

Electronics and semiconductor

Toshiba Tec Document Processing & Telecommunication Systems

Next-generation CAD forms platform for future success

Product
NX

Business challenges

Continue to develop increasingly sophisticated products
Work more efficiently

Keys to success

Migrating from I-deas software to NX software
Using NX Knowledge Fusion to ensure compliance with company design standards
Linking CAD models to downstream processes

Results

Ability to load and work with large assemblies (3,000 to 7,000 parts)
Increased designer efficiency (50 percent fewer work steps; files sizes half as large)
Automatic detection of design deviations

Knowledge Fusion technology is a great reason to upgrade

Ensuring success through use of next-generation technology

With eight development and manufacturing facilities worldwide, Toshiba Tec's Document Processing & Telecommunication Systems Company has created a series of outstanding imaging and telecommunications products, including the e-STUDIO 850 multifunction peripheral (MFP) and FANTASIA 312 full-color MFP.

The company adopted I-deas™ software, now referred to as NX™ I-deas software, as its 3D CAD system in 1996 and by 1999 had migrated to full 3D design. Subsequently, it actively promoted the creation of support systems using product data management (PDM). In 2004, the company began looking into next-generation 3D CAD technology and evaluated a wide range of systems, from high-end to midrange. After thoroughly comparing the pros and cons of migration for each system, the company decided to adopt NX software – for its track record, features and functionality as well as the ease of migration from I-deas. In April 2006, the company will introduce NX and gradually migrate over to the new system.

The intent of the migration is to work more efficiently and with more



sophistication by actively leveraging the advanced features of NX. "I-deas isn't just a tool," says Takuro Ito, who heads the group in charge of Group Design Support at the company. "It's an extremely refined instrument and the decision to migrate from I-deas, with which the designers were very familiar, was by no means an easy one. But we decided that adopting next-generation CAD was essential for improving the sophistication of our design work and development productivity. The migration to NX was an excellent chance to dramatically improve our techniques."

Next-generation CAD permits advanced design and reduces labor

According to Ito, the company will derive three major benefits from the migration to NX. First, it will be easier to create and modify shapes. NX direct modeling feature and user defined feature, for example, will greatly reduce the work required to create digital models. (The company actually took

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parts modeled in I-deas and re-modeled them in NX to quantitatively measure the improvement in efficiency. For some parts, the number of work steps and processing time were reduced by more than half. The total number of clicks was also 22 percent lower, and the file sizes were also about half as large.) NX also has very good performance. It is able to load an entire MFP assembly, which consists of 3,000 to 7,000 parts and quickly display it. This makes it very easy to reference adjacent parts, and is expected to dramatically improve design efficiency.

The second benefit is the ability to embed quality more deeply into the design model. For example, the assembly binding functionality in NX can be used to easily and

clearly incorporate spatial relationships between 3D assemblies into a design, contributing to the spread of intermediate tolerance design. Also, the 3D annotation feature in NX is expected to make it easy to embed necessary non-shape information into designs.

The third benefit of NX is that it enables more effective linking with analysis and manufacturing. Ito says direct linking with finite element analysis will be possible, as well as linking with tolerance analysis software. The company will also take advantage of Siemens PLM Software's visualization technology to share models with downstream processes.

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Solutions/Services

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Customer location

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Japan

Knowledge Fusion offers biggest benefit

"Even bigger than these benefits," says Ito, "is Knowledge Fusion (KF)." He explains that this revolutionary new feature offers a fundamental solution to the age-old problem of knowledge management. "We have particularly high expectations for the Check-Mate feature," he says. "Using this could transform our drawing-inspection organization."

The Check-Mate feature is a design rule checker capable of executing batch checking after shape definitions have been made. This feature uses the standard design rules built into the CAD system to automatically detect design "deviations" among parts and assemblies. Users can also develop their own checks. Ito says that creating a "robot drawing inspection" using this feature should provide a means for improving the precision of drawing

inspections. Meanwhile, a QuickCheck feature is available for checking design rules in real time, while defining shapes. Ito explains that this should be very effective for designer education.

"Although we provide our design rulebook as a file, quite a few of our designers never look at it," says Ito. He says that the Quick Check feature in NX can be imposed on designers, greatly increasing the effectiveness of the rulebook.

Next step

With its next-generation CAD system in place, the company aims to create a more seamless environment through the evolution of PDM. NX will now be integrated with Teamcenter® software. The plan is to make NX a more integral part of design data management and process management.

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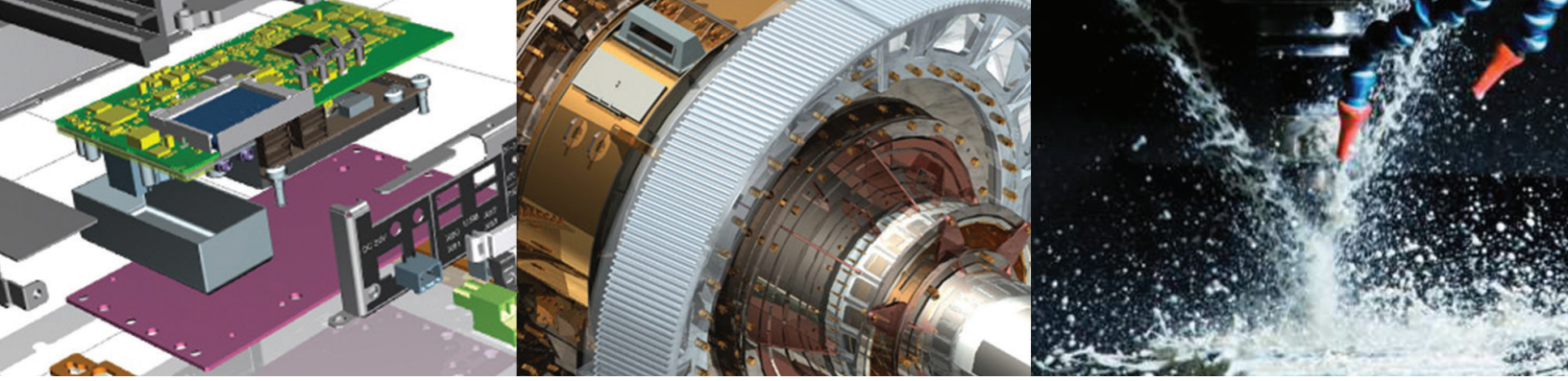
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