



Reference Report

Focus on digital manufacturing

Liebherr-Werk Telfs optimizes shop floor with cronetwork MES

Liebherr

Focus on digital manufacturing

Since 1976, Liebherr-Werk Telfs GmbH has been producing a steadily growing range of construction machinery with hydrostatic drive. The company can draw on the many years of experience of the Liebherr Group, one of the world's largest construction machinery manufacturers, with deep expertise in hydrostatic drive systems. The vehicles produced in Telfs are consistently designed for high cost-effectiveness, with a focus on increasing efficiency and reducing fuel consumption and CO2 emissions.

State-of-the-art, computer-aided technologies are used in both development and production. The site, which employs more than 850 people, relies on consistent digitalization measures to ensure the necessary flexibility, quality, and delivery reliability as key priorities for customers. Toni Ferstl, Head of Industrial Engineering Manufacturing, was tasked with selecting an MES for manufacturing at the time. He recalls: "An efficient shop floor has always been a core priority. With the introduction of an MES, we have taken a natural next step in our operational evolution that helps us to significantly optimize transparency, response speed, and personal responsibility in manufacturing."

MES: Single point of entry for workers

Christina Radis, Business Solution Architect, Production MES, is also very familiar with the opportunities and challenges associated with this: "Our construction machines are characterized by an extremely high degree of equipment variability. Every order and every step involves specific requirements in terms of materials, manufacturing steps, and, of course, our employees. It is therefore crucial to ensure that workers have comprehensive information throughout the manufacturing process." The all-important drawings, parts lists, work plans, and instructions are now available in ONE place: cronetwork MES. "What used to involve lots of paper documents, repeated searches for information, and potential sources of error, we wanted to provide our colleagues on the shop floor with a single point of entry. All the necessary information about the current order is now available in one system and no longer has to be laboriously gathered together. This allows us to eliminate manual errors, become faster overall, and take a big step toward paperless manufacturing." Radis also highlights that workers can not only access information but submit feedback directly, e.g. flagging missing parts. She adds: "For the manufacturing area, MES has become the most important tool alongside our ERP Infor LN, from where material calculations, work plans,

and instructions, etc. are provided in cronetwork, and the provision of drawings from PLM also works flawlessly. We can also access these on our tablets to ensure maximum mobility at the setup stations."

Data Hub: cronetwork MES

cronetwork MES was introduced in the areas of cutting, steel construction, mechanics, painting, and intralogistics with the aim of providing broad coverage across the entire production area. Beyond its core function of providing information to workers, the use of PDC reporting terminals also plays an important role at the Liebherr plant in Telfs. In addition to classic order reporting, MES incident reporting gives workers a direct channel to spot problems or unexpected events as they arise. Radis sees this as critical for Liebherr's operations teams, as it ensures the necessary transparency in the area of in-house production: "During ongoing operations, we repeatedly identify potential for optimization, such as reducing missing parts and wait times, and we also obtain important key metrics in the administrative area for increasing productivity in production."

This includes expert portals that give senior technicians and team leaders a real-time view of shop floor activity. Production control also makes intensive use of cronetwork MES and, in particular, PIDO Business Intelligence for evaluations, on the basis of which further measures and strategies are planned.

In total, nearly 100 workers at 80 terminals and approximately 40 administrative staff (supervisors, team leaders, production managers, production controllers, industrial engineers, etc.) now work with cronetwork MES on a daily basis. Right from the start of the MES project, all employees were extensively informed and trained as part of a change process, which today, in conjunction with the recognized potential, is reflected in high acceptance and productivity. For Christina Radis, the integrated no-code approach in the software is a key factor for success, as it allows optimizations based on

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Christina Radis

Business Solutions Architect Production –
MES, Liebherr Group



1. For Christina Radis, Business Solution Architect for Production – MES, it was important to use cronetwork MES to create a single point of entry on the shop floor.

2. cronetwork MES is the central hub on the path to digital manufacturing at the Liebherr plant in Telfs

employee requests to be implemented quickly and easily, which ultimately leads to additional acceptance.

Professional partnership instead of in-house programming

For several years now, Liebherr has been moving away from individual in-house programming toward external professional systems from providers who understand their “craft.” The best-of-breed approach pursued allows for long-term and sustainable partnerships. “In Telfs, we have been manufacturing heavy construction machinery for more than 50 years. This is where our core expertise lies. We were looking for an equally professional partner for shop floor digitalization—and found it in Industrie Informatik,” says Toni Ferstl, who goes on to explain the decision in favor of cronetwork MES: “At Industrie Informatik, we were impressed by the size and culture of the company and its customer base. In addition, with cronetwork, they offer a compelling solution that grows with market requirements and always pursues the goal of remaining a true out-of-the-box solution that scales with market demands. To date, we are happy with our choice.” According to Ferstl, this is also due to the

targeted support and close cooperation in independently managed development and project work.

Even at the highest management level, people are aware of the advantages of a digital shop floor in conjunction with cronetwork MES: Liebherr Werk-Telfs Managing Director Alfred Weithaler: “As an order-based factory with a wide range of products and diverse options in product configuration, it is important to me to provide our customers with the right parts at the right time and in the best quality. Fast throughput times are essential to meet customer expectations. The greatest potential for optimizing throughput times lies in eliminating downtime. The MES from cronetwork supports us in this, and we have made the leap from manual “supervisor control” to professional, digital production control.”

Conclusion

In summary the benefits of Liebherr’s digital efforts at its Telfs site can be summarized as follows:

- Increased transparency and, as a result, greatly improved decision-making quality
- Dramatically faster response to disruptions and incidents
- Centralized information access for shop floor employees
- Single point of entry with bidirectional data flow and expandable worker tools in cronetwork MES

And the journey is far from over. While Infor LN is still being used for planning against unlimited capacities, cronetwork detailed planning APS is expected to deliver the next wave of efficiency and optimization potential. As mentioned at the beginning, the introduction of cronetwork MES was a conscious evolutionary step that has so far paid off in many ways for Liebherr Werk-Telfs GmbH and its responsible players, and both Liebherr and Industrie Informatik are committed to further steps in their partnership toward a paperless, digital future.

Employees: Approximately 54,000 employees group-wide, 850 employees at the Telfs plant

Products: Bulldozers, wheel loaders, telescopic loaders, and pipe-laying machines for pipeline construction

cronetwork modules: PDC, MDC, Detailed Scheduling APS, Time & Attendance, Certified SAP Interface, Business Intelligence, PIDO

Additional information online at:

www.liebherr.com

www.industrieminformatik.com

cronetwork MES: The data hub for the smart factory



Production Control (Detailed Scheduling)

Detailed Scheduling APS
Order Network Formation
Optimizer
Order Sequencing



Order & Data Management

PDC (Production Data Collection)
MDC (Machine Data Collection)
Process Data
Energy Management
PTT (Project Time Tracking)
Worker Guidance
Certified SAP Interface
Setting Data



Quality Management

Quality Data Acquisition
Test Equipment Connection
Statistical Process Control (SPC)
Check Order Management



Material Management

Traceability (Individual Part and Batch Traceability)
KANBAN Execution
Logistics
WIP (Work-in-Progress Warehouse Management)



Operating Resource Management

Operating Resource Tracking
DNC (Direct Numerical Control)
Maintenance



Information Management

Business Intelligence
Reporting
KPI (Key Performance Indicators)
PIDO & Portal



Personnel Management

Time & Attendance (T&A)
Workforce Scheduling
ESS (Employee Self-Service)
Access Control
Incentive Pay Calculation

Industrie Informatik GmbH, Austria
4020 Linz, Wolfgang-Pauli-Straße 2
1190 Vienna, Leopold-Ungar-Platz 2
tel.: +43 732 6978-0
info@industrieminformatik.com

Industrie Informatik Deutschland
GmbH, Germany
40880 Ratingen bei Duesseldorf,
Kaiserswerther Straße 115
tel.: +49 2102 3706-0
77955 Ettenheim, Tullastraße 19
tel.: +49 7642 4971-0
info@industrieminformatik.com

Industrie Informatik (Shanghai) Co.,
Ltd., PR China
3rd Floor, 665 Zhangjiang Road,
Pilot Free Trade Zone, Pudong,
201203 Shanghai, China
tel.: +86 21 2898 6790
info@industrieminformatik.com

英杜睿信息技术（上海）有限公司
201203 中国上海,浦东新区,
自由贸易试验区
张江路665号三层
电话: +86 21 2898 6790
传真: +86 21 2898 6010
info@industrieminformatik.com