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Case Study: Design

## Web Exclusive: BSH's End-to-End PLM

**It takes end-to-end product lifecycle management systems to support collaborative efforts by BSH's extended product development teams.**

**G**lobal appliance giant BSH Bosch und Siemens Hausgeräte GmbH operates 31 production sites and 43 factories in 15 countries across Europe, Asia, the United States, and Latin America.

BSH sells large and small appliances, including internet-compatible appliances, under globally recognized brand names like Bosch and Siemens, as well as specialty and regional brands such as Gaggenau, Thermador, Neff, and Constructa.

BSH management recognizes innovation as the key to competing successfully in the global market and defines its goal as making BSH the leading innovator in the consumer products industry. This culture of innovation is demonstrated in the more than 300 patents and trademarks the company applies for annually.

To improve products and processes, BSH requires a collaborative effort by extended development teams, including designers, quality managers, purchasing and production managers, and sales and marketing personnel.

"We need to take the next steps, such as feeding back knowledge from downstream departments into R&D," says Uwe Tontsch, head of product development and industrial engineering solutions at BSH. "Because BSH is a global company, these people are often located quite far from each other. To innovate at this new level requires a comprehensive, easy-to-use collaboration environment that spans the entire organization."

The need to innovate at this level is matched by the realities of the global marketplace. These days, that means reducing product development costs to compete with companies with lower priced labor. "We face major competition from Asia and Eastern Europe," Tontsch explains. "It is not only necessary to be innovative because our competitors will follow us very quickly; we must reduce our expenses so that we can offer the quality that our customers expect at a lower price."

BSH's operations are geographically dispersed because the company has grown through acquisitions over the years. As far back as the 1990s, management realized the need for a global collaborative environment that would allow designers at different locations to benefit from each other's work.

After evaluating a number of leading systems, BSH decided in 2000 to standardize its worldwide development efforts on technology from Siemens PLM Software, from a global division of Siemens Automation and Drives. One of the reasons for the choice was the supplier's position in the digital lifecycle management industry. "The leadership position of Siemens PLM Software reduces the risk of this large investment," says Tontsch.



### Enabling a Holistic View

BSH implemented an end-to-end PLM system based on the Teamcenter digital lifecycle management solution, the NX design automation system, and the Tecnomatix digital manufacturing solution.

“The benefit to having an end-to-end PLM solution is that it allows us to integrate everyone in the company,” says Matthias Bronowski, BSH project manager, Teamcenter Next Generation. “It allows us to have a holistic view of what’s happening with our products.”

Another benefit of an end-to-end solution is that the integration between applications is done by the vendor, not by BSH. “A key factor for us was choosing a partner that offers a comprehensive and integrated solution,” says Tontsch. “Otherwise we would focus too much effort on integrating the products. That would be a distraction for our business.”

### A Single Source of Knowledge

BSH’s product development strategy involves creating core components and technology that then can be adapted and reused. This drives both centralized and decentralized organizations, necessitating coordination between these globally distributed teams as well as common systems to support data sharing without the need for data translation.

“Data translation between systems can kill the timeline and therefore the business,” notes Tontsch.

The PLM solution that BSH chose consolidates all product and process knowledge in a single data vault, which makes it much easier to find and reuse. Product and process knowledge can cross organizational and geographic boundaries with more assurance of accuracy.

“Having a single source of information has become very important to BSH because now there is no question as to what is right and what is wrong,” explains Bronowski. “There is only one answer and everyone knows where to find that answer.”

Because BSH’s PLM system is built on industry standards, including the JT data format, information can be shared without the need for data translation between systems.

“Teamcenter supports the entire development process of our products, from the idea to the design, to engineering and manufacturing,” says Walter Vasselak, Group Manager, Application Data Management and Intellectual Property Systems, BSH. As a result, communication barriers that previously isolated people and had the potential to cause costly errors have been eliminated.

Tontsch explains that the instant collaboration capability allows internal and external resources to collaborate in a single virtual environment. “It is also making it possible for us to develop a seamless cooperative production engineering environment that enables both R&D and manufacturing engineering to work in parallel,” he says, and he adds that such capability will help the appliance maker reach higher levels of innovation.

Another important factor in BSH’s PLM solution is how it has reduced the total cost of PLM ownership. Knowing how the need to build interfaces and custom coding can add significantly to the cost of a PLM system, the software supplier has evolved its solution to minimize these efforts.

“We could not survive if we had to continue to customize the PLM system as much as we had been doing in the past,” says Vasselak. “It’s too expensive.” Vasselak says the new approach taken by the software supplier allows BSH to configure the system to its needs rather than developing custom software. “I expect to see a 25-35% reduction in PLM implementation and maintenance costs as a result.”



A familiar user interface, which Bronowski says is much like Windows, simplifies learning and ease of use. “I believe we will be able to lower our total cost of ownership by reducing training costs,” says Bronowski. “This

is particularly important in our growth regions such as Asia and North America where we are employing many new people. It’s critical to bring these people up to speed quickly.”

Bronowski believes the system is the right choice for BSH’s next generation PLM system, from both the end-user and the management perspective. “With end users,” he observes, “it doesn’t matter how powerful a solution is. If they don’t like it, they won’t use it. Our end users are happy with software from Siemens PLM Software because it is fast, easy to use and it helps them achieve the ultimate goal of creating innovative products.”

From management’s extremely cost-driven perspective, Bronowski concludes, the strong user acceptance and the software’s focus on lowering cost of ownership “are exactly the things they want to see.”