ERP and content management system combined – gds automates technical documentation at VHV Anlagenbau

For many years now, VHV has been generating the technical documentation for its machines and systems using docuglobe. Previously, the process of generating documentation ran largely independently of the process of product development. The generation of the instructions was not integrated into the product development process. The information was transferred from the machine-specific parts lists and into the technical documentation manually. All that has now changed: Thanks to the seamless combination of the docuglobe content management system with the ABAS ERP system, VHV Anlagenbau has since automated the Technical Documentation department. The result: Precise documentation which is generated more quickly, tailor-made and customized exactly to the need of VHV customer and the company's systems.

VHV Anlagenbau GmbH specializes in the development, engineering and production of innovative conveying technology, and is regarded as a market leader in the field of belt conveying technology. The systems of the company with its headquarters in Hörstel in North Rhine-Westphalia are used primarily for the conveying of bulk goods, such as in the pit an quarry industry and ceramics industry.

The success of the belt conveying systems in this context is based on flexible applications for customers, with VHV supplying tailor-made customized solutions.

"Our systems can be configured individually to suit the customer's requirements. We have based our products on a modular system, which is why we work with configuration systems in some fields in order to generate quotations and CAD models automatically," says Kathrin Reeker, an engineer at VHV Anlagenbau. "A practical method which we also wanted to apply to the generation of our technical documentation with docuglobe."

Highly time-consuming processes for technical documentation

Previously, technical documentation at VHV Anlagenbau had not been integrated into the development process for products and had to be generated separately. Technical editors only received information selectively and had to transfer and compile data manually - an extremely time-consuming process.

In addition, changes made during the development of systems were not necessarily communicated to the technical documentation department.

"In the past, we generated a standardized set of operating instructions for each product in docuglobe. It was always the same, regardless of the specific accessory parts and variants which the customer received," Reeker explains. “This led to an increased number of customer inquiries regarding optional accessories, maintenance information and assembly instructions.” In order to create specific customer and order operating instructions, the order and parts list were checked in detail to determine which accessories the customer had received, thus facilitating manual adaptation of the standardized documentation.

This type of manual adaptation was extremely time-consuming for the medium-sized enterprise and also required close cooperation with the engineering department to ensure that the documentation was always up-to-date. "We were certain: it must be possible to do it all more quickly somehow. After all, we already have all the data on our ERP system", says Reeker. With this issue, VHV turned to gds, the manufacturer of its content management system docuglobe.

Preventing redundant data generation

"VHV's desire was to use the data that was already available on the ERP system for a machine or system to generate the corresponding documentation, to avoid capturing this data once more in the content management system, and to update it manually in case of changes", reports Christian Paul, docuglobe Product Manager at gds GmbH. Understandably, as this type of central data management can save a lot of time, prevent errors and increase efficiency during the documentation generation process.

In order to implement this requirement of VHV's, the parts list of a system and the corresponding documentation had to be linked to each other through information and characteristics which are included in the parts list. The challenge in the process was finding coupling information which can be adapted to suit the challenge.

The parts list is an important element in production, but it is structured differently to the documentation. Whereas the parts list lists every single part, much of the information is irrelevant for documentation. The question was, therefore, how to filter relevant information from the parts list. In addition, all changes and technical data were to be saved centrally to keep the technical editors optimally informed at all times.

Linking the ABAS ERP system and the docuglobe content management system

"Together with gds, we thought a lot about the solution to this problem in advance. Which components are already in the standard operating instructions on the ERP system, and what can be found in the parts list? And how can be bring that all together?" relates Reeker. "As regards ERP, we had already built a system for working with standardized diagrams to identifying spare parts.

Main sales items are allocated to groups for this purpose. The classification characteristic of each group is the "Installation location" (see Fig. 1., example EBO1). Similar assemblies which are relevant to documentation are also grouped according to installation locations (see Fig.1 EBO2-EBO6).

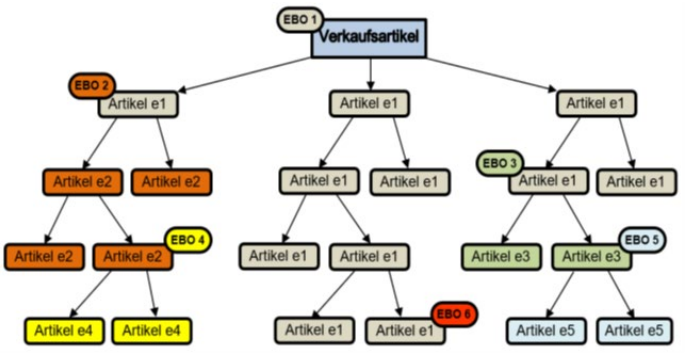

Fig. 1: Installation location structure of a sales item on the ABAS ERP system

All the installation locations of an order form the overall structure relevant to documentation. In the process, all the components included are always clearly allocated to an installation location.

In addition, we quickly noticed that we have to assign metadata to our information modules to be able to guarantee the link between both systems."

In the process, a distinction has to be made between product-neutral and product-specific information modules (i.e. modules which are featured in all operating instructions and modules which only contain machine-specific or system-specific information).

The metadata "Installation location" item from the ERP system was to be used as the link to the content management system.

Implementation on the content management system

Two measures were taken in the docuglobe content management system to achieve automated document generation based on parts list information.

First, a maximum document was compiled for each product type. This master document contains all the relevant modules for all possible order-related variants. It was therefore possible to describe all accessory parts and equipment variants here in detail.

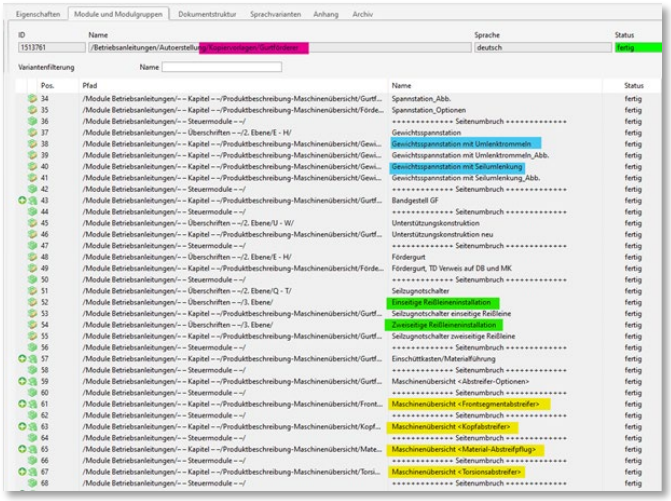

Fig. 2: Maximum document in docuglobe

As a second measure, a new item of metadata was created. In docuglobe, new property fields for metadata can both be added for the documents and assigned at deeper structure levels for individual modules and module groups. In the case of VHV, the new metadata item with the name "Installation location" was defined at module level. This metadata "Installation location" is filled in the maximum document for product-specific modules, but remains empty for general modules. When an order-related document is generated automatically from the maximum document, this results in the general modules always being included in the instructions for this machine type, but the product-specific modules are only included if they are genuinely installed.

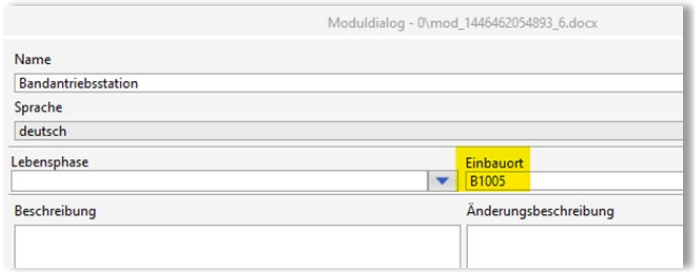

Fig. 3: Metadata item "Installation location" in docuglobe module

Implementation in the ERP system

The ERP system was upgraded to include the option of linking each machine or system to the docuglobe ID of the corresponding master document. This ensures that for orders which are made up of a delivery of multiple machines, the correct order-related documentation can be generated based on the master document which is assigned on the ERP system.

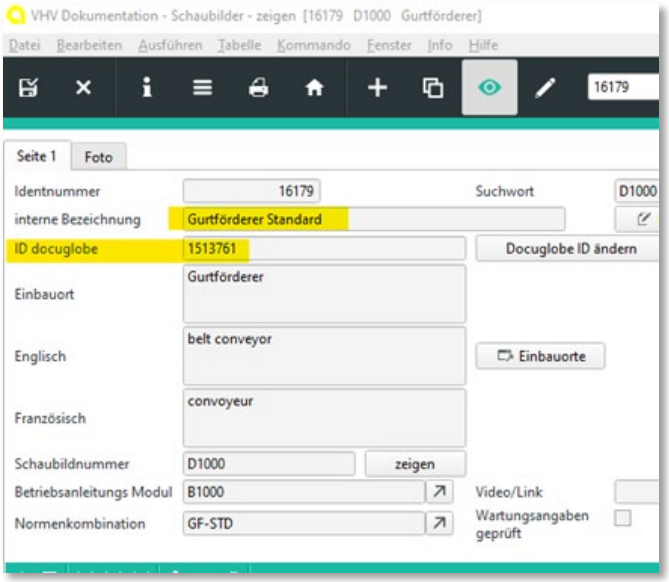

Fig. 4: docuglobe ID in the ERP system

These measures in the systems involved covered the requirements for automated document generation.

An interface file for all purposes

The connection of the two systems was implemented using an interface file.

"We were able to generate an interface file in the standardized JSON format with which to link the two systems," Paul explains. "The file can contain various filter criteria, such as the installation location, material or item numbers and other characteristic values." In addition to the filter criteria, metadata is drawn from the product information saved in the parts list. The product designation, order or project number and serial number can be provided automatically from the ABAS ERP system and used in the order-related documentation.

Using the interface file, it is possible to generate not just one set of documentation but rather any number for different product types and orders in different languages. The type of publication can also be defined individually. This way, VHV Anlagenbau publishes the files as a PDF directly after generating the documentation. It is also possible to identify files which have already been saved and generate new versions.

Customized documentation at the push of a button

Cooperation with gds generated considerable time savings at VHV Anlagenbau. The time required for generation of documentation was reduced from several hours per document to just a few minutes. "Thanks to the intelligent linking of data and systems in the Technical Documentation department, we were also able to achieve a higher level of customer satisfaction," claims Reeker. The generation of customer-specific documentation is now much simpler.

"One click on the ERP system and you have already created an interface file with master ID, machine type, and the metadata for the installation location structure. We can switch conveniently with this file to our docuglobe content management system and, in a matter of seconds, we generate multiple customer-specific documents from the master documents." With this solution, which was generated in cooperation with the gds software development department, VHV Anlagenbau feels ideally prepared for the future.