

DENTIUM CO., LTD.

ADVANCING DENTAL EQUIPMENT DEVELOPMENT AND INNOVATION WITH SOLIDWORKS AND **3DEXPERIENCE** WORKS SOLUTIONS

Case Study



Dentium leveraged the combination of SOLIDWORKS Desktop and **3DEXPERIENCE** Works cloud-based product development solutions to shorten design cycles and reduce development costs, accelerating product time to market in the process.

Challenge:

Streamline and better organize design processes—including the ability to share information and continue development when design team members are out of the office—to gain a competitive advantage, reduce costs, increase innovation, improve quality, and shorten time to market.

Solution:

Replace AutoCAD 2D and PTC Creo 3D design tools with SOLIDWORKS and 3DEXPERIENCE Works modeling, design, data management, collaboration, simulation, communication, and project management solutions, including SOLIDWORKS Professional CAD, SOLIDWORKS Simulation Professional, SOLIDWORKS Simulation Premium, and SOLIDWORKS Flow Simulation desktop software, as well as the Collaborative Designer for SOLIDWORKS, Collaborative Industry Innovator, 3DSwymer, and Project Planner roles from the 3DEXPERIENCE Works portfolio, which operate on the cloud-based 3DEXPERIENCE platform.

Results:

- Cut design cycles by 15-20 percent
- Shortened time to market by 10 percent
- Reduced development costs by 15 percent
- Decreased design errors by 20 percent

Dentium Co., Ltd., specializes in the development of dental medical devices, equipment, and implants. Founded in 2000 by dentists and experts with extensive clinical experience and knowledge, the company has been recognized for its excellent quality, which has satisfied international Good Manufacturing Practice (GMP) standards and led to European CE certification in 2003 and approval by the U.S. Food and Drug Administration (FDA) in 2004. Today, Dentium has grown into a global company and world-class manufacturer of premium dental implant systems servicing clinicians in more than 80 countries worldwide. While the company built its reputation on its high-quality dental implant and integrated dental implant system products, Dentium also manufactures a large selection of dental instruments, lab components, and regeneration



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“If a product development organization is using SOLIDWORKS desktop tools, I think it will be helpful to reduce design errors and save time if you proceed from the preliminary to the final product required for product development through cloud governance. And, if you develop products with 3DEXPERIENCE Works solutions in the cloud, I think it will be helpful to design quickly and accurately from product concept design to detailed design on through governance and design/engineering.”

— Junback Lee, Manager

materials to complement its dental implant system. Until the beginning of 2023, Dentium designers and engineers used the combination of AutoCAD® 2D and PTC Creo® 3D design tools to develop products. As the company’s product development volume has continued to increase along with its growth—as has competition in the market—Dentium management began looking for a cloud-based solution in order to leverage the latest technologies in product development, improve efficiency, and increase innovation, according to Manager Junback Lee.

“In order to gain a competitive advantage in the fierce market, I think it is necessary to launch new technologies and advanced product development based on excellent technology,” Lee explains. “However, it is difficult because copycat products and patent infringement often occur from other companies. We believed that working with a combination of desktop and cloud-based development solutions would help us streamline our development processes and eliminate delays when design team members are out of the office.”

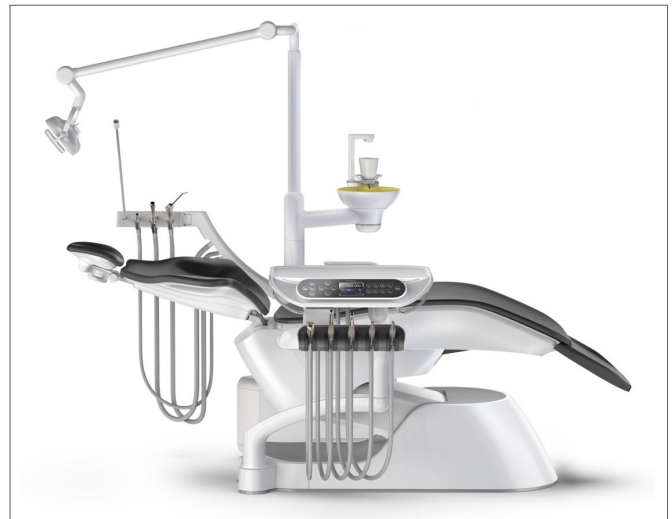
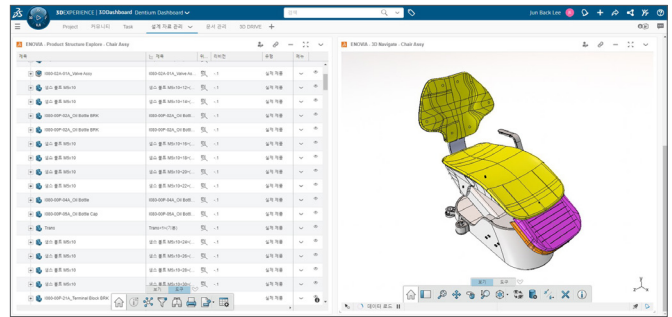
After evaluating Autodesk® Inventor®, Unigraphics® NX™, SOLIDWORKS®, and 3DEXPERIENCE® Works solutions, Dentium chose to implement a combination of SOLIDWORKS design and simulation software in concert with modeling, data management, collaboration, project management, and communication solutions from the 3DEXPERIENCE Works portfolio, including Collaborative Designer for SOLIDWORKS, Collaborative Industry Innovator, Project Planner, and 3DSwymer roles. The product innovation portfolio leverages the cloud-based 3DEXPERIENCE platform to give customers access to the power of industry-leading tools for design, manufacturing, data management, and marketing from Dassault Systèmes.

“We found out about the 3DEXPERIENCE platform through a seminar and proposal from a reseller,” Lee recalls. “We chose to implement SOLIDWORKS and 3DEXPERIENCE Works solutions, because the combination enables us to share information and continue development when team members are outside the office due to frequent business trips and outings.”

GAINING EFFICIENCY WITH BETTER DESIGN TEAM COMMUNICATION

Since moving to SOLIDWORKS and 3DEXPERIENCE Works solutions in January 2023, Dentium designers and engineers are able to communicate and collaborate more effectively, resulting in greater efficiency, compressed design cycles, and shorter time to market. “SOLIDWORKS is intuitive for design, so it’s easy to jump-start ideas, and has allowed us to organize and streamline our design process,” Lee notes.

“Product idea meetings are held by each design team, and the number of development researchers participating in each team varies,” Lee continues. “Adding 3DEXPERIENCE Works solutions to SOLIDWORKS tools provides access to the cloud-based 3DEXPERIENCE platform. This arrangement supports easy communication between design teams, reduces wasted resources on product development, and introduces solutions ahead of other companies, which secures advances in technology and drives innovation. Design cycle time has been reduced by 15 to 20 percent, and we’ve cut our time to market by about 10 percent by designing in SOLIDWORKS and communicating in the cloud.”



In addition to reducing development costs, the combination of SOLIDWORKS Desktop and 3DEXPERIENCE Works cloud-based product development solutions has helped Dentium improve product quality through the use of simulation tools for identifying and resolving design errors.

CUTTING COSTS, IMPROVING QUALITY WITH SIMULATION

Using SOLIDWORKS simulation solutions, Dentium has been able to reduce its development costs by 15 percent—through fewer prototyping cycles and manufacturing issues—while simultaneously improving quality. The company has cut design errors by 20 percent. “We currently use SOLIDWORKS Desktop and structural and thermo-fluid analysis solutions, which have the advantage of intuitive design that shortens the development process,” Lee points out.

“We continue to innovate, which has resulted in a more than 40 percent share of the global dental market and a proportional increase in sales,” Lee adds. “In addition to focusing on developing proprietary products that don’t exist on the market, we also focus on patient comfort and ergonomics. We prioritize patient safety first and foremost, and our designs are focused on ensuring that our practitioners are in the best possible condition to care for their patients, and SOLIDWORKS Simulation tools are a big part of that.”

REAPING BENEFITS OF CLOUD-BASED GOVERNANCE

Dentium management chose the combination of SOLIDWORKS desktop tools and 3DEXPERIENCE Works solutions, which leverage the cloud-based 3DEXPERIENCE platform, because the desktop tools are “the best fit” for product development, and the cloud-based tools provide effective governance of the collaborative process and project management. “The combination of SOLIDWORKS and 3DEXPERIENCE Works solutions is optimized to reduce the cost of product development with SOLIDWORKS, enabling us to secure adequate margins and aggressive market strategies,” Lee stresses.

“If a product development organization is using SOLIDWORKS desktop tools, I think it will be helpful to reduce design errors and save time if you proceed from the preliminary to the final product required for product development through cloud governance,” Lee says. “And, if you develop products with 3DEXPERIENCE Works solutions in the cloud, I think it will be helpful to design quickly and accurately from product concept design to detailed design on through governance and design/engineering.”

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