

## Bombardier Aerospace

Part of Canadian-based Bombardier Corporation, Bombardier Aerospace manufactures aircraft for military, general and business flying. At the Completions Centers in Montreal and Tucson, dedicated teams work on the bespoke end of the business, crafting individual aircraft interiors for corporate and private clients.

Personal service is the key in this sector of the aviation market, and with interiors costing serious money; clients come to Bombardier expecting the best. Investment in the latest design and visualization tools is one way that the company delivers a satisfying experience to its demanding client base, putting together top-quality 3D visualizations of the aircraft interior to help the client with the selection process.

The need to provide the ultimate in visualization at every stage in the completion process led the Montreal and Tucson teams to each install Advanced Rendering Technology's RenderDrive system. "We'll sometimes produce a number of variations before the client is happy with the decor choices. We can render these changes with RenderDrive and upload them to the client's office within a very short space of time. Buyers of private aircraft are usually pretty busy people, so getting a quick turnaround on the visualizations is a very important part of a successful experience for the client and for us!"



### Accurate Reproduction

RenderDrive includes materials libraries that help Bombardier reproduce the decor accurately. "It's really important to be able to provide a visualization that gives a highly realistic impression of the finished interior, because the client is using it to make decisions about a very expensive design. The outstanding quality of RenderDrive images help the client really 'see' the materials in place, and have the confidence to know in advance if the interior's going to work, or if maybe a particular surface is not appropriate. You can't get that sort of decision-making ability from the average 3D visualization."

### Advanced Materials

RenderDrive renders with a painstaking concern for the physical factors that determine how the surfaces and materials look in the real world. A mirror, for example, has many qualities other than reflectivity: surface coating, lacquers, surface texture and volume color of the glass all contribute to the character of an individual mirror. The

RenderDrive materials library even includes unique shaders to allow effects like a variable index of refraction across the surface of a piece of glass. For some types of industrial visualization, absolute accuracy is crucial, and with data supplied from the glass manufacturer, it's possible for the RenderDrive user to produce a highly realistic simulation by dialing in the physical attributes of the glass into the RenderDrive material.

### Realistic Lighting

For the team at Bombardier, RenderDrive's ability to produce accurate lighting with the minimum of fuss is another big advantage. In many rendering environments where light sources are not calculated in a physically-accurate way, it can be a counter-intuitive and time consuming task to light a scene. "We just put the light sources where they will be in the aircraft's interior, and switch them on", says Long. "The renderer produces a natural, accurate look, which gives the client a realistic representation, and means we don't have to spend a lot of time tweaking and adding extra light sources to get a good result. "

With all the design work done and dusted its over to the craftsmen and technicians to make the 3D visualization a reality. With everything finally in place and finishing touches applied, the aircraft is powered up and sent down the runway for its rigorous testing program, before final delivery to the customer.