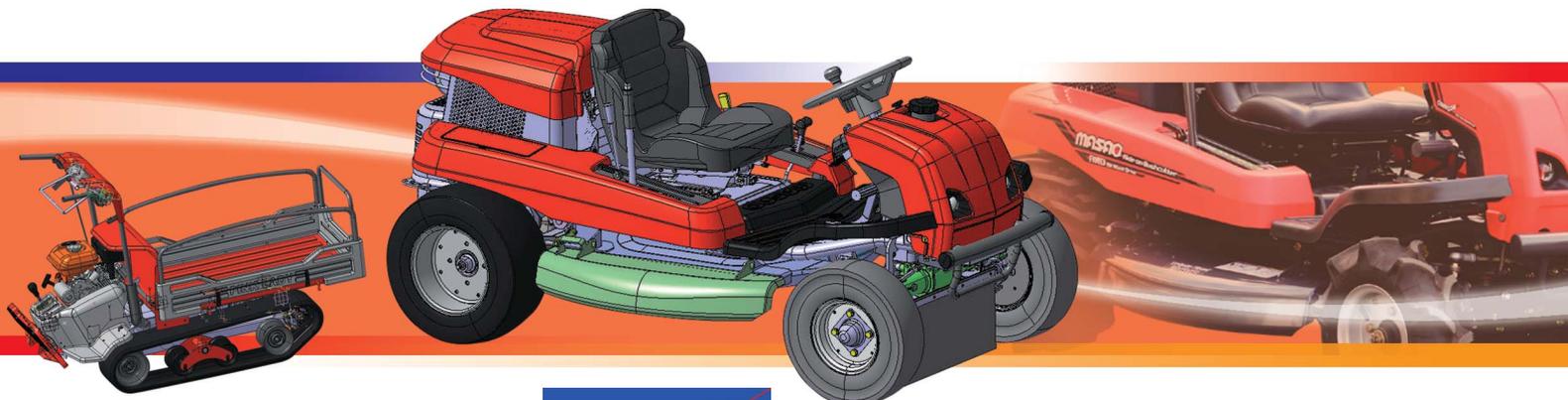


CHIKUSUI CANYCOM

Developing sophisticated product designs faster with CATIA



Overview



■ Challenge

Chikusui Canycom needed to counter fierce competition from European competitors by developing stylish, functional products faster

■ Solution

Chikusui Canycom chose CATIA to streamline its development process, create sleek, high quality products, and ensure the expansion of its business worldwide

■ Benefit

By shifting the design process from physical prototypes to virtual design, Chikusui Canycom has reduced time-to-market by 30%



"CATIA is the most powerful weapon in our manufacturing operations. It enables seamless integration of the entire development process from initial design to production,"

Yoshiro Kaneyuki
Managing Director
Chikusui Canycom, Inc.

Better designs, faster development

Chikusui Canycom, Inc. is a leading manufacturer of mower equipment and industrial carriers for the agricultural, construction, and forestry sectors. The company entered the overseas market 20 years ago and its sales channels have been steadily growing abroad, mainly in Europe, ever since. To satisfy its European customers' keen eye for design, Chikusui Canycom has been focusing on the development of products with stylish and functional designs. The company has won acclaim in this area both at home and abroad. Its all-wheel-drive riding brush cutter "Masao," for example, won the prestigious 2001 Good Design Award in Japan.

Developing sophisticated designs normally takes longer and costs more, a luxury Chikusui Canycom could not afford. The company had to compete with its famous European rivals and prevent its profit margins from shrinking

to unsustainable levels. The only way forward was to find a way to develop stylish and functional products faster. After investigating several 3D CAD systems, Chikusui selected CATIA as its global product development platform in April 2004.

From physical prototypes to virtual design

Three years after implementing CATIA, Chikusui Canycom designed and released two new products. One is a small rubber-tracked carrier nicknamed "Hillary" (the operator can also ride this vehicle), and the other is a riding brush cutter, "Masao".

In developing "Hillary", Chikusui used CATIA to convert the 2D data of the previous "Hirari" model into a new 3D design. Kiminori Nakamura, Manager, Innovation Development Department, Manufacturing Headquarters, describes the advantage in using CATIA in the product design process, "Previously,



we used to present 2D concept drawings of new products to the evaluation committee, whose members included senior executives. After the committee approved the design, however, the prototype we built often looked totally different from what they had expected, so we were ordered back to the drawing board. But things changed once we started using CATIA and designed Hillary. Our efforts were lauded by the company's founder because the finished product looked exactly like the 3D design."

Chikusui Canycom is now steadily shifting the focus of its development process from physical prototypes to virtual design. Designers use personal computers to explore virtual designs that best satisfy customer needs, and then build 3D prototypes for review by senior management and sales representatives. This ensures that product design can be improved at an early stage.

"We usually manufacture prototypes ourselves with sheet metal using laser cutters, or have plastic ones made by specialist firms based on our CAD data," says Kiminori Nakamura. "Previously, we produced, on the average, two or three prototypes per project. We are now about to do away with these initial prototypes and use virtual models created entirely on CATIA instead. Hopefully, only one physical prototype per project will suffice in the near future, and this will substantially shorten the development cycle."

Development and production readiness phases reduced by 30%

Designers at Chikusui Canycom previously drew product illustrations by hand, helped by engineers who produced technical drawings to represent the original. Now, designers use CATIA to directly design the product and even generate part models, making the development cycle shorter.

"Design changes are now more frequent than before, which adds to the design work, but this is offset by the reduction in the number of prototypes created, resulting in a reduction in overall development time," says Tatsushi Maruyama, Manager, Innovation Development Department. "We expect more 3D parts data will be stored in the system and possibly shared for different products, which will considerably shorten the design phase. Overall, we expect a 30% reduction in the development and production readiness phases."

Analysis and sheet metal design modules allow for greater precision

Chikusui Canycom uses CATIA's analysis modules to perform stress and vibration analyses of the parts, verify the strength of the product and optimize its shape, ensuring superior quality as early as possible during product development. Also, the sheet metal design module improves the efficiency of sheet metal parts design.

Accelerating global business expansion with further integration of CAD/CAM

At Chikusui Canycom, 3D model data generated with CATIA is also fed into some of the sheet metal tools, including laser cutters and NC punch presses.

"Our goal is to tighten the integration between CAD/CAM and our production processes," says Yoshiro Kaneyuki. "This will enable us to use CATIA 3D data more efficiently at our manufacturing plants."

Chikusui Canycom also plans to expand the use of 3D data created on CATIA to departments other than design and manufacturing.

"Our website carries lists of parts, so customers can easily order supplies. CATIA data could be used to generate and update those lists more easily, for example, or to draw illustrations for product manuals," Tatsushi Maruyama explains.

Chikusui Canycom's overseas sales currently account for 15% of its overall net sales. The company hopes to see this percentage grow to 30% within a year, and to 50% in five years. "We expect CATIA to play a critical role in making this accelerated growth a reality," said Yoshiro Kaneyuki.



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