

NX

Wichita

Delivering custom products within standard product lead times

Industry

Machinery and industrial products

Business initiative

New product development

Business challenges

Offer an increasingly specialized product line

Deliver custom equipment as quickly as standard products

Keys to success

Seamless CAD/CAM integration

CAM files associative to CAD models

Siemens PLM Software-certified graphics accelerator cards

Results

More than 50 percent reduction in CNC programming time

Models that move smoothly even when fully shaded

Reduction in manufacturing errors justifies CAM/graphics accelerator investment

NX-based product development solution, powered by ATI FireGL Graphics accelerators, cuts CNC programming time by more than half

Reducing time from design to manufacture

Wichita Company Limited designs and manufactures pneumatic and hydraulic clutches and brakes, tension control systems and ancillary equipment for industrial, mining and marine applications. Wichita uses a unique patented pneumatic annular reinforced air tube in many of its designs.

Ian Hakon, technical director at Wichita, explains the company's business challenges, "Our market has changed enormously. Ten years ago, 90 percent of the products we supplied were standard off-the-shelf designs and only 10 percent were customized. Now 90 percent are customized and only 10 percent are standard. Our challenge is to deliver these customized products in standard product time frames.

"To do this we needed to reduce the time it took to get our designs into manufacture," he continues. "That is why we added two seats of NX™ CAM software and ATI FireGL workstation graphics accelerators to our five-seat NX I-deas™ 3D mechanical design software system." Both NX CAM and NX I-deas are part of the NX family of digital product development solutions from Siemens PLM Software, a global division of Siemens Automation and Drives.

Seamless and associative CAD/CAM integration

"We'd been using NX I-deas for 3D design since 2001 but our standalone CNC software wasn't keeping pace," Hakon says. "It was taking up to three hours to take the paper drawing output from NX I-deas and enter it into the CNC software. We had to take special care to ensure we weren't introducing errors when entering coordinates and dimensions from the drawing." Hakon notes, "We needed a solution that would work seamlessly with NX I-deas and preferably something that would automatically associate changes in the model with changes in the CNC program. We did not want to spend time resolving translation issues and we did not want to spend time editing programs each time there was a modification to the 3D model."



Solutions/Services

NX
ATI FireGL graphics accelerators
www.siemens.com/nx

Customer's primary business

Wichita Company Limited designs and manufactures pneumatic and hydraulic clutches and brakes, tension control systems and ancillary equipment for industrial, mining and marine applications.
www.wichita.co.uk

Customer location

Bedford
United Kingdom

Partner

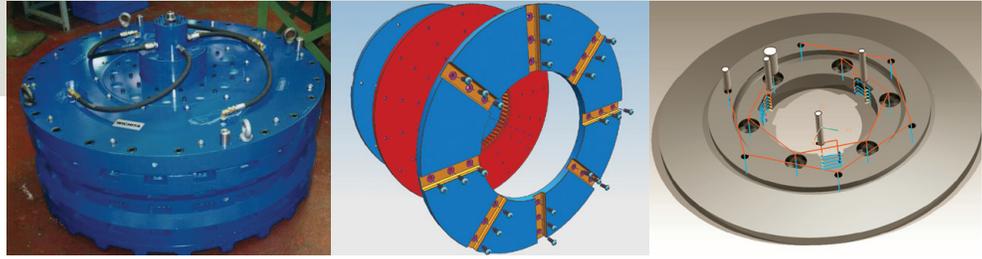
AMD
www.ati.amd.com

Reseller

Team Engineering
www.team-eng.com

"The whole investment was fully justified on the reduction in the risk of errors when programming, particularly when the pressure is on to deliver."

Ian Hakon
Technical Director
Wichita Co., Ltd.



Wichita worked with TEAM Engineering, which specializes in CAM and CAE, to assess the options. Hakon points out, "We looked at a number of bolt-on packages but none of them provided NX I-deas associativity." TEAM Engineering recommended NX CAM and in Hakon's words, "They demonstrated the seamless integration using our own models.

"There was still the issue of postprocessors for our machine tools," he adds. "We needed all six of them to be written accurately and quickly. TEAM Engineering and Siemens joined forces, came to our site, worked with us, produced the post-processors and got them working. Yes, we paid and yes, it was worth it. Within eight weeks we were trained, fully up and running, producing programs and cutting metal."

Reducing programming time by half

Wichita has saved a significant amount of time already. "In any one week we'll produce around 20 programs of varying complexity," Hakon says. "It used to take the best part of five hours to produce a finished part. We've reduced this time by more than half just by bringing the 3D model straight in and creating the program directly from it."

However, there was another area that needed attention. "Graphics performance is really critical for us," Hakon says. "There is nothing more frustrating for a designer than trying to manipulate a 3D model that jumps, flickers and overshoots. We have many gear teeth within our units and

that tends to make the models graphically intensive. We can have assemblies of up to 1,000 parts on the screen live being rotated to reveal the interactions between all the parts. We were reaching the end of the ability of our current graphics accelerator cards to meet our needs. It was time to look for an alternative. During our evaluation, we discovered that ATI FireGL cards were Siemens certified and we opted to use them in our new workstations. With the FireGL cards, the models move really smoothly even when fully shaded and we have not been able to slow them down, even on the most complex assemblies."

Investment fully justified

What about return-on-investment? "The whole investment was fully justified on the reduction in the risk of errors when programming, particularly when the pressure is on to deliver," Hakon says. "It only needs an array of holes to be in the wrong place and a whole casting could be useless. Because of the high level of customization, we don't keep stock of these hugely expensive castings so we'd be faced with the cost of a replacement and extended delivery time to that customer."

Summing up, Hakon notes, "Both the NX CAM and FireGL cards have made a real difference to us and are playing their part in helping us deliver customized products in standard product lead times."

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