

SITUATION

As Fuji Xerox plans for its future, it has established two extremely ambitious goals. By the year 2000, it aims to achieve a 50% reduction in the development cycle for a standard copier by cutting cycle time from two years to one. It also seeks to cut costs in half by reducing development costs for a new copier from 3 billion Yen to 1.5 billion Yen (from \$2.3 to \$1.15 million U.S.). To achieve these goals, the company is implementing new tools and methods that will help it significantly re-engineer its development process. One big step, now underway, is the replacement of drawings with solid models as the primary means of design review.

OBJECTIVES

- ✓ Eliminate 2D drawings as the means of design review.
- ✓ Fix problems and fine-tune designs in the software, before building prototypes, and limit the number of prototyping rounds to two: one for the basic design model and one for the mass production design model.

PROCESS VISION

Implement the tools and processes needed to identify problems earlier in the design cycle rather than waiting for them to show up in prototype testing. This would: 1) shorten the design cycle by reducing the need to "start over" late in the process, and 2) cut costs by requiring fewer rounds of prototypes.

ACTIONS

- ✓ Fuji Xerox evaluated several solid modelers. The company purchased I-DEAS Master Series™ software because it was easier to use than other systems they evaluated, particularly for modifying an existing model. Also, I-DEAS software runs fast on the company's Sun workstations to display large assembly models quickly. Finally, the software's strong analysis capabilities supported the company's strategy of identifying problems while a design exists in digital format only.
- ✓ Fuji Xerox is installing approximately 400 seats of I-DEAS at its Ebina, Iwatsuki, and Yokohama development offices in Japan.
- ✓ With I-DEAS as the core technology, the company is now implementing a new process innovation concept called ZeninSekkei. Like concurrent engineering, the process enables all members of the

Fuji Xerox Relies on I-DEAS™ to Meet Year 2000 Goals

"2D drawings were complicated and difficult to understand, and we often missed problems. With I-DEAS™ solid models, we see problems early, and fix them in the digital models, often before we build prototypes."

- Shinichi Tsuda,
General Manager,
Process Innovation
Promotion Department,
Fuji Xerox Co., Ltd.



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product development team to contribute their expertise early in the design process.

✓ To facilitate this exchange of information, Fuji Xerox built ZeninSekkei rooms in its major plants. These feature a 70-inch LCD projection system that is connected to a workstation running I-DEAS Master Series. This allows team members to participate in design reviews with actual-size solid models of parts, subassemblies, and even entire copiers.

RESULTS

- ✓ Fuji Xerox has begun the transition from 2D design to solid modeling, and is already using solid models for design reviews.
- ✓ The company's three billion Yen investment in hardware and software is the biggest investment in 3D modeling in Japan, and clearly positions the company as a leader in product and process innovation.
- ✓ The ZeninSekkei process is allowing designers, mechanical engineers, assembly engineers, and service engineers to identify problems and suggest design improvements early. With the previous process, based on complicated 2D drawings that often included more than 2,000 parts, most problems were not identified until a working prototype was available. Fuji Xerox believes that this will help it meet the targeted cycle time and cost reductions.

PLANS

To further promote global design collaboration, Fuji Xerox intends to link its ZeninSekkei rooms in Japan with ones being established in the United States. The U.S.-based Xerox operation, which is also actively implementing the new tools and processes, will eventually have nearly the same number of I-DEAS licenses as the Japan facilities.

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