

## Solid Edge

# FRÖMAG

Fast and flexible design of keyseating, slotting, profiling and broaching machines using Solid Edge with synchronous technology

### Industry

Industrial machinery and equipment

### Business challenges

Ensure the highest quality of deliverables

Reduce development time

Increase design flexibility

Reduce costs

### Keys to success

Comprehensive in-house production expertise

Strictly modularized product range

Seamless operations between CAD and other mechanical engineering-based software programs, especially CAM

Synchronous technology for more design freedom

### Results

Seamless flow of information from design to production

Faster design turnaround due to more flexible process

Easier and faster implementation of complex designs



## Mid-sized mechanical engineering company gains new freedom for better design of complex product lines

### Precision, reliability and efficiency

Since its establishment in 1950, Maschinenfabrik FRÖMAG (FRÖMAG), located in Fröndenberg, has been developing and producing keyseating, slotting, profiling and broaching machines to exacting standards and specifications. Approximately 50 employees supply individual solutions to the company's target industries, including drive and conveying technology, pump and valve manufacturing and wind energy.

Over the years, the company has become a full-range supplier, supplementing its machines with integrated handling systems and automated workpiece feeding. With the acquisition of the American company Mitts & Merrill in 1990, FRÖMAG attained a leading position in the world market for keyseating and slotting machines. Today, customers on every continent trust FRÖMAG solutions and value them because of their precision, reliability and efficiency.

The company's largely modular and structured product portfolio covers comprehensive customer requirements for inner contour machining – from the individual standby machine for a few slots, to equipment for larger plants for series produc-

## Results (continued)

Reduced costs

More informed decision-making, better products

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Hannelore Mroszynski  
CAD Manager  
Maschinenfabrik FRÖMAG



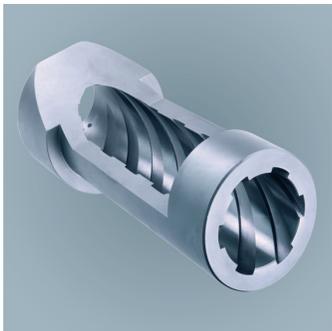
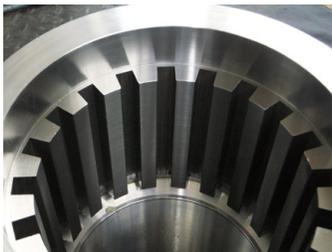
tion, to complex special designs. Due to continuous technological development, FRÖMAG stays at the cutting edge in its domain. In addition, the company has tapped new target groups, for example, the automotive and supplier industries. Its standard offering has been supplemented by the first keyseating machine series for engine block machining, which fits optimally into transfer lines (shop floor transportation system between the manufacturing stations).

### Mid-sized company must-haves

Retaining a leadership position requires a high level of performance across operations and product delivery, which can only be achieved with effective tools for design and development. The company introduced a 2D computer-aided design (CAD) system as early as 1991 in order to be able to fulfill all customer requests fast and in accordance with the highest quality standards. The step-up to a 3D-based environment took place in 2005. “Apart from a meaningful price-performance ratio, it is the reliability, long-term vision and commitment to delivery of the technology partner that is important to FRÖMAG,” says Hannelore Mroszynski, CAD manager at FRÖMAG.

In 2011, it became unclear whether the FRÖMAG’s CAD software vendor would continue to support its design solution in its current form, which was well-suited for use by mid-sized companies. Mroszynski would not accept any abandonment of the software’s mid-sized orientation. When she did not receive a binding promise that the system would be continued, she explored alternatives. She quickly found an attractive solution in Solid Edge® software from Siemens PLM Software.

Mroszynski explains, “Solid Edge is in every way competitive with our old system in terms of functionality. However, in Siemens PLM Software, we have found a vendor that understands the needs of mid-size mechanical engineering companies and assures the sustainability of its software.” That includes, first and foremost, a proven approach for converting from the existing system to Solid Edge, taking into account the stocks of legacy data. FRÖMAG’s machines are known for their longevity and can easily have a lifecycle of 50 to 60 years. Moreover, the company guarantees its customers the deliverability of the necessary spare parts over this period. Thanks to Siemens PLM Software partner WorksLine GmbH (WorksLine), it was possible to completely adapt, convert and integrate the legacy PDM (product data management) database of FRÖMAG’s design data to be compatible with Solid Edge. The existing 75,000 data records are now completely accessible within Solid Edge.





In addition, Solid Edge had a real technological edge – synchronous technology.

#### Greater flexibility through synchronous technology

In late 2011, FRÖMAG implemented Solid Edge. From beginning to end – licensing, conversion of the system and employee training – the transition was completed within four weeks. As is typical with virtually any change in systems or processes, there was skepticism among the workforce. However, Solid Edge proved easy to understand and use, and the software was quickly accepted throughout the company.

Replacement of the previous CAD system was accelerated because, with synchronous technology, there was no need for a complex data migration approach. Using Solid Edge with synchronous technology, the company's existing 3D models can be immediately re-used or edited as appropriate for new development.

“Our employees are very pleased with Solid Edge; and really enjoy using the software,” says Mroszynski. “Using Solid Edge with synchronous technology, we’ve become considerably more flexible, thanks to the ability to easily work on imported CAD models directly, without having to consider the evolutionary history of the design.”

FRÖMAG now has the freedom to engage in new, improved design approaches – addressing proprietary or externally supplied models – with or without using parametrics. “Thanks to Solid Edge with synchronous technology, we quickly forgot our old system,” notes Mroszynski.

#### Mechanical engineering requirements fulfilled

“Solid Edge offers us precisely the functionality and reliability that we need, as well as a meaningful cost-benefit balance for the company,” says Mroszynski.

Solid Edge is completely integrated with the company's information technology (IT) architecture, which comprises a wide range of mechanical engineering-based applications. This includes its highly important computer-aided manufacturing (CAM) technology. It was even possible to integrate Solid Edge with the company's equally essential gearing calculation tool, right down to the menu structure. Functions for collision checking and path setting are available, as well as is fully automatic drawing derivation. According to Mroszynski, considering the extensive dimensioning and labeling tools in Solid Edge, the addition of details to these drawings can be quickly accomplished. If changes are made to the 3D models, the drawings are automatically updated, and a tool for tracking the dimensioning detects changed labels.

Basic finite element analysis (FEA) calculations can also be done with Solid Edge, so the typically complex reworking of a design previously required is now handled quickly and easily. In particular, where new developments are concerned, users can perform initial static and load tests very early in the design process, confirm the development path they have taken, and adapt it quickly or discard it.

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## Solutions/Services

Solid Edge

[www.siemens.com/solidedge](http://www.siemens.com/solidedge)

## Customer's primary business

Maschinenfabrik FRÖMAG GmbH & Co. KG develops and produces keyseating, slotting, profiling and broaching machines in accordance with the highest quality standards and rigorous customer specifications. The solutions are valued worldwide due to their precision, reliability and value.  
[www.froemag.com](http://www.froemag.com)

## Customer location

Fröndenberg  
Germany

## Partner

WorksLine GmbH  
[www.worksline.de](http://www.worksline.de)

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Mroszynski is especially thrilled with the handling of assemblies: "Solid Edge is faster and more flexible than our prior system, although the hardware is the same." FRÖMAG's machines, each containing 1,000 to 2,000 components, can be viewed and edited conveniently in their entirety. Additionally, the Solid Edge Viewer enables every employee of the company to easily access drawings. As a result, discussions between the design department and other departments provide for a more informed decision-making process and better products.

Mroszynski summarizes, "All in all, Solid Edge offers us a complete CAD capability, along with revolutionary synchronous technology. And Siemens PLM Software offers us assurance regarding the platform stability that we need."

## Reliable, knowledgeable partner

FRÖMAG views the professional service provided by WorksLine GmbH (WorksLine) as an additional advantage in effectively utilizing its CAD solution. WorksLine ensured a smooth migration from FRÖMAG's prior system to Solid Edge and, importantly, executed the move according to schedule. "WorksLine acts on behalf of mechanical engineering companies as a strong technology partner, offering everything from training to company-specific adaptations and updates," says Mroszynski. "As a mid-size company, we used to be just an unimportant, small fish for large vendors. WorksLine, conversely, is always accessible to us, and always responds immediately and expertly."

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[www.siemens.com/plm](http://www.siemens.com/plm)

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