



**International Trade Show for
Intralogistics Solutions and Process Management
March 19–21, 2024 | Messe Stuttgart**

EUROEXPO

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Press Release

LogiMAT in Stuttgart

AI Emerges as a Key Technology in Efficient Intralogistics

Munich, January 22, 2024—Artificial intelligence and its integration into today’s products and solutions is dominating the agenda at LogiMAT 2024. This critical technology is a fixture in intralogistics, and this year, it’s setting the tone for both the broad spectrum of innovative products on display and the accompanying program of lectures and forums.

Artificial intelligence (AI) went mainstream with the introduction of ChatGPT in 2022. A representative study conducted in the fall of 2023 by Bitkom, the Berlin-based industry association for the digital economy, found that 68 percent of companies in Germany consider AI to be the most important technology for the future. AI-based apps are already well established as a tool for analyses, efficiency, and optimization. In intralogistics, AI has become an indispensable tool in the rapid technological developments of systems and solutions. That’s why this pillar of modern tech is one of three keywords adopted as the official theme of LogiMAT 2024: SHAPING CHANGE TOGETHER: Sustainability – AI – Ergonomics. “Artificial intelligence, as exhibitors from all segments of the industry can confirm, supports the automation of complex applications, enables quick and accurate analyses of problems in real time, and accelerates processes,” notes Michael Ruchty of Munich-based event organizer EUROEXPO Messe- und Kongress-GmbH. “This makes companies more competitive and optimizes how they allocate and use resources.”

Five Expert Forums in the East Entrance Atrium, part of LogiMAT’s accompanying program, examine various aspects of how AI acts as an innovation driver in intralogistics. Dr. Michael ten Hompel, Managing Institute Director of Fraunhofer IML and Chair of Materials Handling and Warehousing at TU Dortmund, kicks off the first day of LogiMAT by introducing three startups that are pioneering new technologies and defining the future of intralogistics in AI, blockchain, and platforms-as-a-service. Dr. Ronald Müller, Member of the Board of Directors of the European Machine Vision Association (EMVA) & CEO of Vision Markets, picks things up in the afternoon

moderating a panel discussion on the role of machine vision and the latest intralogistics technologies. Dr. Robert Schulz, Professor and Director of the Institute of Mechanical Handling and Logistics (IFT) at the University of Stuttgart, joins his guests on Wednesday morning to discuss how AI-based simulation yields more robust processes in the planning and running of production and logistics systems. Dr. Veronika Kretschmer, Senior Scientist for Assistance Systems and Human-Technology Interaction at Fraunhofer IML, takes the stage in the afternoon to explain how AI-based analyses of movement data can help optimize the ergonomics of intralogistics processes. Michael Lickefett, Head of the Department of Factory Planning and Production Management at Fraunhofer IPA, wraps things up on the final day of LogiMAT, using the Order Management Quick Check to illustrate how AI-based software supports optimization analyses for identifying potential vulnerabilities.

Solutions for cutting-edge warehousing

The content of the Expert Forums underscores that, despite all the ways AI defines downstream processes and user experiences, it's primarily about software processes. Bitkom's market statistics reflect this, showing expenditures for AI software, services, and hardware in Germany rising to €6.3 billion in 2023, up a whopping 32 percent year on year, with two-thirds of that (€4.1 billion) going to AI software.

AI applications are based on specially programmed algorithms—individual steps in the solution of a specific problem. Thanks to lightning-fast processing speeds and massive storage capacities, computer programs with AI algorithms now perform calculations at breakneck speed, identifying patterns and delivering results in the blink of an eye. AI draws on this power to unlock a broad spectrum of use cases for analyzing, delivering, processing, and visualizing data to optimize intralogistics processes. AI algorithms support automation options ranging from autonomous pick bots that can retrieve items from boxes to image recognition and analysis programs to AI-supported control of fulfillment processes. Depending on the software's specifications, such analyses can be used to automatically trigger real-time operations, evaluate complex datasets to generate reliable forecasts, and much more. That's the focus of the applications of software developers presenting their latest AI-based solutions for cutting-edge warehouse, transport, and supply chain management in Hall 8 at the Messe Stuttgart convention center.

The range of applications on display begins with transport and document management systems with integrated ChatGPT, replacing cumbersome tasks such as the creation of templates with AI applications. Algorithms and AI-supported features enable on-the-fly modifications to processes used to control equipment or manage inventory in a warehouse management system (WMS). One example to be presented is an adaptive order start in the WMS, which applies AI algorithms to the process control to automatically balance various warehouse KPIs based on configurable parameters, yielding superior warehouse performance. Dynamic resource planning uses AI to determine the optimal deployment of people, equipment, and systems. Making various adjustments results in continuous improvements to how capacities are utilized and resources are allocated. Another first: a WMS that has been transformed into an AI-based logistics platform, with enhancements that include integrated ChatGPT for status requests, inventory management forecasting, and resource allocation. Visitors can also experience AI-based computer vision technology for real-time modeling and analysis of goods movements and inventory. A new WMS module for AI-supported

document management that scans and processes all types of documents will also be on display.

Scenarios with AI and mobile robot solutions

Several exhibitors will also be presenting analytics modules with AI-driven simulation and scenario technology that can recognize the factors that impact production capacities, resources, transport routes, and material flows. They can show where a potential for optimization exists and offer a solid, data-driven foundation for future scenarios.

Besides software companies, equipment makers and systems integrators will also present their latest AI-based innovations. Hall 1 will feature innovative software and automation technologies for end-to-end supply chains in scenarios with AI and robotic solutions. Visitors can also find an AI assistant for logistics systems that can predict order volumes and material flow bottlenecks. The assistant taps into data from the logistics software to generate suggestions for the optimal placement of goods in storage, identify the source of problems, and offer recommendations for predictive maintenance. AI-based software and the latest breakthroughs in adjacent technologies such as sensor systems also set the tone in the new products and innovations on display from the manufacturers of automated guided vehicles (AGVs), shuttles, and autonomous mobile robots (AMRs) in Hall 6. AI algorithms and machine learning applied to navigation and machine vision technology are also a dominant theme in the new fleet management and navigation systems for mobile warehouse and transport equipment. Some of the products on display in Hall 2 will also demonstrate how the benefits of machine vision can be leveraged for robot-assisted automation projects in intralogistics.

“There’s no question that generative AI applications will ultimately have to be subject to specific regulations. But in general, artificial intelligence is a key technology and an integral part in the development of current products and solutions for efficient intralogistics,” Ruchty concludes. “The new products and innovations that exhibitors are presenting at this year’s LogiMAT are testimony to the broad range of applications that AI now inhabits. Given the rosy estimates for growth and the benefit afforded by such solutions, this trend will continue and fuel AI’s presence in the market. LogiMAT, as an industry barometer and showcase for the international intralogistics industry, has a key role to play here in helping businesses make strategic, forward-looking investments.”

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Munich, January 22, 2024—This text may be reprinted free of charge, but please send a copy to EUROEXPO Messe- und Kongress-GmbH, Press and Public Relations Department, 80912 Munich.

About LogiMAT

LogiMAT, the International Trade Show for Intralogistics Solutions and Process Management, will take place at the Messe Stuttgart convention center, directly adjacent to Stuttgart International Airport, from March 19 to 21, 2023. LogiMAT, organized by EUROEXPO Messe-und Kongress-GmbH, ranks as the world's largest trade show for intralogistics solutions. It offers a complete market overview of everything driving the intralogistics industry, from procurement to production to shipping. International exhibitors showcase innovative technologies, products, systems, and solutions for streamlining operations, optimizing processes, and cutting costs in a company's internal logistics. Beyond the exhibitor booths, visitors can also experience a different program of presentations each day covering a wide range of topics.

LogiMAT also has a presence in various international markets. Upcoming events:

LogiMAT India, February 28 to March 1, 2024, IEML, Delhi NCR, India

LogiMAT China, May 8–10, 2024, SZCEC, Shenzhen, China

LogiMAT Southeast Asia, October 16–18, 2024, IMPACT, Bangkok, Thailand

LogiMAT.digital is the platform that brings together top providers of the world's best intralogistics solutions with high-quality leads, bridging the time and space between on-site events.