

Research Project – Manipulator Operated Release Measurement of Surfaces (MAFRO)

Sponsored by the Federal Ministry of Education and Research (BMBF)
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Initial Situation

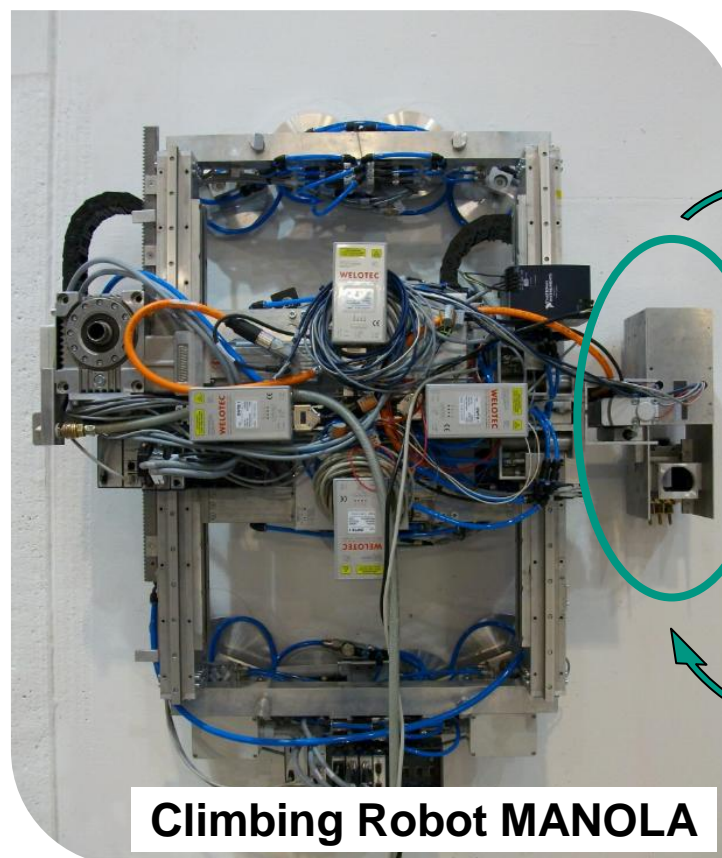
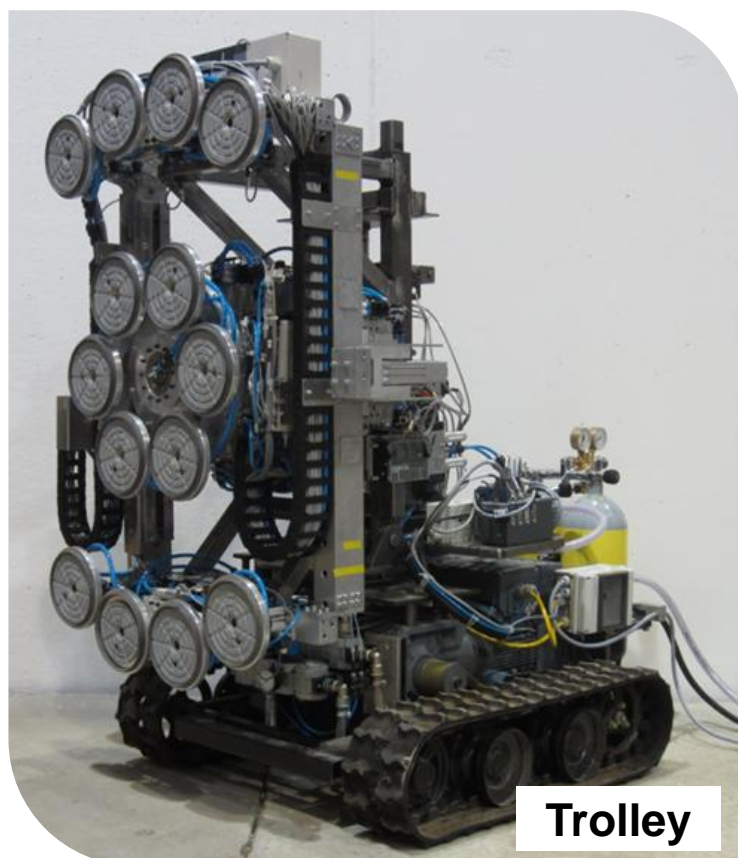
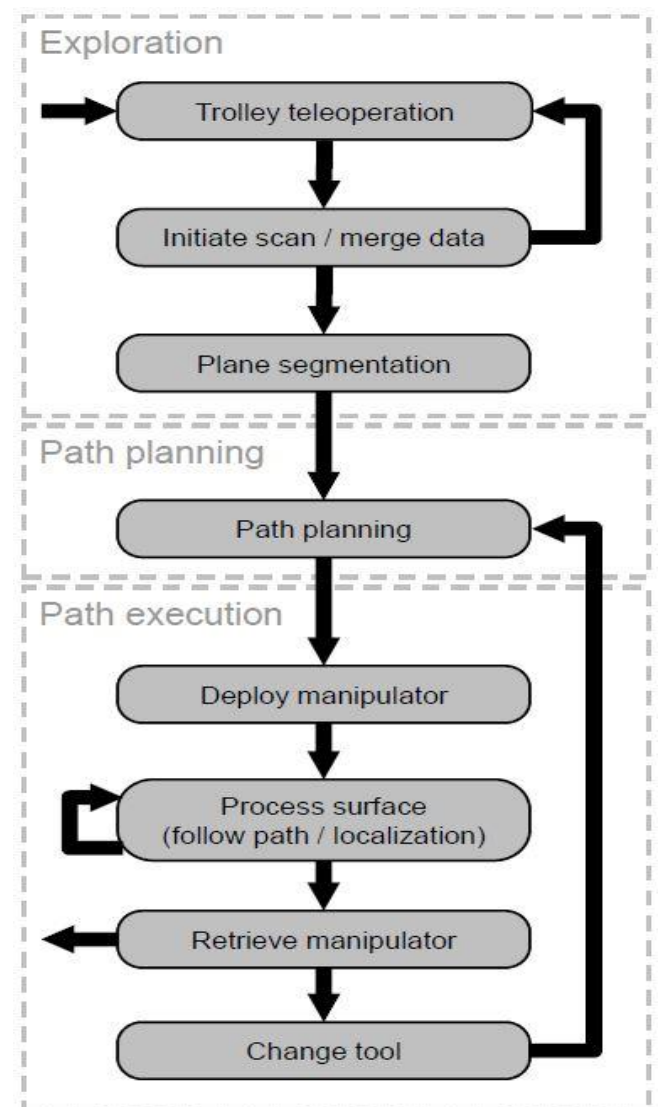
- Decontamination progress (process chain):
 - 1) Measurement of radioactive surface contamination
 - 2) Decontamination
 - 3) Release measurement
- Currently there is no comprehensive system for the above steps 1) to 3) available

Goals of research project

- Development of an autonomous or remote-controlled overall system for the realization of the individual work steps when decontaminating
- “Closure” of the process chain for decontamination

Approach

- Chain-driven transport system for the climbing robot
- Climbing robot equipped with vacuum suction plates for locomotion on the wall
- Automatic quick-coupling system for
 - Laser processing head (10.000 W diode laser)
 - Novel radiation detector (five sensitive scintillation areas with a maximum surface area of 300 cm²)
- Environment sensing, environment modeling and automatic path planning
- Intuitive teleoperation, control desk with multi-touch



Replacement of the laser processing head with a novel radiation detector