

KONICA MINOLTA BUSINESS TECHNOLOGIES, INC.

Introducing the best-in-class, color all-in-one system with SolidWorks software



KMBT engineers chose the SolidWorks 3D CAD software system as the platform for developing the Model 8050/ bizhub PRO C500 digital all-in-one systems, which leads the industry with speeds of 50 ppm in both color and black-and-white.

Konica Minolta Business Technologies, Inc., (KMBT) is a leading global manufacturer of business copiers, printers, fax machines, digital all-in-one (printer, scanner, and fax) machines, and related supplies. Headquartered in Tokyo, Japan, KMBT is a subsidiary of Konica Minolta Holdings, Inc., the company formed through the merger of Konica Corporation and Minolta Co., Ltd., in 2003. Soon after the merger, KMBT launched its Model 8050 full-color, multifunction printer. Development of the Model 8050 had begun at the former Konica Corporation and was completed at KMBT. The newly formed company wanted the Model 8050 to be the top-performing model in its class by boosting performance from the three-to-seven pages per minute (ppm) of former Konica machines to speeds of 50 ppm in color and black-and-white. Both the Model 8050 and bizhub PRO C500 system, an advanced color all-in-one version of the Model 8050, serve as the new company's flagship products, according to Masaaki Ikeda, manager of Development Division 21 in the company's Imaging Products R&D Group.

"This is a revolutionary product with high reliability and high productivity suitable for the print-on-demand (POD) world," Ikeda says. KMBT management wanted the performance of the Model 8050/bizhub PRO C500 systems to lead the market, and evaluated 3D mechanical design systems to determine which CAD package would support the company's ambitious design goals.

Ikeda says KMBT, which once used the HICAD 2D design package from Hitachi, selected the SolidWorks® CAD software system as the development platform for the Model 8050/ bizhub PRO C500 project. The software has a low cost-of-introduction, is easy to use, can read HICAD data, supports critical add-on applications, includes important new features with every release, and utilizes the Parasolid® geometry kernel, which company engineers have deemed to be the most reliable. The former Konica Corporation had also used SolidWorks software to develop its highly successful single-use cameras, and engineers at KMBT were confident that the software would provide similar advantages in the development of the Model 8050/bizhub PRO C500 systems.

Results:

- Introduced revolutionary top-performing product
- Reduced number of prototypes required
- Shortened total development time
- Enhanced internal communication

Ramping up quickly

Once KMBT management decided on SolidWorks software for the Model 8050/bizhub PRO C500 project, engineers began using the software almost immediately, with no disruption to the development cycle as a result of the transition. Although the two former companies—Konica and Minolta—had used different CAD systems, the new company enthusiastically embraced and promoted the use of SolidWorks 3D design software.

“SolidWorks software usage has spread within the company, even with almost no in-company training,” Ikeda notes. “We created rules on how to apply SolidWorks software for product design, and have found that self-study by our engineers, through the user manual and tutorials, is sufficient for supporting our CAD operations.”

Improving design quality

In undertaking the development of the Model 8050/bizhub PRO C500 systems, KMBT engineers needed to demonstrate the power of the newly merged company, both internally and externally, by creating a revolutionary high-quality design. Because a color all-in-one machine requires four times as many mechanical and electrical components as a black-and-white system, KMBT engineers faced the challenge of developing the product within a small footprint, using four times as many components without a fourfold increase in size and volume.

Ikeda says SolidWorks software helped the team improve design quality for three reasons. First, the team was able to bring SolidWorks software design data into a digital mock-up tool, which enabled them to resolve 70 percent of the instances of part interference before releasing drawings. Second, the visualization capabilities of SolidWorks software facilitated internal design reviews involving more than 50 team members. Third, the team used a partner design-analysis package to analyze and optimize components for strength, size, and weight.

“We were able to achieve both a compact design and high reliability by trying out many ideas,” Ikeda recalls. “For example, we performed simulations on components that had previously been highly evaluated to see how thin we could make them, while still retaining their characteristics.”

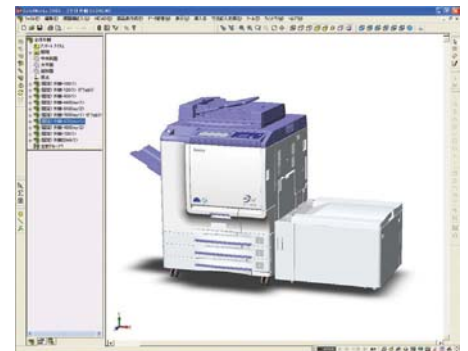
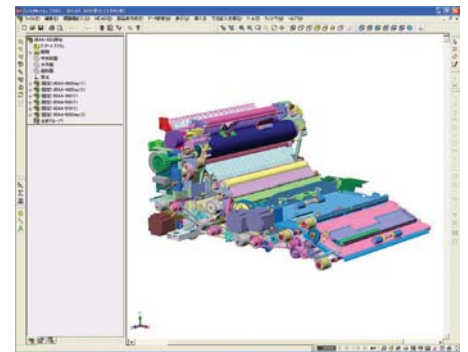
Delivering an innovative flagship product

By utilizing the SolidWorks CAD software system on the Model 8050/bizhub PRO C500 project, KMBT developed the top-performing, high-quality, color all-in-one printing machine on the market—operating at 50 ppm in both color and black-and-white—while shortening total development time and reducing the number of prototypes required. This innovative flagship product has had a significant impact on the marketplace beyond traditional office settings, expanding the market for the Model 8050/bizhub PRO C500 systems to include commercial printers and POD publishers.

The success of this development effort has prompted KMBT to choose SolidWorks software for all future product development. “SolidWorks software is helping us to unleash the power to develop innovative products that, by their very nature, can create additional markets and extend existing markets into new areas,” Ikeda says.

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Masaaki Ikeda
Manager of Development Division 21



SolidWorks software helped KMBT engineers to improve design quality on the Model 8050/bizhub PRO C500 all-in-one systems by detecting interferences, facilitating design reviews, and supporting complementary analysis capabilities.

Authorised Value Added Reseller:



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