

Consumer products and retail

Waldis

Safe manufacturer uses Solid Edge to create a new generation of products

Product

Solid Edge

Business challenges

Develop a new generation of products

Use easy sheet metal construction

Enable data exchange with suppliers

Keys to success

Fast start to new streamlined certification process using 3D

Synchronous technology

Improved sheet metal performance

Results

Developed modular product line, substantially improving use of intellectual capital

Introduced digital best practices that enabled rapid changes to models

Realized safety certification through VdS, obtaining certification under European standard EN 1143-1

Accelerated time-to-market

Delivered significantly improved product quality and technological performance



Siemens PLM Software solution enables Waldis to achieve significantly enhanced product development process

Maximum protection

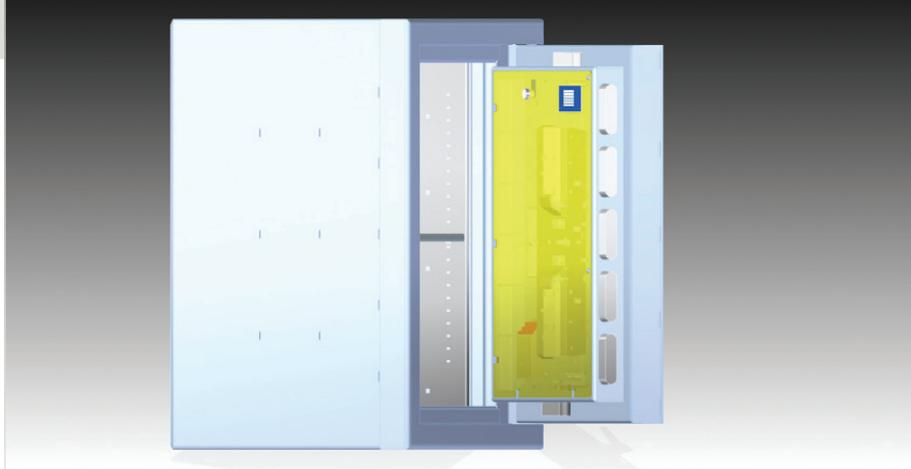
The number of break-ins is rising in Switzerland, and in the process about 90 percent of the safes are either cracked or removed.

"This doesn't succeed in the case of Waldis safes," says Rainer Schmid, who is co-owner and assistant general manager of Waldis, and is principally in charge of technology. "The models developed and manufactured in Switzerland have the highest degree of resistance to break-in in their class."

To prevent safes from being cracked or removed, Waldis, which was established in 1983, is banking on 4-fold to 8-fold safe anchoring, practically gap-free closing doors with internal hinges, high-quality multiple plating and high-security electronic locks. Waldis is so confident of this technology that it provides customers with a 20-year warranty against break-ins.

A new beginning

It wasn't always that way. When Schmid and his partner Urs Menzi took over the company in 2006 from founder Hans Waldis, they soon had to look for a new certification authority for the safes. "As providers of quality solutions, we decided on the strictest inspecting authority for secure storage units at the German VdS in



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Cologne in order to obtain certification under European standard EN 1143-1,” says Schmid. “Testing showed some opportunities for improvement.”

However, instead of settling for fine-tuning, the partners decided to develop a completely new product generation. In their search for a suitable tool, Schmid first contemplated 2D systems, but settled on 3D technology, which he became acquainted with while reviewing different products. When he got the opportunity to try out the 2D/3D computer-aided design (CAD) functionality in Solid Edge® software from product lifecycle management (PLM) specialist Siemens PLM Software, the decision was made.

“Solid Edge had the simple user guidance and the broad range of functions that I was looking for,” recalls Schmid. He was even able to start redevelopment without attending the introductory training program.

Thanks to the 3D display on the screen, it was easy for Schmid to include partner Urs Menzi in the development. Menzi was easily able to contribute alternative solutions and new ideas. “With Solid Edge, we are easily finding successful product ideas together, which we are able to implement efficiently,” says Menzi.

“Only one part from the earlier series, a locating set screw, is re-used in the new products,” says Schmid.

Synchronous technology

The new product line, available since 2009, provides standardized degrees of resistance from two to five, and a height of 550 to 1,500 millimeters. This resulted in more than 20 variants. The 3D system allows for the development of a modular system with the greatest possible number of identical parts, which facilitates more efficient production. Individual parts are developed, produced as samples and tested in the different assemblies.

"The simple collision detections show immediately which changes still have to be incorporated so that components can be used in as many variants as possible," says Schmid.

Depending on the number of locks and mechanisms, the assemblies comprise between 80 and 200 components and require about 300 megabytes (MB) of memory; on Hewlett Packard HP Z620 workstations, they can be processed swiftly and without waiting times.

Schmid sees a great advantage in using synchronous technology, which has been a part of Solid Edge for some time. Among other things, it offers a "steering wheel" in the user guide with which geometric regions can be grabbed and modified by dragging. In the end position, the entire model adapts to the newly selected shapes and sizes, so designing variants becomes easy.

"Through synchronous technology, the system has improved significantly," says Schmid. "I am really excited about how easy it is to operate. Synchronous technology means a quantum leap in the user-friendliness of 3D CAD systems."

High-performance sheet metal construction

From the very beginning, the well-engineered module for sheet metal construction has been successful for defining sheet metal for 65-millimeter plating and the composite NOVICTON for the walls and doors of the safes. Once this custom material was defined using the Solid Edge material table, downstream computation of bending properties and material consumption is automated, and accurate drawings are produced.

"The sheet metal module works easily and reliably and was absolutely necessary for us," says Schmid. However, the data is sent as STEP files to the supplier, who has to determine significant processing parameters on his own. Weld spots are manually



defined – separate welding drawings with the corresponding symbols that are likewise easily created with Solid Edge – are not required. Turned and milled parts are programmed by the supplier according to the drawing, which enables them to receive finished files in PDF format.

For example, data import of purchase parts, such as after downloads from supplier websites, works without any problems; so they can be temporarily stored in a standard format if the user wants to process them further. With the help of synchronous technology tools, they can be processed further without problems. This also works with safe components, which one of Waldis suppliers creates using SolidWorks® software (which is based on the same geometry kernel of Parasolid® software that was used to develop Solid Edge).

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Solutions/Services

Solid Edge

www.siemens.com/solidedge

Customer's primary business

Waldis is a Swiss company that develops, produces and assembles burglar-proof safes.

Waldis' safes are certified by the Association of German Property Insurers, which is considered to be tantamount to a European seal of quality.

www.tresore.ch

Customer location

Rümlang
Switzerland

Partner

Systemhaus BCT Technology AG

Fast start with new technology

When the new version of Solid Edge with synchronous technology became available, Schmid did not wait for the DVD to be shipped from the United States. The software download from the Internet gave him real-time access to the current improvements: "The introduction of synchronous technology was a gigantic step," says Schmid.

The order for an additional license for a

new designer was processed rapidly. Siemens PLM Software partner Systemhaus BCT Technology AG first delivered an activation code by email, followed by the obligatory dongle. However, the new employees for Waldis probably won't need to take advantage of the training programs because Solid Edge is so easy to learn.

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Urs Menzi
Co-owner
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