

### Call for Papers

## Special Session – Practical Applications of Automated Guided Vehicles and Autonomous Mobile Robots for Warehouse Logistics

### Organized and Chaired by

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❖ **FOCUS.** In recent years, global disruptions like pandemics and shipping route blockages have exposed supply chain vulnerabilities, while customers increasingly demand personalized products, rapid availability, and sustainability. These challenges place significant pressure on the manufacturing and logistics industries to adapt and innovate. A key solution lies in adopting automated systems such as AGVs and AMRs, which improve agility, efficiency, and resilience in operations. These technologies are used across manufacturing, warehousing, and hospitals, enabling autonomous operations in dynamic environments. The focus is on practical applications of AGVs and AMRs to enhance transparency, meet customer demands, and ensure sustainable, future-ready warehouse logistics systems.

#### ❖ TOPICS (but not limited to)

- ❖ Orchestration of AMRs and Fleet Management Systems
- ❖ Practical applications of AGV and AMR systems
- ❖ Simulation based AI AMR development and applications
- ❖ Machine Learning on the Edge for AMRs
- ❖ Large-scale AGV and AMR systems
- ❖ Path planning (online, dynamic and decentralized)
- ❖ Dynamic task allocation and resource optimization
- ❖ Real-time decision-making through edge AI
- ❖ Control decentralization level/ autonomy of decision making
- ❖ Interface for communication between automated guided vehicles (AGVs), AMRs and intralogistics systems in the AGV/AMR environment
- ❖ (Trustworthy) Human-Robot-Interaction in warehousing

❖ **AIM.** This Special Session aims at bringing together professionals from industry and academia to share cutting-edge concepts, recent developments, research results, and practical achievements in advanced technologies for warehouse logistics such as mobile robotics (AGVs/AMRs) or other new concepts in logistics.

❖ **CONFERENCE FORMAT.** The conference will comprise multi-track sessions for regular papers, to present significant and novel research results with a prospect for a tangible impact on the research area and potential implementations, as well as work-in-progress (WiP) and industry practice sessions.

#### ❖ AUTHOR'S SCHEDULE (2025)

##### ❖ Regular and special sessions papers

Submission deadline ..... **April 18**  
Acceptance notification ..... **May 23**  
Deadline for final manuscripts ..... **July 4**

##### ❖ Work-in-progress/Industry practice papers

Submission deadline ..... **May 30**  
Acceptance notification ..... **June 20**  
Deadline for final manuscripts ..... **July 4**