

Industrial machinery and heavy equipment

Schlatter

Welding and weaving machine manufacturer uses Teamcenter to accelerate product changes by more than 25 percent

Products

NX, Teamcenter

Business challenges

Distributed development locations

Elevated quality requirements

Discontinued support for pre-existing software tool

System discontinuity due to manual processes

Keys to success

Design and simulate machines and modules using NX

Use Teamcenter for data and process management

Provide ERP integration

Move from proprietary issue system to Teamcenter

Results

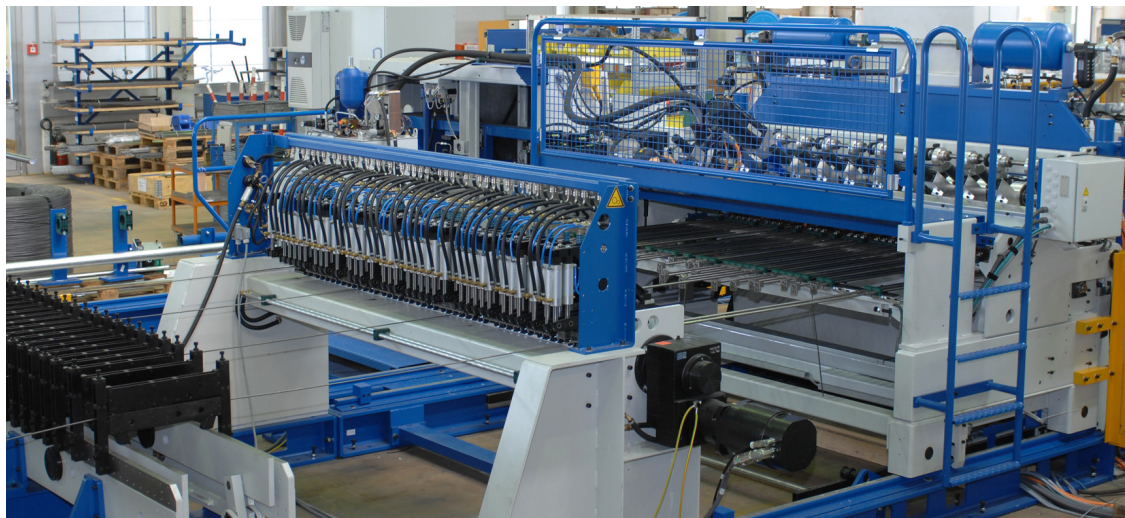
Accelerated cycle time for implementing changes by more than 25 percent

Unified quality assurance process

Improved transparency

Enhanced product quality

Reduced quality costs



Schlatter Industries is a leading global manufacturer of complex equipment for the manufacturing of wire mesh. Like all Schlatter products, this reinforcement lattice welding machine was designed using NX.

Siemens PLM Software solutions enable Schlatter Industries to efficiently integrate issue and change management with quality assurance and design processes

Modular welding and weaving

Wire mesh is the most widely used material for fences and cages. It also plays a vital, load-bearing role in oven and barbecue grills, refrigerator shelves and racks, shopping carts and dishwasher baskets. Further, it is used in reinforced mesh to lend stability to concrete.

Established in 1916, Schlatter Industries AG (Schlatter), based in Schlieren near Zürich, Switzerland, is one of the world's leading manufacturers of equipment used in the production of wire mesh and girders by resistance welding. This technology joins metal parts in a bonded joint by using electric power to heat them to welding temperature, while at the same time subjecting them to a mechanical force. It allows a large number of welds to be performed quickly, accurately, cleanly, economically and with reproducible quality. It is also applied in machinery for seamless rail welding. The company also develops and produces weaving and finishing

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Oliver Martitsch-Kreiner
PDM/CAD System Manager
Schlatter Industries AG



Schlatter also makes stationary and mobile rail welding systems.

systems for the paper machine industry under the Jäger brand. As the only world-wide supplier, Schlatter also designs machinery for the processes upstream from weaving as well as for the final treatment of fabrics.

Previously, Schlatter machines were predominantly custom solutions, but the Swiss specialists have made the transition from individual plant manufacturer to solution provider for resistance welding and weaving systems. Schlatter designs and builds innovative, flexible production equipment. Due to its modular design with a wide variety of core machines and add-on modules, it facilitates the design of customized yet economic solutions for the requirements of various customers.

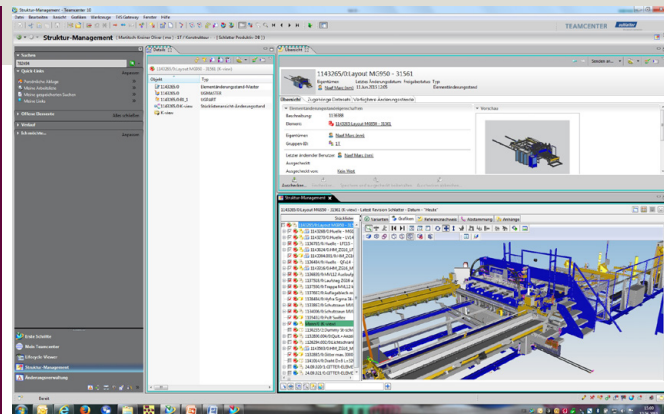
A key factor in this process is mastering complex drive technology. In the wire mesh welding machines, which have numerous welding heads that work in-parallel with cycle numbers as high as 200 span wires per minute, wire feed and electrode movement must be coordinated. Likewise, uncoiling wires with different diameters from reels weighing several tons, as well as the final cutting and stacking of the finished mesh, needs to be performed with the precision of a Swiss watch.

Design, simulation and manufacturing using NX

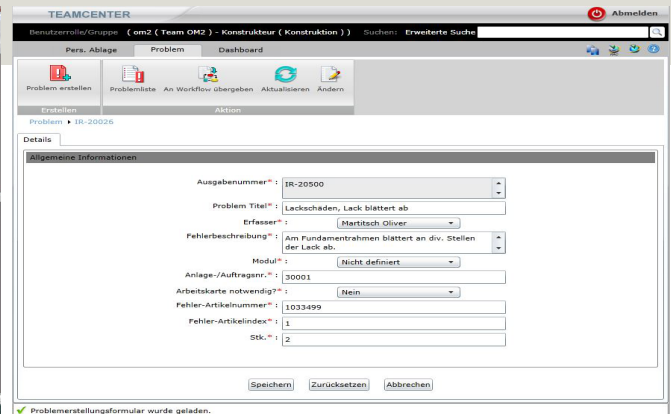
Schlatter's product development engineers design this equipment exclusively using NX™ software for computer-aided design (CAD) from product lifecycle management

“Teamcenter quickly established itself as the universal management tool for all technical information.”

Oliver Martitsch-Kreiner
PDM/CAD System Manager
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Schlatter product development engineers process the change requests within the familiar Teamcenter environment.



Reporting issues in Teamcenter CAPA is easy for all eligible users, including those with limited computer or language skills.

(PLM) specialist Siemens PLM Software. “During a comprehensive evaluation in 2001, we compared all the popular systems,” says Oliver Martitsch-Kreiner, the product data management (PDM)/CAD system manager at Schlatter. “NX turned out to be the most future-proof system with the greatest host of capabilities.”

At its Schlieren and Münster, Germany locations, Schlatter is using NX with additional modules, including NX Weld Assistant for weld seam design, NX Sheet Metal Design to support the design of sheet metal parts, and NX Schematics for pneumatic and hydraulic documentation. NX is also used for computer-aided engineering (CAE), mainly to verify structural shapes. At its production facility in Münster, Schlatter also uses NX CAM, the seamlessly integrated software from Siemens PLM Software, for computer-aided manufacturing (CAM).

Knowledge management with Teamcenter

Schlatter development engineers have also been using Teamcenter® software from Siemens PLM Software since 2001. A total of 135 authors use the PLM software for the storing, administering and versioning of all product-related data and internal approval procedures.

“Even though our focus was decidedly on the introduction of state-of-the-art NX CAD, Teamcenter quickly established itself as the universal management tool for all technical information,” says Martitsch-Kreiner.

Part of the Teamcenter installation is a bidirectional interface (Tesis) with the company’s enterprise resource planning (ERP) software, which is used for exchanging master data and bills of materials (BOMs) between engineering and materials management.

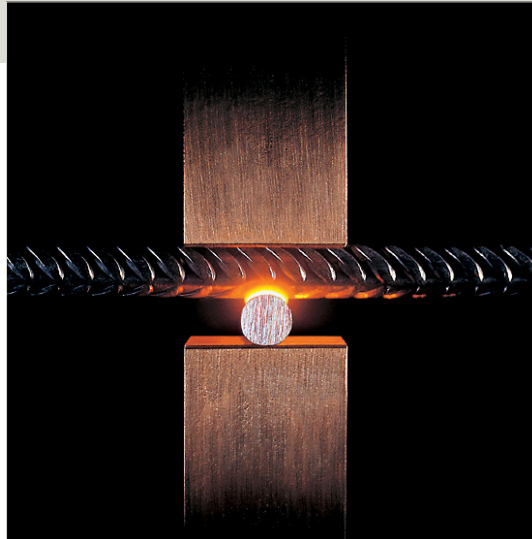
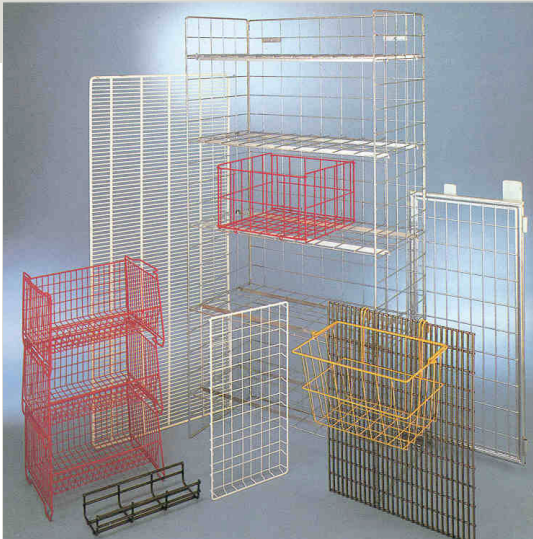
“By using this interface, Schlatter staff from all domains can efficiently collaborate without leaving their everyday work environment,” says Martitsch-Kreiner. “As our innovative capacity is one of the main pillars of the company’s success, Teamcenter is the leading system for item and assembly information in this combination.”

Integrated changes and issues

In spite of the continuously increasing functionality in Teamcenter, until recently an isolated application was used for change management and issue handling to support Schlatter’s corrective and preventive actions (CAPA) process. In-house software developers had programmed the tool prior to the introduction of Teamcenter based on an off-the-shelf database engine. The tool was fully custom-tailored to Schlatter’s requirements, integrated with the company’s information technology (IT) environment and had an intuitive user interface (UI).

“The three most significant benefits of issue and change processing using Teamcenter are the link to item data, the immediate availability of all accompanying documents and the seamless integration of change management with the defined workflows without extra work for those involved.”

Oliver Martitsch-Kreiner
PDM/CAD System Manager
Schlatter Industries AG



Resistance welding is the core technology of Schlatter equipment. It joins metal parts in a bonded joint by using electric power to heat them to welding temperature, while at the same time subjecting them to a mechanical force.

On the other hand, each user required an individual license for the database software, and the custom-programmed software offered no workflow support for approved processes. Additionally, it was not possible for the isolated application to link the entered issues with product data in Teamcenter. Also, the aging software had become slow and error-prone, and its creators had left the company so it was difficult to maintain.

As early as 2008, an attempt was made to convert improvement procedures to Teamcenter change management. Schlatter had made plans for an extremely far-reaching migration of all data, which would have required massive customizing. This resulted in a prolonged preparation phase, during which restructuring of the company started. Those in charge of IT in Schlatter intended to wait until this was completed, so the project went back on the shelf for quite some time.

Following completion of the restructuring process, the homemade software tool would have required substantial modifications, especially because quality assurance, manual interfaces and processes would have caused an unnecessarily high workload. This prompted the decision to integrate the continuous improvement process with the Teamcenter environment already in use across the company.

“Considerations for integrating issues and changes as part of the ERP system were quickly dropped,” says Martitsch-Kreiner. “We would have had to equip all employees in the technical departments with ERP licenses. By contrast, they already had Teamcenter on their desks, and were using it permanently due to the support it provides them in their day-to-day work.”

Consistent, lean application

Implementing the CAPA tool, the Schlatter project team pursued a reductionist

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Solutions/Services

NX

www.siemens.com/nx

Teamcenter

www.siemens.com/teamcenter

Customer's primary business

The Schlatter group is a world-leading manufacturer of resistance welding equipment for the production of industrial wire mesh and reinforcement lattice, of mobile and stationary rail welding systems and of weaving machines for special applications.

www.schlattergroup.com

Customer location

Schlieren

Switzerland

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approach. To encourage its use by all eligible users, including those with limited computer or language skills, the team created a simple, austere web user interface.

A brief definition phase was followed by the changeover of the improvement process to Teamcenter change management and the issue recording portal, Teamcenter CAPA. As a result, all Schlatter employees involved in production and commissioning can simply record issue reports without entering large quantities of data by hand.

Augmented with all required information, these reports are delivered to quality assurance. The quality assurance staff rates each issue according to three categories. "No problem" results in a notification of the author. "External cause" leads to a supplier complaint with return material slip or credit request. Issues rated as "internal" (technical) problems generate change requests that are automatically enriched with all required information and relayed back to product development. That triggers design work that perfects or corrects the parts or assemblies in question.

Enhanced innovative capacity

"The three most significant benefits of issue and change processing using Teamcenter are the link to item data, the immediate availability of all accompanying documents and the seamless integration of change management with the defined workflows without extra work for those involved," says Martitsch-Kreiner. "Furthermore, the results are automatically transferred to the ERP system and all affected can transparently monitor and retrace all issue and change processes at all times."

It is now a matter of course that, when using Teamcenter, all responsibilities are electronically recorded in a read-only document and all signatures are created at the end of the process.

The utility of the system proves that transitioning Schlatter issue and change management to a fully paperless process using Teamcenter change management and Teamcenter CAPA was the right move, providing employees with a real reduction in their workload. In the first six months alone, approximately 300 issues were reported. That led to 46 internal change requests, of which 30 have been completed.

"The reduction of bureaucratic activities by 10 to 15 minutes or 25 percent per issue alone, and the fact that the report gets forwarded to the next person in line without delay and with all documentation required, substantially reduces cycle time," Martitsch-Kreiner confirms. "Additionally, we can generate management-compatible charts with just a few clicks. This strengthens our ability to respond and our innovation capacity, which in turn enhances our competitiveness."

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