Process Control Systems. MES inside.



Success Story // Paint and Coatings Industry // Weilburger, Germany





Tailored MES for WEILBURGER Graphics

WEILBURGER Graphics GmbH modernizes its production facilities to combat the steady increase in competitive pressure. And when the internationally renowned medium-sized company sets its mind to something, the results are usually impressive: After a comprehensive hardware update, integration of a new Manufacturing Execution System from ProLeiT was top of the agenda.

WEILBURGER Graphics GmbH is an internationally renowned specialist for developing, producing and distributing coatings, adhesives and inks for the graphics industry. It can look back on 140 years of experience as a partner of choice for the printing, finishing and pencil industries. Today, the WEILBURGER Group has a global presence with more than 850 people employed at nine production sites and eight sales offices.

WEILBURGER opened a state-of-the-art production and filling plant at its facility in Gerhardshofen at the beginning of 2019 to ensure it remains responsive to increasing customer demand and expectations, as well as competitive pressure. The task now was to further exploit the potential of the business, expand the production capacities and create the best foundation for future developments.

MES power play for potential

WEILBURGER therefore decided to introduce a new Manufacturing Execution System (MES) to act as an intermediary between various automation systems, the process control system, the ERP and the warehouse management.

The German company identified very high and constant quality, preventive maintenance, on-time production and delivery and a high degree of transparency as its primary objectives. Beside



View of the factory

Company: WEILBURGER Graphics GmbH Sector: Paint and Coatings Industry Location: Gerhardshofen Country: Germany



Long-lasting special coatings for the graphics industry

technical expertise, a key factor that tipped the balance in favor of awarding the supplier contract to ProLeiT was regional proximity: The WEILBURGER plant in Gerhardshofen is not far from the ProLeiT headquarters in Herzogenaurauch. The best prerequisites, therefore, for tackling the challenging digitization project together.

Water-based coating production fully automated

An initial specification was developed by mid-2020. Once the quoted works had been authorized on the basis of this documentation, the actual project began in June. ProLeiT subsequently implemented detailed scheduling processes, the interface to the ERP and PCS-based filling in 2021.

June 2022 marked a special milestone: By connecting the MES to the existing ERP, orders now flow into the system, feedback is provided and the subordinate systems are controlled accordingly. While in the past card planning boards and a semi-automatic system were commonplace, the production process for water-based coatings is now fully automated, from detailed scheduling to final filling. The roll-out for the production of UV lacquers is scheduled for 2023/24, followed by integration of the smaller specialist departments.

Dr. Dominik Hasenöhrl, Team Leader Project Engineering at ProLeiT, summarizes the vision: "Through complete digital integration, WEILBURGER wants to use the full performance of the plant: Prior to conversion, daily production totaled roughly 50 metric tons; today, this figure has risen to around 110 metric tons. And the target of 150 metric tons in a single shift is within grasp thanks to full automation."

Extremely innovative integration

The intelligent Manual Weighing System (MWS) also puts an end to handwritten and uneconomical weighing procedures. Operators now use tablet PCs connected to the system to visually guide them through the weighing operations. In doing so, stocks are compared in real time, thereby ensuring that purchasing and production planning staff are provided with an up-to-the-minute overview. This involved customizing the MWS add-on for WEILBURGER to allow for dynamic assignments between mobile scales and weighing stations via a WLAN connection.

In general, the Gerhardshofen plant is an extremely innovative integration: Since it uses the current Plant iT V9.80 with the key function BOS (Batch Orchestration System). Further, recipe management for batch processes runs as a separate service directly on the server instead of in the controller, offering greater connectivity options – and a wide range of third-party systems can be easily integrated into the batch processes via a standard REST interface.

When explaining the decisive advantage, Dr. Dominik Hasenöhrl says: "The Batch Orchestration System allows a high level of integration between the automated control steps and the offline process steps. The well-known challenge of an over-automated recipe always requiring manual intervention has thus been mastered effectively."

Less intervention, more quality

Collaboration overall was extremely constructive, which is not always the case with such lengthy digitization projects. Moreover, the workforce at WEILBURGER is actively involved in shaping the digital transformation: During commissioning, the operators received comprehensive training and ProLeiT's first level support team answered any technical questions that arose. Regular meetings additionally ensure the continuous improvement process.



Production plant for WEILBURGER

By the way improvement: Thanks to the optimized automated process sequences and the exact recipe specifications, WEILBURGER now has more time to identify optimization potential and enhance product quality. Furthermore, increased transparency means pressure from production demands is now spread more evenly. Everyone benefits from the comprehensive overview. Employees who switch to a different area simply feel more at ease, as the system does away with a lot of manual activities and is intuitive to use.

The Plant iT base module Detailed Scheduling rounds off the installation. This module schedules the roughly planned ERP orders to the equipment and workstations of the plant in terms of time and location – while taking into account production sequences and dependencies of the actual orders. The well-structured real-time visualization helps planners achieve their scheduling objectives quickly and transparently by providing immediate information; and by transmitting the daily schedule electronically to the production system and the employees. Even last-minute rescheduling can be achieved much faster and more efficiently.

Dr. Dominik Hasenöhrl says: "Actually, the plan called for a cautious approach. During an on-site inspection, however, it quickly became apparent how well and quickly the operators could work with the new system. And the euphoria at WEILBURGER gave the entire project an extra boost."

Equipped for the future

The vital update has been completed. In terms of its degree of automation, the WEILBURGER plant in Gerhardshofen is now, by its own admission, the world leader in the coatings industry. And in addition to the purely technical solution, the level of individual support is also highly valued. Especially since cooperation has developed on a very personal level over the time the two companies have been working together.

This is best summarized by Lars Zeitler, Project Manager at WEILBURGER Graphics GmbH: "At the end of the day, ProLeiT sells more than just software, it delivers, above all else, trust. This continued to grow over the course of the project, and we were delighted to repay this. Today, we are in the fortunate position of being able to use our full potential for the future."

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