

# Automation boosts efficiency in mechanical engineering

MULTIVAC optimizes production processes with flexible bills of material

Reference project:



**“The Universal Data Converter (UDC) has won over all our stakeholders: with automated creation of production BOMs, the workload on development and service staff has been reduced significantly, enabling them to work more efficiently.”**

Martin Steinbeiß, Head of Variant Management Department, MULTIVAC

The MULTIVAC Group, headquartered in the Bavarian town of Wolfertschwenden, is one of the world's leading manufacturers of packaging solutions. Each year, the company develops and produces more than 1,000 individual packaging machines and systems for customers from a wide variety of industry sectors. The multinational group operates 75 sites spread across all continents. The mechanical engineering company offers a wide spectrum of products – from small machines for personal use to complex packaging systems that fill entire factory halls. Often machines consist of 100,000 parts or more, placing high demands on production preparation and requiring gigantic BOMs (bills of material).

## At a Glance

The MULTIVAC Group implemented a Certified SAP Partner Solution from T-Systems, the Universal Data Converter (UDC). It enables automation of a crucial subprocess for machinery production: the generation of order-specific, production-specific BOMs. This enables MULTIVAC to build its custom machines faster – a clear competitive advantage.

- Universal Data Converter for SAP automates the time-consuming creation of production BOMs
- Flexible adaptation of BOMs for the production site and respective product for efficient production preparation
- Reduced workload for development department and optimization of service

# Reference in detail

## The Challenge

MULTIVAC has relied on SAP for many years for centralized management of the BOMs for their machines. Only one BOM structure was used to coordinate the production process. The development engineers faced constant requests from material requirements planners and production staff to tailor the production BOMs to their specific needs. This was a restrictive, time-consuming process, because the production BOMs always had to be created for a specific production site and had to be adjusted manually for the other sites. The structure of the BOMs also had an impact on the subsequent service: it had to ensure that customers and service employees could quickly identify the right spare parts for machines, to speed up repairs and maintenance work.

## The Solution

With the Universal Data Converter (UDC), an SAP Partner Solution that has been fully integrated in the existing SAP system, MULTIVAC can now maintain two different categories of BOMs automatically: a centralized BOM that is structured along functional lines and multiple production-related BOM structures that are adapted to the different production sites automatically based on a defined rule set.

The UDC rule set is created based on materials that are clearly classified by the development staff, to enable derivation of the production-related BOMs. A basic rule set is defined for each machinery category and can be adapted to specific production plants and customer orders as needed. The UDC generates the production BOMs from the functional BOM automatically and keeps the two BOM categories synchronized at all times. Adaptation errors resulting from the previous manual transfer are now a thing of the past.

Service staff and customers also benefit from the possibility to generate two BOM versions. Like the developers, they now get a functional view of the machine, enabling them to identify specific spare parts more easily. The UDC makes it possible for every target group within the company to get the targeted information they need to carry out their specific tasks.

## Customer Benefits

The automatic “translation” of the BOMs reduces the workload on developers and service technicians immediately. Production staff also benefit from UDC, however, because production preparation is reduced significantly. What’s more – and even more important for a company with full order books – UDC will make it possible to make production more flexible in two different ways in future: firstly, production orders can be assigned to the production sites in accordance with available production capacity. Thanks to UDC, production BOMs can be adapted to the respective production site based on the locally valid rule set. Secondly, UDC will make it possible to split the full production BOM into relevant partial BOMs and assign them to the appropriate assembly stations. As a result, the parts can be staged and scheduled exactly.

UDC gives MULTIVAC a clear competitive advantage: a more efficient engineering-to-order process for individual products with lot size 1 reduces delivery times.

Other benefits:

- The optimized BOM process reduces the workload on development engineers and service technicians
- Efficient, non-site-specific production preparation
- Opportunity to improve utilization of available production capacities



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