



HS Electronic Systems

Documenting Approval Processes: Automation for Siemens Teamcenter

As a supplier for the aerospace industry the documentation of all processes is an essential requirement for HS Electronic Systems.

To meet these requirements the engineering department uses the Siemens PLM Software Teamcenter from. Together with SEAL Systems, important functionality for safe and efficient check and approval procedures have been implemented successfully.

History and Requirements

With Teamcenter all development processes at HS Electronic Systems are documented comprehensively and are completely traceable.

A core process is the Teamcenter-based execution of evaluation and approval procedures in which the responsible users release the construction drawings. Teamcenter provides standard workflows which allow for multiple approval steps and auditors.



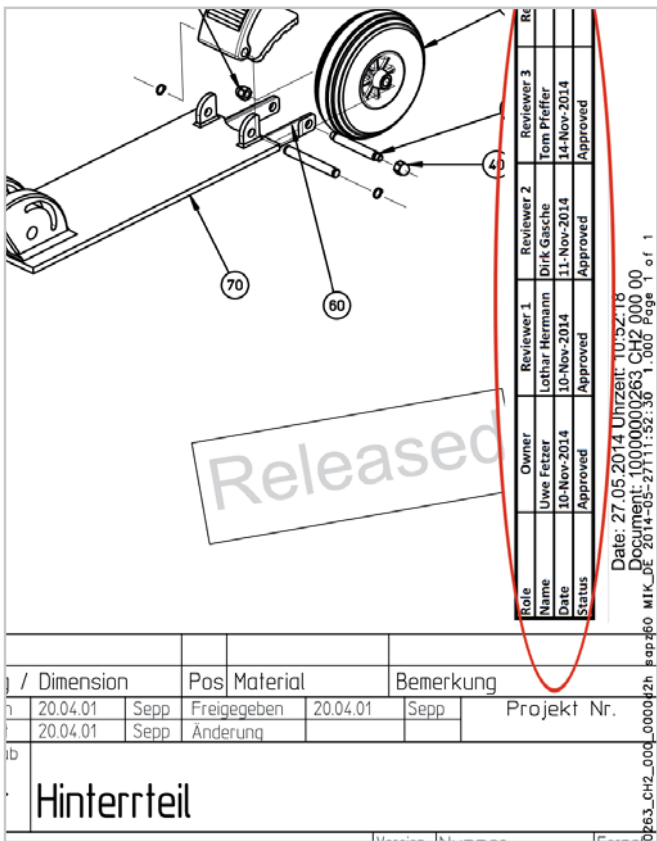
UTC Aerospace Systems

According to the high requirements of aerospace industry this release information has to be made visible in all released documents. The data has to be verifiable and unchangeable. To achieve this, a PDF document is created which includes all relevant approval information as a stamped spreadsheet.

With the standard methods of Teamcenter the generation of these PDF files is not possible. In addition there were the following specific requests:

Approval processes can be complex and involve up to nine auditors. Furthermore Teamcenter not only works with the entity „user“ („who has authorized?“) in the approval workflow but also involves roles („in which function the approval has been given?“).

A user can also have several roles, which had to be visible in the clearance stamp.



Standard stamp („Released“) and dynamic spreadsheet stamp in PDF document

The Solution: DOC4TC from SEAL Systems

Document Output Center (DOC4TC) from SEAL Systems was identified as an ideal solution for these requirements.

DOC4TC collects documents, attributes and release information automatically in Teamcenter and then converts them into necessary file format including stamping or watermarking.

Extensive workflow handlers are a standard part of DOC4TC. With these the extraction of the original document and the release data and their transfer to the integrated conversion engine was easily defined and implemented.

The multitude of dynamic parameters (name, rule, release date and status - each for up to nine users) required the implementation of a two-step procedure:

- First a the template for the required release stamp is being defined using Microsoft Excel. It is then stored on the SEAL Systems server. The template is filled automatically with the release information from Teamcenter by a SEAL

Systems workflow and then saved temporarily as a PDF file.

- After completion of this step the temporary PDF image is added as a stamp through a PDF-merging function of the SEAL Systems workflow.

Size, orientation and position of the release stamp can be configured flexibly.

The solution has first been installed and used productively at HS Electronic Systems for Teamcenter version 8.3.

In the meantime an update for the Teamcenter version 10.1 has been rolled out. This was followed by the corresponding migration of the DOC4TC software, which is covered by the standard maintenance agreement of SEAL Systems. The new system version is now also running productively.

Wrap-Up: The Advantages

The security and possibility for validation of the release procedures can now be guaranteed consistently. All release information is automatically extracted from Teamcenter data and is permanently embedded in each drawing or document.

The complete process can now be carried out without printing any documents. This saves time and money.

DOC4TC as a standard product ensures high investment security through it`s broad functional range, robust operation and compatibility with new Teamcenter versions and regular updates.

Norbert Simper, Managing Director IT at HS Electronic Systems:

„With the SEAL Systems stamping tools we could achieve a completely paperless release procedure for our documents and drawings. The document status clearly and traceably defined at any time.“

Do you have questions?

SEAL Systems
Dr. Uwe Fetzer
uwe.fetzer@sealsystems.de
+49-9195-926-230

About HS Electronic Systems GmbH

Since the mid-80s HS Electronic Systems develops and produces intelligent power modules, solid state power modules, solid state power controllers and solid state relays – power supplies and power distribution modules.

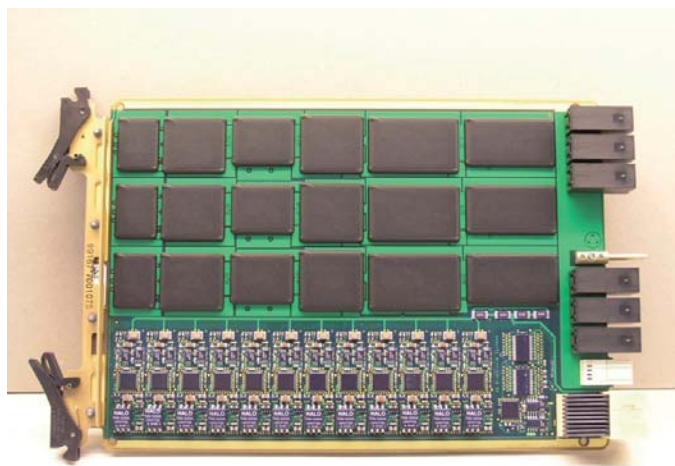
The know-how ranges from high power electronics for the aerospace industry and software for quality testing up to the serial production the products.



Headquarter of HS Electronic Systems GmbH in Nördlingen, Germany

The power modules are mainly used in power generation systems and the primary and secondary energy distribution. They are also widely used in actuators and engine control.

HS Electronic Systems is a division of UTC Aerospace Systems, a subsidiary of United Technologies Corporation, both located in the U.S.A.



About SEAL Systems and DOC4TC

SEAL Systems with headquarters in Roettenbach near Erlangen in Germany, is an internationally leading supplier of solutions for information and document distribution. In Germany SEAL Systems has two offices. Subcompanies are serving the north american and the french market. Further regions in Europe and Asia are being served through partners. The SEAL Systems group has more than 100 employees worldwide and maintains over 1,300 active customer installations. Among these, currently there are 900 installations with focus on PLM Output Management and process-oriented document distribution.

For more than 30 years SEAL Systems offers professional Output Management solutions for enterprises of all branches.

As a Siemens partner, SEAL Systems offers the software solution Document Output Center for Teamcenter (DOC4TC). DOC4TC provides tools and procedures for searching and collecting documents from objects or structures in Teamcenter. These documents can be converted to all required file formats. Stamps, watermarks and meta data can be processed and then printed, plotted or distributed electronically.

DOC4TC - Highlights

- Full integration in Siemens Teamcenter
- Automatic adjustable collection procedures for documents from Teamcenter structures
- Extensive workflow support
- Multi-use templates for easy control and adjustment of complex processing steps
- Conversion of various file formats
- Stamping of Teamcenter metadata
- Distribution and print/plot of documents
- Interactive or batch/workflow control
- Linking of newly created documents to the corresponding Teamcenter objects
- Automatic creation of technical documentation including generation of contents, page numbering and bookmarks according to Teamcenter structures