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## Press Release

### automatica 2025: how artificial intelligence redefines automation

- **AI @ automatica: from grippers to cobots**
- **AI solutions for a competitive edge in production**
- **GenAI-powered language programming for robots**

The adoption of artificial intelligence is an increasingly critical factor for the viability of industrial production. European companies run a particular risk of getting left behind with regard to this cutting-edge technology – even though all kinds of industrial AI solutions are readily available and implementing them is now easier than ever. The leading exhibition automatica will impressively demonstrate this in June 2025.

A December 2024 survey by the Statista Research Department details just how precarious the situation is. For example, China has the highest prevalence of AI production technology at 94 %. The US comes in second, but is surprisingly far behind. 46 percent, i.e. less than half of all manufacturing companies, use AI here. According to the survey, the German speaking countries (DACH region) come in last at only 20 percent.

Christian Fenk, CSO of the robominds AI company in Munich, feels that things should be different: “On the supplier side, Europe is among the global market leaders for AI solutions geared towards production. Anyone doubting this should attend automatica in Munich and see for themselves the wide range of available AI solutions covering all aspects of automation. Any company delaying their own adoption of this technology puts their competitive positioning at risk.”

US President Donald Trump is one of those who have understood the significance of AI. He started his second term by initiating the \$500 billion

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Stargate venture intended to bring AI infrastructure in the U.S. to a whole new level. The enormous investment into this key technology is to not just ensure a competitive edge for the industry, but to secure the entire nation's prosperity and sovereignty. What that means for Europe: Time to act.

### **Doing the impossible with smart automation**

Let's go back from global politics in Washington to a production hall in northern Germany: AI plays a major role here, too. It doesn't affect the world order here, but it helps develop the competitive positioning of a plastics processing business facing the challenge of positioning a large variety of pre-separated components for assembly. Conventional automation is not an option here as the enormous variety of components would require both a tremendous programming effort and continuous adjustments to the program as it is executed.

robominds was able to solve this problem using an AI solution that autonomously reacts to changes as they occur. A combination of robots, robobrain®, and suitable AI skills enables the system to recognize, grip, and separate all component variants without any programming or teaching effort. "Real artificial intelligence acting as a link to cover unstructured processes unlocks entirely new fields of application in automation. Even if the customer's product variety increases further, AI puts them in a comfortable spot as it enables flexible reactions to future changes", says Tobias Rietzler, CEO at robominds.

### **Smart 3D vision replaces teaching and programming**

The combination of 3D vision and powerful AI is one of the prerequisites for implementing smart robotics solutions. This technology enables robots to act appropriately in any given situation and to take on tasks subject to dynamic changes. This helps overcome the limitations of inflexible programmed sequences and lets machines achieve maximum autonomy.

At automatica, lots of machine vision providers present actual use cases for such solutions, including start-ups such as Mech-Mind Robotics. This company was founded in 2016 and, with the support of Intel and other investors, has attracted

a total funding of more than \$200 million. It is already considered one of the top players in deploying AI and Deep Learning applications to implement extremely challenging automation tasks.

Trade fair stands of exhibitors such as Basler, Carl Zeiss, IDS, MVTec, or VMT offer visiting professionals the perfect opportunity to get up to speed on the latest technology in AI-based machine vision. Our exhibitors will be happy to elaborate on tasks to be solved, the ease of system integration, associated costs, and return of investment.

### **Global robot manufacturers showcase visionary developments**

Visitors are also eagerly awaiting the innovative solutions showcased by robot manufacturers at automatica. One thing we already know: We never had more registered robot manufacturers than this year, and many of our first-time exhibitors are from Asia.

Language programming is another AI-related topic that will play a pivotal role very soon. If it was possible to program robots using natural language, the greatest obstacle associated with their use would just vanish in an instant. A team from Augsburg, Germany, has shown that this dream of convenient language programming is now within reach.

The team at KUKA has been working on using generative AI to create program code for some time now. Roland Ritter, Head of Software Portfolio Management at KUKA, explains what this is all about: “We are currently developing an AI chatbot capable of translating natural language commands into code, which is then used to program the robot for the task at hand. If we succeed, anyone could perform entry-level robot programming with ease.”

Experiments are conducted in a virtual environment for now, and AI-generated robot programs are still being tested using digital twins in an effort to make them suitable for real-world applications. But progress is being made and it is only a matter of time before AI assistants and robot programming will work hand in hand.

### **Autonomous mobile robots – powered by artificial intelligence**

Just as in stationary robots, artificial intelligence plays a key role in mobile robotics, too. Autonomous navigation may have the greatest impact in this domain as it unlocks fully autonomous deployments of AMRs in complex and continuously evolving environments. It was not without good reason that ABB Robotics acquired Sevensesense Robotics in 2023. The Swiss company specializes in VSLAM technology (Visual Simultaneous Localization and Mapping). This AI-based technology is considered a game changer as it enables AMRs to map unknown environments and navigate them with great precision. Sami Atiya, Head of Robotics & Discrete Automation Business Area at ABB: “Each robot is equipped with machine vision technology and AI, and is tasked with scanning a specific part of the building. Each robot’s field of vision is used to compile a complete map so that AMRs can autonomously work in fast-changing environments.”

The numerous AGV and AMR providers use different navigation systems, and each of them can take on specific logistics tasks – learn all about it at [automatica](#). Both the choice of solutions and the market are huge. And that extends to the entire product range from grippers to cobots, and across all exhibition areas: AI is now ubiquitous and unlocks quantum leaps in terms of efficiency and economic potential.

#### **About automatica**

automatica is the world's leading marketplace for automated smart production. It is the trend setting event for companies from all industry sectors, providing access to innovations, knowledge, and trends with a high degree of business relevance. automatica focuses and shapes the transformation of industrial production – from automated to autonomous facilities. Messe München GmbH and VDMA Robotics + Automation, conceptual sponsor of the trade fair, are behind the industry-driven concept of automatica.

#### **Messe München**

As one of the world’s leading trade fair organizers, Messe München presents the world of tomorrow at about 90 trade fairs worldwide. These include twelve of the world’s leading trade fairs such as bauma, BAU, IFAT, electronica, and ISPO. Messe München’s portfolio comprises trade fairs for capital and consumer goods, as well as for new technologies. Together with its subsidiaries, the company organizes trade fairs in China, India, Brazil, South Africa, Turkey, Singapore, Vietnam, Hong Kong, Thailand, and the U.S. With a network of more than 15 affiliated companies and almost 70 representations worldwide, Messe München is active in more than 130 countries. Each year, more than 150 events attract around 50,000 exhibitors and three million visitors in Germany and abroad.

