



PERFECT SYMBIOSIS

APS in interaction with ERP and workshop control

The GANTTPLAN APS (Advanced Planning and Scheduling) system meets the “APplus” ERP system with its workshop control at Johannes Lübbering GmbH. GANTTPLAN and APplus interact perfectly when combined, resulting in shorter setup, manufacturing and delivery times. This interaction can help achieve reliability, transparency, efficiency, and consequently high customer satisfaction, as key competitive factors.

Lübbering – High-Precision Tools “Made in Germany”

Johannes Lübbering GmbH is an innovative family-owned company with a global presence. In the city of Herzebrock-Clarholz, located in the German state of eastern Westphalia, the company develops and produces application-oriented high-precision tools for threading and drilling technology for renowned manufacturers in the automotive and aviation industries. With approximately 220 employees to date, the company can look back on a history spanning more than 80 years.



A look back at 2011: satisfaction and planning transparency needed

Due to an extensive range of machinery, an above-average level of production depth of over 90 percent for small batch sizes (< 10 pieces) and the highly complex planning that resulted, the company decided in 2012 to introduce a production control station. With no sophisticated solution for planning, the situation had come to a head in the preceding months. Many orders coming from different business units, little transparency, capacity bottlenecks, delays despite overtime, high setup time ratios, high costs for personnel and material, and inefficient machine utilization – this was the status quo at the time. The situation in terms of competition was rather critical, even though the Lübbering Group had already achieved a gratifyingly stable market position through patented in-house developments and a clever corporate policy.

For convincing planning GANTTPLAN was the right choice

The decision to introduce an APS system was followed by a structured selection process. Several arguments spoke in favor of the GANTTPLAN APS solution from DUALIS. The control center of the solution can be easily and closely integrated in the ERP system via SQL interfaces, so that large amounts of data can be managed easily. Furthermore, planning with regard to limited capacities, the ability to display collective orders, flexible machine planning,

personnel and tools, existing optimization parameters for improve setup and, last but not least, the overall price-performance ratio, were all arguments in favor of GANTTPLAN.

Oliver Nienaber, head of order processing planning at Johannes Lübbering GmbH explains,

“At the time, only DUALIS was able to create a pre-sales model to prove functional suitability using live data from circa 12.000 orders – and that in only a few days. Moreover, the chemistry was simply right.”



A big plus: integration in the ERP system

GANTTPLAN could be extremely well integrated in the APplus ERP system from Asseco, which was already in use at Lübbering in 2012. The production control station was placed between the ERP system and the workshop control system also provided by Asseco. As a result, master and movement data remain in the ERP system, while GANTTPLAN handles pure detailed planning and optimization. The ERP system continues to play the leading role. This prevents data redundancy and simplifies the maintenance effort. As a rule, pre-scheduled production orders from APplus are now transferred once a day via the SQL interface to the GANTTPLAN system, where they are optimally planned according to available capacities and defined target criteria using the automatic planning function. After the planning run, the APS transfers the job-scheduled operations assigned to approx. 185 resources back to the ERP system. All order information then reaches the production workers via the workshop control.

Success came quickly as skepticism gave way to enthusiasm

The implementation of GANTTPLAN to control 110 machines took about six to seven months in 2012. "Preparing our master data and bills of materials took the longest amount of time," according to Oliver Nienaber. Today, Lübbing processes about 10,000 orders per workweek. In this respect there is theoretically no limit with GANTTPLAN.

Oliver Nienaber elaborates, "Initially, there were concerns about introducing an APS. However, this quickly changed. We are all still experiencing the concrete advantages on a daily basis."

APS after 10 years: diverse process optimizations and intelligent personnel planning

Taking various planning parameters into consideration, Lübbing restructured its production preparation activities after introducing GANTTPLAN. The result is complete transparency throughout the entire order processing chain. Workshop terminals offer all workers a continuous overview of their orders and the broader context. GANTTPLAN has been automatically calculating efficient manufacturing sequences for over 10 years and transfers the optimized production plans directly to the control system. Increased transparency means, for example, that setup times were minimized through grouping. In subsequent years, other aids such as supplementary tool management software were introduced, reducing lead times by 50 to 80 percent compared to before the APS was introduced. Over time, Lübbing started to use more and more GANTTPLAN features. For example, the personnel planning module for employee scheduling

was completely integrated in the planning system. This means that all foremen can see at any time which job should be processed at which time on which machine. In addition to personnel planning, the introduction of "operating resources" (tools, devices, test equipment, etc.) as a planning-relevant optimization in GANTTPLAN also brought many advantages. Furthermore, the scheduling of CAD/CAM programming as the operation upstream of metal-cutting production was another important step towards process optimization.

The result: objective achieved

Today, planning managers plan and control the entire order processing chain with GANTTPLAN. This ensures planning stability and "calmer" production and assembly from an internal perspective and increased customer satisfaction from an external perspective. "Receiving a lot of orders is good. Receiving even more orders is better. But the best is when you can process all orders reliably and quickly at all times and the customer is satisfied," summarizes Tobias Tönnies, managing director of Johannes Lübbing GmbH.

What's next? Automation in the milling area and 24/7 fitting


The next step will be to use GANTTPLAN to successively automate the milling area and plan the corresponding programs, tools and clamping devices accordingly. The aim is to equip the machining centers 24/7 so they can run optimally. At the same time, the digital provision of information for the manufacturing processes will be further optimized.

"By connecting the ERP system, GANTTPLAN and workshop control, we were able to optimize the production sequence and machine utilization, resulting in the significant improvement of schedule adherence. Planning and synchronization time has been significantly reduced. By regularly updating GANTTPLAN we can continuously reduce the planning and synchronization time and thus increase performance."

Tobias Tönnies, managing director of Johannes Lübbing GmbH



Facts and figures

-  Creation of a pre-sales model using live data from approx. 12.000 orders
-  Simple connection to the ERP system via SQL interfaces
-  Reduction of lead times by 50 to 80 percent
-  Optimization of production sequence, machine utilization and setup times
-  Greater transparency and planning reliability throughout the entire order processing chain
-  Cost optimization through an integrated personnel planning module
-  Process optimization with the inclusion of CAD/CAM programming



“By introducing GANTTPLAN and the resulting process optimizations, we have significantly reduced setup and production times. Terminal-controlled production also ensures more transparency and safety. Working together, the systems have significantly reduced our delivery times.”



Oliver Nienaber, head of order processing planning at Johannes Lübbering GmbH

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