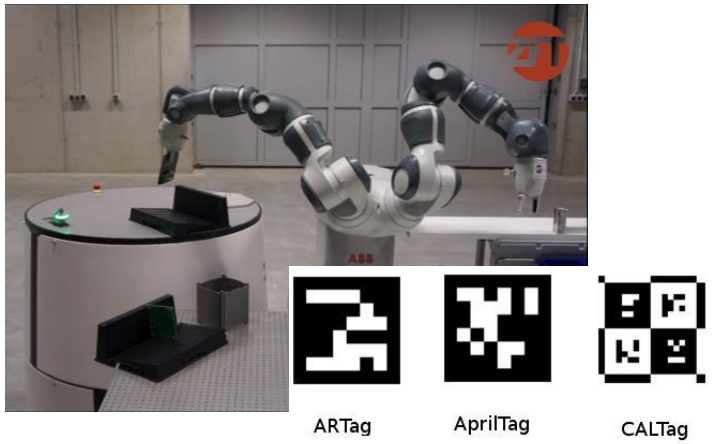
Bachelor or Master Thesis

High Precision approach and docking for Mobile Robots

Description

An efficient flow of materials in a digitalized factory environment requires that goods are loaded and unloaded automatically on transport robots. For this purpose, an accurate approach of the robot to a loading station is needed. This is also needed when approaching a docking station, for example for charging the robot automatically.
A method for robot localization using cameras and visual tags has already been implemented and tested. This new method of localization must now be integrated in the existing free navigation algorithms used at the ZfT. It is also necessary to develop a docking and approach procedure and a feedback mechanisms to external clients that may need the accurate pose of the robot, I.E. to load something on the robot.



Previous Knowledge Required

C++, ROS, OpenCV

Contact

Angel Martell
angel.martell@telematik-zentrum.de
David Bohlig
david.bohlig@telematik-zentrum.de