



Brüggen GmbH Improves Workflow by Optimizing Processes



As different as a heavy-weight truck and a small van may look—there's one thing they're sure to have in common: the swap systems, box semitrailers, and fixed bodies they use are very likely to be quality products from Brügger GmbH of Herzlake, in the Emsland region of Germany. Since starting up in 1990, the product quality and service competence that have turned the company into a leader in commercial vehicle construction have been its trademark.

Brügger is also a competence partner of Fahrzeugwerk Bernard Krone GmbH and operates one of the most advanced coating installations in Europe. With many years of experience and state-of-the-art systems, the company is one of Europe's leading specialists in surface coating. The quality of its products and services is the maxim on which Brügger bases its operations. Production is carried out solely to order.

In its detailed production planning, Brügger uses the benefits of GE Digital's industrial software solution to optimize its production control.



The time factor

The lead time of a Krone order for components and spare parts must not exceed a few days; for complete swap units it's slightly longer. The timeframe for actual production is therefore short and requires processes to be optimized on a continuous basis.

Throughout the company, Brügger uses SAP as its enterprise resource planning (ERP) system. In the individual production areas of Body Construction, Component Production, Coating and Final Assembly, additional IT systems are deployed for the detailed production planning.

Before GE Digital's solution was implemented, the existing IT system in Coating was unable to communicate directly with the umbrella SAP system. This meant that the SAP information had to be transferred to the IT system by hand, involving a great deal of increased effort before real production could actually get started. This change of medium between the detailed production planning IT system and SAP was not only time-consuming, but also a potential source of errors.

“Before GE Digital's solution was introduced, the change of medium between the detailed production planning IT system and SAP was always a potential source of errors.”

Dieter Burs, Head of Production Engineering, Brügger GmbH

In addition, employees had to perform the quality controls within the individual production steps manually and assess the effects of any necessary changes in quality assurance themselves. This increased production time, especially with larger orders.



For quality and growth

Aligning Brügger's growth path with its quality demands meant modernizing the IT in Coating, so a manufacturing execution system (MES) was sought by the company. In addition to the SAP integration, the prerequisites desired for the MES were visualization and simulation of the detailed production planning.

With its open, flexible, and scalable architecture and numerous visualization functions, the solution from GE Digital, which includes Workflow, fulfills Brügger's requirements exactly. What is more, data analysis and real-time data control, together with real-time data management, offer new process-control and quality-assurance options.



Delivery reliability as a matter of course

After a planning and testing phase, Dimensys, a service and solution partner of GE Digital, took charge of implementing the solution at Brügger's site.

"In detailed production planning especially, every detail in a process or production stage really does count. When a new solution is put into place, it's not only the expert knowledge, but also the team skills of all those involved in the project that's required," says Dieter, describing the challenges of changing an IT system within production.

For Brügger, delivery reliability is a matter of course. Since truck swap systems, box semitrailers, and fixed bodies are made solely to order, flexibility and a hitchfree production process are of particular importance. The new industrial software from GE Digital gives substantial support to

Brügger in achieving this goal. Thanks to the SAP integration in Coating, the orders coming from the areas of Body Construction and Component Production no longer need to be transferred and organized manually.

With GE Digital, progress and quality in the production process can be followed on monitors, and individual process changes occurring at short notice can be carried out in real time.

"Our relationship with GE Digital and its service partner Dimensys was, and is, productive and trustworthy."

Dieter Burs, Head of Production Engineering, Brügger GmbH



With precision and innovation

In Coating, it's not only paint that's applied, but also primer and lettering. Individual settings are required for these steps and must be transferred to the implementing machinery. GE Digital's software solution uses open interfaces to upload the incoming orders straight from the SAP system.

This saves time and enables production to start right away, regardless of the number of special factors in the order. As soon as production has begun, the processes under way are visualized, which also enables better management of work supplies. Material ordering can be automated in this way, too. The visualization also allows the work process to be monitored perfectly, and individual adjustments are passed straight from the system to the control units of the machinery.

In this production area, curing processes can take varying amounts of time, owing

to the fluctuating temperature in the oven. The new solution from GE Digital manages this automatically. It stops the timer for the curing process when the temperature drops below the threshold value, and restarts it as soon as the correct temperature is reached again. This means that curing is automatically terminated once the specified time has elapsed. GE Digital's solution therefore contributes to process reliability, which employees can also monitor with the visualization.

Every color changeover in Coating uses up resources and takes time—which, particularly with large batch sizes, is precious.

To reduce color changeovers, the new industrial software allows advance grouping of the parts to be painted on their way to coating, in accordance with the color required. This saves capacities all across production.



The synergies of the future

Brüggen is also planning to deploy GE Digital's industrial software solution in other production areas. In the same way as Coating has its own challenges, Component Production and Final Assembly have their own sets of emphases, too. As well as improvements specific to the individual production areas, extending application of the solution could also spawn cross-process synergies, lastingly optimizing Brüggen's entire production process.

"If it can already be established in Welding that two side panels to be painted green are coming into Coating within a three-hour interval, it's best to schedule them as a block right away," says Dieter, explaining one possible way of proceeding. "This could reduce color changeovers and bundle capacities in advance—our way into the future."

"With an open, flexible, and scalable architecture, GE Digital fulfils our requirements of a manufacturing execution system (MES) exactly."

Bernard Kok, Head of Organization and IT, Brüggen GmbH

"GE Digital's solution contributes substantially to process reliability, which is automatically guaranteed and can be monitored by employees through visualization."

Dieter Burs, Production Engineering, Brüggen GmbH





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