SIEMENS

Consumer products

Sunbeam

Sunbeam sets the standard for design and manufacturing using NX

Product

NX

Business challenges

Eliminate use of 2D

Give designers solid, reliable and predictable tools

Implement a solution that addresses early conceptual and industrial design through detail design, prototyping and manufacture

Keys to success

Employ NX software digital product development solutions

Results

Start-to-finish, the process has been simplified

All work is now 3D-based

Changes are now made quickly at any stage of development

A significant competitive advantage has been realized, particularly in terms of speed to market

Australia's most trusted small appliance brand name, Sunbeam, has named NX as its corporate virtual product development platform

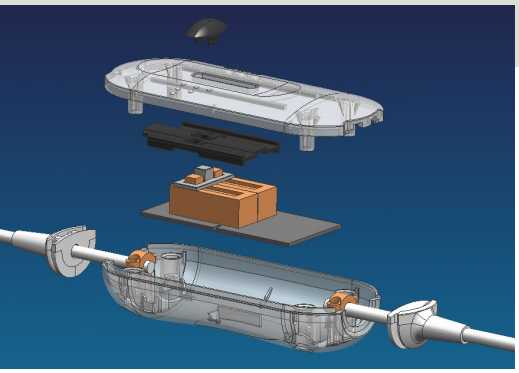
The name Australians trust

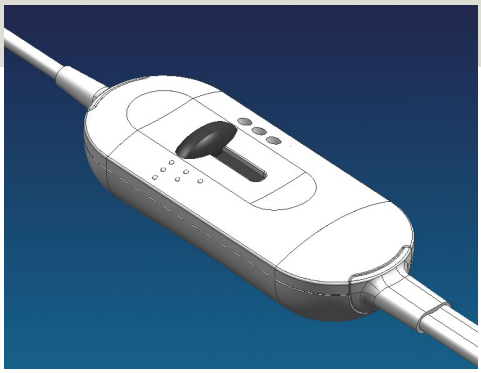
Selected for both design and manufacturing, NX™ software enables Sunbeam to manage workflow – from concept through design and rapid prototyping to integrated manufacture. Household appliances like irons and kettles may look deceptively simple, but behind each product lies an enormous design challenge. To create these products, the designer requires sophisticated modeling tools for their complex freeform surfaces and intricate assemblies, while the manufacturer needs high-end tooling and machining software to bring these designs to reality. As Australia's most trusted small appliance brand name, Sunbeam has more than 80 years of experience in developing, manufacturing and marketing products for food preparation, cooking, personal care, home health, home comfort and laundry.

For over a decade, Sunbeam's designers have relied on NX digital product development solutions, and today the company has standardized on NX for both design and manufacturing. NX enables Sunbeam to manage its design workflow from concept through design and rapid prototyping to integrated manufacture. However, that was not always the case.

The legacy of multi-product design paths

Chris Ware, Sunbeam's director of design and product development, says that the company has been using NX since 1988, but because of the need to exchange files with overseas suppliers using different software, it had bought seats of that software to ensure accurate file transfer. However, there have been continuous improvements and he notes that the company recently found the translation between NX and other packages to be very





"Some projects involve surfaces which are extremely complex, and previously we have had to outsource these to design consultancies. Some of our irons and kettles, such as the Quantum range, have surfaces that are incredibly complicated and it is for products like these that we will be using NX Shape Studio."

Chris Ware
Director of Design and
Product Development
Sunbeam

smooth. "We no longer have to operate within the Pro/Engineer package, for example, to be able to transfer our files to and from them – to talk digitally to them. Because of its Parasolid® modeling core, NX is very powerful. With Parasolid, you can import and export files as many times as you like, and they still come in exactly the same way that they were sent out."

Rick Freeman, who manages CAD and IT for the Sunbeam design team, notes, "My goal is to give the designer solid, reliable and predictable tools. The excellent stability of NX allows the designers to gain trust in the platform and concentrate on design instead of debugging or working around technical issues." Freeman says Sunbeam relied heavily on NX excellent implementation of the STEP 203 and 214 translation standards. "The translators have reached the point where we can take a part file from Pro/Engineer into NX quickly, and keep the parts in assemblies as separate entities. This has allowed us to focus on NX as a corporate standard and dispense with our Pro/Engineer licenses."

Ease of training

Training designers in NX has also proved to be an easy task, with the support of local distributor, Product Lifecycle Management Australasia (plm). "If a designer has experience on a CAD package, normally all they need is a little time to become familiar with the environment and then a five-day course in advanced modeling," Ware says. "It's pretty quick. Within two weeks of doing the course, we have designers working on some quite complex models." Ware says that plm was

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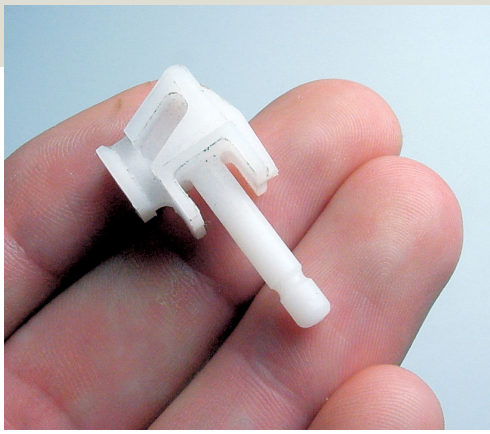

able to tailor courses to suit Sunbeam's needs. "For example, our model makers don't need the drafting component of a five-day basic modeling course. I wanted them to have more of an understanding of modeling for CNC applications, so the fifth day of the course was devoted specifically to that topic."

Handling advanced surfacing

Along with its six seats of NX, Sunbeam's eight-member design team now uses NX industrial design and styling software, which offers very high-end tools for advanced surfacing. "Some projects involve surfaces that are extremely complex, and previously we have had to outsource these to design consultancies," Ware says. "Some of our irons and kettles, such as the Quantum range, have surfaces that are incredibly complicated and it is for products like these that we will be using NX."

With more than 250 products in the catalog – including frypans, toasters, espresso machines, hair dryers, food processors and blenders – each design project is quite different from the last. However, thanks to NX, everything leaves the design office as 3D digital data – there are no more 2D drawings.

Conceptualizing new products

NX is also the usual choice for conceptualization of new products. "We tend to use NX to do some simple layouts and get a rough idea of what our constraints are, what our volume sizes need to be and so on," Ware says. "Then we base some sketches around that information, take them to the workshop and very quickly – normally only a couple of days – we have a timber model in our hands that is actually quite accurate. We look at its ergonomics, check the scale of all the details and compare it against other products. Once that's completed, we digitize it and take the digitized information back into NX. For a product with complex surfaces, we'd go down that path. On a very simple product we might not do any digitizing, but start the product right from scratch in NX."

Ware adds, "In the past, we sent a lot of our prototyping out to various consultancies, but with NX manufacturing

Solutions/Services

NX
www.siemens.com/nx

Customer's primary business

Sunbeam is Australia's most trusted small appliance brand. Sunbeam has been manufacturing quality small appliances since 1921. Known for some of the most innovative products to hit the Australian market, Sunbeam products cover food preparation, cooking, personal care, home health, home comfort and laundry.
www.sunbeam.com.au

Customer location

Botany, New South Wales
Australia

capabilities we now save ourselves a lot of money and time by doing it in-house. We often use ureol, which is a dimensionally stable model-making composite, but we've also cut in polycarbonates and all sorts of different materials, including aluminum."

Freeman says NX had a constant scallop height function whereby the tool didn't leave a path on the part and there was no cutting line. "We've had fantastic success with that – we just let the machine run. The part hardly needs any finishing and yet we're doing incredibly complicated parts out of a whole range of material." Sunbeam uses a 3-axis CNC machine with both 4- and 5-axis capability, but at this stage is concentrating on perfecting its 3-axis machining.

The right decision

"I believe that Sunbeam's corporate decision to standardize on NX technology from early conceptual and industrial design, through detail design and to prototype manufacture, gives the company a significant competitive advantage, in terms of its speed to market and ability to implement change quickly at any stage in the product development process," says Dennis Colusso, plm director.

Sunbeam and plm go back a long way. "We have a good, amicable relationship," Freeman says. "At a fundamental level, we believe their product is good, and it doesn't need to be sold to us because it sells itself. It does what we want it to, and plm has the facilities and resources in place, which is great for us. We've got people we can call if we need consultation, and if we have issues, they can be accelerated through the system. NX and plm really give our designers an edge."

"In the past, we sent a lot of our prototyping out...but with NX manufacturing capabilities we now save ourselves a lot of money and time by doing it in-house."

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