SIEMENS

ACTIU

Innovation unlimited

Product

NX

Business initiatives

New product development

Value chain synchronization

Business challenges

Increasingly complex products that require more engineering

Need for better collaboration among internal and external members of product development teams

Keys to success

Software that is easy to use

Ability to import and export data in diverse formats

Leveraging design data to downstream applications

Results

Ability to develop complex and innovative products that stand out from the competition

90 percent of engineering work is already done by the time a design is finished

With NX advanced functionality and ease of use, furniture designers can fully express their creativity

International office furniture leader

Actiu is a group of companies that specializes in the manufacture of furniture and other furnishings for professional offices. It is one of Spain's three most important manufacturers in this sector and is also present on the international market where the company exports its products to sixty countries.

Actiu's origins go back to 1968, when its founding member and current director-general, Vicente Berbegal, started up a furniture fittings and accessories workshop. Over the years the company has produced products for the home as well as computer furniture. During the years 2000 to 2002, Actiu transformed itself into a powerful brand with great national and international prestige, with more than 40 offices in Spain and many others abroad. At present, Actiu features three product lines: wooden furniture, chairs and metal furnishings. It has a workforce of approximately 160 persons and collaborates with outside firms to boost its own design and manufacturing resources.

Always upgrading to get best design software

Actiu has used a number of design software solutions in its nearly 40-year history. The transition from one to another has been determined by the development of business and the

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40 to 45 percent of products are designed with NX software (annual total of eight to ten products and approximately fifty molds and 300 parts)

NX data streamlines the production of marketing material and patent registrations

"What I value most is how easy it is to combine solids with surfaces, the possibility of mixing them easily and being able to work with them independently as well."

Vicente
Designer and Main CAD Operator
Actiu

need to create ever more complex products. "Ten to fifteen years ago, we started working with AutoCAD, with one single workstation that we upgraded in steps," explains Francisco Rodríguez, who is responsible for Actiu's R&D department. "Then, we acquired SolidWorks and when both options reached their functionality limits, we placed our bets on NX.

"Now, we have one workstation running NX ten hours a day," he continues. "We have another support workstation for simple parts that runs SolidWorks, and another two with AutoCAD for development of wooden furnishings, which is in 2D."

Actiu chose NX™ software over other competing products mainly because of its ease of use. "We also evaluated other programs, such as Catia from IBM," says Rodriguez. "Others, such as Pro/Engineer, were not even considered due to their difficulty level. In the end, it was the demonstration of NX that convinced us." Another selling point for NX was the fact that it is used by many of the companies with which Actiu collaborates. Also, Vicente, designer and main CAD operator, had already worked with NX and had accumulated ten years of experience.

Actiu handled training in-house, through its R&D department: "We had training at the beginning, we went to seminars and, of course, we made some queries about its use," explains Rodríguez. "But we are
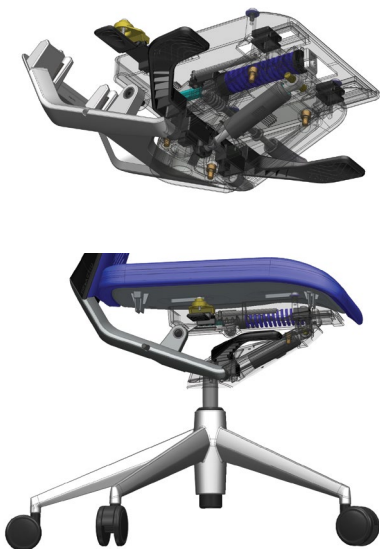
self-taught because the level of development and specialization we are reaching in the company is so high that it's not that easy to obtain helpful contributions from the outside."

Key system in the production workflow
Unlimited creativity is one of the advantages of using NX. "What I value most is how easy it is to combine solids with surfaces, the possibility of mixing them easily and being able to work with them

"With NX, there are no limits other than the limits the person imposes on himself."

Vicente
Designer and Main
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Actiu

independently as well," Vicente explains. "The other programs we had were limited. Whenever we planned to do something difficult we weren't able to perform certain operations. With NX, there are no limits other than the limits the person imposes on himself."

The R&D team has been using NX for two years. Forty to forty-five percent of the products that Actiu manufactures are designed in NX. Moreover, NX is used specifically for those products that require a high degree of engineering, such as all office chairs, which feature mobility, and other products such as desk structures, growth systems and partition systems. Annually, the NX workstation is used to create eight to ten products, approximately fifty molds and around 300 parts.

NX plays a key role in many of the different phases that make up the company's production processes, those in which both internal and external resources are involved. Rodríguez explains the workflow as follows: "In the case of an office chair, once the features we wish to achieve have been defined, we contact the appropriate
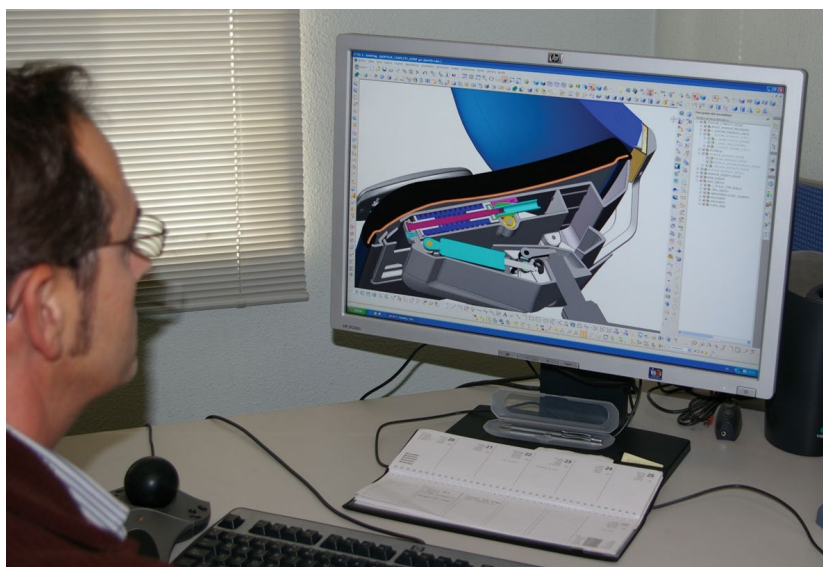
design team – we generally work with five outside offices – which provides us with a sketch of its ideas. We opt for the most viable one and, from that point on, we initiate a parallel approach with the designer so that, while he is cleaning up the molds, at the engineering level we are using NX to situate all the components in these molds. This way, when the designer submits the final images we already have 90 percent of the final engineering done and we don't have to start from scratch. Then, we carry out an internal quality review of both the design and the engineering. We do this by entering the material and the production processes, in order to detect problems. We might have to correct the design to optimize production."

Collaboration with external team members

In this process, it is fundamentally important to have a tool that permits collaboration with both internal and external design and engineering teams. A basic requirement is the ability to import and export different formats. "The designers submit sketches to us on paper, photos, on IT media or in other formats, even in 3D," explains Rodríguez. "For mold development, we create solid models of all internal parts with NX to avoid machining

problems. Despite the fact that our mold-making workshop and other outsiders with whom we work do not use Siemens' CAM software, they have no problems converting the NX files, generally submitted in IGES format, to their systems."

Production of molds is a key phase for Actiu, which is able to reliably tackle it thanks to the 3D capabilities of NX. According to Vicente, "We give the parts to the workshops in a totally defined form, with their partitions and mold removal points. In this way, they only have to design the mold. We even give them a first sketch of what is going to be the mold, if we want two parts or repetition of four, or two of this and one of the other. We also provide dimensions. We undertake a fairly in-depth study." Actiu works with three injection molding workshops that it owns, two foam molding workshops and another

two molding workshops for aluminum extrusion, all of which are external.

NX applications outside production
Actiu uses NX for another, fundamental task that is not involved with production, namely the process of obtaining patents for complex products such as office chairs. The company uses 3D NX images to document this process because it is required to submit an in-depth study of the technology. Three-dimensional images showing all the defined views of the product are used for this purpose.

Actiu's evolution towards increasingly avant-garde and complex models has caused it to expand the utilization of its NX system. The company is planning to enlarge the R&D department with an additional two to three persons, which will involve one more NX workstation. Also,

"NX images are very useful...when you want to obtain the opinions of important customers during the design processes."

Solutions/Services

NX
www.siemens.com/nx

Customer's primary business

Actiu is a group of companies that specializes in the manufacture of office equipment. www.actiu.com

Customer location

Castalla (Alicante) Spain

after trying out the rendering module, the company has decided to incorporate it.

Future plans with NX are not limited to production. Some time ago the marketing department discovered its own uses for NX images. "We make use of the 3D modeling tool because it allows us to provide a view that you can't achieve with a photographic camera," says Fran Bautista, who is responsible for marketing and communication at Actiu. "NX images are very useful when it comes to showing new products featuring advanced technology at trade fairs, or when you want to obtain the opinions of important customers during the design processes." Vicente adds: "By incorporating new modules, we will be able to expand the use of solid models to other departments. For example, we will be able to create photorealistic images for catalogues, information sheets and manuals, and 3D images for showing prototypes to customers.

The natural evolution of Actiu toward more complex products led the company

to the advanced 3D functionality in NX. The greater powers of NX over competitive software has allowed Actiu to overcome the limitations of other systems and continue to offer innovative products to the market.

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Fran Bautista
Marketing and Communication
Actiu

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