

Projektförslag för kandidatarbete inom Elektroteknik (E2)

EENX15-21-33 Cloud Robot Fleet Control Architecture for Industrial Scenarios

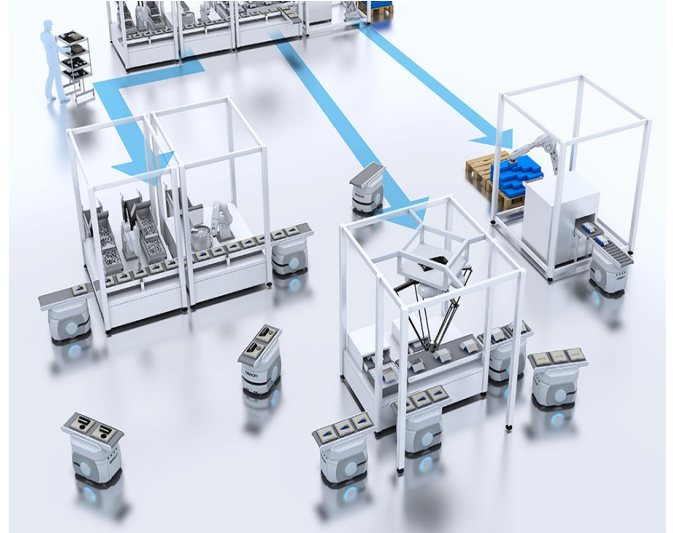
Background

In a collaboration project between AB Volvo, Ericsson, and Chalmers we aim to control a fleet of mobile robots by using a grid of cameras fixed with a birds-eye-view of the area, for the purpose of parts transportation in a dynamic factory environment.

Problem description

In this thesis, the students will implement the architecture in ROS2. The architecture includes multiple-camera control, visual processing system, visual tracking system, fleet manager system (Job ordering, ATR scheduling, and map management), and ATR control systems.

The principal feature of this project is the combination of distributed (in-the-cloud services) and embedded (ATR control) systems by focusing on the building a cloud-based real-time distributed architecture using ROS 2 (Robot Operating System).



Målgrupp: TKAUT, TKMAS, TKELT, TKDAT, TKTFY,

Gruppstorlek: 3–6

Antal grupper: 1

Förkunskapskrav: Programming (Python/ROS)

Kontaktperson: Emmanuel Dean. deane@chalmers.se