INDIVIDUAL

SPARE PART CATALOG

FOR EACH DELIVERED DEVICE

An efficient spare part management is prerequisite for new service offerings, which ensures customers a high availability.

The Bizerba Group manufacturer of scales, slicing machines and labeling systems, has accelerated the ordering of spare parts through device-specific online catalogs.

Therefore they worked together with BCT Technology AG to connect a multitude of IT systems .

With about 3,400 employees and a yearly revenue of over 200 million Euro, the Bizerba Group, headquartered in Balingen, Germany, with subsidiaries in over 60 countries, is one of the largest manufacturers of scaling, slicing, and labeling technology worldwide. Their products are in use not only behind sales counters and supermarket checkouts but also in industrial facilities for fresh meat and food processing. Bizerba scales, which can check weight during production are used in different industries to control quality.

For some time now, the service business at Bizerba is no longer viewed as a necessary evil but as an integral part of the business strategy. „At 115 million Euro, our service business significantly contributes to revenue and earnings", says Jürgen Kambeitz, manager of the Service Organization & IT Global Service division. His unit is one of four pillars of the central organization comprised of 180 employees who support their colleagues at company subsidiaries in fulfilling support requests, repairs, spare part supply, training and documentation as well as during organization and IT development.

Approximately 60 percent of the revenue in service comes from the spare part business, but the percentage shifts more and more to other services. In the retail business with standard products for discounters, cost pressure is increasing. More and more devices are equipped with standard components, which customers can also purchase elsewhere. „We must develop new services to build long-term relationships with our customers," says Kambeitz. The company is therefore working on ideas for future business models. **Customer demands are increasing, not only for products but for services as well**. Especially for industrial customers, Bizerba provides sup-

port contracts with service level agreements that guarantee a rapid response during maintenance or faults. The service technicians must find the cause of the issue quickly, which is easier now with remote access to the devices, but they must also quickly identify and order the matching replacement parts.

The manual order processing and the traditional spare part catalogs, which list all options of a product family, doesn't ensure this.

"This is why we needed a new spare parts catalog solution", says Kambeitz, who was formerly a service technician himself. In his time, 3 to 4 days passed until the delivery of an ordered spare part. Today, the service technician simply needs to select the part number from the device-specific parts catalog, order it via a smartphone app, wait for the next-morning delivery into his service vehicle, and replace it within 24 hours.

The first and perhaps the most important step in this logistics chain is the reliable identification of the required spare part. This has been quite difficult in the past because the catalogs always contained all possible spare parts for the maximum configuration level of the product line. For one component there could have been up to 60 different spare part variants, the differences barely discernible to the naked eye. The service technician was thus forced to find the correct option of the spare part based on the original part and the various numbers in the catalog.

Accordingly, the number of the incorrect orders was high. As the orders for spare parts came through various channels, their processing was very time-consuming.

Creating documents based spare part catalogs was also time-consuming because the editors had to rebuild them although the designer reused many assemblies and components from previous product generations in new product lines. Because development and service were separated departments, the extraction and maintenance of spare part drawings from the 3D CAD models needed a lot of manual work. "The situation was no longer sustainable as the product lifecycles are getting shorter and we need to bring products to market as fast as possible. We cannot wait for months to finalize spare part catalogs", says Kambeitz.

Based on the bill of material in SAP and several data sources for the graphics, spare part catalogs were created with different tools before they were published to PDF format with Docware software. In order to accelerate the creation of the spare part catalog, Bizerba had to dismiss the document based working method and better interlink the editing process with the product development process. The first project step was to unitize the contents of the contents of the existing catalogs for the complete product lines and transfer them into a database. "This is the prerequisite to reuse the information without having to copy and customize

Andrea Hauser, System Engineer Global Information Technology, Bizerba GmbH & Co. KG
Photo: Michael Wendenburg

existing documents", says Andrea Hauser, System Engineer Global Information Technology in the Center of Excellence PDM/CAD at Bizerba.

Bizerba uses the PLM software Teamcenter to manage articles, material master data, bill of materials, 3D models, and 2D drawings. **NX, used by 120 Bizerba designer worldwide, generates the 3D data**. It was obvious to join processes from the service and product development teams and to link the catalog information to the existing product data. Design and service are now working together on the same database organized in Teamcenter using release and change management. On one hand, **this has the advantage that the editors can immediately see which components are already available and documented**. On the other hand **it ensures, that editors are informed of all changes made by the design department** and can immediately

check which catalog contents are affected and must be updated.

In the beginning, the substantially changed editing process with database supported catalog content management faced resistance. "The editors are no longer individual fighters that create their documentation, but work together in a team on components that are used in several catalogs", says Andrea Hauser. "Everything that the designers reuse can also be reused by the editors". With a reuse percentage of 70 to 80 in design, the time effort for catalog creation has reduced from 4 months to a single month.

The editors are not only faster, but can start earlier with the documentation. They do not have to wait until the device is completely ready. As soon as the designers release a new assembly, the editors load the 3D model in JT format into their illustration program IsoDraw, can generate the exploded view and derive the isometric views. A full automation of the 2D derivation is not possible, but it has become considerably faster and more convenient, says Matthias Sigmann, leader of the Training and Documentation team in the global service organization. His team is responsible for the catalog creation.

Easy to identify &

Easy online ordering

The close cooperation between the editing and the development process has influenced the way the designers work. Up to now, an experienced editor was able to correct data errors and represent the components in their 2D world, as they chose. "However, if we need to derive device-specific spare part catalogs from the product line catalog, the entire maximum bill of material with all the variant components must be represented completely and exactly. Otherwise it leads to problems in service," says Kambeitz. The designers had to learn to work more accurately, which has positive effects on the design data quality.

The maximum bill of materials from the SAP variant configurator, where the set of rules for possible variants and options is stored, still serves as the basis for new spare part catalogs. An ERP/PLM interface transfers this data to Teamcenter. The maximum bill of material comprised components and assemblies of a product line, generated in Teamcenter and transferred to SAP in a previous release process. It serves as a basis for the spare part catalog bill of material, which has an additional first level structure based on service aspects, as Thomas Kupferer, project leader from BCT, explains.

Bizerba and Siemens Platinum Partner BCT worked closely in engineering for many years. Within the spare part catalog project, the experts from BCT support the Bizerba service organization in mapping the spare part catalog process to the PLM solution and integrating the solution into the IT environment. Because of the many involved IT systems and several existing dependencies, this project was very complex, as Kambeitz emphasizes. "You need a skilled partner, who can lead you part of the way. The collaboration with BCT was very productive, as you can see from the result, which is extremely gratifying."

In addition to customizing the data model, the mapping of the spare part catalog process in Teamcenter required an extension of the PLM/ERP interface in order to transfer both the maximum bill of material for the catalog generation and the order specific bill of material for the derivation of the specific catalogs from SAP to Teamcenter. The integration of Docware software was also part of the project, as it still serves as publishing engine and online portal. BCT TechDoc acts as a link, used by the editors to create documentation articles in Teamcenter and to capture catalog relevant information - e.g. whether a part is a spare part or wear part, whether a part can be ordered or is in stock.

The BCT TechDoc server ensures the conversion of the maximum catalog content from Teamcenter and provides it together with graphics in svg format so they can be imported to and made available online with Docware or to be used offline and published on a CD. Prior to publication the contents need to be released in

Bizerba scales in use in meat production. Source: Bizerba GmbH & Co. KG

order to ensure that the device-specific catalogs use only up-to-date contents. Bizerba uses the BCT software BCT CheckIt **to check prior to release that all information is correct and complete**.

The device-specific spare part catalogs are based on the maximum catalog of the respective product line from which the actually delivered configuration is extracted. **The device-specific catalogs are generated fully automatically and are published** as soon as the shipping department scans the ready message, unless there is an error message, e.g. because the usage of a component does not match the usage of the component in the maximum catalog.

Today, Bizerba generates its own catalog for each manufactured device, which is available not only to the service technicians but also to the customer via a web portal. The Bizerba Online Configurator with customer specific prices and purchasing conditions connects the solution to a shopping cart, which allows the customer to directly trigger an order. **"The service technicians are happy that they are provided only with the part needed for their device.** This is a quantum leap", says Kambeitz in conclusion. **"There is even more benefit as many parts are ordered and processed electronically."** And the device-specific catalogs have only been available for a few months and not even all product lines are completely mapped to the new world yet.
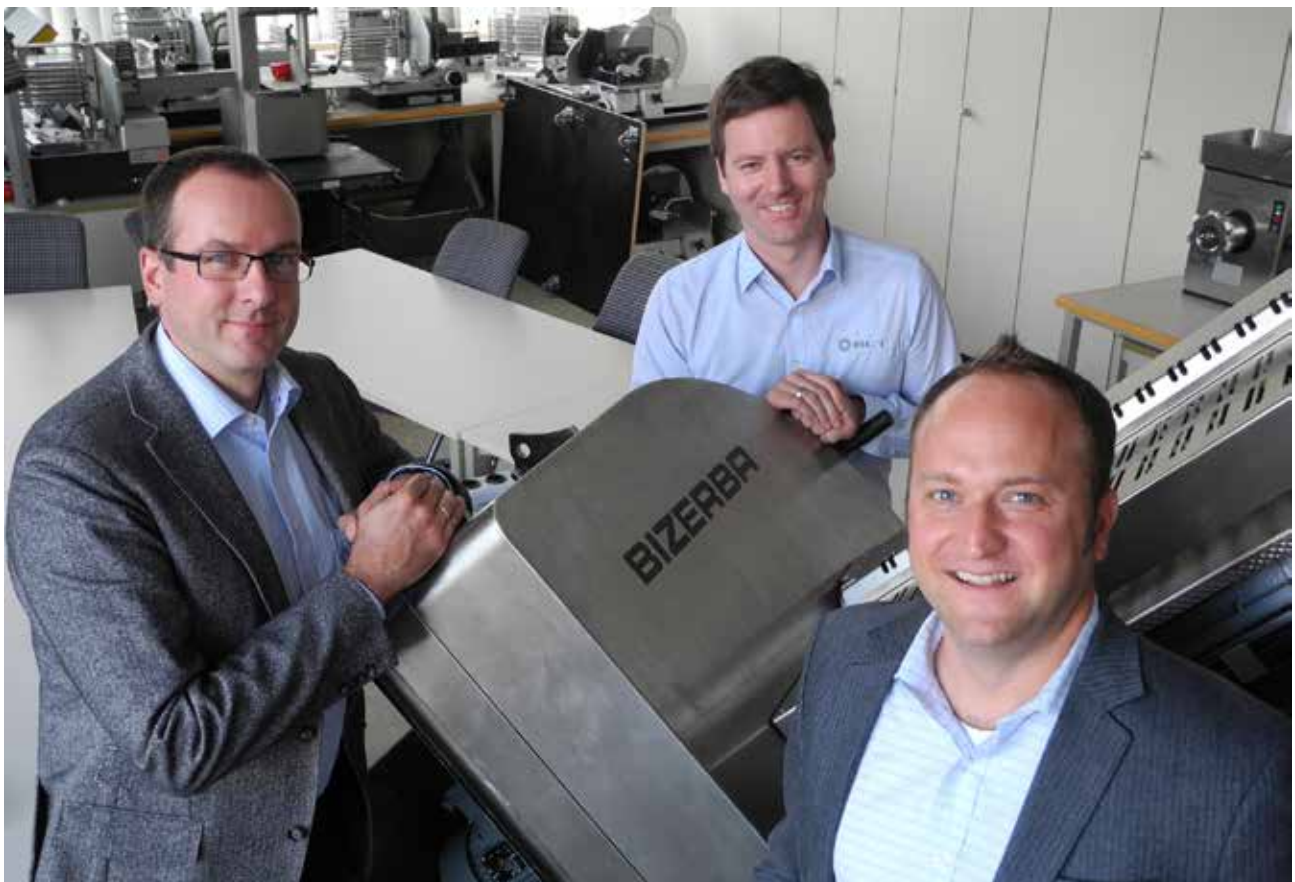
FLTR: Matthias Sigmann, Manager Training & Documentation at Bizerba, Thomas Kupferer, Product Management at BCT, Jürgen Kambeitz, Manager Service Organisation & IT Global Services. Photo: Michael Wendenburg

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