

## Case Study

Fast, faster, digital

# Conversion server for the Röchling Group



In this user report you can read ...

- + ... how Röchling managed to produce higher quality STEP files from the existing CAD systems, by using a high-performance conversion solution
- + ... how costs for maintenance and administration were significantly reduced at Röchling
- + ... how Röchling produces interactive 3D-PDFs



## The wheel is turning faster ...

The increasing speed in development processes is an essential feature of the digital age. Automotive suppliers are required to create and use faster and faster new smart systems, products and materials as well as smoothly functioning automated processes. Röchling Automotive optimizes consistently and continuously all elements along the value chain - from the idea development via the product up to its end of life as replacement part. In the process, the company counts noticeably on digital techniques. "Röchling itself is not a start-up company, however, we test our products and processes just as carefully and scrutinize them just as thoroughly as a start-up company would do", says Vincent Mauroit, General Manager Innovation & Business Development at Röchling Automotive. The colleagues at the supplier are not short of innovative ideas. As the best idea is of no use if nobody knows about it, if it is not taken up or ultimately badly implemented, provides Röchling all employees around the world the opportunity to share their ideas with colleagues by means of modern digital tools. If in the past there were construction drawings, nowadays

interactive PDFs are sent. With a single click on the individual part of an assembly, all parts information which are on file in a central database system are immediately displayed. And it is the same in the reverse: By clicking on a bill of materials, the associated component is identified in color in the design presentation. This is how constructors move more closely together at an early stage: They are also able to exchange views on a “minimum viable product” (MVP), hence a minimally functioning product, and together develop further solutions. Thanks to the digital tool, the colleagues have secure access to all important data at any time and any place.



## The project: New conversion servers worldwide

At the beginning of the project, Röchling Automotive had to create higher quality STEP files from the existing CAD systems CATIA, NX and Creo, as they could be prepared with other converters in the past. With the use of only one high performance conversion solution, the costs of maintenance and administration was also to be reduced. To satisfy both requirements, the converter by SEAL Systems was chosen. Within the scope of the project, the sites in Leifers (Italy), Worms (Germany), Troy (USA) and Kunshan (People's Republic of China) were gradually be supplied with a total of nine conversion servers. Other sites without conversion servers locally can use these remote.

For the generation of interactive 3D PDFs, the generator server of PROSTEP was integrated. For this purpose, the local conversion servers were gradually purchased together with

the necessary local CAD license. After the configuration, the new conversion process for STEP files was rolled out. It was also decided not to carry out reconversions of old data, but to arrange the changeover to the new process from a specific date.

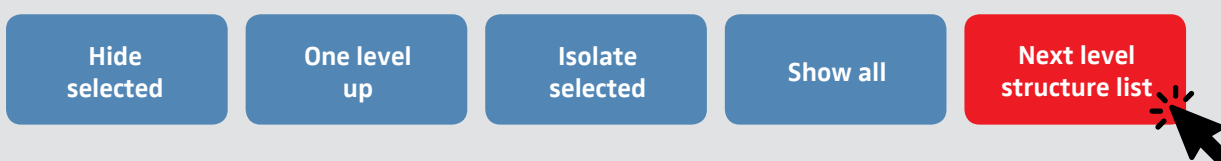
The object of the project was not only to create higher quality STEP files. Simultaneously, an old solution, which generates a simple product data sheet in PDF, was supposed to be replaced with modern 3D technology. During the design of the product data sheet, several adaptation cycles were required. After the definition and determination of the specification as to what was supposed to be presented and how, various test rounds were carried out with subsequent validation and adjustments. At the end, a completely new, up-to-date layout for the 3D PDF product data sheet emerged. Before the 3D PDF went live, the parallel document type for the neutral files for succeeding departments had to be closed and the native and neutral data had to be made available in the original data sets. On this occasion it was decided to transfer all documents accessible to succeeding departments into the product data sheet. Extensive reconversions in terms of volume were therefore required, which were parallel accompanied by a reconversion of authorizations in the SAP system. Last but not least, all users were comprehensively informed and trained on the process change.



## Convenient, user-friendly, safe

With the 3D PDF product data sheet, the course for a more efficient, higher quality and faster work has therefore been set. The essential feature of the new solution is the display of information on product manufacture (PMI) and bill of material information on all visualized assemblies in PDF. If you for example click on a line of the bill of material, the corresponding component is marked in color in the 3D presentation. Vice versa, with a click on the component in the 3D, the corresponding line in the bill of material is marked. For the respective selected part, the DIS and classification data are also displayed in a table.

**Fast navigation is enabled via conveniently operated tabs.**



With one click on the tab marked red here, a list of spare parts can be generated in classic view. The data required for the display are embedded in the 3D PDF. All functions are therefore available offline, a connection to the product lifecycle system is not required.

Neutral data and native data are captured in own document types in the product lifecycle system used by Röchling Automotive. This facilitates a neat rights management and supports a secure approval process. By means of another tool for transparent stamps developed by SEAL Systems, during the display, saving or printing, there is a display to show if the document has already been approved or whether it is still in progress.

With the supplied conversion dashboard and another specific solution for the follow-up treatment of old data, ideal conditions for user-friendly monitoring, process management and other administrative tasks have arisen.

The process is running error-free and is easy to operate. Due to the uniformity of the technical solution, the comprehensiveness of the information as well as its high speed and security, digitalization in Engineering is actively driven. With the conversion solution by SEAL Systems, the quality of the STEP data has been raised to a new level and the development and creative process at Röchling have been dramatically improved.

## Röchling Automotive

**With sales of 1.7 Billion Euro and more than 9,000 employees at 86 sites in 23 countries, the worldwide operating Röchling Group stands for competence in plastics. From semi-finished products to the complex system, the corporate group is using the unique innovation potential of this material.**

**The automotive business sector stands for components and systems solutions in the areas of aerodynamics, drive and new mobility. In the development close to the client and presented globally, our focus is on the current challenges for the automotive industry: Reduction of emissions, weight and fuel consumption.**

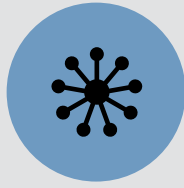


## Data and facts on the project



4

Development centers in Worms, Leifers (Italy), Kunshan (China) und Troy (USA)



1

Central ERP system in the computer center Worms (Germany)



12

SAP content servers + cache servers globally distributed on the production sites



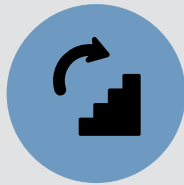
8

Viewservers for stamps (transparent stamps in PDF files)



3

CAD systems in use (CATIA V5 R19 – R26, NX 9+11, Creo 2)



9

Conversion servers for STEP files



4

Conversion servers for 3D PDF



213

CAD developers (globally distributed)

~ 21,000

3D-PDF originals reconverted

~ 86,000

CAD documents affected (part or assembly)

~ 800

STEP reconversions NX11, because VEG8 (Visual Enterprise Generator) did not support NX11

~ 23,000

Thumbnails reconverted

1

CAD document for all (native file, 3D PDF, STEP and thumbnail)

## Customer feedback



*The project with SEAL Systems has resulted in great progress for us in data quality, reliability and stability of the conversion process.*

*Andreas Lupfer, Team Leader PLM / SAP Application Support*



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