

## Virtual product development means growth for German firm

CA Engineering uses NX to meet clients' requirements for quality, distinctive design and fast turnaround, and ultimately for driving its own expansion

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### ► Issues:

Design distinctive baby stroller for use by joggers and skaters

Address client's requirements for quality and engineering

Meet client's six-month deadline and fixed budget

### ► Approach:

Work virtually as much as possible

Simulate performance in software to detect problems early

Use rapid prototyping when physical models are needed

### ► Results:

"Jogger Joe" stroller went from concept to production in 6 months

Visualization improved communication with customer

Successful implementation of virtual design grows the business

## CA ENGINEERING AND SERVICE GMBH

- A customer wanted a baby stroller suited to needs of joggers and skaters, with a design that turned heads and production to begin in six months.

### Full-spectrum product development

CA Engineering and Service GmbH is a design and engineering service provider with 35 employees and approximately 75 active customers. Most of its customers are in the German-speaking market (including such renowned companies as VW, GEA Westfalia, Claas, Lenze, Miele and Voith) although international business is growing. The company recently completed a design project for a machine manufacturer in India. A sister company, MES in Novgorod, has begun doing work for several companies in Russia.



The largest share of CA Engineering's annual sales volume of 2.5 million euros comes from 3D product development but the company is set up to handle the full spectrum of development activities. "Since our customers require timely development within budget, we cover the entire range of duties and responsibilities involved," says Michael Runge, managing partner at CA Engineering. A great example of this is the recent development of Jogger Joe, a unique baby stroller. The customer, Britax Teutonia, wanted a stroller suited to the needs of joggers and skaters with a design that would clearly set it apart from the competition. But an eye-catching design wasn't the only requirement. Britax Teutonia set high goals for quality and engineering, as well as a six-month deadline and a fixed development budget.

**Solutions/Services**

NX

**Client's primary business**

CA Engineering and Service GmbH is a design and engineering service provider.  
[www.produktentwicklung.de](http://www.produktentwicklung.de)

**Client location**

Beckum  
Germany

***“Our NX-based digital product development approach clearly sets us apart from our competition.”***

Michael Runge  
Managing Partner  
CA Engineering and Service GmbH

**Working virtually saves time, boosts quality**

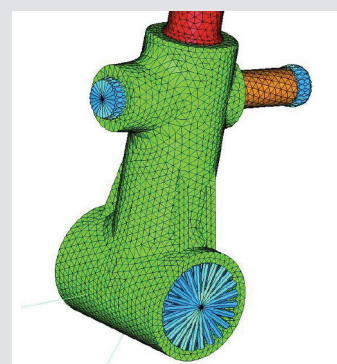
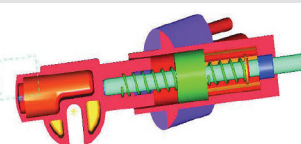
The stroller project required the following services from CA Engineering: design (conceptual and detailed), engineering, prototype production, pilot series support and series production monitoring. From the beginning, the company decided to work virtually as much as possible, using NX® software for digital product modeling in combination with analysis software for onscreen simulations. “A project like this requires more than just employees with know-how and creativity,” says Runge. “You need state-of-the-art software and it must be optimally applied.”

CA Engineering created a digital assembly of the stroller in NX. The assembly contained all the important information about individual components. The assembly also served as a detailed virtual prototype. Using NX digital simulation software, engineers put the digital stroller through test runs onscreen. This took place early in the development process and made it possible to detect engineering errors and fine-tune the design. “Using this approach, functionality can be qualified virtually to a large extent through analysis and simulation,” Runge notes. Only one physical prototype of the stroller was produced, and it was made quickly and cost-effectively with rapid prototypes created directly from NX models.

**Fast results, growing business**

The unique baby stroller, which Britax Teutonia named “Jogger Joe,” was designed, tested and ready for production in only six months. Runge credits the virtual development process for how quickly the project was completed and for the fact that they stayed within the customer’s budget. The customer was delighted. “The development of this baby stroller showed Teutonia how the realization of its goals can happen faster through the process of virtual product development,” Runge says. “It was also a good demonstration of how the realistic visualization of digital prototypes can substantially improve communication between the customer and us as the development partner.” For Teutonia, the success of the approach has also been demonstrated in the marketplace. Several thousand Jogger Joe strollers have already been sold.

Runge sees the NX digital product development environment as a key differentiator for his firm, and an important driver for business growth. At a minimum, he expects the company’s sales volume and the number of employees to double by the year 2010. “With NX, we are able to offer customers product development and optimization services that are faster and higher quality than that of the competition. These capabilities clearly set us apart from our competition.”

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