Driving digital transformation at H&T Presspart with Infor MES

H&T Presspart specialises in the manufacture of respiratory drug delivery components and devices including high precision metal canisters and plastic components for metered-dose inhalers (MDIs). The company makes over 1.2 billion components and devices for the pharmaceutical market across its four European manufacturing sites, with H&T Presspart producing over 85% of the world's MDI components. H&T Presspart is a member of the family owned Heitkamp & Thumann Group.

Manufacturing a large volume of components for a highly regulated pharmaceutical market (with differing requirements, depending on the region) at a fast pace to meet customer demand is a complicated endeavour. Production is continuous and synchronised from pressing the canisters from large aluminium or stainless-steel coils through cleaning, packaging, and secondary operations. Used by patients with respiratory diseases such as asthma and chronic obstructive pulmonary disease, MDIs must reliably deliver precise doses of medication. The manufacture of MDIs is more akin to precision engineering than mass production.

H&T PRESSPART

Headquarters
H&T Presspart
Marsberg, Germany

Industry
Pharmaceutical-device manufacturing

Infor product
Infor® MES

Website
presspart.com

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>
> ANDY SLATER
> Operations Manager, H&T Presspart

Even minor problems with source materials, equipment tooling, maintenance, production data, continuity between shift changeovers, and more can lead to costly downtime and scrappage. Reducing these inefficiencies was central to H&T Presspart's drive for continuous improvement and sustainability.

This proved difficult, however, due to the company's use of multiple, disconnected software systems. As a result, data wasn't available in real time, reports and key performance indicators (KPIs) had to be entered manually in spreadsheets, and the information produced wasn't sufficiently detailed and integrated with other aspects of manufacturing to allow H&T Presspart to identify possible improvements.

Leveraging real-time, actionable production data

Andy Slater, H&T Presspart's Operations Manager for its facility in Blackburn, UK, saw this as an opportunity to push beyond the company's existing performance levels. "We needed more centralised, accurate data consolidated in one place," explained Slater. "A high-speed manufacturing environment requires real-time data, with minimal human intervention and that is interrogated in new ways to supercharge decision making." Slater recognised that the company needed more capable and modern manufacturing software.

The Blackburn plant was already using Infor MES to monitor process capability (CPK) and process performance (PPK) and provide customers with certificates of analysis. The success of this manufacturing execution system (MES) in helping H&T Presspart maintain stable processes, along with a strong working relationship with Infor, prompted Slater to integrate further Infor MES functionality into its operations.

> " The level of process control and detail of reporting from Infor MES demonstrates our commitment to continuous improvement. This builds customer trust and confidence that the canisters we make will meet or exceed the high regulatory requirements of their regions."
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> ANDY SLATER
> Operations Manager, H&T Presspart

Business challenges

- Stop using fragmented systems (including spreadsheets) and create a centralised source of data

- Improve reactivity to production events that lead to avoidable downtime and scrappage with real-time visibility into performance

- Leverage data to address corrective actions as part of a culture of continuous improvement

- Lower costs and increase profitability

"Within the wider Infor MES capabilities, we found that production monitoring, overall equipment effectiveness, and maintenance and repair modules fit our requirements," explained Slater. "This included taking over 1,000 signals from all major pieces of equipment and turning them into real-time, actionable production data, with less than 10% human intervention."

Optimising manufacturing capacity

Prior to expanding the MES, H&T Presspart would typically create production plans via its enterprise resource planning (ERP) system. Reporting on production attainment required production counts, KPIs, and other key metrics to be input into spreadsheets to generate graphs and reports. Unfortunately, this method offered low visibility into operations and lacked any indications to adherence to plans.

After expanding the MES, production plans were now transparent across teams and showed real-time performance against targets. The MES could now pull the production orders from the ERP system and place them in the MES scheduler with the planned start and end dates. The MES picks the order and quantity, and considers how well the equipment is performing based on the real-time data from the equipment's programmable logic controllers. From this, the MES is able to accurately predict an order completion time based on current performance.

This allowed H&T Presspart to more accurately predict order completion time based on current performance; this, in turn, enabled the company to identify opportunities for additional production, which could help reduce customer lead times and satisfy increased demand.

Reducing inventory, WIP, and improving cash flow

Access to real-time data also allowed H&T Presspart to refine the synchronisation of processes upstream and downstream, which helped the company to reduce inventories and release cash that was tied-up in work-in-progress (WIP). In addition, with the MES accurately predicting production numbers, H&T Presspart was able to improve despatch and delivery efficiency.

Cutting scrap and waste

Live data from production equipment feeds directly to a dashboard in the tool room. The dashboard shows alarms (such as instantly signalling when a part is trending out of control) and prompts for quick responses to make fine adjustments to the press tool. This helps reduce scrappage and waste and improves the stability of the overall manufacturing process.

A separate dashboard shows priority events from the previous 24 hours. A daily review of the top downtime events allows action plans to be devised, whether it's for materials, tooling, or maintenance. Improvements are easily tracked through the MES, ensuring robust and sustainable corrective measures are implemented. This allows H&T Presspart to focus on long-term problem solving, rather than short-term fixes, and contributes to a culture of continuous improvement.

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>
> TONY CROSS,
> Managing Director, H&T Presspart

Business results

- Integrated the MES with the ERP system and plant equipment to automate data collection and eliminate the use paper on the shop floor

- Used real-time data and dashboards to avoid downtime and maintain production

- Drove performance improvement actions with data insights

- Freed operators from low-value data collection activities and increased profits by identifying opportunities to use spare capacity

Managing by exception

"The flexibility and ease of configuring dashboards means we continually find new ways to use the rich data flowing from the MES. The dashboards we've configured provide detailed overviews of all the production-related data," explained Slater.

Management meetings and corrective actions are now exception-driven. The MES dashboards and reporting enable the team to focus on "red warnings" with the confidence that "green status" items are backed by accurate and reliable MES data. These new processes have allowed H&T Presspart to see significant annual savings in data collection alone by eliminating manual data entry into third-party systems.

Having a single source of truth

H&T Presspart eliminated paper-based, standard work instructions and other production documentation by being able to show the information through the displays on each piece of equipment. This makes it much easier to quickly propagate the information, ensuring accuracy and consistency. Feedback from employees indicates that the MES is easy to use and provides all the information they need to carry out the manufacture of high precision metal components with minimal human intervention. This frees their time for more productive activities.

Improving equipment and processes

"Pioneering digital transformation at H&T Presspart is attracting interest from other companies within the group," explained Slater. "Three further sites in the H&T Presspart division are adopting the MES, and others are looking to deploy the software. The level of process control and detail of reporting from Infor MES demonstrates our commitment to continuous improvement. This builds customer trust and confidence that the canisters we make will meet or exceed the highly regulatory requirements of their regions."

Tony Cross, H&T Presspart's Managing Director at the Blackburn facility, sums up what Infor MES means to H&T Presspart and how the company has benefited: "It has revolutionised our ability to monitor and improve our equipment and processes, enabling weaknesses to be identified quickly and corrective actions to be undertaken. As our manufacturing model relies on a pull process, with minimum working capital between each element of the value stream, the system and the information it provides fits ideally with our lean principles, enabling shop floor personnel to make intelligent interventions and offer meaningful ideas to improve our value streams further."

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