Case Study – Lot Size 1
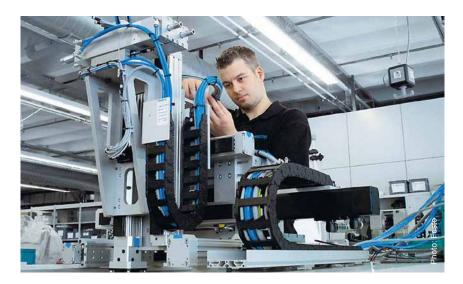
SAP ME supports innovative growth

Festo AG & Co. KG

Supporting and promoting the development of an innovative company like Festo AG & Co. KG sounds like an exciting but difficult challenge for corporate IT. The high product complexity, almost to a lot size of 1, produced worldwide directly on-site, and the tightening of reporting and quality requirements, means that corporate IT is continually facing new challenges. A global SAP MES platform is intended to provide the basis for reliable processes in a standardized production. The requirements were thoroughly tested in a pilot project for a U-line with manual assembly in Hungary.

Intuitive worker guidance using SAP Manufacturing Execution for an assembly U-line at Festo ensures process security and optimal cycle times.

Photo: Festo

Festo stands for innovation and technology in 176 countries. With 300,000 customers and 30,000 catalog products, Festo is the global leader in automation technology and the global market leader in technical education and training. The objective: maximum productivity and competitiveness from customers in factory and process automation. To meet this goal, all departments must pull together. This means that corporate IT is constantly searching for innovations to create the workplace of the future. This also includes IT support for the work centers in the production. How can the process reliability of the production and with this the product quality be improved and how can we optimize cycle times?

In a Nutshell

Read in this reference

- MES process modeling
- Workinstructions
- Lotsize 1
- ISO-9000
- MES with SAP ME

Pilot project U-line

In this special case, the pilot project consisted in optimizing a U-line with manual assembly of compressed air preparation devices with the help of the Manufacturing Execution System (MES) SAP Manufacturing Execution (SAP ME). An assembly line handles about 450 orders per day, of which around 90 % are customer-specified configurations. This means a lot size of 1 is nearly the rule. First, return on investment calculations (RoI) were used to analyze the areas with the greatest potential with direct worker interaction. Overall, the pilot was very important in achieving acceptance of the IT solution by users on the shop floor. The pilot extended from commissioning from the supermarket of basic components, to delivery – including dual control in the final check.

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> ”We haggled over every click.“
>
> **Dr. Lutz Seidenfaden,**
> Head of Information
> Management Global
> Factories,
> Festo AG & Co. KG.

Success factor worker UI

One success factor was clear from the beginning: The user guidance and inter-action with input devices should be as intuitive as possible and implemented with as few clicks as possible. ”We haggled over every click,“ remembers Dr. Lutz Seidenfaden, Head of Information Management Global Factories, Festo AG & Co. KG. The general process modeling SpeziMES based on Business Process Model and Notation (BPMN) was extended with individual screen designs at those points requiring worker interaction. This practical illustration greatly facilitated the colla-boration between corporate IT and production. The result was two different user interfaces, for example. There is a lean design for the professional who knows the individual operations by heart, which only includes production progress. The second is an intuitive design for beginners who need more guidance through the production process.

Thanks to the intuitive design of the user interface, training requirements could be reduced to a minimum as part of a shift supervisor training. During the project, sys-tem knowledge was significantly developed and expanded by the continual transfer of know-how from the SAP MES expert Trebing + Himstedt.

Standard for global roll-out

In a selection process, the initial decision was made for SAP Manufacturing Exe-cution, since this best fit into the existing IT architecture of Festo. The SAP MES service provider Trebing + Himstedt was brought on board for the implementation, since they possessed the broadest installed base and were consequently able to contribute a great deal of best practice experience.

The technical and functional assessment of the SAP-ME solution was to be made in the equipped U-line. ”When you have a feel for how the software ticks, new ideas for future applications develop on this basis,“ says Seidenfaden. For example, product traceability was not a specific requirement, but now they were already ima-gining that in the future, products would already be assigned a leading ID number in production. This ID can then also be used later as a kind of service tag for customer support.

ISO Audit

The nearly paperless process using electronic documentation depicted also resulted in a tangible advantage for the audit department. In an ISO-9000 audit, thanks to SAP ME, it can now always be reliably demonstrated how documents — for example, work orders – are always available and used in the current version at the workstation. The somewhat greater initial effort to digitally model the value added chain was quickly amortized through improved quality of work orders and better product quality.

After successfully completing the pilot phase, SAP ME will now be rolled out at other production lines and locations. The new SAP Manufacturing Suite 15, to which systems should be updated, harbors even more improvements. In particular, SA-PUI5 promises optimized operating costs, e.g. in the maintenance and customiza-tion of user interfaces, and worker guidance can be designed even more intuitively, for example using context-based availability of the required buttons. And with this, the customer is Java-independent, once and for all solving the common problem with different runtimes. From the perspective of corporate IT, nothing stands in the way of further growth for Festo.

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