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## Press release

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Hannover Messe 2026:  
Intuitive human-machine interaction using AI

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Press release from April 13, 2026

*Controlling a small, spider-like robot using voice commands: Visitors to the Hannover Messe from April 20 to 24, 2026, will have the opportunity to do just that. With this exhibit, the IPH – Institut für Integrierte Produktion Hannover gGmbH demonstrates how artificial intelligence (AI) simplifies human-machine interaction and opens up new possibilities for industrial applications. The exhibit can be seen at the Lower Saxony Joint Stand – Innovations and Research of the Lower Saxony Ministry of Science and Culture in hall 11, stand B56.*

### **Intuitive robotics via voice control**

In industrial practice, controlling robots typically requires specific programming skills and complex input interfaces. Voice-based interfaces represent a promising approach to simplifying access to robotic systems and making their use more flexible. This demonstration shows how spoken language can be used to directly control a robot. The future goal is to enable people with virtually no programming knowledge to instruct robots to perform tasks.

### **The implementation: from speech to movement**

The process centers on natural language processing in several steps. First, spoken instructions are converted into text using Automatic Speech Recognition (ASR). This involves trained models that analyze speech inputs and convert them into written form. This forms the basis for further processing.

A Large Language Model (LLM) then interprets the meaning of the instructions and converts them into structured, machine-readable commands. Put simply, these commands correspond to specific movement instructions that are transmitted to the robot. The process occurs with minimal delay, allowing the robot to respond to the voice input almost in real time.

### **Obstacle course as an application scenario**

The exhibit is designed as an interactive obstacle course. Visitors have the opportunity to control the robot exclusively through voice commands. The task is to guide the robot safely past the obstacles to the finish line as quickly and precisely as possible. This demonstrates that the precision of the voice input is crucial for successful control.

## Opportunities for industry

The combination of voice control and robotics opens up new possibilities for human-machine interaction. In areas with frequently changing processes, voice-based interfaces could help reduce the effort required for setup and programming. Additionally, the intuitive controls could enable employees without significant prior knowledge to operate the systems.

## From data analysis to AI strategy

The IPH supports companies in making a structured entry into the field of AI. This includes analyzing data potential, identifying application areas, and developing a strategy with a clear roadmap to achieve efficient processes, well-informed decisions, and sustainable added value. Through numerous consulting and research projects, the IPH has demonstrated extensive experience in the field of artificial intelligence.

At the booth, project engineers will provide information on current research and development projects and will be happy to answer questions from industry and academia. Visit the IPH at Hannover Messe 2026 in hall 11, stand B56:

<https://www.hannovermesse.de/exhibitor/iph-institut-fur-integrierte-produktion/N1605480>

## About the IPH

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The IPH – Institut für Integrierte Produktion Hannover gGmbH (which literally translates into Hannover institute of integrated production) is a service provider for production technology and was established in 1988 at the Leibniz University in Hannover. The IPH offers research and development, consultation and qualification concerning the subjects of process technology, production automation and logistics. Its customers include companies from the sectors of tool and mould construction, machine and plant construction, aerospace and the automotive industry, electro industry and forging industry.

The business has its headquarters in the science and technology park – Science Area 30X in the northwest of Hannover and currently employs about 80 people, of which about 30 are scientific personnel.

## Note for the editors

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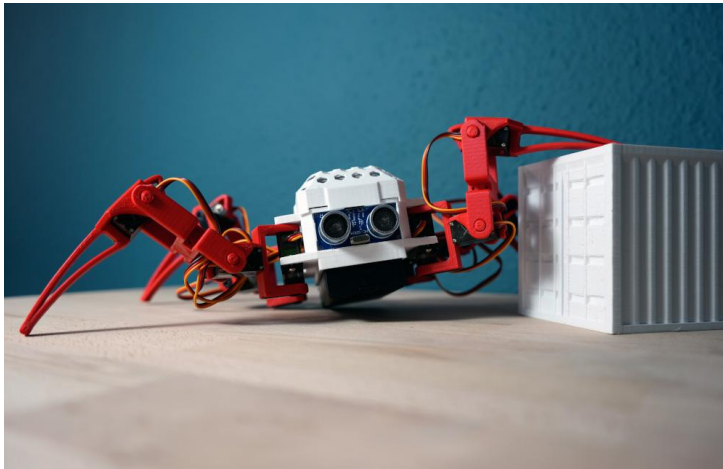
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## Image material

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The robot that the IPH will showcase at the 2026 Hannover Messe can navigate an obstacle course in near real time using voice control and AI. (Photo: Fabien Florian Fliegner / IPH gGmbH)