

## **ebm-papst and SIPLACE**

### **Successful implementation of SIPLACE Facts:**

#### **Software integration and process improvements deliver significant cost benefits in SMT production for ebm-papst**

**ebm-papst, one of the world's leading manufacturers of fans, has implemented the SIPLACE Facts manufacturing execution system (MES) from Siemens Electronics Assembly Systems GmbH (SEAS) at its plant in Mulfingen, Germany. By using the SIPLACE software, ebm-papst is able to transparently map its material logistics as well as its order-driven production scheduling and setup processes in its corporate IT systems – from the machine level to the SAP ERP system. Georg Schappes, the project manager in charge at ebm-papst in Mulfingen, is very satisfied with the project's progress: "With our consistently paperless production scheduling and control system, our XML notifications of material deliveries, our optimized quality inspection in receiving, our elimination of manual inventories, the consistent implementation of the FIFO (first in/first out) principle in component storage and the automatic recording of all material usage data required for full traceability, SIPLACE Facts delivers significant cost and competitive advantages for us."**

On the basis of the new software, a project team of company employees and SEAS manufacturing experts implemented many process improvements. From the SMT lines in Mulfingen to its own EDM software to its SAP ERP system – by employing SIPLACE Facts, ebm-papst is now able to map its entire SMT production transparently and consistently in its IT systems. At the start of production for fans and motors for ventilation, heating, cooling and air conditioning systems, the process begins as early as when parts are received from contractors. More and more of these deliveries are announced via XML messages that include part of package numbers. When they actually arrive, the goods are checked against the respective orders and notifications, and the packages are marked via rugged 2D labels.

### **Transparently IT-supported and completely paperless**

From here on, the process is completely paperless. Each addition to or removal from inventory, as well as the setup verification at the SMT lines is performed with handheld PDA-based scanners. Previously, ebm-papst executed its purchase orders, production orders and its rough scheduling in the SAP system, in addition to its detailed planning by clustering orders with the EDM system, which was developed in-house. By introducing SIPLACE Facts, the company can now close the gap to the machine level: "With SIPLACE Facts we are now able for the first time to map the processes transparently and consistently in our systems without duplicate data maintenance. Via the intelligent fill level control on the SIPLACE machines we see the actual consumption, know our inventory levels at the various locations, can remove components from inventory by package or according to FIFO, and reliably verify each setup by scanning it," is how Patrick Reinwald, IT expert at ebm-papst, describes the immediate benefits of the SIPLACE Facts software. Implementing the FIFO principle ensures that the often very expensive components are used before their expiration date and that any component write-offs, which can be quite substantial, are kept to a minimum.

### **Always the best possible setup:**

#### **Line monitor compares fill level with residual requirements**

The component inventory levels at the various locations are transparent at all times – down to active setups and special cabinets for moisture-sensitive devices. Any components that are needed can be delivered to the line directly from other lines, from the receiving department or from the setup area – all without cumbersome detours to the central inventory. This level of inventory transparency reduces the safety stock, accelerates the setup processes and minimizes the idle time of the currently seven SMT lines. Another benefit: Since the system is certified as sufficiently accurate, ebm-papst no longer requires any inventory-taking procedures, which cost a lot of time and money.

Another aid for material logistics is the new SIPLACE Line Monitor. Via the fill level control on SIPLACE placement machines and by comparing it with the placement program and current order, this software determines the replenishment requirements for individual components, which are then indicated via a red-yellow-green system for feeders and positions on each line's machine terminals. Since the operators see the setup requirements as well as the residual requirements of the current setup, they can

easily request new components using their PDAs. The system also prevents unnecessary component requests and the time and cost requirements associated with them.

### **Quick and sustainable return on investment**

Georg Schappes, the project manager in charge at ebm-papst in Mulfingen, is thoroughly convinced of the benefits of the software and process optimization project: “We, as a manufacturer no longer gain critical cost and efficiency benefits at the line, but by transparently integrating and optimizing the entire SMT production process. The real levers are no longer to be found on the individual machines, but in the logistics and organizational structures around the line and the entire production.”

According to Schappes, the original objective of the introduction of SIPLACE Facts has already been met: Production errors due to mismarked components are effectively eliminated by the inspection processes when the components are received. The package-based IDs provide the traceability customers demand. Paperless processes, more flexible material logistics, improved scheduling of small lots, minimized down times, transparent mapping in higher-level IT systems and the elimination of manual inventory-taking are additional benefits that pay for themselves each time a component is placed on a board.

For more information about ebm-papst, go to [www.ebmpapst.com](http://www.ebmpapst.com).