

# SIEMENS

*Ingenuity for life*

Automotive and transportation

## Brose Group

Teamcenter helps reduce procurement costs for manufactured parts up to 15 percent

### Product

Teamcenter

### Business challenges

Highly competitive operations, especially in terms of price, quality, delivery and agility

Permanent willingness to reduce costs and increase productivity and transparency

Continuous product and process innovation

### Keys to success

Efficient costing processes and accurate product cost transparency

Target price analysis of Teamcenter supports the improvement of cost structures for purchased parts in the supply chain

Transparency within product group management with Teamcenter cost breakdowns

### Supplier Brose relies on Teamcenter product cost management for innovative purchasing

#### Facing two significant developments

Brose is the world's fifth-largest family-owned automotive supplier, with a turnover of approximately 5.2 billion euros. The mechatronic specialist develops and produces innovative mechatronics systems for vehicle doors and seats as well as electric motors for 80 automotive brands and more than 40 suppliers.

In 2015, the Brose Group received an internationally recognized award for its innovative purchasing management from Procurement Leaders, a global purchasing association whose award is considered the premier recognition for outstanding procurement management. The global company completely overhauled its purchasing processes in recent years with more intense integration of product development, production and logistics. "One of the main objectives of this cross-functional collaboration is to optimize exchange with our suppliers for the benefit of all," said Sandro Scharlibbe, executive vice president of purchasing, Brose Group, at the awards ceremony in London.



*The patented Brose system for contactless opening and closing of luggage compartment doors represents a new level of comfort for vehicle access.*

## Results

Up to 15 percent cost savings in selected projects with suppliers

Transparency of supplier cost structures for optimization of manufacturing processes

Optimized procurement of manufacturing materials in a global purchasing alliance

Fact-based global sourcing and relocation decisions

Brose is facing two significant developments. The increasingly global sourcing strategies of original equipment manufacturers (OEMs) create a highly competitive environment, increasing cost pressures on the suppliers' side. At the same time, the reduction of vertical integration of end producers increases the demands on suppliers to establish themselves as system suppliers and to have a global impact. These challenges are a major reason that, today, Brose's purchasing skills no longer apply only to the procurement of individual components, but also to entire procurement projects. The role of procurement extends to the design of product characteristics, value-added processes and supplier structures, the product design itself and the development processes. Therefore, purchasing has a high impact and influence on technology, cost, quality and time for the end product.

### **New solutions and methods were needed**

Brose was no longer able to solve these challenges with the decentralized Excel® software that was used by the company a few years ago. "We had a cost calculation for stamping parts, one for die casting and one for plastic," comments Michael Kurz, head of cost analysis within the purchasing department at Brose Group. "The calculations were treated differently in each region. This made it difficult to make calculations transparent, track product costs systematically and optimize them." There was a need for a solution with standardized calculation methods that supports efficient costing processes and creates accurate product cost transparency. Brose decided several years ago to implement an integrated solution that exactly meets these requirements: the Teamcenter® product costing solution from product lifecycle management (PLM) specialist Siemens Digital Industries Software.

### **Achieving profitability targets; understanding the role of purchasing**

Brose currently buys production materials with a purchasing volume of around €3 billion. In addition, there are expenditures and costs for assembly systems and tools. The Teamcenter solution for product costing supports the purchase and procurement of plastics, die casting, stamping parts and electromechanical parts and components. In addition, the software is also used in the calculation of complex mechanical assemblies that ultimately accelerate the assembly process and increase productivity at Brose.

By using Teamcenter, Brose found new opportunities for purchasing, along with a new understanding of the purchasing role within product development processes. The availability of detailed cost structure analysis with the Teamcenter product costing solution provides purchasing with a valuable tool for project collaboration and for consulting with internal clients. Cost structure analyses offer the possibility of fact-based investigation of the costs and cost-drivers. The ability to identify low-cost alternatives offers real added value that supports the project's profitability and success goals.

Purchasing plays an important mediating role as the interface between external suppliers and internal customers. Typically, this task is optimally accomplished when purchasing moderates between the parties based on facts. The cost analyses generated using Teamcenter are a significant aid for purchasing in this regard. For example, Brose can now concretely assess the impact of design or volume changes on the purchasing budget, and provide corresponding internal quotations promptly and accurately.

### Determining and establishing target prices

The purchasing function at Brose is now involved very early in the product development phase. For example, to reduce fuel consumption and emissions, there is an increasing demand for new and light-weight materials, and the selection of these materials is supported by purchasing. Consider the next generation of door systems at Brose, which consists of a carrier plate made of fiberglass-reinforced polypropylene that realizes a weight savings of about 350 grams compared to classic plastic, and as much as 1.2 kilograms compared with conventional steel. "The design phase is decisive also for us in purchasing, because it determines 70 to 80 percent of the cost of a part," says Kurz.

At the beginning of the acquisition phase, the costs of important components, parts and assemblies are calculated on the basis of coordinated assumptions, although these are not already designed in detail. The calculation results are incorporated into a project target in the quotation calculation of the salable products.



*Within a just-in-sequence method, Brose supplies manufacturers globally with pre-finished complete door systems, which are delivered directly to their assembly lines.*

Within the next steps of the product development process, technology experts work together with the development department to optimize the product design. The Teamcenter product costing solution helps identify, evaluate and document different levels of development. With this approach, Brose is focused on investigating projects holistically to achieve a cost-optimized overall system.

***“With the Teamcenter product costing solution, we are achieving a high transparency of the cost structure for purchased parts, and based on this we can discuss with our suppliers the detailed facts and optimization approaches.”***

Michael Kurz  
Leader of Cost Analysis, Purchasing  
Brose Group

After the design of a component, part or assembly is finalized, the cost analysts at Brose determine a “best practice price” and simultaneously send a request to suppliers. To prepare this bottom-up cost calculation, Brose uses the database included with the Teamcenter product costing solution for reference information such as machines, labor costs and manufacturing processes. These details give Brose the opportunity to identify the most cost-effective process for the production of components, and to present it in a transparent manner for all involved parties.

Different manufacturing processes can be defined and evaluated in detail with the integrated cycle-time calculator of the Teamcenter solution. This tool enables the cost analysts at Brose to determine cycle times. It has a high practical value, especially for completely unknown components. The cycle-time calculator includes technology information derived from valid research on materials and machines.

Furthermore, Brose uses the cost breakdowns created using Teamcenter to compare the calculated target prices with the cost breakdowns received from the supplier. The cost breakdowns gain transparency with a click, and can be used as an effective and valuable tool for negotiations because they allow detailed comparison of the quotations. “Using Teamcenter product cost management within purchasing, we can submit to our suppliers not only an adequate overall target price, but we can also discuss and accomplish highly accurate and fact-based price negotiations,” explains Kurz.

For Brose, it is important to be able to realistically assess the actual costs of its suppliers for development and manufacturing. “With the Teamcenter product costing solution, we are achieving a high transparency of the cost structure for purchased parts, and based on this we can discuss with our suppliers the detailed facts and optimization approaches,” notes Kurz.

*“Using the purchase price analysis of the Teamcenter product costing solution, we are generating cost savings up to 15 percent in selected projects with our suppliers.”*

Michael Kurz  
Leader of Cost Analysis, Purchasing  
Brose Group



*Brose motors help vehicle and environmental sustainability by increasing efficiency and reducing the fuel consumption and pollutant emissions of vehicles.*

Cost analysis of the procurement object enables purchasing at Brose to not only determine a reasonable purchase price and arguments for its implementation, it also enables the purchasing team to make constructive suggestions to reduce costs, thus creating an objective and fact-based foundation for collaborative cost reduction. "Using the purchase price analysis of the Teamcenter product costing solution, we are generating cost savings up to 15 percent in selected projects with our suppliers," says Kurz.

The cost reduction suggestions made possible by the use of Teamcenter benefit Brose by reducing purchase prices, and also benefit suppliers, who can exploit them profitably with other customers. Brose now conducts continuous optimization of cost structures with Teamcenter to increase the profitability of purchased parts.

### **Consistent, global quotations**

Manufacturers are increasingly balancing globalization, localization and individualization with global platforms and modular product systems. Brose is successfully facing this challenge by manufacturing its products in three regions - Europe, North America and Asia. Local suppliers represent a cost advantage for the OEM, as well as for Brose, due to lower logistics costs and improved delivery speed and security. This "local for local" strategy is becoming increasingly important for purchasing.

For Brose, this results in the need to make supplier quotes and related global targets comparable. Certain cost elements are adjusted depending on the region. For this purpose, Brose uses the continuously updated Teamcenter knowledge database that contains global location-based information, including labor costs, electricity and plant-dependent overhead costs.

## Solutions/Services

Teamcenter  
siemens.com/teamcenter

## Customer's primary business

The Brose Group is a German automotive supplier that develops and produces innovative mechatronics systems for vehicle doors and seats as well as electric motors.  
www.brose.com

## Customer location

Coburg  
Germany

Brose has extended the cost analysis department from four to 40 employees within the last few years to support the constant optimization of its own added value and to improve the cost structures of purchased parts. Brose is calculating worldwide with the Teamcenter product costing solution in Germany, China, Brazil and the United States. "Teamcenter supports worldwide purchasing by validating target prices for new developments to realize cost savings," states Kurz.

## Well prepared for the future

With rising cost pressures in many markets, Brose plans to maintain its

competitive advantage by exploiting the cost benefits of the global market in the future. Purchasing will increasingly need to create simulation scenarios and conduct early and comprehensive assessments of potential risks and opportunities. The potential of global sourcing or relocation decisions can only be reliably estimated when the added-value conditions for a purchased part can be flexibly adapted to alternative locations worldwide. For these reasons, the Teamcenter product costing solution will be used to provide significant added value in the analysis and implementation of potential savings across purchasing decisions.

*“Teamcenter supports worldwide purchasing by validating target prices for new developments to achieve cost savings.”*

Michael Kurz  
Leader of Cost Analysis, Purchasing  
Brose Group

## Siemens Digital Industries Software

Americas +1 314 264 8499  
Europe +44 (0) 1276 413200  
Asia-Pacific +852 2230 3333

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