SIEMENS

BMK

Electronics manufacturer enhances accuracy and speeds up bill-of-materials quotes

Product

Valor

Business challenges

Handle increase in low-volume NPI/ECO projects

Overcome missing and flawed design information

Replace manual and unreliable quoting process

Keys to success

Accelerate manual assembly processes with digitalization

Connect the BOM directly to the ERP system and the parts library

Get component rotation right – before printing

Results

Enhanced accuracy and speed of BOM quotes

Hastened preparation times and streamlined the quotation process

Accelerated SMT process by 10 percent

Sped up stencil preparation by 30 percent

Reduced layout errors and incorrect assemblies

Using Valor automation solutions enables BMK to quicken preparation times and streamline the quotation process

Undergoing a digital transformation

BMK is a leading provider of electronic engineering and manufacturing services (E2MS) for the entire lifecycle of assemblies. The service portfolio includes the development, manufacturing and end-of-life management of electronic assemblies and finished units for customers in the industrial, energy, vehicle, telecom and medical sectors. Headquartered in Augsburg, Germany, BMK's worldwide operations include facilities in the Czech Republic, Israel and China.

As a pioneer in the field of manufacturing automation, BMK was recently awarded Germany's Digital Champion Prize by *Focus Money Magazine* for the industrial sector based on its commitment to digitally transforming operations, business models and company culture.

Robert Rudolph, BMK's head of process enhancement and senior new product introduction (NPI) project leader, explains, "At BMK, we use our experience and enthusiasm to provide our customers with best-in-class design, manufacturing services and much more to offer them an extraordinary companion to surpass their expectations. Our emphasis on digitalization has enabled us to realize this vision."

Given the industry trend toward high-mix, low-volume production, BMK faces the challenge of fulfilling more frequent NPIs and engineering change orders (ECOs) while attempting to increase efficiency and maintain profitability levels. To accomplish this, BMK expanded its digitization efforts to include manual manufacturing processes.

BMK, a regular participant in Valor™ software product user round table meetings sponsored by Siemens and its regional partner, CircuitByte, was able to consult with other printed circuit board (PCB) assembly specialists on how to improve operational efficiency via automation. In the course of these meetings, Siemens and CircuitByte offered to replace BMK's legacy Unicam NPI tool with its state-of-the-art Valor Process Preparation software. "Unicam is an outstanding tool, but the decision to adopt the Valor system was a no-brainer because of its extensive NPI feature set and comprehensive parts library," says Rudolph.

The Valor solution
Valor Process Preparation, which is part of the Xcelerator™ portfolio, the comprehensive and integrated portfolio of software and services from Siemens Digital Industries

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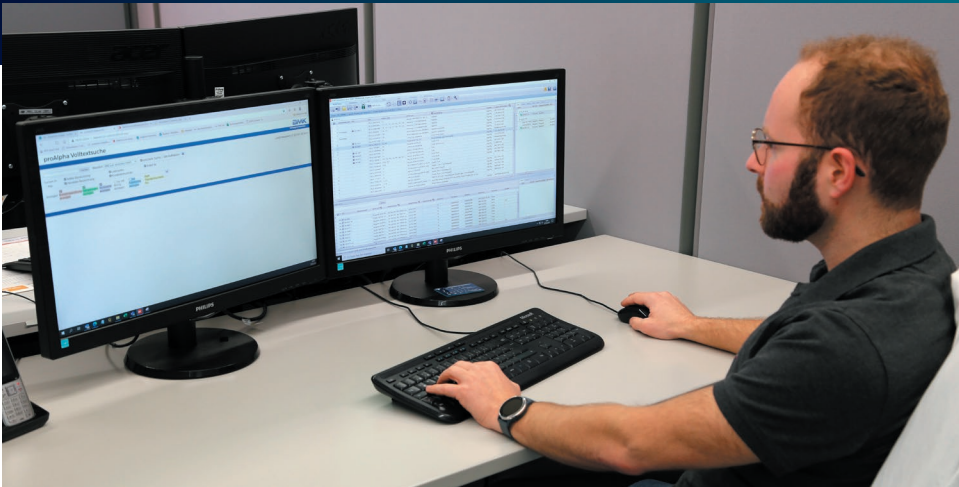
Robert Rudolph
Head of Process Enhancement and Senior NPI Project Leader
BMK

Software, was integrated by BMK into its process flow to perform the following functions:

- Stencil data generation
- Creation of surface mount technology (SMT) machine programs
- Generation of manufacturing documents
- Validation of components using the Valor Parts Library (VPL)

According to Rudolph, using Valor Process Preparation provides added value as a reverse-engineering tool: "With Valor Process Preparation we can generate the missing CAD data from Gerber files and then import accurate physical models of the electronic components from the VPL database. These are capabilities that we haven't had before Valor Process Preparation.

"Due to our experience we create the stencil data to reach a higher quality level for the SMT process. With the Valor Stencil session, we improved this data prep process so that we can now generate this data quicker and more automatically. The challenge is to obtain an identical footprint for all instances of a specific component that is to be mounted on the board.

"Now using the Valor Stencil module, we check a footprint only once and use that same footprint for all instances of the component. The Valor Stencil module lets us create our own footprint database, and the footprints from previous assemblies are re-used in new projects, saving a lot of time.

"In addition, BMK decided to adopt Valor BOM Connector for improving the bill-of-materials (BOM) preparation process.

"BOM Connector is the most complete tool on the market for electronic manufacturing, greatly easing the tasks of loading, preparing, scrubbing, formatting, checking and comparing BOM data," says Rudolph.

"Another benefit is that you can create more accurate quotes much quicker and provide a powerful database backend to track and re-use your work for future projects.

"By the way, we have benefitted greatly from Siemens' friendly, efficient technical support."

Results

Following the introduction of the Valor systems at BMK, the company noted many improvements, including BOM quotes were more accurate and much faster, stencil preparation was 30 percent quicker, layout errors and incorrect assemblies were increasingly identified before the production stage and the entire SMT process was accelerated by 10 percent.

Further, the company had the ability to run the increasing number of NPIs in less time. The company grew without adding staff and had the ability to run high-complexity NPIs.

Solutions/Services

Valor Process Preparation
siemens.com/valor-process-preparation

BOM Connector
siemens.com/bom-connector

Valor Parts Library
siemens.com/valor-parts-library

Customer's primary business

Founded in 1994, BMK is a leading provider of electronic engineering and manufacturing services (E2MS) for the entire lifecycle of electronic assemblies. The service portfolio includes the development, manufacturing and end-of-life management of electronic assemblies and finished units for customers in the industrial, energy, vehicle, telecom and medical sectors.
www.bmk-group.de/en/home

Customer location

Augsburg
Germany

Solution Partners

CircuitByte
www.circuit-byte.com

proALPHA
www.proalpha.com/en/

Future plans

BMK is in the process of adopting an additional Valor Process Preparation module – Assembly Panel Designer, which helps to reduce costs and improve margins by calculating the most efficient use of the available PCB panel area, thus optimizing the panel production process.

BMK is working with Siemens partners proALPHA and CircuitByte to improve the data interface between the BOM Connector and proALPHA to gain an online Interface.

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