SUCCESS STORY

NEONEX & Fabasoft Approve

KSB | Transformation to a digital factory

Fabasoft® Approve

"Fabasoft Approve embraces agile development. This is the basis for ensuring that the end result really meets the requirements of the users."

Jana Densborn,
Project Manager NEONEX

PROJECT INSIGHTS

KSB, a world market leader in pump and valve manufacturing, has set the course for its digital transformation and selected the pump plant in Pegnitz as a pilot plant for the smart digital factory. The transformation to a smart factory is being driven forward using individual use cases – as a role model for other KSB plants and for clients around the world. Since 2018, the management consultancy NEONEX has been supporting the KSB Group in the holistic, digital transformation of production, logistics, and business processes.

Ms. Densborn, how did NEONEX proceed in this transformation project with KSB?

At the beginning, KSB was confronted with the task of identifying the greatest potentials in its own production, logistics and business processes and implementing them in a structured manner. So we started with the Smart Factory potential analysis which resulted in about 90 recorded optimization possibilities, from which we developed a roadmap for the transformation kick-off. We supported around 20 use cases along the entire value chain at KSB, from design through to implementation management.

The **use cases "Digital control of supplier documentation", "Digital creation and control of test plans (QCPs)"** and **"Digital control of customer documentation"** were identified in the context of various documentation requirements. The initial challenge consisting in manually handling diverse processes involving a wide range of different internal and external participants as well as low transparency. This was an enormously effort and in some cases resulted in long lead times. The main focus of the redesigned processes was therefore on user-friendliness, partial automation and achieving a high degree of interconnectedness. Fabasoft Approve was finally selected in a structured selection process as the ideal software provider for all three use cases.
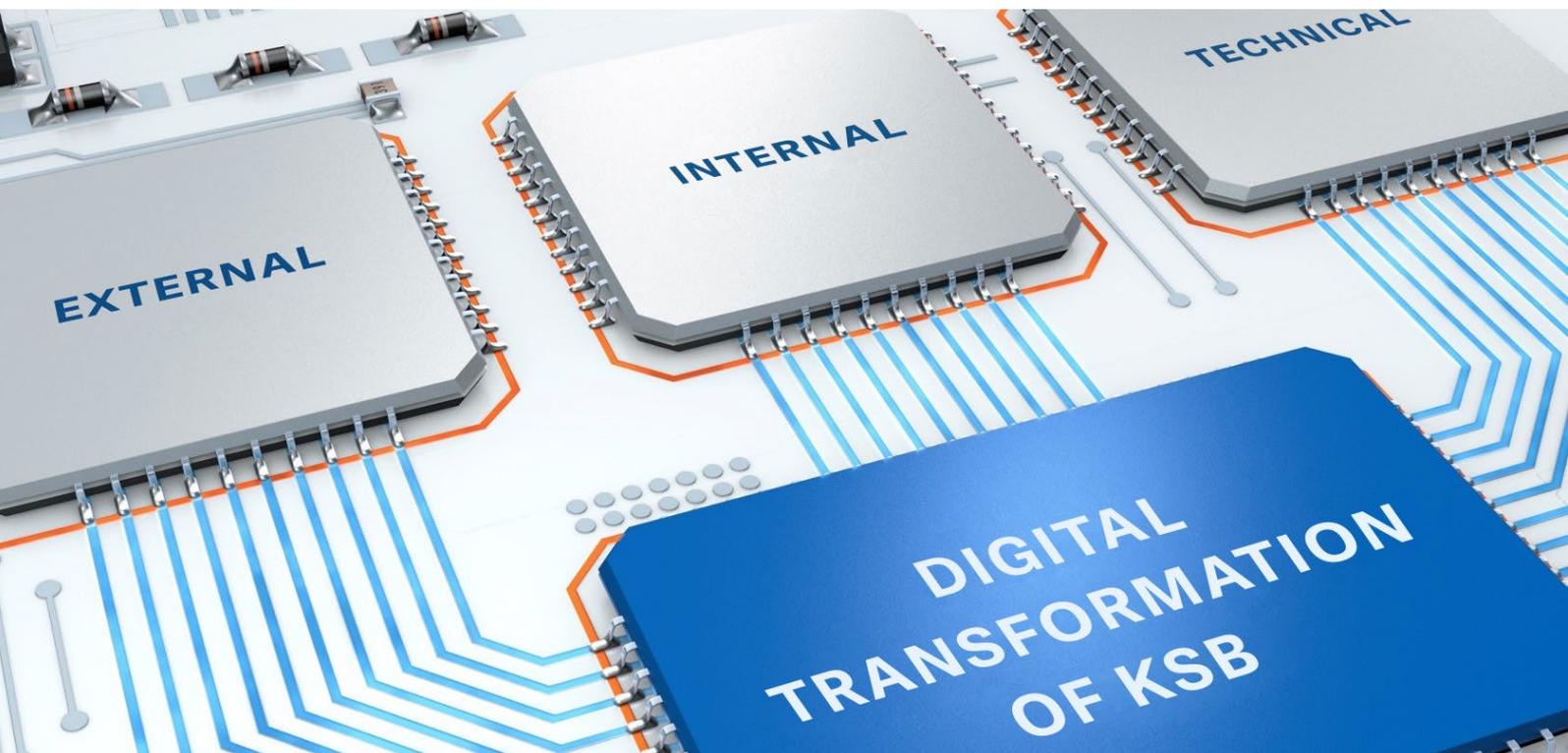
What role do you play in the project?

My personal role in the project is, on the one hand, external process consulting and contributing expertise in designing future processes and data structures with a focus on efficiency, effectiveness and horizontal and vertical interconnectedness along KSB's value chain.

On the other hand, my tasks also include supporting the project management and taking on the role of Scrum Master to ensure success and transparency in the implementation project.

What challenges did you have to overcome?

Firstly, the challenge lay in organizing the project team and involving all stakeholders with regard to cross-plant coordination, as KSB's goal is to roll out the use cases worldwide following successful pilot implementation. This meant that a global, standardized solution was essential, despite the fact that many of the processes had grown historically. One of the key requirements for the three use cases was to integrate SAP as the leading system.

In the use case "Digital creation and control of test plans (QCPs)", for example, the challenge lay in the design of the data model for digitizing test plans and the partially automated creation and control of customer-specific QCPs. And last but not least, there was the requirement to send the client-specific test plan to the supplier directly via the system. The supplier should then be able to return the documents to KSB in a structured manner so that a digital workflow for checking and correcting the documents can be started.

Why did the decision fall on Fabasoft Approve?

Approve presented itself as a very modern and user-friendly software. The cloud-based product offers easy communication with suppliers as well as customers and thus greatly simplifies workflows with correction loops.

The solution is open to interfaces, so that the connection to the leading system SAP is ensured. In addition, Approve, as a standard software, brings a lot of functionality with it and can also be adapted with simple extensions to a client-specific, end-to-end process.

The Fabasoft Approve project team embraces agile development, which is regarded as the basis for ensuring that the end result will really meet the user requirements. Combined with the very high degree of customer orientation, Fabasoft Approve has convinced the entire project team at KSB.
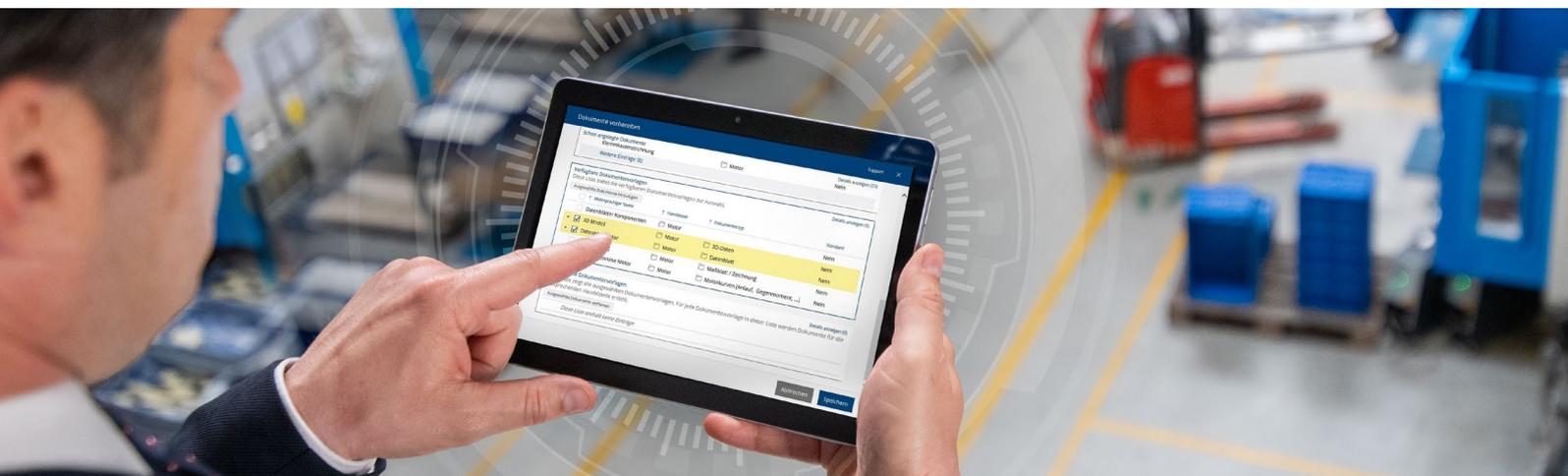
How did you find working with Fabasoft Approve GmbH as a partner?

The collaboration with Fabasoft has been very productive right from the first kick-off meeting of the implementation project. The agile project management introduced different Scrum meetings so that the project status was transparent for all project members and stakeholders at all times. The Fabasoft Approve colleagues are very competent, solution-oriented and pragmatic – always with the goal of implementing the best process for KSB. So, all in all, Fabasoft Approve is a very good partner for a successful and speedy implementation of these complex use cases.

"PAIN POINTS" BECOME "USE CASES"

"If you don't have the necessary expertise in digital transformation yourself, it is advisable to find a strong external partner."

Source: KSB Magazine,
https://www.ksb.com/de-de/magazin/innovation-fortschritt/vorbild-fuer-digitale-transformation-das-ksb-werk-in-pegnitz,
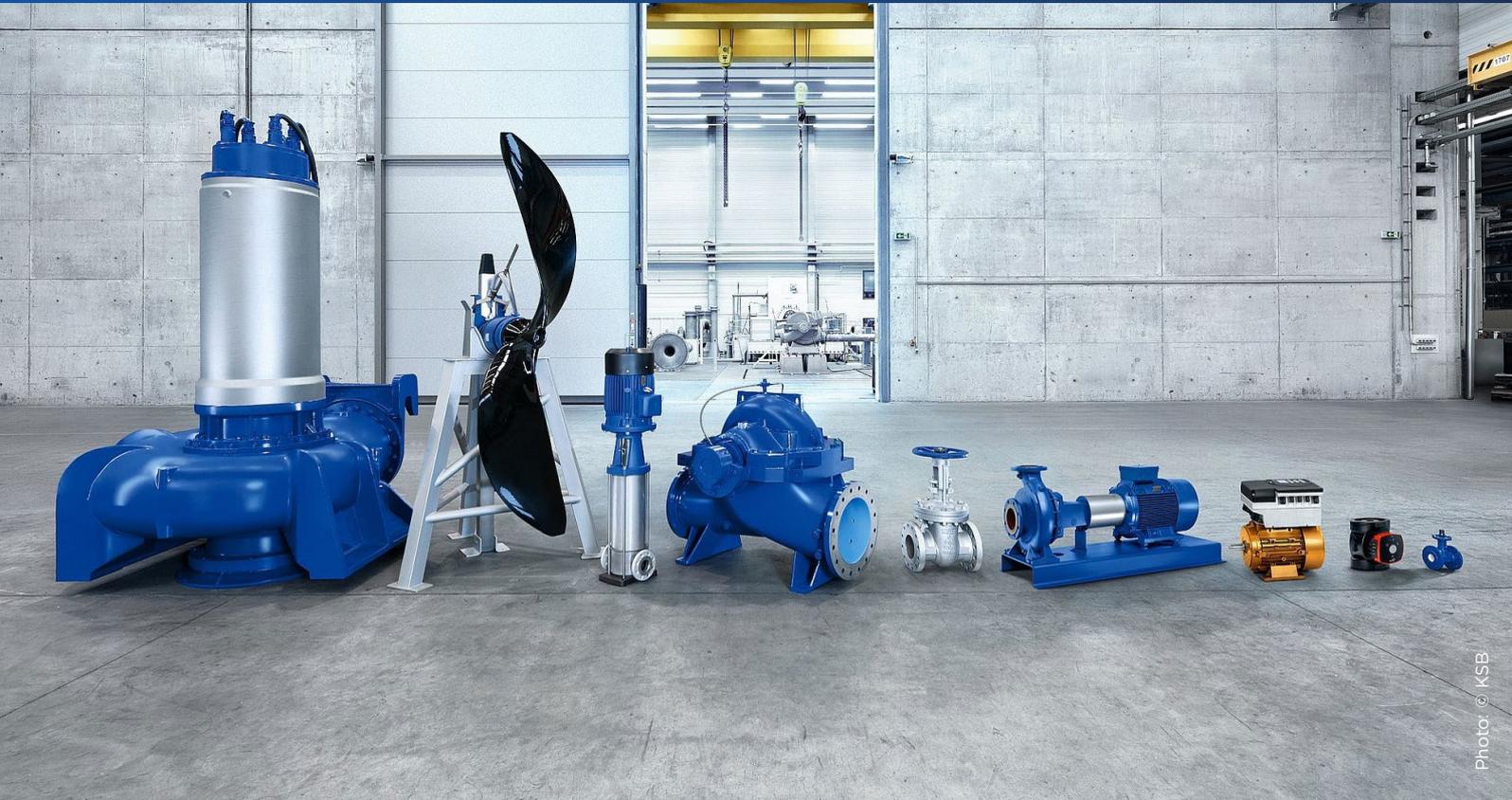November 11, 2022

Photo: © KSB

Automatically generated test plans for efficient quality processes in the supply chain

Case study: KSB

"By using Approve in the creation of test plans and the reviewing of test certificates, KSB saves 3,200 man-hours annually at the pilot plant, which can now be used for other activities."

Alexander Thumbeck
Technical order processing, KSB SE & Co. KGaA

Industry insights

In order to meet the KSB Group's high quality standards, a wide range of tests must be carried out during product development and documented accordingly. For this purpose, the so-called QCP (Quality Control Plan) is drawn up on an order-by-order basis, coordinated with the customer and, if necessary, adapted. This is the responsibility of the technical order processing team. Standard test plans are used as the basis for the preparation. These specify the test requirements that must be carried out on the individual components in accordance with the relevant standards. They also specify which tests are to be carried out directly at the KSB plant or at sub-suppliers. One of the greatest challenges here is the traceable communication with suppliers.

Task: End-to-end quality process

In the past, the standard test plans and the QCPs were created using Microsoft Excel, which involved a great deal of manual effort as well as a high incidence of errors. For each order, there was a document with the collected quality requirements for all components of all suppliers, which was sent to the supplier by email. The supplier selected the relevant requirements for his part of the delivery from the overall inspection plan for the pump and also returned the required test certificates to KSB by email. The documents were printed out, checked, stamped and scanned again at the pump manufacturer's premises, and finally stored in SAP, which was very time-consuming.

KSB was looking for a way to create and manage quality documentation efficiently. "It was important to us to implement a continuous end-to-end process in which our suppliers are also integrated," explains Alexander Thumbeck from technical order processing and project manager at KSB. The declared goal was to create a platform with interfaces to SAP in order to be able to create documents automatically and transfer data seamlessly. "Since we had already successfully implemented supplier documentation with Fabasoft Approve, we wanted to use the synergies from a uniform system for technical documentation in the company," Thumbeck continues.

Always up-to-date test plans through digital standards management

A large proportion of the existing standard test plans at the Pegnitz plant have already been digitized. This means that the information from the individual documents has been converted into corresponding metadata and transferred to the technical data and document management system Approve on Fabasoft PROCECO. This manages all applicable norms and standards and keeps them up to date. The QCP developers have direct access to these lists, which ensures that the latest standards are in use at all times. If a standard is changed, the software automatically replaces it at all points referring to it. This ensures that the quality documentation always complies with the legal requirements.

Advantages with Approve

It is now possible to create 1,200 QCPs per year with just a few mouse clicks. In addition, approximately 8,500 test certificates were manually checked and created in SAP every year. This process is now largely automated in Approve. Version security and traceability are ensured because changes are always logged. Approve integrates seamlessly into the existing system architecture thanks to a bidirectional interface to SAP, which means that existing processes can be easily continued.

Suppliers also benefit from the new software: they can now clearly see which tests need to be carried out on their scope of delivery and which documents need to be transmitted. This avoids unnecessary time delays in the quality management process. Correction loops in the event of inadequate test results can also be handled in the system.

Fit for future challenges

The legal requirements for technical documentation have become increasingly demanding in recent years. In addition, customers are placing more and more value on outstanding product quality. The introduction of Approve for the digitalization of administrative processes related to quality management eliminates media discontinuities and the resulting sources of errors. The direct integration of suppliers into a common system ensures an increase in quality along the entire supply chain. The cloud-based software is meanwhile used at KSB for supplier, customer and quality documentation. A worldwide roll-out is in the planning.
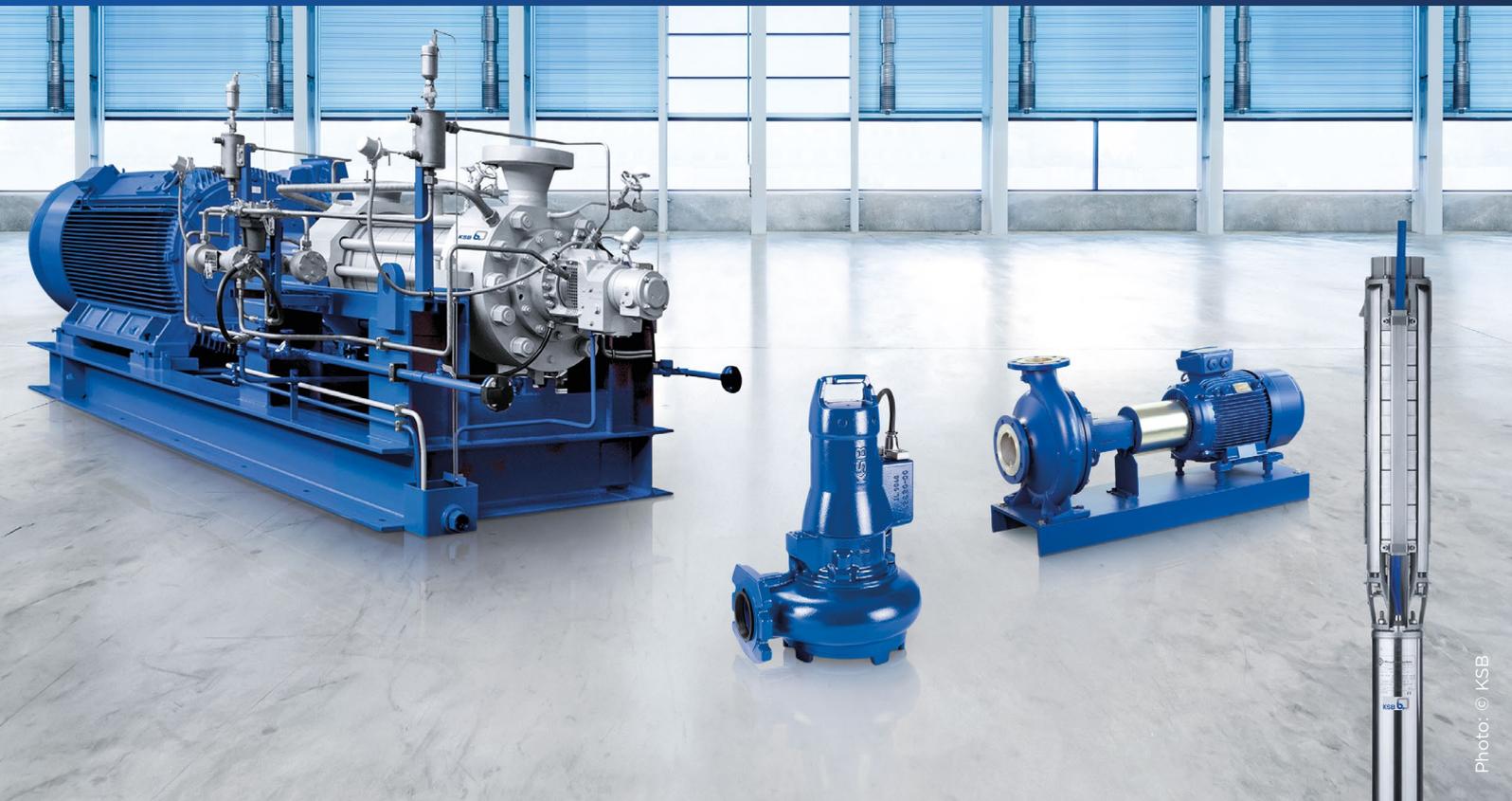
Photo: © KSB

Digital supplier documentation saves 4,500 hours of work every year

Case study: KSB

„With Approve, we can process
complex special documentation in a transparent,
effective, and user-friendly way. Complicated review
and approval procedures are handled securely,
reliably, and traceably on a single platform."

Christian Strobl
Operative Purchasing Pumps & Systems Pegnitz,
KSB SE & Co. KGaA

Industry insights

Like all project-related mechanical engineering tasks, the production of special pumps is subject to extensive documentation requirements that have to be satisfied alongside production. The documents need to be made available by the suppliers of the various components in good time before they pass through different departments for review and approval. Moreover, violations of deadlines and contractual obligations bear the risk of heavy contractual penalties and damage to the company's image.

The task: Transparent document management

With subsidiaries throughout the world, the KSB Group is one of the leading producers of pumps, valves, and related service offerings. Previously, project partners and suppliers exchanged information by e-mail with file attachments and without a central filing infrastructure. Most of the information regarding orders was kept stored in various e-mail inboxes or department-specific filing systems. This made it difficult to access and find information and to check the current status of documentation required for order items. In some instances, contractual penalties could not be determined because it was not immediately apparent that the suppliers hadn't provided their part of the documentation on time.

Every control measure proved enormously time-consuming – the time spent tracking the deadlines for obtaining the required documents for each individual project, for instance, amounted to approximately 130 hours.

Managing the supplier documentation

A sub-project of the "Digital Factory" aimed to establish a central, cloud-based platform as the basis for digitally managing supplier documentation through lean, transparent processes. Throughout the project, particular attention was devoted to establishing an SAP connection to link the sales order and purchase order number with the documentation, automatic deadline tracking including a reminder feature, and the ability to evaluate delivery performance and adherence to delivery dates in order to mitigate risk and avoid contractual penalties.

The goal was to better integrate suppliers into the process so that problems could be identified proactively, while at the same time ensuring a more transparent customer-facing presence and providing an even clearer picture of the services. As part of the evaluation process, 30 providers were asked to present their solutions. A modern user interface and straightforward handling were major criteria in the selection process. Additional selection criteria included the speed of implementation and the expertise required for a global roll-out. Fabasoft Approve was the only provider capable of delivering a truly agile approach to project implementation as well as extensive functionality in the standard product, a high level of usability, and a simple IT connection.

Global platform for suppliers and customers

As of June, some 200 employees and around 30 suppliers have been working with Approve on Fabasoft PROCECO, the standard product for supplier documentation, in a pilot project at the Pegnitz site. In the next phase, expanding the pilot operation to the Frankenthal and Halle facilities is planned. The global roll-out is scheduled to take place following completion of the pilot projects.

Now that the application has been launched, project documents are centrally stored and accessible worldwide – a web browser with an Internet connection is all it takes for full utilization of the system. All parties involved in order management and every supplier has access to the latest documentation status in line with their access permissions. Transparency with regard to the status of the project, the scope of documentation, approvals, and revisions is always guaranteed.

„Access to the digital supplier documentation can be handled flexibly. If we add a new supplier from Chile, for instance, they can log in just as easily as a supplier from France – without having to install software," says Christian Strobl, Operative Purchasing Pumps & Systems Pegnitz KSB SE & Co. KGaA.

Staff in charge of KSB customer documentation are also reaping the rewards of the newly launched platform. With the intelligent mass upload, documents coming from the customer are automatically renamed according to KSB's specifications and assigned to the correct order items for the order, including any comments. This also applies to any documentation from suppliers. In the past, file names were manually adjusted to match the order number and order item identifiers, a process that was extremely time-consuming. Approve generates the correct file names automatically. Now there is just one environment for the entire communication, document management and document processing with suppliers and customers.

The broad range of functionalities makes collaboration much easier. For example, documents can be provided with annotations that only KSB employees can read (internal) or that everyone involved can read (public). The "Time Travel" feature enables seamless traceability for document creation. Every single change, from the first to the last revision, can be viewed as required.

Massive increase in efficiency

KSB conducted a profitability analysis for the digital supplier documentation, which determined an amortization period of less than one year for the pilot plant. The solution-driven project implementation and the efficiency of the agile project management, combined with the accuracy of Fabasoft Approve's cost estimates, were impressive.

In brief: Digital supplier documentation saves 4,500 hours of work every year.
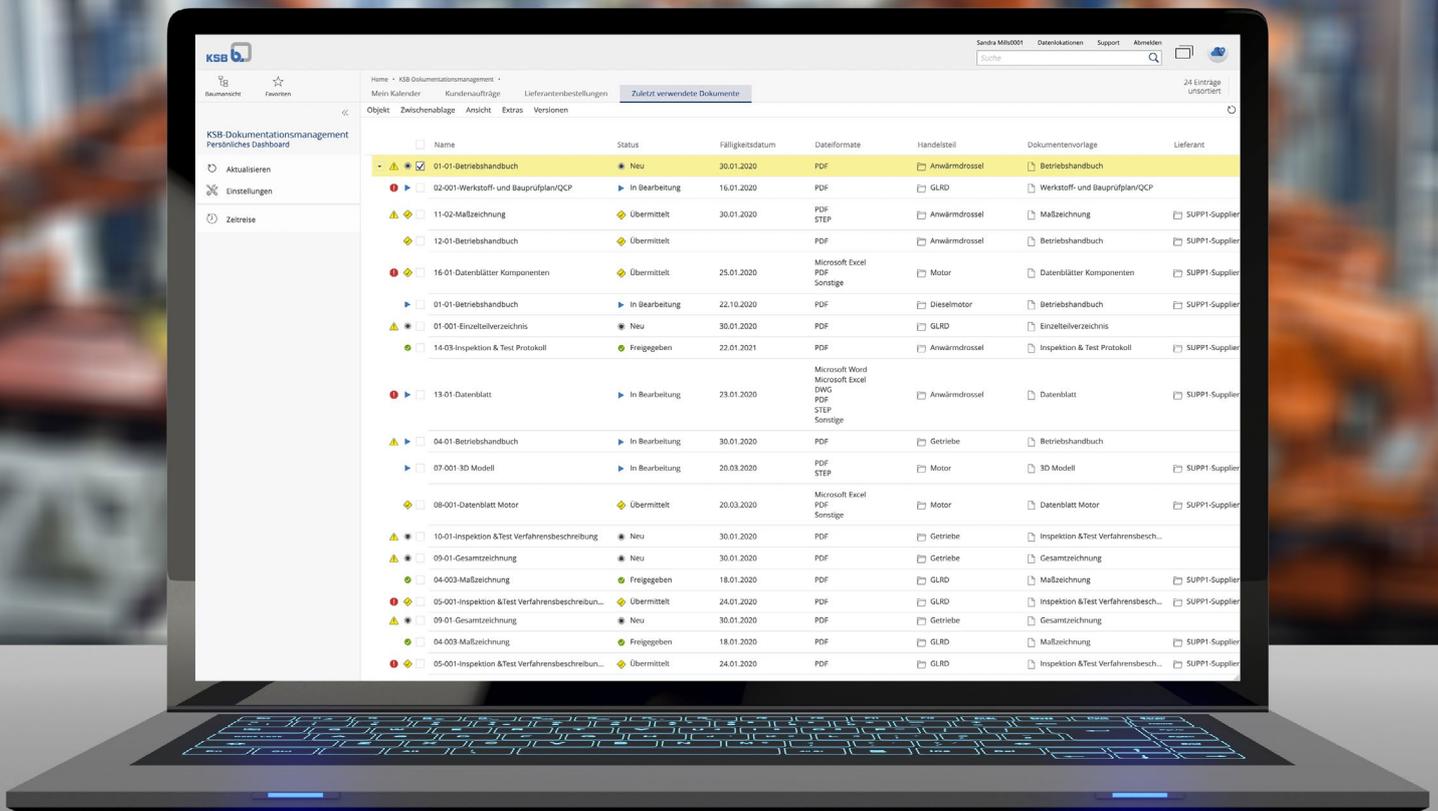
About NEONEX

NEONEX is an implementation-oriented management consultancy whose goal is to holistically improve the performance of manufacturing companies through the digitalization and automation of factories and supply chains, thus ensuring the competitiveness of the companies. In addition to developing optimally interconnected processes, driving transformation on the client side through change management is a crucial success factor.

www.neonex.de/en

About KSB

With annual sales revenues of around 2.6 billion Euros, the KSB group ranks among the leading suppliers of high-quality pumps, valves and related systems and is present on all continents with its own sales and distribution companies, production sites and service operations. KSB has over 15,000 employees. The basis of the company's success is innovative technology based on its own global research and development work.

www.ksb.com/en-global