

Aircraft cabin interior models

Case Study

When B/E Aerospace required a high fidelity model of an aircraft cabin interior monument (CIM) it turned to Ogle Model + Prototypes for its wide ranging expertise, flexible approach and attention to detail.

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B/E Aerospace is a leading global manufacturer of aircraft passenger cabin interior products for both commercial aircraft and business jets. Founded in 1987 the company has 35 major facilities around the world. Its UK facility in Leighton Buzzard, Bedfordshire, is responsible for commercial aircraft products, which includes the design and manufacture of crew rests and galley structures.

One of the most challenging environments to design for is an aircraft cabin. The reason being that so many factors need to be taken into consideration, not to mention all the test and certification programmes that products have to be subjected to.

"For any product to actually go into an aircraft it has to undergo all manner of testing from flammability testing - making sure it doesn't burst into flames and give off toxic smoke - to strength testing - making sure it is strong enough to ensure the rigours of bouncing down the runway or, worse case scenario, an emergency landing," explains Ray Hough, Director of Sales & Marketing, Cabin Interior Structures at B/E Aerospace.

For a recent project, BE had to create a high fidelity prototype in order to get the customer's full agreement to the aesthetics before the development programme progressed into the detailed design phase and all this associated testing. Hough knew exactly who to turn to for the job - Ogle Models + Prototypes.

BE prides itself on its extremely high quality products and having worked with Ogle for a number of years on previous projects, it has discovered that the model maker shares this same quality ethos. Hough has been continually impressed with Ogle's attention to detail, quality delivery and flexible approach to changes during the development programme. ▶



The brief to Ogle for this latest project was to develop a high fidelity and highly customised model of an aircraft cabin interior monument (CIM).

This true-to-life model needed to demonstrate the required structural assembly, ergonomics, functionality in terms of working lighting as well as the desired colour, trims and finishes. Ultimately, the challenge was to produce a model with an equal attention to detail that you would expect from a production quality finished product.

Although BE's design team hadn't carried out the detailed design at this early stage in the product's development, with a range of software in-house, Ogle was able to work with the level of design data provided and prepare it for the required processes whether that be CNC machining or 3D printing.

So, with the data in hand, the Ogle team drew on its vast experience and in-house capabilities to develop the model using the most appropriate techniques and processes. Its 25,000 square foot facility based in Letchworth, Hertfordshire, has a raft of machines including industrial 3D printing, vacuum casting and CNC machining together with traditional bench hand skills.

In this instance, the main process used was CNC machining. The model's main frame and most of the carcass is made from MDF/plywood that has been clad in parts CNC machined from model board and in some cases PVC plastic, depending on the requirements.

The model also had to be fitted with working lighting, supplied by BE, that was controlled via remote control. The lights had to shine through triangular shapes at the top of the model and this was achieved by draping a piece of perspex over the main frame. A vinyl material was placed over the perspex as a mask and then sprayed in the desired maroon colour. The mask was then removed leaving the triangular shapes behind.

Being a very high spec model, luxury materials were used including leather, which was used to clad the lower part of the unit, and ultra leather, which was used along the sides. The other parts were then taken into Ogle's dedicated finishing and painting facility before final assembly.

Throughout the product development process, Ogle demonstrated a flexible approach but still met the client's budget and timescale. This is achieved through constant communication and providing updates at key stages of the process.

The end result is a quality product that demonstrates an extremely high attention to detail. **"We were absolutely delighted. It was very well received by our customer too. In fact, they were thrilled when they saw it fitted into the aircraft,"** comments Hough.

Not only does this project demonstrate Ogle's skill in delivering quality and timely products through continued investment in its technology range and personnel expertise, but also its ability to cultivate strong customer relationships that guarantee companies like BE keep coming back and utilising its services.

FOR MORE INFORMATION PLEASE CONTACT:

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