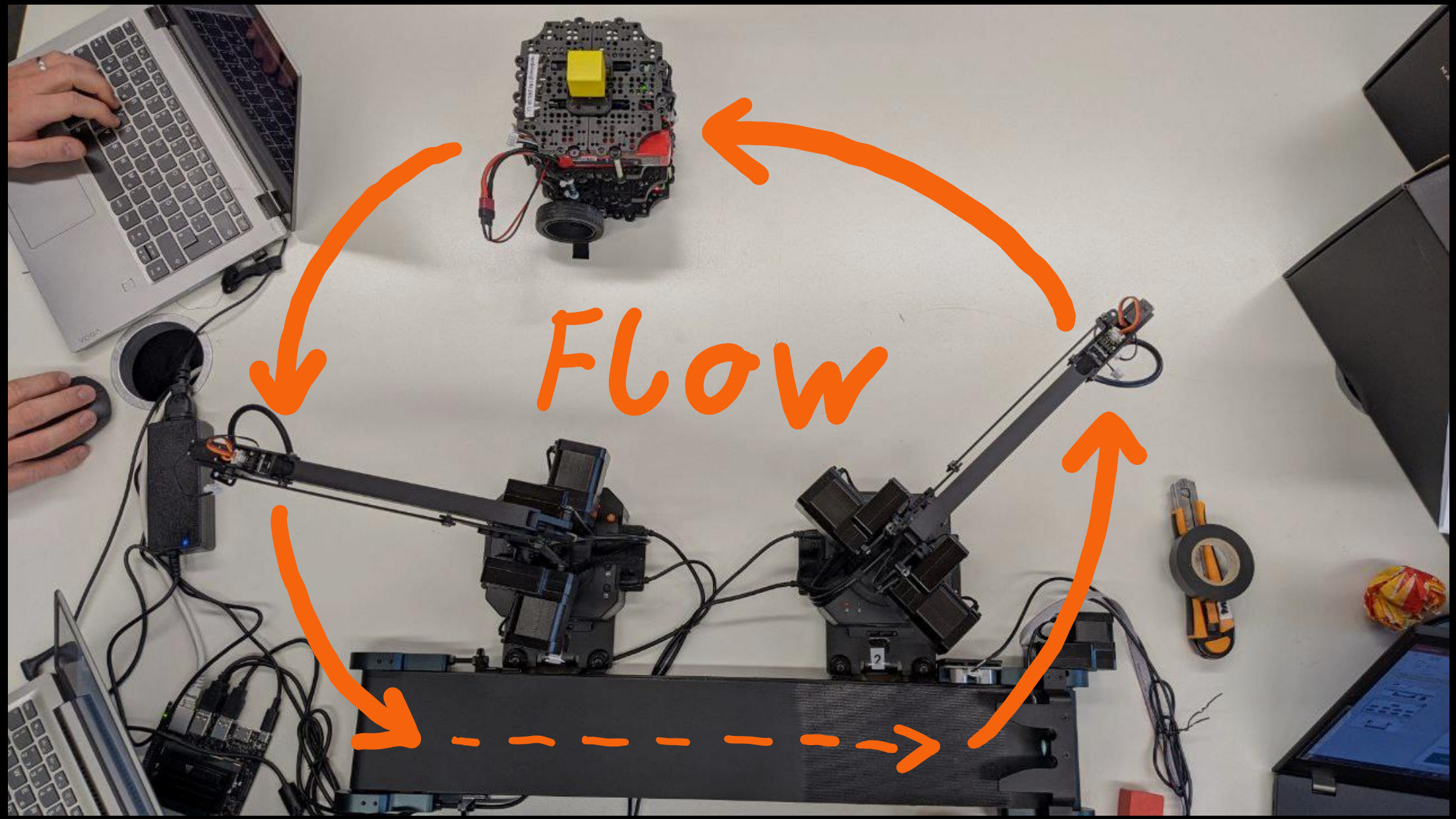
# Automated Material Flow with ROS

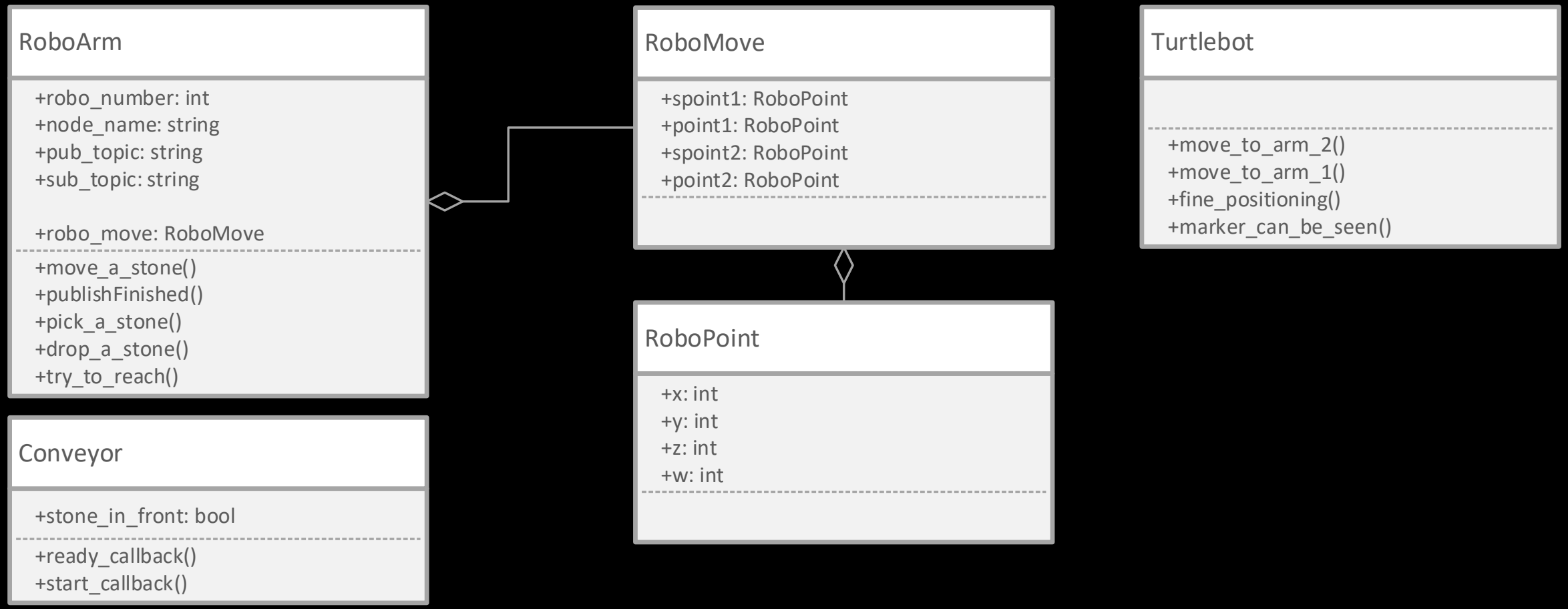
## Autonomous Robotics Lab

HECTOR SCHOOL
OF ENGINEERING & MANAGEMENT

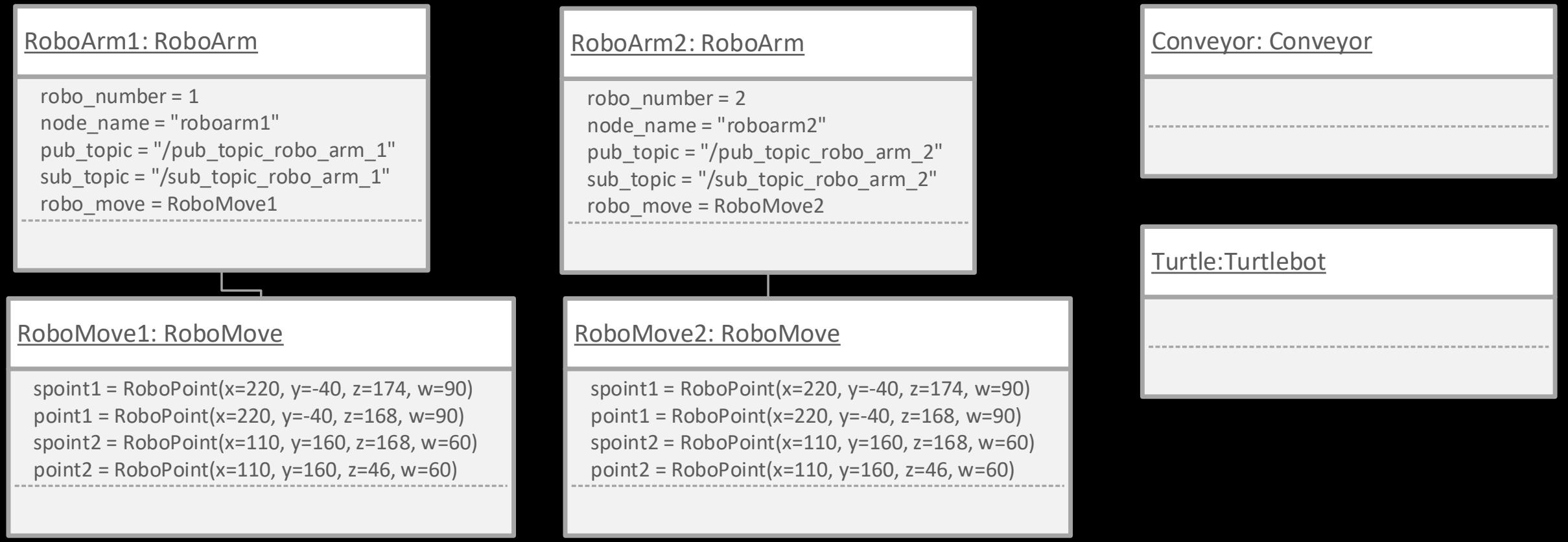
KIT
Karlsruher Institut für Technologie


Flow

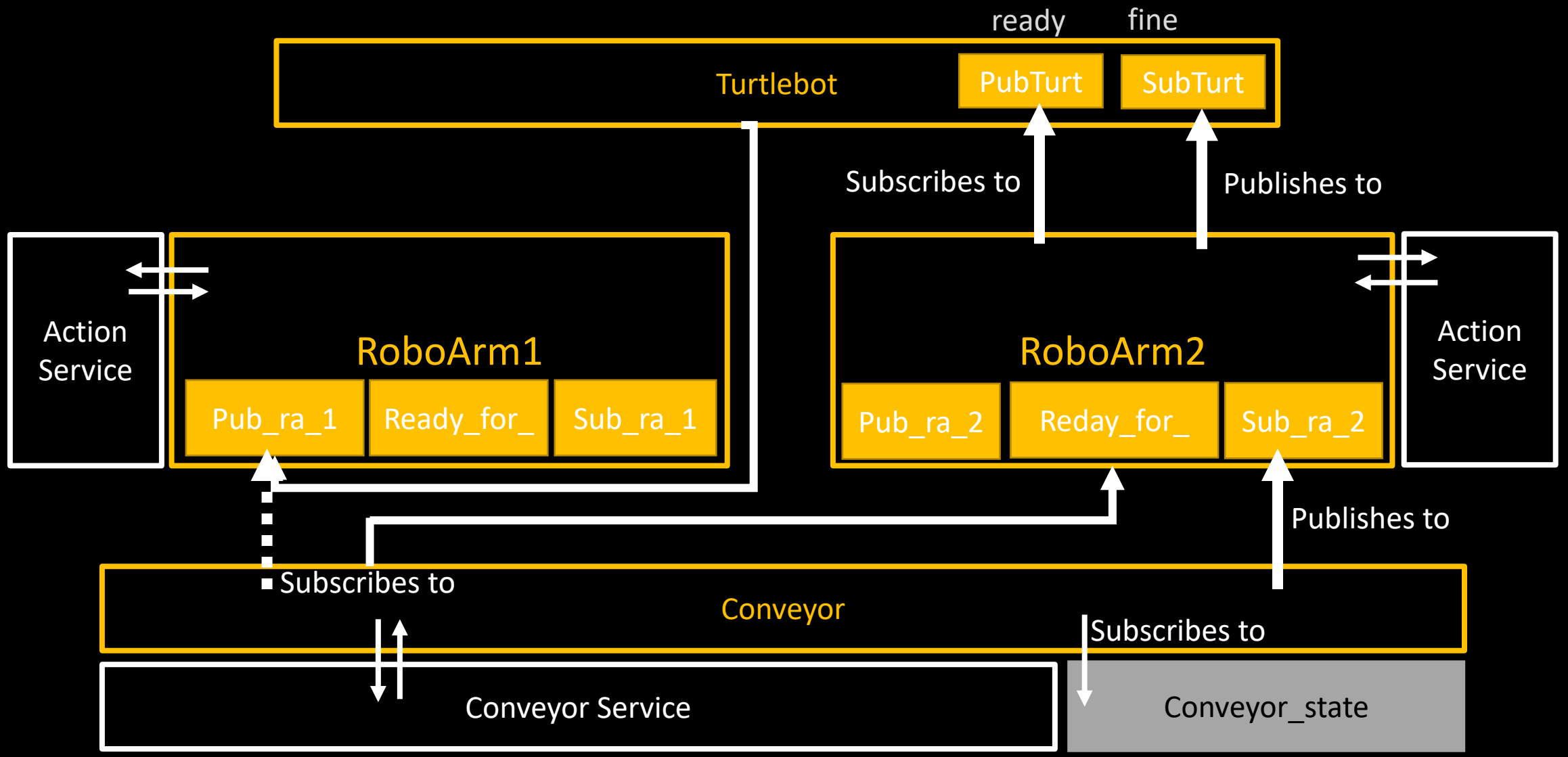
# Code Structure



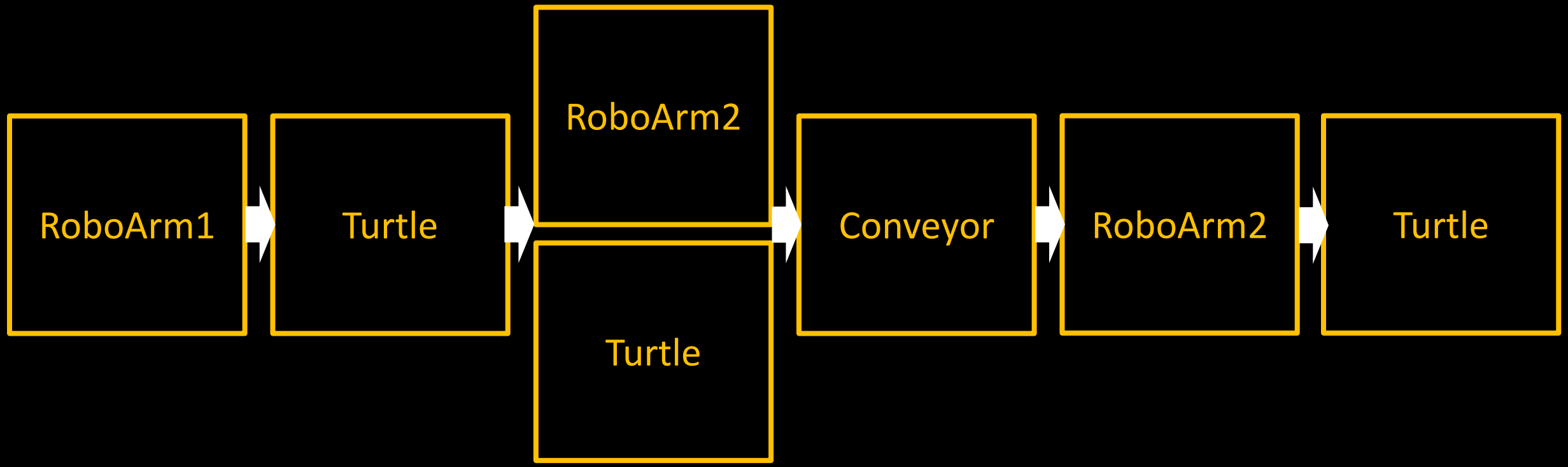
# Instance Structure



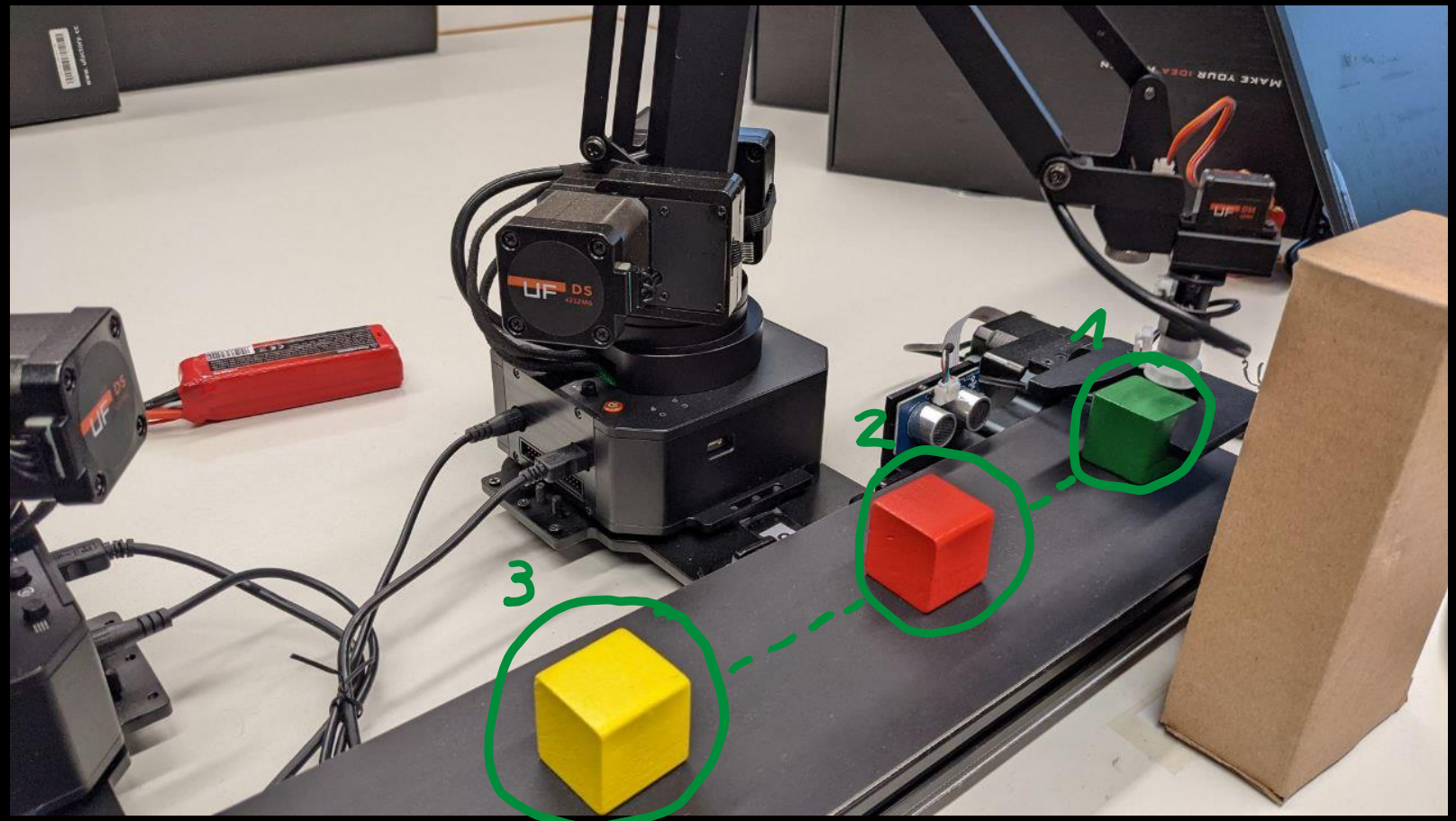
# Communication Structure

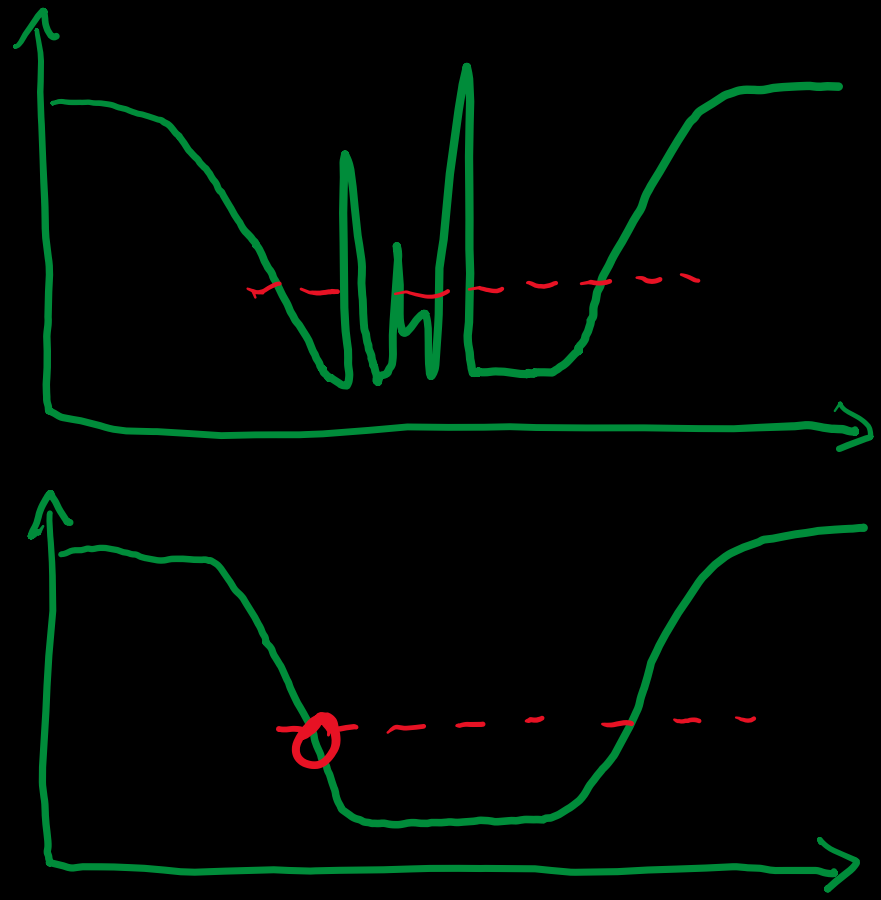


# The program flow

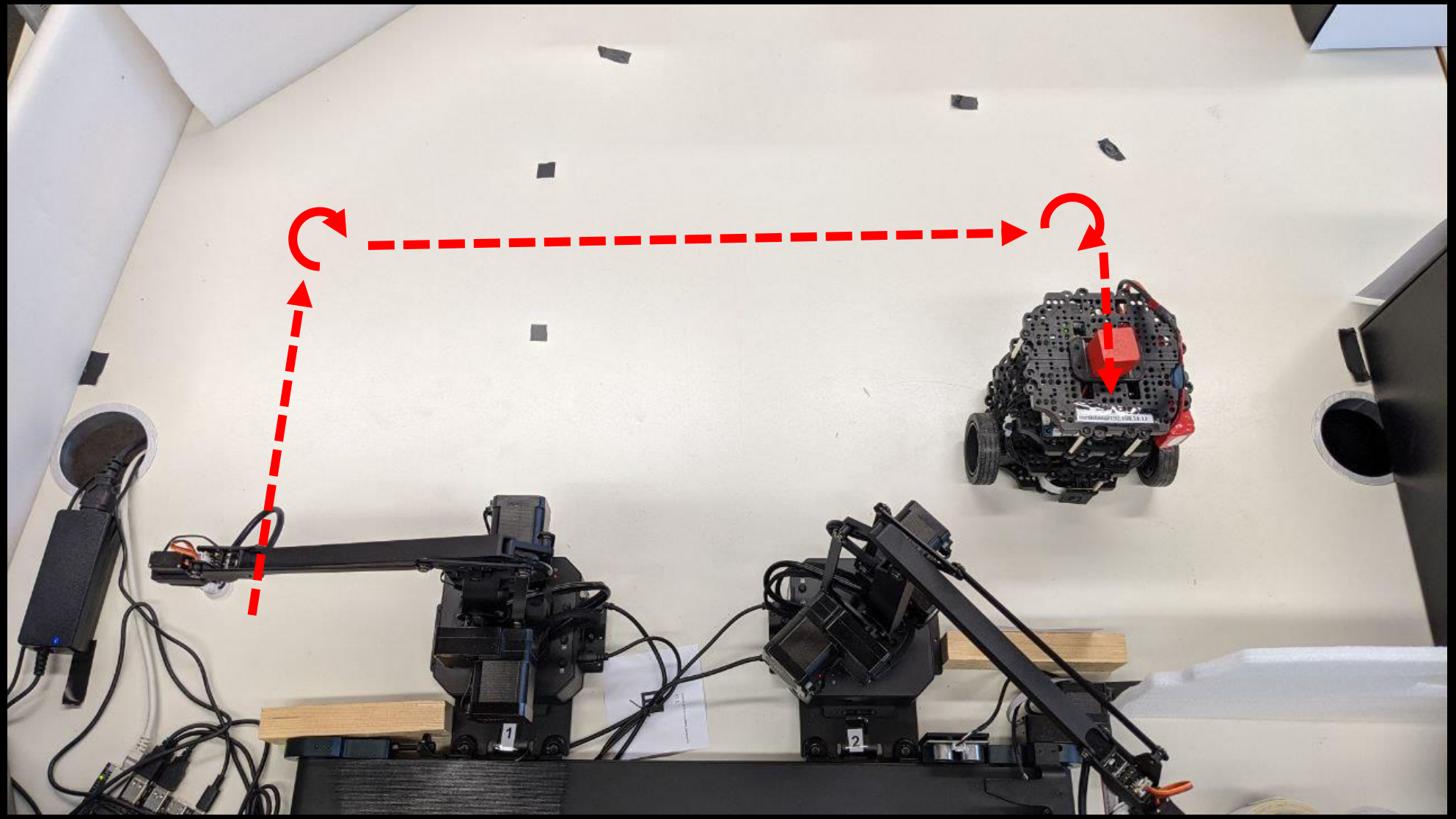


# Stone Detection and Picking

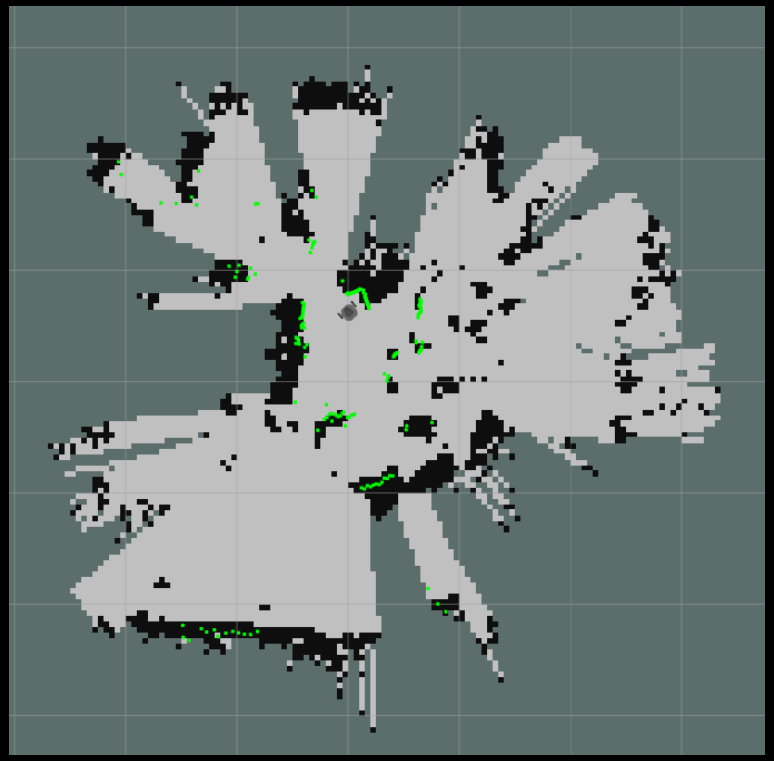


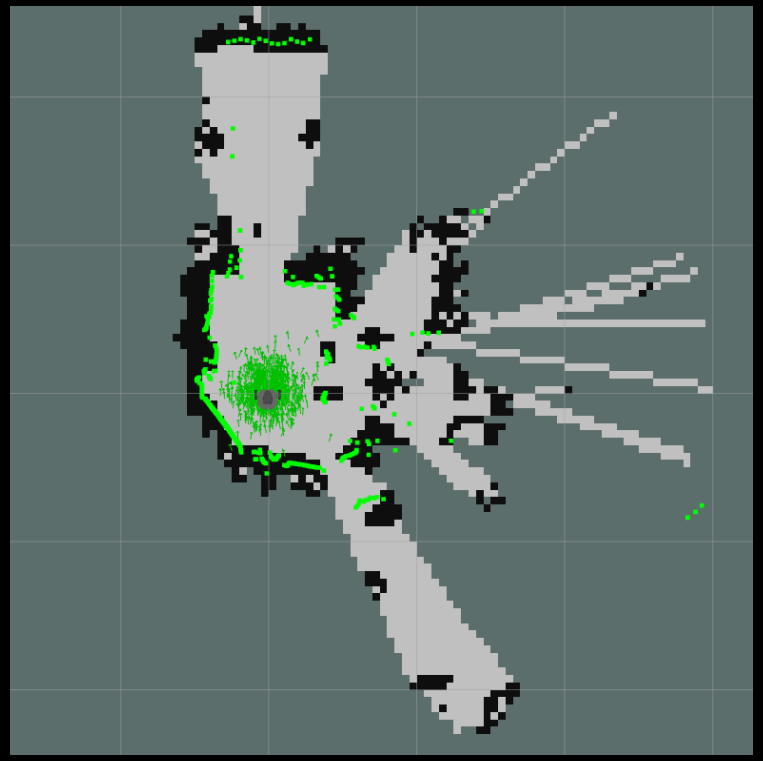



# Autonomous Navigation

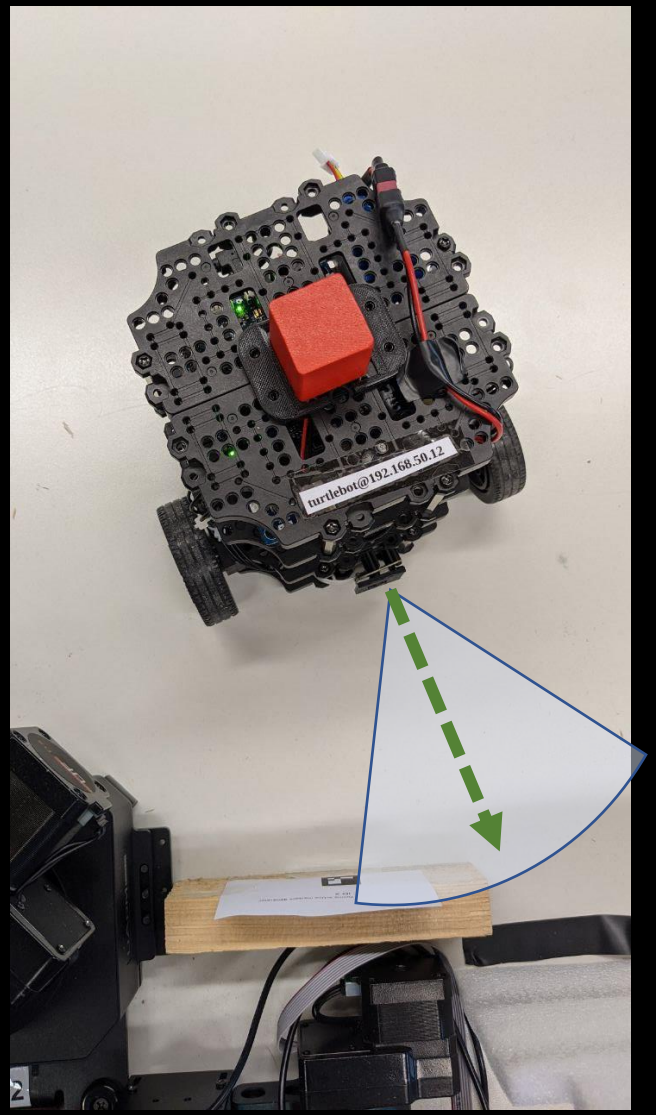


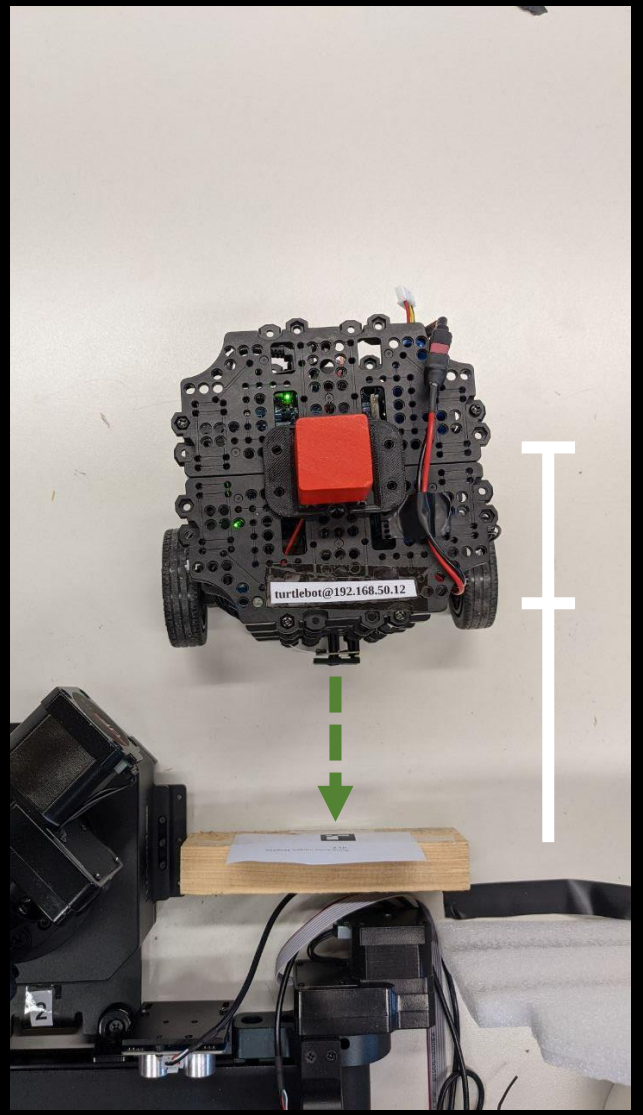
# Map

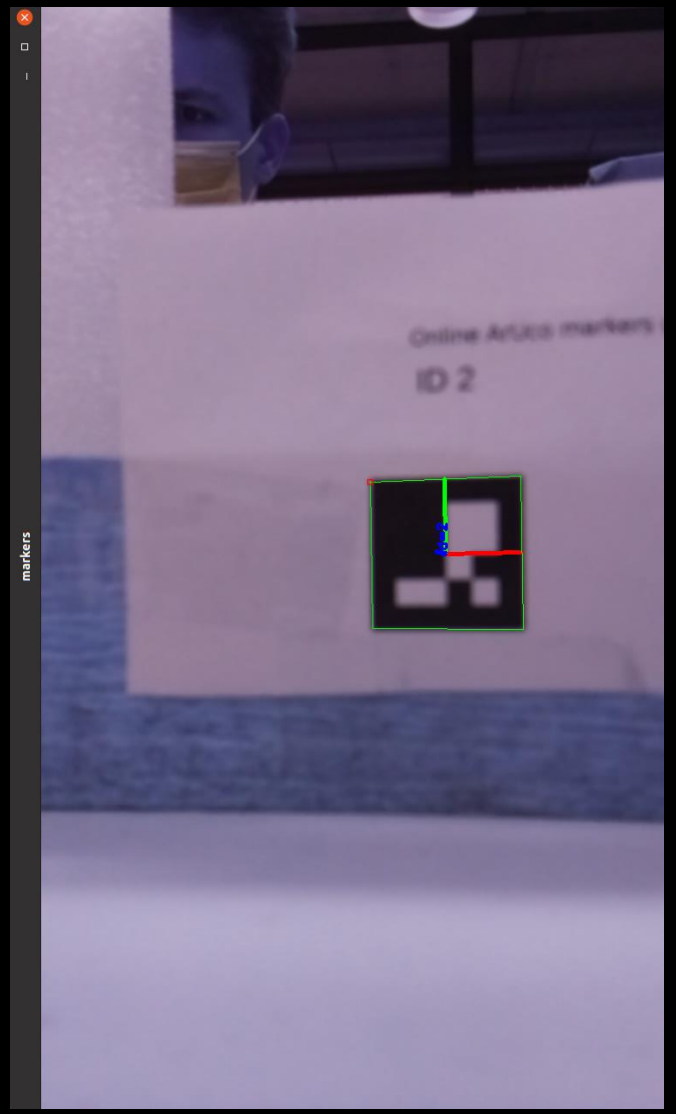




# Fine Positioning



**Difficulties:**

- Precision of Sensors at all (Ultrasonic Sensor, Lidar)
- Limited Calculation Power
- Limited Communication Capacity

***“Wer misst misst Mist .”***

**Possible Improvements:**

- Using not just Publisher and Subscriber but more Services i.e.
- Implement adjustment algorithms to current sensor data

# Thank you.

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