PRESS RELEASE

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From the First Instances of Data Recording to AI Applications

The whole spectrum of digitalization remains a top issue at EMO Hannover 2025

Frankfurt am Main, July 17, 2025. – More so than almost any other issue, digitalization in production stands for technological change and gives rise to news and trends, including at EMO Hannover 2025. All this, despite the fact that digitalization of machine tools is hardly a new topic. It began with the first computer numerical control (CNC) system in the 1960s. That actually makes it older than the world's leading trade fair for production technology which celebrates its 50th anniversary this year. Whether it is Industry 4.0, the Internet of Things or AI that are causing a stir among experts – one question is ever-present: How can companies find the easiest and most economically sensible path to digitalization?

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“It is always a good idea for companies to first gain an overview of which applications are relevant for them,” explains Dr. Markus Heering, Executive Director at EMO organizer VDW (German Machine Tool Builder’s Association). According to him, one of the first and most important steps for any factory is to create transparency in production through targeted recording and exchange of data.

Data recording and networking made easy

The benefits to be gained from this data are apparent when taking a look at the digital solutions offered by many machine manufacturers. Machines themselves are complex mechatronic systems which are now fully digitalized. This takes center stage when building a self-contained data space (private cloud, intranet) that is limited to the relevant company. Open, standardized data interfaces are required to ensure that new machine tools as well as existing tools, machines from different manufacturers and even robots can communicate with each other and exchange data in production. The global initiative *umati* (universal machine technology interface) will once again demonstrate the benefits of standardized machine networking at EMO Hannover 2025.

The most important insight is that evaluating large quantities of data makes it possible to optimize production processes, identify errors early on and utilize resources more efficiently. This increases competitiveness on the global market significantly.

Current applications and trends

A few application cases are likely to draw particular attention at EMO this year. Digitalization and networking promote the customization of products and adaptation to rapidly changing market requirements. With methods such as mass customization, companies can manufacture small batches of customized products without losing the efficiency of series production.

Digitalization can also support sustainability, as Professor Dr. Christian Brecher, Executive Director of the Fraunhofer Institute for Production Technology IPT in Aachen, Germany, recently highlighted. Data analysis helps to use machine capacities more efficiently. “Optimized process control helps to better exploit the potential of a machine and use resources more efficiently,” Brecher emphasized. Digitalization also plays an important role in the implementation of the circular economy by supporting resource tracking and reuse. This means that less energy and material is required per part produced.

The possibilities offered by the use of artificial intelligence appear to be just as varied and exciting. Algorithms can analyze recurring situations and identify patterns that indicate an impending machine failure. This makes it possible to plan and carry out predictive maintenance and service work. AI can also monitor production processes in real time and suggest changes, for example to lower energy consumption.

Combating the shortage of skilled workers with AI

The shortage of skilled workers will surely be the topic of many discussions at EMO Hannover 2025. How can AI and digital solutions compensate the experience that is lost when long-time employees leave the company or

retire? What can AI-based support systems achieve that are intended to help users by answering questions, providing instructions or being used for individual training? To what extent is AI successful in supporting new or less experienced employees?

The joint *AI + Digitalization Area* and the AI Hub@EMO2025 seek to answer many of these questions with expert knowledge at EMO 2025. Here, investors from industry and administration can learn about the wide range of opportunities offered by networking paired with artificial intelligence.

You can find out what EMO exhibitors have to offer in terms of technological solutions for digitalization and AI in the run-up to the trade fair by visiting the “Made for AI & Digitalization” landing page at https://emo-hannover.com/ai-and-digitization. Until EMO in September, exhibiting companies will take turns demonstrating how they are increasing efficiency in their production facilities with networked machines, intelligent data analysis or cloud computing.

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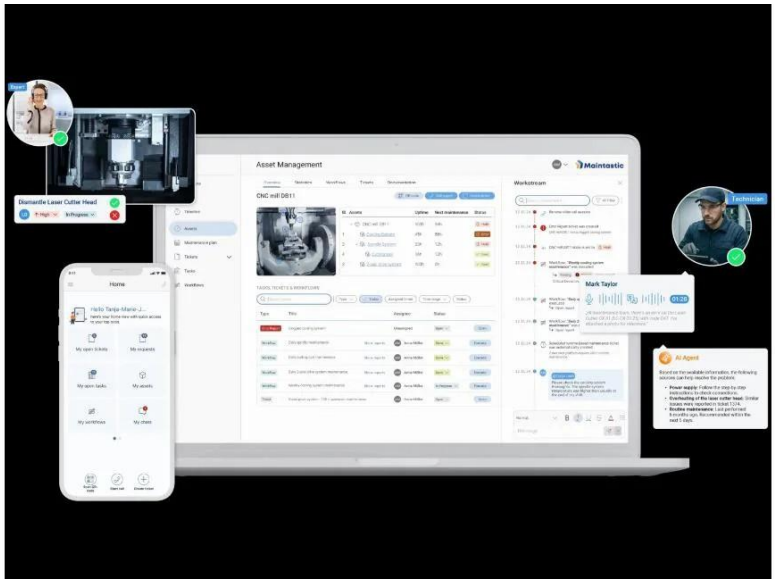
Pictures



Maintastic e.g. offers the AI-powered CMMS (Computerized Maintenance Management System) for collaborative maintenance of machines, equipment, and building technology. Source: Maintastic

Haimer offers a comprehensive concept for the digitization and automation of toolroom management. The focus is on easily integrable products and user-friendly software solutions to increase manufacturing productivity. With WinTool and the Toolbase dispensing system, the company provides a powerful complete package for efficient tool and consumables management.
Source: Haimer

Background
EMO Hannover 2025 – the world's leading trade fair for production technology
Under the motto "Innovate Manufacturing", EMO will showcase the entire metalworking value chain from September 22 to 26, 2025. These are cutting and forming machine tools, manufacturing systems, precision tools, automated material flow, computer technology, industrial electronics and accessories. EMO takes place in a sequence of Hanover – Hanover – Milan every two years and will celebrate its 50th anniversary in 2025. More than 1500 exhibitors from 40 countries have already registered. In 2023, EMO attracted 92,000 visitors from across the globe to Hanover. As the most important platform for metalworking worldwide, the event stands for **innovation** – EMO is a source of inspiration and a global leader when it comes to new products, manufacturing solutions and services. **Internationality**: International market leaders exhibit at EMO. The trade visitors – from around 140 countries – come from all major customer industries such as mechanical and plant engineering, the automotive industry and its suppliers, aerospace technology, precision mechanics and optics, shipbuilding, medical technology, tool and mold making, steel and lightweight construction. **Inspiration**: No other trade fair presents the full breadth and depth of international manufacturing technology like EMO. Exhibitors and visitors with a high level of expertise discuss the megatrends in manufacturing, exchange ideas with representatives of international production research and

develop solutions to existing challenges. The future of metalworking: Innovate Manufacturing remains a constant challenge for the industry. EMO points the way to the limitless possibilities of industrial manufacturing.

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