



Case Study

Efficiency and traceability
in plant engineering with MES
and traceability solutions
– a practical example

- **Manufacturing Executive System and traceability**
What are Manufacturing Execution Systems?
What is traceability?
- **Challenge:** Connection of MES and traceability systems to existing plants
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Manufacturing Executive System and traceability

Consistent traceability and maximization of efficiency are keywords that are of essential importance in modern plant engineering. Manufacturing Execution Systems (MES) and traceability solutions can be used to map the planning, control and monitoring of production processes in real time. They thus offer a powerful approach to improving production processes and quality management.

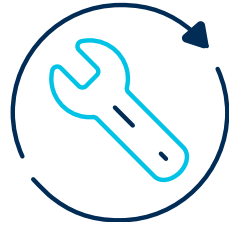
What are Manufacturing Execution Systems?

To control complex production processes in manufacturing plants, a software system is required, the Manufacturing Execution System. There are different MES from different suppliers, for example the itac.Mom.suite (itac.MES.suite) from Itac Software AG, the MES from the Stiwa Group or the Manufacturing Information System (FIS) from Melecs Holding GmbH. With MES systems, it is possible to map the entire manufacturing process, from order planning to materials management and quality assurance. The MES monitors and analyzes all production data in real time and can intervene to optimize and identify bottlenecks. The efficiency of the plants and processes can thus be monitored and increased.

What is traceability?

Traceability of products and components. With the help of barcodes, RFID tags or other identification technologies, products and components can be tracked from procurement to delivery. Even in the production process, every movement and every processing operation can be traced and documented. This enables companies to monitor the quality of their products down to the smallest detail. Potential product recalls can also be minimized in this way. Proof of compliance with standards and requirements can also be provided in this way.

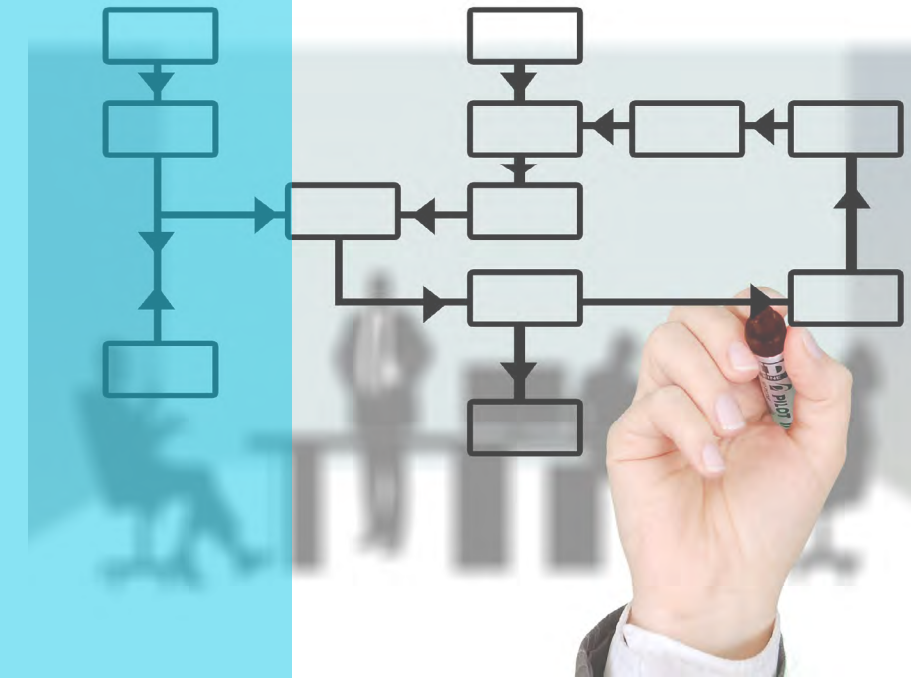
Overall, MES and traceability solutions in manufacturing offer a holistic approach to improving production processes, ensuring product and component traceability, and increasing efficiency and quality.

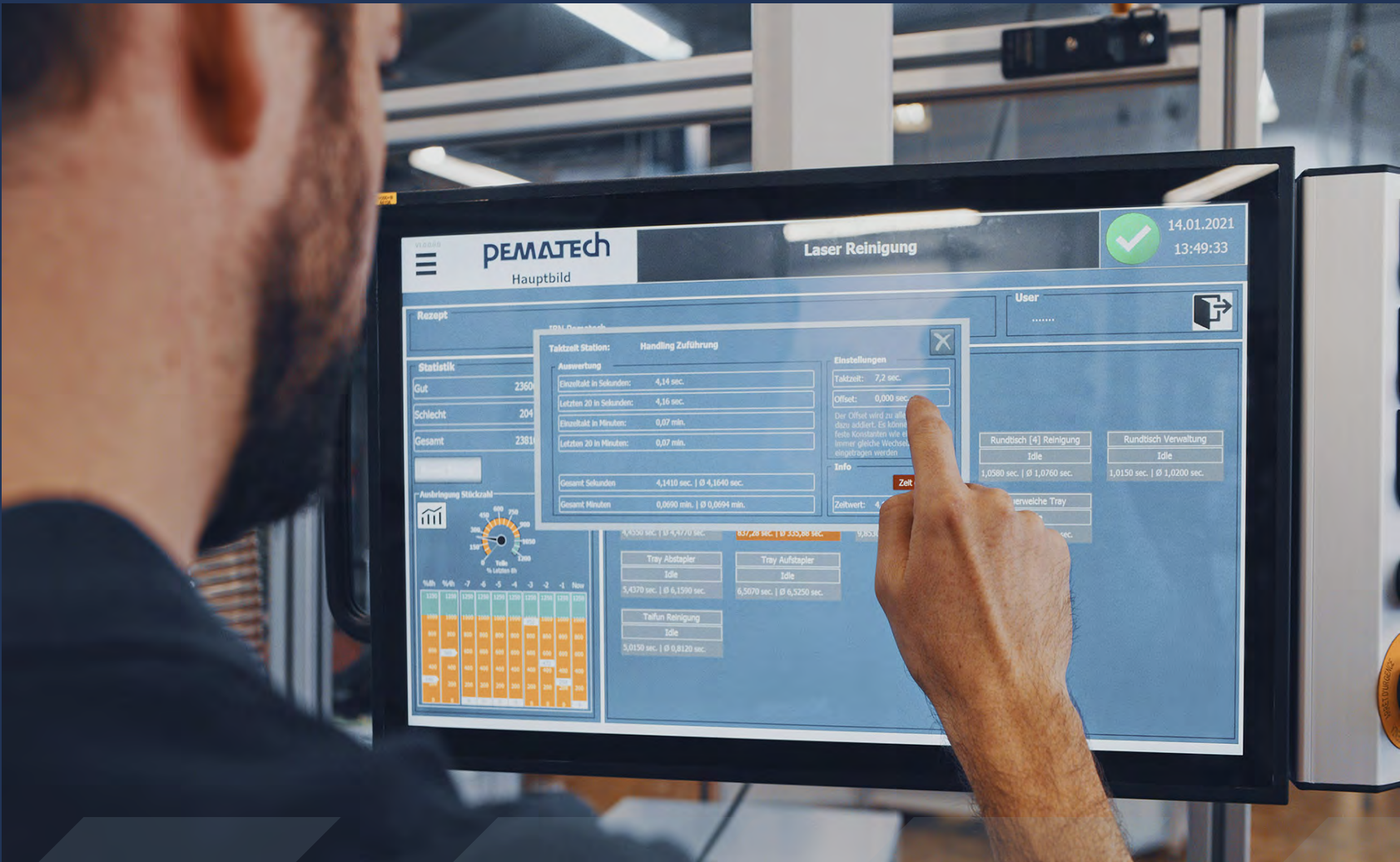


CHALLENGE

Connection of MES and traceability systems to existing plants

MES and traceability solutions are becoming increasingly indispensable, which is why their use is growing in a wide variety of industries. One challenge that must be solved here is the connection of new or existing production lines, since two system worlds must be brought together here. At our customer, the automotive supplier Brose in Hallstadt, we successfully implemented a project in electronics manufacturing. Here, the Manufacturing Execution System (MES) from iTAC was implemented in the factory. All existing production facilities had to be connected to the new system. Before the changeover, tracing was carried out via XML data capture and had to be converted to the iTAC MES Suite.





SOLUTION

Use of the Pematech LineManager

The challenge of communication of all existing production lines with the new MES had to be solved - on the one hand the machine PLC and on the other hand the high-level language-based MES environment. With Pematech LineManager it was possible to build this bridge safely. The Pematech. MES.ITAC.interface software module is used for bidirectional communication with the MES system.

The connection of the CustomFunctions can also be implemented flexibly and quickly. Furthermore, the communication times are very short, even with larger data volumes. In addition to the fast and reliable connection of all systems, the Pematech LineManager also offers a uniform control concept across the entire plant.

In order to be able to implement a project of this scope smoothly and quickly, intensive planning and coordination is required from all the plant manufacturers and machine builders involved. This was the only way to carry out the changeover with as little downtime as possible and in parallel with ongoing production.

But it was not only the good preparation that played a role here, but above all the flexible software module Pematech. MES.ITAC.interface that made this conversion so easy, fast and reliable. Markus Postler, MES Coordinator at Brose: „Our HFA final assembly line has been successfully converted from XML to API as far as the Pematech modules are concerned. I am particularly pleased that there are plant manufacturers who not only supply machines but also good software, which is unfortunately not a matter of course. The Pematech LineManager is an outstanding example that it is quite possible to implement software interfaces in a transparent and flexibly configurable way.“

ADVANTAGES

The Pematech LineManager and the implementation by Pematech offers some decisive advantages. The connection of new or existing production lines is possible reliably and within the set timeframe by using the Pematech software module, which is also available for MES from other suppliers. Pematech takes over the project responsibility, coordinates and plans the implementation and thus creates the basis for a smooth changeover. In addition to the reliable integration of all systems, the use of the Pematech LineManager software platform also provides the basis for a holistic control concept across the entire plant and makes operation uniform.

PEMATECH



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