



# PCB-Magazine Transport Collaboration OTH, EWA, Nuremberg Moorenbrunn

Working in the Siemens Academic Research Team: Final theses are developed in a team of several students. The emphasis is on cooperation and exchange. Each student is supported in the success of their personal project and can get involved across their own assignments.

AGVs are currently mainly used for intralogistic tasks. We now want to use AMRs in more specialised tasks. Since the logistical tasks should still be maintained in special applications, the dynamic tool change must be researched in practice.

## Autonomous Mobile Robots

Learn Platform

Navigation

Localization

Communication

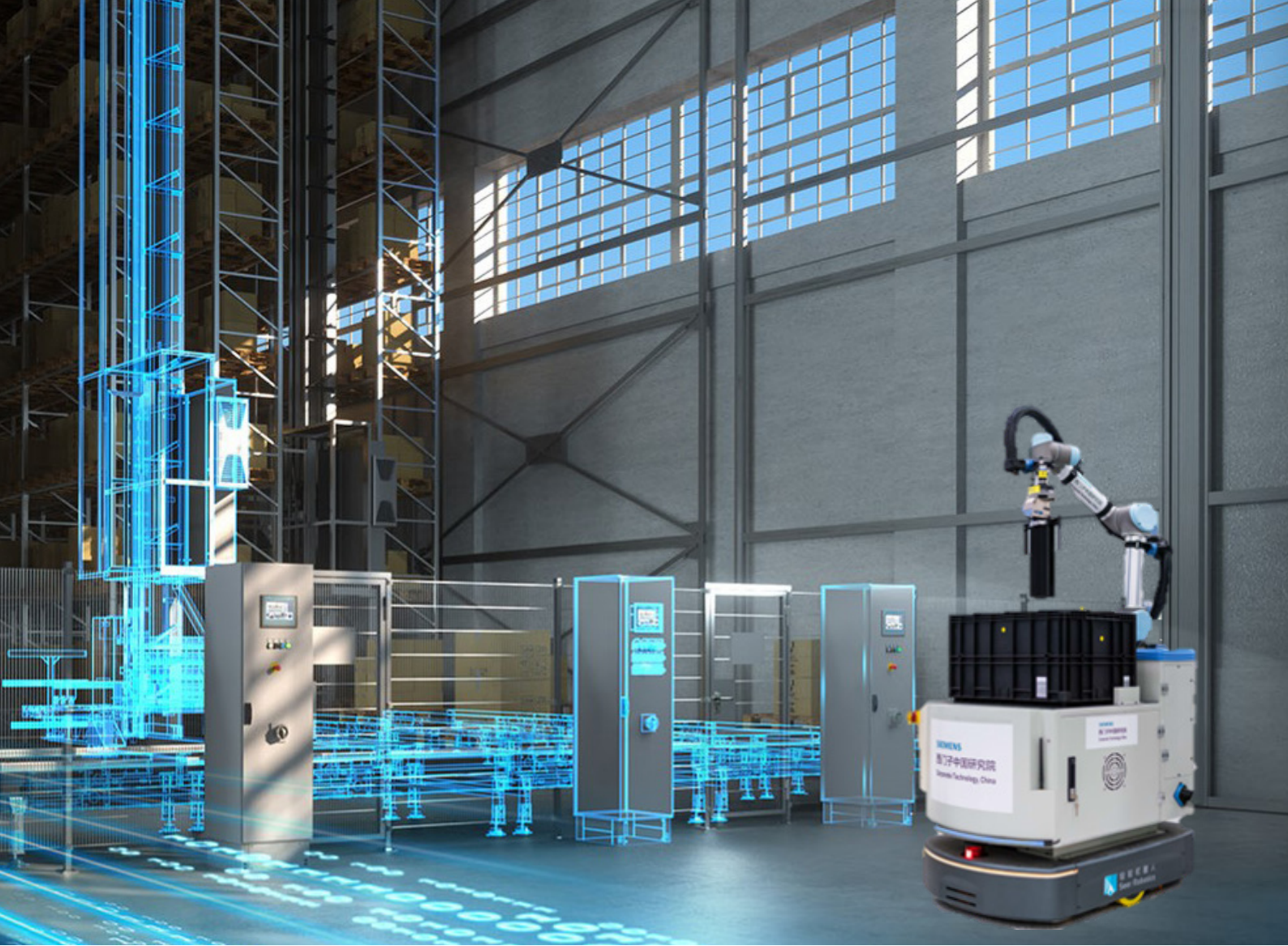
AI

Robot Arm  
(ROS)

Simulation

Industrial  
Edge





For this project, the AMRs are used in the production of printed circuit boards. These PCBs are transported into standard magazines, which are then transported further by the robots. The extensions of the AMRs such as robot arms need to be defined and tested. In the process, a safety concept should always be worked out and further developed in parallel. The control of the intralogistic operations should have an HMI concept and be able to plan the tasks independently. Within the context of this elaboration, the increased requirements in relation to additional payload of the AMRs must be researched. Finally, a proof of concept for the transportability of the entire system needs to be demonstrated.

Execution location and test area:

Digi-Lab @ THE IMPULSE  
Siemens Digitalization Center  
Amberg

Please send your application to:

**[florian.gramss@siemens.com](mailto:florian.gramss@siemens.com)**

**SIEMENS**