Press release

Monolithic, proprietary MES do not meet the requirements of the Smart Factory

iTAC highlights: Why the factory of the future needs the capabilities of a MOM

Montabaur, November 22, 2022 – Manufacturing Execution Systems (MES) have been proving their value for decades as a means of controlling and monitoring production processes. However, as an autarkic proprietary system and in its classic scope of functions, the MES no longer meets the requirements of the increasingly networked factory. Machines, systems and processes have to be linked universally. Data must be collected from various sources, analyzed and made accessible in order, for example, to derive automated actions or generate added value. Modern production therefore needs a holistic Manufacturing Management System, a so-called MOM (Manufacturing Operations Management) system.

"Where the MES meets its limits – that's where the MOM starts. In detail, this means that the Manufacturing Execution System has essential functionalities for the Smart Factory, which continue to be useful, but not as a monolithic system," explains Martin Heinz, board member of iTAC Software AG.

MOM opens up levels of flexibility for digitalization and connectivity

A MOM system is a further development of an MES – designed for predictable production that makes use of the latest IIoT technology. Thus, the iTAC.MOM.Suite has all necessary functions for connecting and automating processes. It is modular and scalable, and its openness allows it to be

seamlessly integrated into customers' digital platform strategies. The MOM solution enables real-time control, optimization and prediction of production processes using AI. It combines the typical MES functions with solutions for control, planning and analytics as well as IIoT capabilities. The MOM system functionally covers all processes that take place on the shop floor, i.e., in the area between the machines and the ERP system. In addition, it offers the connection of interfaces to upstream systems of factory planning and design (such as APS, operative area planning, etc.) as well as to higher-level systems (ERP, PLM, etc.).

Data becomes usable and generates added value

Predictive systems in particular require accurate, up-to-date, and complete data. These come from different sources and must be contextualized to achieve data consistency and quality. This is what a MOM is able to do. It helps to set up the required vertical and horizontal information flows, collects and analyzes data. It also identifies optimization potential and supports implementation.

"By integrating analytics functionalities, the MOM offers new possibilities to predict production results based on captured IIoT and MES data. These predictions can address quality and production performance as well as potential manufacturing downtime. Preventive and predictive services, as well as the integration of edge technologies, result in optimization, more value added and data sovereignty," explains Martin Heinz.

The factory of the future needs the capabilities of a MOM

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About iTAC

iTAC Software AG, an independent company of the mechanical and plant engineering firm Dürr, provides internet-enabled information and communication technologies for the manufacturing industry. Founded in 1998, the company is one of the leading MES/MOM providers. The iTAC.MOM.Suite is a holistic Manufacturing Operations Management that is used worldwide by companies in different industry sectors such as automotive, electronics/EMS, telecommunication, medical engineering, metal casting and energy. Additional services and solutions for implementing IIoT and Industry 4.0 requirements complete the portfolio. iTAC Software AG is headquartered in Montabaur, Germany and has offices in the USA, Mexico, China and Japan and has a worldwide partner network for sales and service. ITAC's philosophy is to connect people, data and systems.

The Dürr Group is one of the world's leading mechanical and plant engineering firms with extensive expertise in automation and digitalization/Industry 4.0. Its products, systems and services enable highly efficient and resource-saving manufacturing processes in different industries. The Dürr Group supplies sectors like the automotive industry, mechanical engineering, chemical, pharmaceutical, medical technology and woodworking industries. It generated sales of € 3.54 billion in 2021. The company has around 18,100 employees and 120 business locations in 33 countries.

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