Nikon Corporation

The strength of the Nikon brand is rooted firmly in their product range. In order to respond quickly to customer needs and to decrease time to market Nikon use virtual photographs to design, market test and promote their range of digital cameras.

In the fast moving, cut throat, world of consumer digital cameras, quickly getting new designs to market can have a massive impact on the success of a product. Seasonal trading periods can be particularly important for digital camera makers – and getting new products to market in time for these crucial trading periods is often difficult.

Nikon Corporation in Japan turned to ARTVPS and their powerful RenderDrive 3D visualization solutions to help compress the time required to get new models of their CoolPix range of digital cameras onto the shelves. Nikon is using RenderDrive to create photographic-quality computer-generated images of its new CoolPix digital camera designs, in parallel with the prototyping and manufacturing process.

Time and cost savings

Created using the 3D CAD data used to specify the product for manufacturing, these images can be available before a final prototype or early production model is ready. Creating these images – "virtual photographs" - in this way allows early market testing of new products, and the creation of retail materials such as catalogues, websites and brochures to occur in parallel with the manufacturing –saving a substantial amount of time in getting the new product to market. The alternative is to wait until the early manufacturing batch is completed and then shoot images in a traditional photographic studio – a more time-consuming and costly process.

Nikon's visual products division that manufactures SLR cameras, compact cameras, digital cameras and camera lenses is using the ARTVPS solutions. The CoolPix camera was designed with AliasWavefront StudioTools, the 3D model was then taken into AliasWavefront Maya where it was visualised and rendered with ARTVPS RenderDrive.

High quality images

For Nikon, RenderDrive solved three key problems they had experienced in trying to use computer-generated images previously – the high image quality demands of the marketing department, the speed required by the production department, and the difficulty in accurately portraying the complex glass geometry present in the lenses of the camera.

RenderDrive uses ARTVPS's unique physically based rendering technology to accelerate the complex and computationally intensive photorealistic rendering algorithms. ART VPS focuses on the Virtual Photography application of computer graphics, where its 3D rendering products are pre-eminent. Virtual Photography allows computers to create images of uncompromising realism from 3D digital data. RenderDrive offers real-world rendering features including real-world lighting calculations and accurate shadows, physically-based materials, accurate lens effects, and a simple and intuitive user paradigm.

The creative opportunities and cost savings experienced by using photo-realistic images across not only the design and manufacturing process but also and marketing functions of their business have meant that Nikon can continue to get new designs to market fast.

ARTVPS