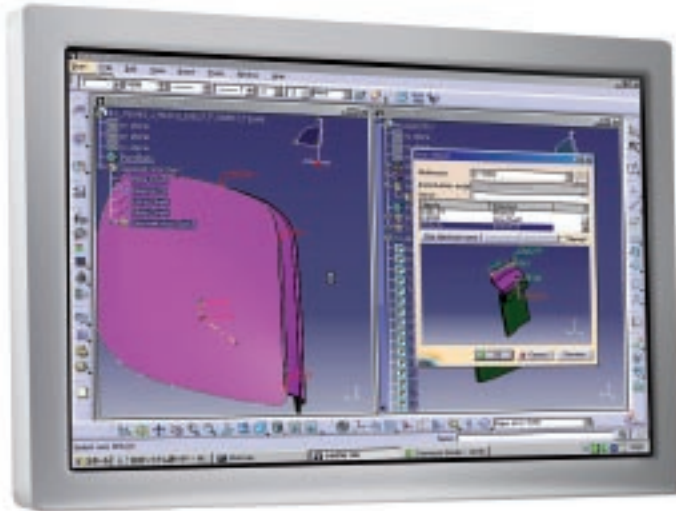


## Ichikoh Industries

*Innovates product development with IBM PLM Solutions*



*“The development of Design Navigation, based on CATIA V5, has brought about a work transformation that achieves a lot of effects.”*

Toshiaki Yoshida, Technical System Group Leader, Information System Department, Ichikoh Industries Limited.

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### Overview

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#### ■ **The Challenge**

*To win in the highly competitive automotive components market, Ichikoh Industries needed to shorten its development time*

#### ■ **The Solution**

*Ichikoh has implemented an IBM PLM solution based on CATIA V5 that establishes a new modelling method: ‘Design Navigation’*

#### ■ **The Benefit**

*Through standardisation of design processes and the reuse of existing know-how, Ichikoh has simplified the design process and reduced new product development time.*

#### **Frequent design changes, short time frames**

Ichikoh Industries is a leading maker of automobile lamps and mirrors. It has developed the first projector head lamps in Japan, the first electric storage mirrors in the world and next-generation High Intensity Discharge (HID) head lamps.

As key automotive components, lamps are subject to strict safety laws and regulations and are time consuming and complex to develop, as they consist of several intricate parts.

Design changes occur frequently and need to be performed quickly since they affect other vehicle parts and functionalities.

“When this happens, the sales launch time for the new car is not revised, so we may have a difficult time ensuring that the project is completed in time”, says Naohisa Akiyama, Technology Management Section Chief at Ichikoh.

“In many cases only the industrial designs for head lamps change without the hood design changing, so creating successful new lamp designs takes a lot of time.”

To address these challenges, Ichikoh is transforming its design processes to make automobile lamp development more efficient.

## Design process

### transformation Initiative

Ichikoh has migrated from CATIA V4 to CATIA V5, IBM PLM solutions developed by Dassault Systèmes, to meet the short development times set by automotive manufacturers and to improve design quality by standardising its design processes.

The implementation was part of a design process transformation initiative established company-wide.

Ichikoh's new processes focus on improved methods to increase design process efficiency. The initiative includes reworking existing design processes and the introduction of a new modelling method based on templates and master references. It also focuses on the management of design data.

"CATIA V5 was selected for its high performance as a surface modeller, its mainstream use worldwide and the full support offered by IBM PLM", says Hironori Saito, Technical Systems Group Chief in the Information Systems Department.

The company's PLM environment enables inexperienced designers to work efficiently through the standardisation of design processes and links to an existing database of accumulated know-how. The goal is to improve efficiency for designing custom parts and to facilitate the selection of commonly used parts held in the database.

### New approach pays off

Ichikoh completes about 100 design projects each year, with 20-30 projects underway at a time. Knowledgeware functions are used to speed the modelling of parts, such as reflectors, lenses, housings, inner panels and seals.

Using macros, the usual nine steps required for modelling reflectors, as an example, has been reduced to one step, reducing man-hours by as much as 80 percent. Modelling that used to require more than a day to complete, now takes just a few hours using morphing.

With Design Navigation based on CATIA V5, Ichikoh is able to pass full design data to automotive manufacturers and metal mold fabricators. Although not common industry practice, doing so assures Ichikoh that errors are reduced and design nuances are preserved. In addition, cost reductions can be achieved because full-data delivery enables outsourcing to foreign mold makers.

Analysis functions such as CATIA V5 Generative Part Structural Analysis module of CATIA allow Ichikoh's designers to do simulations in the upstream stages of product design, avoiding late-stage redesigns and promoting higher efficiency and quality.

Ichikoh plans to enhance this PLM environment even further and introduce ENOVIA SmarTeam to improve centralised control of design know-how, design data, configuration information, development schedules and technical documents.

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Product Lifecycle Management  
Tour Descartes  
La Defense 5  
2, avenue Gambetta  
92066 Paris La Defense Cedex  
France

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