

Industrial machinery and equipment

# Otto Bihler

PLM drives customized configurations of modular machines

### Products

NX, Teamcenter

### **Business initiatives**

New product development Value chain synchronization Knowledge and IP management

### **Business challenges**

Develop customer-specific machine configurations Speed time-to-market Increase sales power

### Keys to success

A comprehensive PLM solution that integrates product configuration, CAD and data management

Re-use of existing product information

### Results

50 percent less effort for project planning and bid preparation

Errorless interpretation and communication of proposals and orders

Streamlined sales processes

### Leading provider of stamping and bending machines benefits from more offers, shorter reaction times and stunning presentations

### Demand for customer-specific solutions

In 1956 Otto Bihler Machinenfabrik invented a radial wire/strip bending machine with a vertical work plate that allowed a radial arrangement of several forming units around the workpiece. This provided the basis for the success of Otto Bihler, which todav is regarded as the world's leading provider of stamping and bending machines. Today's systems operate radially and linearly. And to reach the highest productivity, high-volume production technologies such as welding, tapping, screw insertion and assembling are integrated into the fully automatic processing of wire and band material. A wide range of parts can be produced in high numbers with these machines, which are used in a variety of industries including fittings, hose clamps, folder mechanics, sockets, electronic components and even complex vehicle parts.

"Usually customers consult us with a specific production task," says Bernd Haussmann, director of technical sales at Bihler, "They expect us to draw up a machine concept tailored to the output quantity and achievable unit price of their



The original content of the new configurator: punching and bending.



Virtual design in the P'X5 configurator enhances the reliability of bids and project plans.

"The new machine, plant and tool configurator is an optimal linkage to our CAD/PLM environment and the worldwide sales organization."

Hermann Schwarzenbach CIO Otto Bihler Maschinenfabrik

## "Compared to our former approach using CAD designs and project planning, we are much faster now using the configurator."

Bernd Haussmann Director Technical Sales Otto Bihler Maschinenfabrik

part." To a large extent the product program is modular and the various machine types, aggregates, sound-proof booths and feeding units are standardized. But there still remains an enormous range for customer-specific solutions. This flexibility is one of the company's competitive advantages. In any case, the actual punching and forming tools have to be newly developed, designed and produced for each production task.

## Enterprise product lifecycle management (PLM)

To optimize this process – from product development, design and technical sales to manufacturing and service – in 2003 the company introduced a solution from Siemens PLM Software, a business unit of the Siemens Industry Automation Division, consisting of the NX<sup>™</sup> digital

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product development software and the Teamcenter<sup>®</sup> digital lifecycle management software. One of the goals was to boost the efficiency of departments contributing to the complex sales tasks. "We were looking for a sales tool to present machine concepts geometrically and spatially, but avoiding the complexity of a CAD application," explains Hermann Schwarzenbach, chief information officer at Bihler.

They wanted expert knowledge about the machine configuration to flow into a rule-based unit assembly system, thereby enhancing the quality of consulting processes and reducing specification risks. With this approach, machine and tooling concepts could be visually presented to customers and employees without affecting the design department. The offer would be generated in the local language with country-specific prices, improving reaction time, quality and efficiency.

"Because of the close cooperation between our design department and technical sales, PLM integration was required from the very beginning," Schwarzenbach adds. This included central data filing and variant classification using Teamcenter software to promote and facilitate search for and re-use of similar projects. At the same time machine configurations with their

The circle is complete as all information and documents from the configurator flow into the PLM structure of Teamcenter. virtual components would be the basis of the designs by generating real CAD models.

### PLM integrated sales processes

With the P'X5 product configurator solution from Perspectix (Siemens PLM Software authorized partner), Bihler exceeded its target goals. CAD models created in NX software are now transferred to the configurator catalog together with defined connection points for docking. P'X5 supports PLM-XML as well as the lightweight 3D format JT<sup>™</sup> for data input and output, greatly facilitating PLM linking. The sales department finds all relevant documents in its project structure, visible and usable without the assistance of the design department. The process circle is completed when the sales department locates existing projects via the search and classification functions of Teamcenter product data management (PDM) capabilities and is able to use the related post calculation for optimizing offers.

Another challenge was the development of a tool configurator, which visualizes the punching and forming tools schematically to illustrate processes and material flow through the machines. The difficulty was that there were no geometric data because special tools had yet to be designed. Bihler also sought the so-called fast entry. "We



Choosing components automatically results in a changed BOM and plausibility checks.



Technical and geometric data from the construction kit are imported into the CAD system.

wanted to set up the possibility to quickly and without graphical configurations compare our estimated offer value to the given customer's budget," says Schwarzenbach. "With minimal effort, the sales department can check whether our machine concept has a realistic chance to be ordered at all." Using an ordinary chart the skillful employee logically and easily chooses the necessary components from the price list, which is filed in P´X5. 3D models are

"Overall in the process from project planning to bidding, we are much faster using the configurator than doing it our former way."

Bernd Haussmann Director Technical Sales Otto Bihler Maschinenfabrik Solutions/Services NX www.siemens.com/nx Teamcenter www.siemens.com/teamcenter

### **Customer's primary business**

Otto Bihler Maschinenfabrik has evolved to become the world's leading company supplying forming, assembly and welding technologies as well as CAD software for punching technology. www.bihler.de

### **Customer location**

Halblech, Bavaria Germany

#### Partner

Perspectix AG www.perspectix.com



In the CAD system, the configuration is built up as an assembly containing detailed solid models of up-to-date components.



deposited into a cart, similar to usual e-business solutions. "Combined with the services in the price list, we now very quickly calculate a total price and make a conclusion," Haussmann adds.

The experience of the eight members in Haussmann's team shows an immediate enormous step forward in the specification of concepts, feasibility checking and realization of projects. "Compared to our former approach using CAD designs and project planning, we are much faster now using the configurator," Haussmann says. Bihler expects significant success in the future as well, especially in terms of sales. "There are convincing advantages when you explain a virtual concept to a customer," says Haussmann. He notes that Bihler's former process was expensive and could only be used occasionally.

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