND  
DISTRIBUTION



AC AND DC ELECTRONIC  
CIRCUIT BREAKER WITH  
ARC FAULT PROTECTION



ELECTRIC ACTUATOR  
CONTROLLER



DIGITAL AND ANALOG  
I/O MANAGEMENT  
MAGIC BOXES



POWER SUPPLIES



CONTROL PANELS

This is just an overview of systems we developed for our customers.  
If you don't see your application listed here, contact us. We have some new development ongoing.



# 6 Steps towards your Custom Avionics

BRAINSTORMING

SPECIFICATION

DESIGN

PROTOTYPING

CERTIFICATION

SUPPORT

## 1. System Brainstorming



Take advantage of our complimentary system engineering expertise. We will work with you to optimize your system, identifying the most cost-effective solution... and it comes for free!

## 2. Technical Requirement Specification



If you don't have a technical requirement specification, we can write it in your document template and you will validate it step-by-step. Once completed, you may call for bids involving your preferred potential suppliers, and you will receive our technical and commercial proposal.

By selecting Branco Industries as the equipment manufacturer, the cost of this step will be discounted.

## 3. Equipment Development



Clear processes are a must at Branco Industries. Each of our customers has its own online portal with realtime access to:

- ✈ Detailed GANTT Chart, with updated progress
- ✈ Live RAIL (Recurring Action Item List) and updated Risk Register
- ✈ All released project documents

Our motto is *No delays, No risks, No extra-costs.*

## 4. Step-by-step Prototyping Phases



Disruptive design is a result of solid knowledge and multiple design-testing iterations. According to specific development risks, we can start testing even before PDR, typically following these prototyping steps:

- ✈ Breadboard model: built before PDR, it ensures the solution is suitable and gives the option to choose among more design choices.
- ✈ Engineering model: produced after PDR, it is a PCB board with final routing and components placement. This step is crucial to be able to present consistent and measured data at CDR for your final approval.
- ✈ Qualification model: this is the final model with its case, to be submitted for the environmental qualification.
- ✈ Lab and SOF prototypes: based on your timeline constraints, these equipments are useful for your system integration laboratory activities or to be installed onboard your prototype.

As a customer, you are always up-to-date about every test we perform, with the possibility to witness them.

## 5. Qualification & Certification



Brancarlo Industries has a solid team for Environmental Qualification, including DO-160, MIL-STD and other guidelines. We pay special attention to high-risk disciplines such as EMC/EMI/HIRF, Lightning and Vibrations.

Our team is dedicated also to DO-178 and DO-254 Software and Complex Hardware qualification. In this way we ensure a flawless certification process, supporting you in the aircraft installation.

## 6. Production, delivery and customer support



Brancarlo Industries has an integrated supply and manufacturing chain, ensuring the maximum traceability from the electronic component up to the equipment S/N. All our production uses the latest technology in assembly machines and materials.



# Applications

Civil and Military, Fixed and Rotary wing, Manned and Unmanned platforms: these are the applications our team is familiar with. From a tiny sensor up to complex processing devices, we are ready to analyse your problem and propose a good solution.

## Biz-jet, Small & Big Planes



## Military Aircrafts



## Civil Helicopters



## UAV & RPAS



Common avionics cannot be used in UAV and RPAS applications, due to weight, cost and dimensions. We have specific experience on these platforms and we can offer you break-through solutions.

## Tilt-rotors & UAM



Leonardo AW609, the first civil commercial tiltrotor, and our team has a wide experience on Tiltrotors Avionics and Electrical systems since 2012. Our technology is onboard the Leonardo AW609 first civil tiltrotor, and we are currently working on other disruptive designs.





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