

Press release

Connecting AI with the IoT offers new opportunities for industries

iTAC shows how manufacturing can benefit from the Artificial Internet of Things

Montabaur, February 13, 2023 – What happens when AI and IoT interconnect? Then the result is AIoT (Artificial Intelligence of Things). This opens up new potential for creating value from data. The focus is on collecting, analyzing and interpreting data from machines and sensors with the help of an MES/MOM. In this way, for example, predictions can be made and self-learning processes can be developed. The MES/MOM specialist iTAC Software AG (www.itacsoftware.com) demonstrates the possibilities for implementation.

"With the Internet of Things and a multitude of networked machines, more and more data is available. However, this data is worthless if it cannot be used in decision-making processes. It must therefore be processed and intelligently evaluated by AI applications as quickly as possible. Artificial intelligence can also draw comparisons with other processes, systems and their data and, by learning from experience, independently solve future tasks, avoid errors and optimize processes," explains Martin Heinz, board member of the iTAC Software AG.

The IoT structure therefore needs artificial intelligence, which in turn needs the Internet of Things as a source of data. iTAC also relies on this symbiosis and enables streaming and batch analytics on a central, scalable platform with out-of-the-box access to MOM data for predictable production. The

iTAC Software AG
Aubachstr. 24
56410 Montabaur
Germany

Phone +49 2602-10 65-0
Fax +49 2602-10 65-30
contact@itacsoftware.com
www.itacsoftware.com

iTAC.MOM.Suite takes advantage of the latest IIoT technology. The iTAC.IIoT.Edge software is a part of the MOM system (Manufacturing Operations Management System), but can also be used as a stand-alone solution and enables significant improvements in manufacturing processes in a short time. It can combine IIoT data with MES data to form flat data structures and analyze this data in real time. The data packages can also be transferred to other analysis or ML/AI tools used by the customer and ML models created on other platforms can be integrated.

"Machine learning and artificial intelligence-based applications in the field of analytics enable more sophisticated and higher-quality analyses than conventional technologies and algorithms. Artificial intelligence can, for example, find complex patterns in the data, draw conclusions and thus make predictions," explains Martin Heinz.

By using iTAC's edge solution, numerous ML/AI use cases can be developed for advanced and digitalized manufacturing, for example in the area of prediction. The corresponding monitoring of machine and sensor data makes it possible, for instance, to predict machine failures. Unplanned machine failures can thus be reduced by up to 70 percent. Another use case is the reduction of test efforts. Most SMT lines with AOI struggle with a high rate of false calls. AI can be used to accurately differentiate between real defects and false calls. This reduces the need for manual verification by operators by up to 60 percent, with associated time and costs. The result is higher throughput while supporting zero-defect production.

The possibilities are numerous. iTAC offers a use case library that enables customers to implement applications quickly and easily.

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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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Germany

Phone +49 2602-10 65-0
Fax +49 2602-10 65-30
contact@itacsoftware.com
www.itacsoftware.com

Contact

iTAC Software AG
Alina Leber
Inbound Marketing
Phone +49 2602 1065 211
alina.leber@itacsoftware.com

punctum pr-agentur GmbH
Ulrike Peter
General Manager
Phone +49 211 971 7977 0
pr@punctum-pr.de

iTAC Software AG
Aubachstr. 24
56410 Montabaur
Germany

Phone +49 2602-10 65-0
Fax +49 2602-10 65-30
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