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Reference report



MES software cronetwork
at Neumayer Tekfor GmbH

Automobile supplier reduces machine downtime
MES enables 20% less machine disruptions

Neumayer Tekfor

reduces machine disruptions

In order to further optimize their manufacturing productivity, global automobile supplier Neumayer Tekfor (Hausach, Germany) decided to acquire the Manufacturing Execution System (MES) cronetwork by Industrie Informatik. With this browser-based MES solution, which also preempts the expensive proprietary plant data collection (PDC) terminals of their legacy system, Neumayer Tekfor seeks to reduce machine downtime.

OBJECTIVE: REDUCTION OF MANUAL ENTRIES

The working environment is very loud and very hot in the hot-pressing plant at Neumayer Tekfor. MES project leader Markus Misof is very difficult to understand as he loudly says: "We

"We have had and continue to have excellent collaboration in terms of both consulting and support. When we need it, we always receive quick help, although we seldom need help."

Dipl.-Ing. (FH) Markus Misof, MES project leader, Neumayer Tekfor GmbH

are partners to the automobile industry and part of the Amtek International Group, which has over 10,000 employees and annual sales of 1.9 billion euros. At their site in Hausach, Misof

tells us, the two companies Amtek Tekfor Holding and Neumayer Tekfor are the region's largest employers, with some 650 employees and annual sales of 141 million euros. The noise and the heat in the hall prevent any kind of discussions due to the many loud presses with a pressing force of 80 to 450 tons and weight-dependent stroke rates of 80 to 180 parts per minute. This is intensified by temperatures of up to 1300°C that result quickly when steel is heated via induction. "Neumayer Tekfor is a leader in the design, development and production of competitive solutions and modules for transmissions, engines, drive trains, chasses, special applications and safety nuts," the graduate engineer describes the portfolio of the ambitious automobile supplier a few steps later in his quiet, air-conditioned office.

Reflected in numbers, this means daily steel consumption of some 100 tons and annual production of 290 million parts.

To surpass these figures and further improve manufacturing productivity, Neumayer Tekfor decided "to acquire the Manufacturing Execution Systems cronetwork by Industrie Informatik, which is absolutely viable in practice" according to Misof. With this browser-based MES solution, which also preempts the expensive proprietary plant data collection terminals of their legacy system, Neumayer Tekfor seeks to reduce machine downtime. "With the acquisition of cronetwork, we also sought to initiate the move from manual entry to automatic piece counting." The challenge for Neumayer Tekfor was that a broad range of different machines and departments had to be connected to the MES and many still need to be connected. "This includes machines for hot and cold pressing, for heat treating and surface treating, for cutting threads, for machining and for facing," explains Misof. Likewise Production Planning, Maintenance, Logistics, IT, Controlling and Specialized Machine Construction had to be integrated.

TROUBLE-FREE INTEGRATION OF 200 MACHINES

Neumayer Tekfor needed the MES cronetwork to automatically provide all production-relevant data for this combination. "Above all, we need to know about and see as quickly as possible what is scrap, what is not, and what the disruption reasons are that lead to machine downtime. This information was not available in the legacy PDC system." Thus the company stepwise installed the cronetwork modules PDC, MDC with disruption reason entry, KPI (e.g., OEE) and BI (dashboards). They began with a pilot project for machining. Because far more than 200 machines must be connected to the MES, the roll-out has been running for three years – trouble-free. Currently some 150 machines are integrated in the system and another 60 will follow. "There are three reasons why our MES project became a real-life success story," concludes Misof. "We enjoy a strong project team across departments and the full support of our management and excellent support on the part of our software partner Industrie Informatik."

- 1 cronetwork plant data collection in application
- 2 Out of Neumayer Tekfor's portfolio: safety nuts for the automobile industry
- 3 MES project leader, Dipl.-Ing. (FH) Markus Misof
- 4 Information at a glance with the work center monitor: Who is working on which order and on which machine?



FLEXIBLE SOURCES PROVIDE NECESSARY INFORMATION

Neumayer Tekfor currently covers 95% of its requirements with the standard MES solution; the remaining 5% are adaptations. For example, changes of shift were to be accelerated via optimization phases. IT service provider Industrie Informatik handled the customization for the automobile supplier. "Another priority in choosing our MES was that feedbacks from machines that are not yet connected can be imported," reports Misof.

Day-to-day production at Neumayer Tekfor is now supported by a range of features that would be impossible without cronetwork: In addition to live data with online visualization and hall monitoring on large displays, these features include detailed reporting for management and successful bottleneck management. Misof assesses the improvements across all departments: "This functionality is also most used by our employees." A huge benefit is cronetwork's flexibility, which enables computing meaningful index values from heterogeneous data sources. "With MES we have reduced machine downtime by 20%," Misof stresses.



Now in production all evaluations are displayed in the cronetwork dashboard. "Directly at the line or machine we can see the current state, and due to hall monitoring and dashboard we have an overview of an entire department," says Misof. Then there is the clear and comprehensible scheduling board covering all of production; this adorns the office of the foreman or shift supervisor as an excellent source of information.

NEXT STEPS: BI SOLUTION FOR THE SHOPFLOOR

However, Neumayer Tekfor has still not reached the peak that they are striving for. Here Markus Misof adds: "For each department that we integrate, we set new goals, new priorities. Nobody is working on this full-time anymore, as was necessary at the beginning of our MES introduction. Now the tasks are distributed across several staff members. I continue to handle project management, but the tasks are very concrete and person-related."

HOW NEUMAYER TEKFOR BENEFITS FROM CRONETWORK

- :: reduction of machine downtime by 20%
- :: real-time and location-independent availability of production data
- :: automatic collection of piece data
- :: very high data precision
- :: low manual effort for corrections
- :: bottleneck management

The next step and thus the next larger project for the automotive supplier will be cronetwork's integrated business information (BI) solution PIDO (production info data objects). As an operative BI tool, PIDO enables a perspective over a short time horizon. Thus for employees in production the new solution serves as an important source of context-oriented information in an Industry 4.0 (smart factory) environment. "We have already licensed PIDO; training is also done. Further, along with real-time detailed planning data from the cronetwork module Scheduling Board APS (Advanced Planning and Scheduling), we also want a preview option for our production. Together with cronetwork Time & Attendance and Process Data Collection, this constitutes the next phase that we will undertake."

Misof optimistically looks ahead, not least due to the positive experience with Industrie Informatik: "We have had and continue to have excellent collaboration in terms of both consulting and support. When we need it, we always receive quick help, although we seldom need help."

Products: solutions and modules for transmissions, engines, drive trains, chasses, special applications as well as safety nuts
Employees: 650 on-site, 10.000 worldwide
cronetwork modules: scheduling board, plant data collection, machine data collection, PIDO, KPI, work center monitor



Further information online at:

www.neumayer-tekfor.com
www.industrieminformatik.com

Scheduling Board

Graphic scheduling for your production: live, fast and flexible

Plant Data

Low feedback effort for a real-time view & traceability

Machine Data

Correct data & information automatically

Time & Attendance

Clear employee administration and flexible scheduling

Business Intelligence

Analyses & evaluations with real-time information

Mobile Applications

Enter and evaluate data from any location

Technology

Benefits for software owners and users

cronetwork MES: The data hub for the Smart Factory



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