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# Physical test sampling with modular and COTS manipulator

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Tomas Henninge, MSc. Cybernetics

## **COTS** manipulators



**Universal Robots** 





**Universal Robots** 



## Tools - adapted and developed

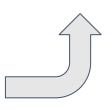
#### Existing tools designed for human manipulation







Isid<sup>O</sup>



VS

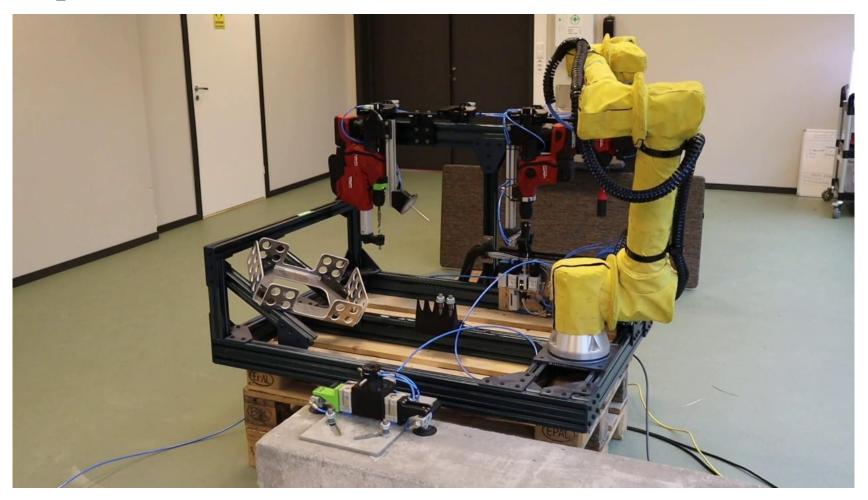
Custom tools developed specifically for robot manipulation



Adaption



# Example of multi-tool use-case





## What tools should be put to use?



Example: Laser vapor sampling

