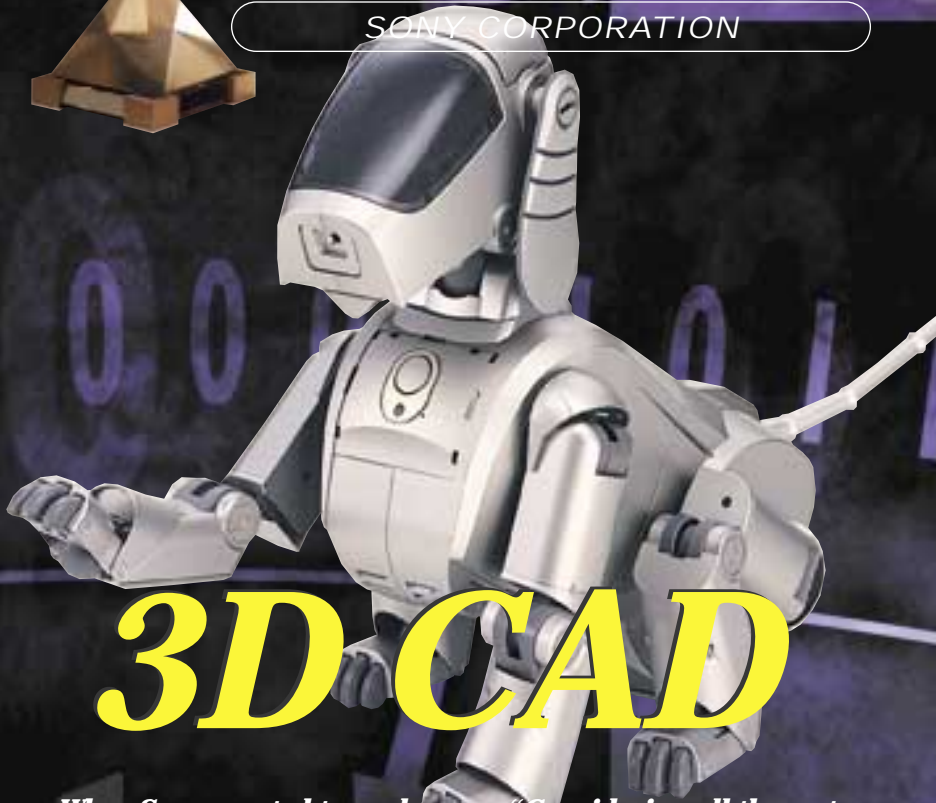


# competitive excellence in product development

AWARD

SONY CORPORATION



## 3D CAD

*When Sony wanted to explore an entirely new market — robotic toys — its engineers and designers knew they would have to take a different approach from that used to design the Walkman or a new TV. Aibo, the robotic dog, would have far more active, dynamic elements and be unlike any other Sony product. To help the designers through the project, the company decided to use 3D CAD to a far greater extent than it had on any previous project.*

*“Considering all the motors and joints, all the degrees of freedom, and the motions like sitting and standing, it would have been very difficult to study and design Aibo without 3D CAD,” says Kozo Kawakita, manager of ER operations in Sony’s Design Group. In recognition of Sony’s stunning success at adopting and using 3D CAD, the company has earned this month’s SDRC Competitive Excellence in Product Development Award.*



Kozo Kawakita  
Assistant Manager  
ER Products  
Department  
Sony Corp.

**SITUATION:** Sony had researched image and voice-recognition technologies for about a decade when, in 1997, they decided to put it to use in a prototype robot of a dog. The company wanted to refine the design into a robotic toy that would revolutionize the toy industry and create an entirely new market.

**OBJECTIVE:** Over the long term, Sony wants to sell a limited number of robotic dogs, and maintain close contact with users. They would examine market research and user feedback to see if it was possible to be successful in an entirely new market — entertainment robots.

**PROCESS VISION:** The company decided to use 3D CAD software to model the robotic dog and use the software to overcome several design issues. Those issues included determining the correct weights and sizes for balance, dealing with a changing center of gravity, and handling interference problems inherent in a project involving 18 motors and a moving, four-limbed robot.

**ACTION:** The company chose I-DEAS 3D CAD software from SDRC based on its advanced modeling capabilities and its interoperability with Fressdam, Sony’s own surface modeling package.

**RESULTS:** Not only did the 3D CAD software speed design, it also helped generate prototypes. Sony was able to send 3D data from I-DEAS directly to a company that built the prototype and a set of molds using stereolithography. The toy itself has been a huge success. The first 3,000 robots sold out in Japan in 20 minutes. The lot designated for the U.S. took a little longer to sell out — four days. ■

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### How To Apply

To compare your company’s design practices to other top ranked manufacturers, call toll free (877) 786-7561 or send its name and contact information to [contest@penton.com](mailto:contest@penton.com). The site [www.sdrc.com](http://www.sdrc.com) also has an application for download.