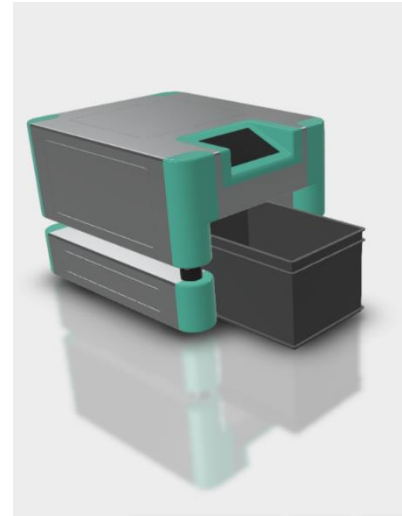


## Graduation and Internship Assignments for Software and Integration for Industrial Mobile Robot

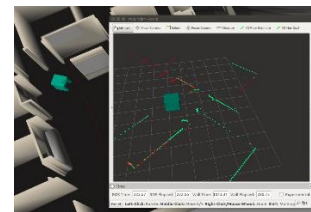
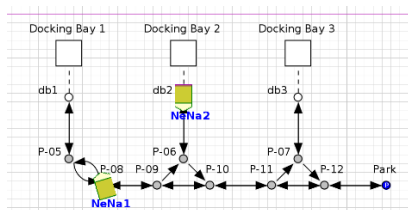
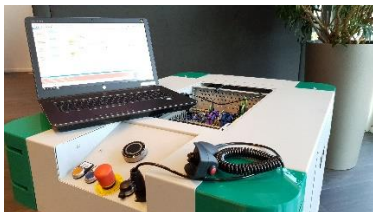
In the Next Generation Navigation (NeNa) project, Saxion is developing an industrial mobile robot based on open source software. It is a small robot that can drive over crates and pick them up. The hardware of the robot is already designed and developed and several parts of the high level software are already developed.

This assignment focuses on integration and testing of the different components using C++ and Python in the ROS 2 framework. Based on your experience you pick up a specific task within the overarching project, such as precision docking based on lidar data, using AI for crate detection, communication using OPC UA, and integration in an open source fleet manager OpenTCS.



### Task description

Further development of the modular design for the software for the mobile NeNa robot. Functionality will be tested first in simulation (using Gazebo) and on the actual hardware of the robot. Experience with Linux, Python, C++ and/or Java (or being open to learn these topics) is a pro for this assignment. Being enthusiastic to work on software for robots is a hard requirement 😊



### Practical Information

**Student Profile:** Applied Computer Science, Computer Science (HBO-ICT), Electronics, Mechatronics (with interest in software aspects of robotics)

**Duration:** February 2021 – July 2020

**Compensation:** 230 euro per month, before taxes

**Contact Person:** Wilco Bonestroo, [w.j.bonestroo@saxion.nl](mailto:w.j.bonestroo@saxion.nl), 06-13001996