

# Droneport

Simple solution for long-term drone operation

# Have you considered deploying drones in...

- Checking your equipment regularly,
- Temporary use as an industrial camera in the field,
- Coordinating multiple drones at the same time,
- Regular monitoring of your building during the day,

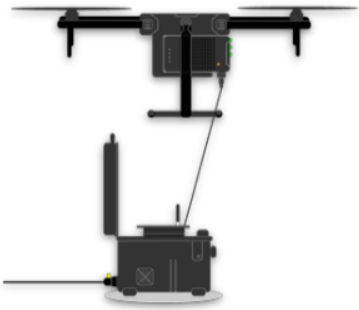
Then you're definitely running into the problem of insufficient battery capacity.

The maximum current flight time is around 40 minutes, is that enough?

# IT'S NOT...

There is a solution...

# Thetered drones



Do you want to be tied down in one place?

Do you need to keep a pilot busy with something as unnecessary as changing a battery?

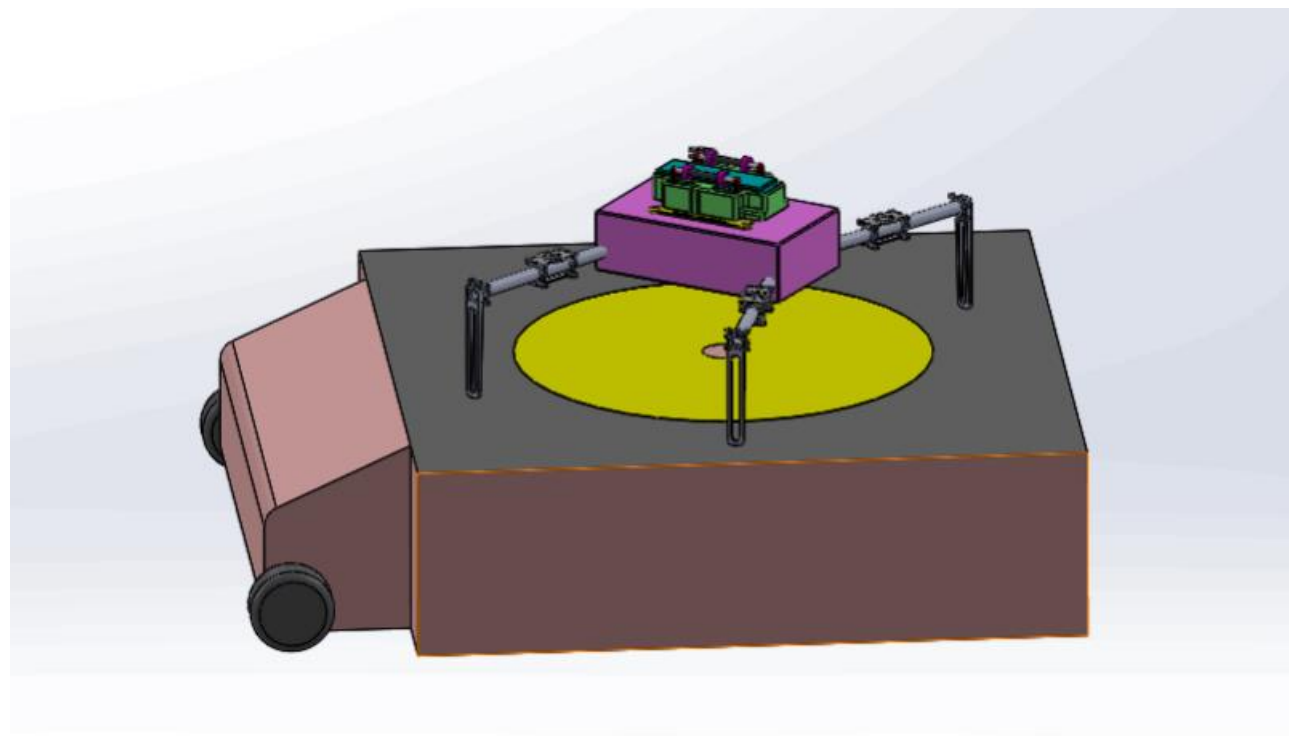


Battery Hot swap

# Droneport

A comprehensive system for autonomous drone battery management.

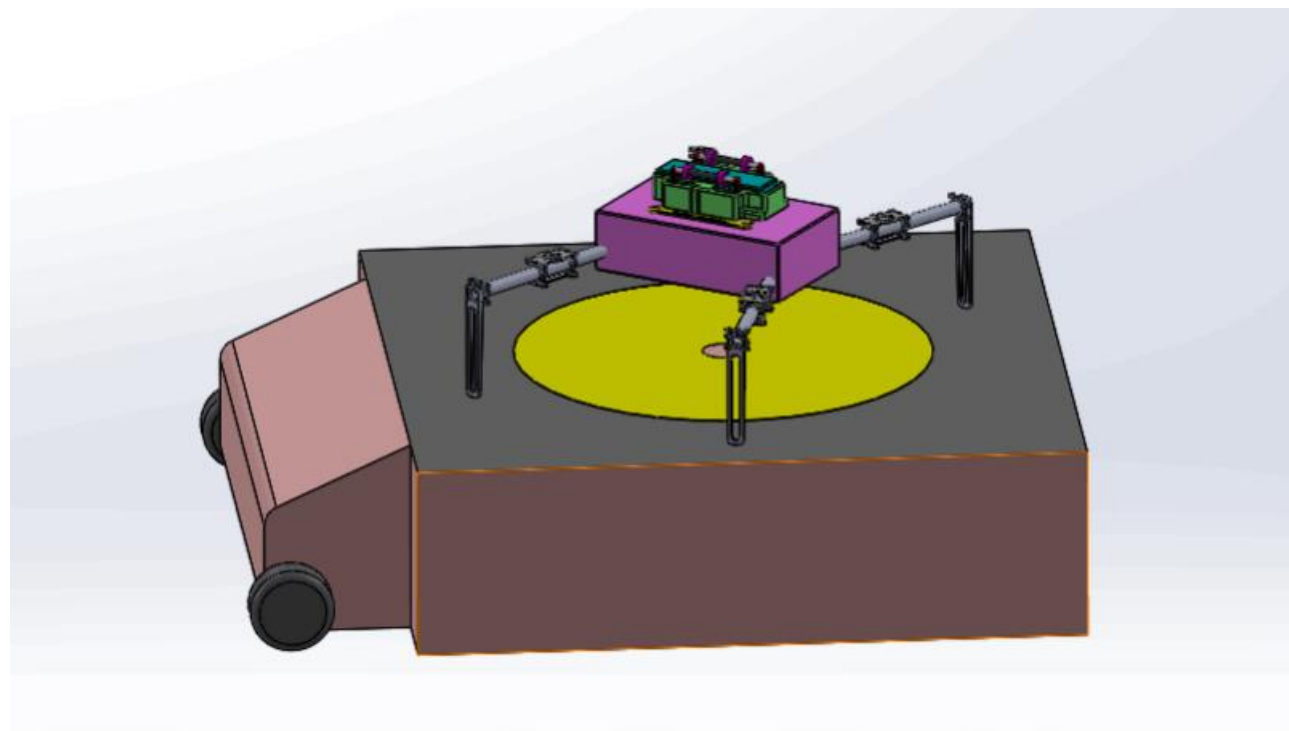
- Drone landing assistance



# Droneport

A comprehensive system for autonomous drone battery management.

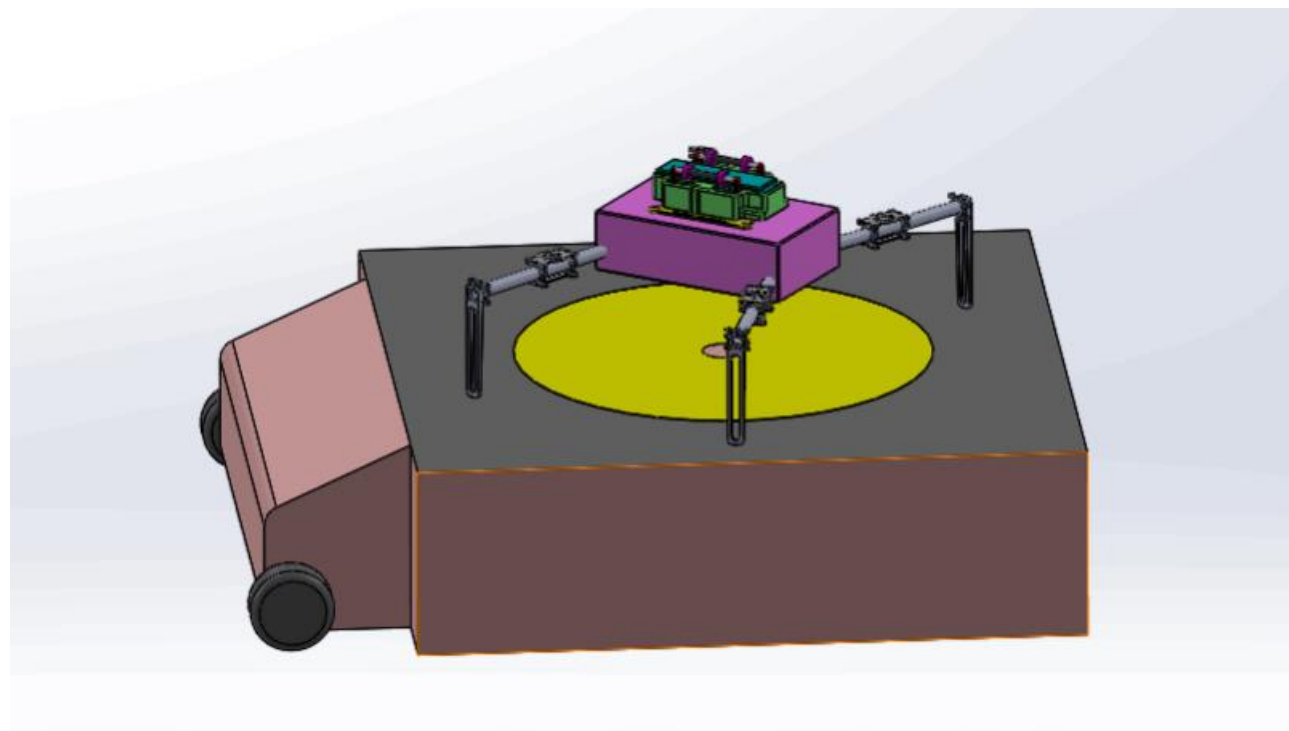
- Drone landing assistance
- Automatic battery exchange

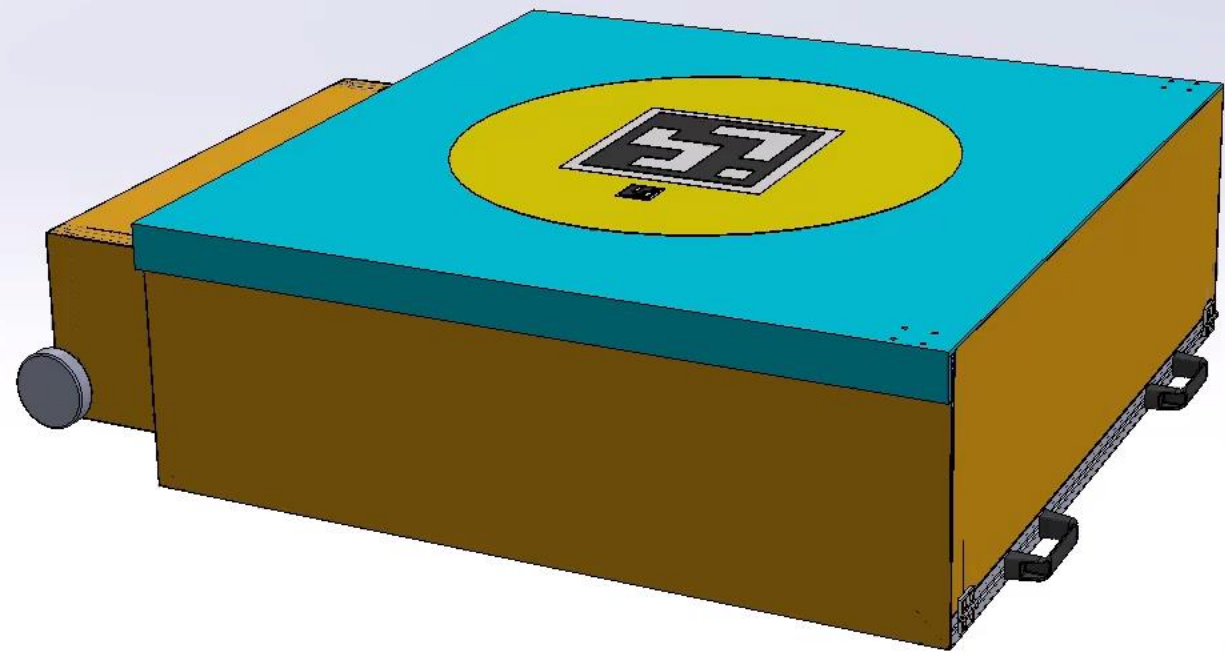


# Droneport

A comprehensive system for autonomous drone battery management.

- Drone landing assistance
- Automatic battery exchange
- Automatic battery management







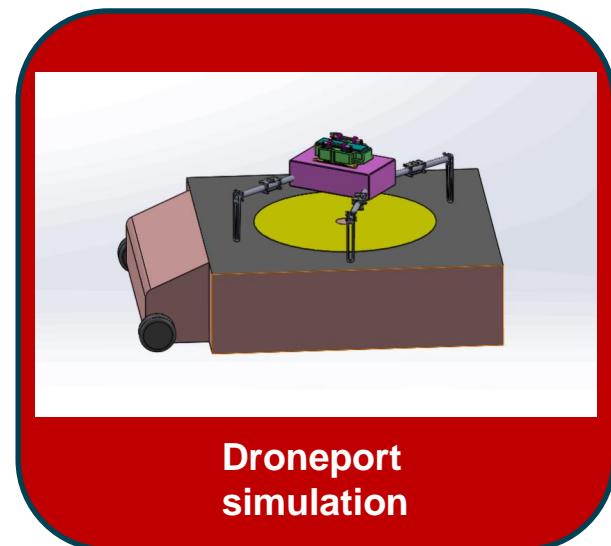

# Simulation



MAVLink



MAVLink



MAVLink



<https://mavlink.io/en/messages/common.html>  
<https://www.rexygen.com>

Activities QGroundControl Daily St 18:07

QGroundControl Daily

Ready To Fly Hold 10 0.0 97% Vehicle 1

50m

Nýřany - Městský Úřad, Pracoviště Plzeň...

Hotelová škola, U Borského parku

Bory

Západočeská V Plzni VS

Klatovská tř.

U Borského parku

Západočeská v Plzni - VS...

Borský park

Handball klub Dom...

0.0 m 0.0 m/s 00:00:00

0.0 m 0.0 m/s 0.0 m

Takeoff from ground and start the current mission.

Slide to confirm

Gazebo

File Edit Camera View Window Help

Real Time Factor: 1.00 Sim Time: 00:00:02:26.260 Real Time: 00:00:02:27.525 Iterations: 36565 FPS: 59.5

root@dp-1804: ~/drone-port/simulation/controller

File Edit View Search Terminal Help

Drone controller GUI

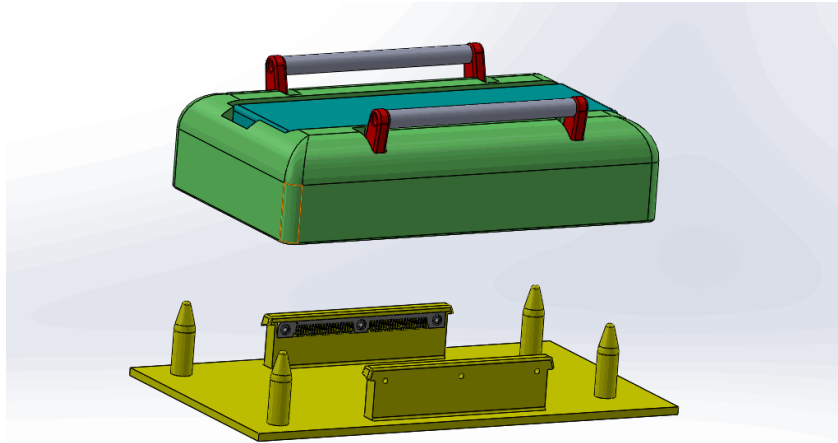
Drone 1		Drone 2	
HB	OK	DISARMED	Battery 97.0%
WP	0/-1	RF0	LS1
0:	unknown	0:	unknown
< Download	> < Clear	> < Download	> < Clear
< Upload	> < Start	> < Upload	> < Start
park_drone1_short.pkl		park_drone2_short.pkl	
< Reset battery	> < State reset	> < Reset battery	> < State reset
[ ]	Status	[ ]	Status
	Connection 127.0.0.1:14660 established.		Connection 127.0.0.1:14661 established.

Logs

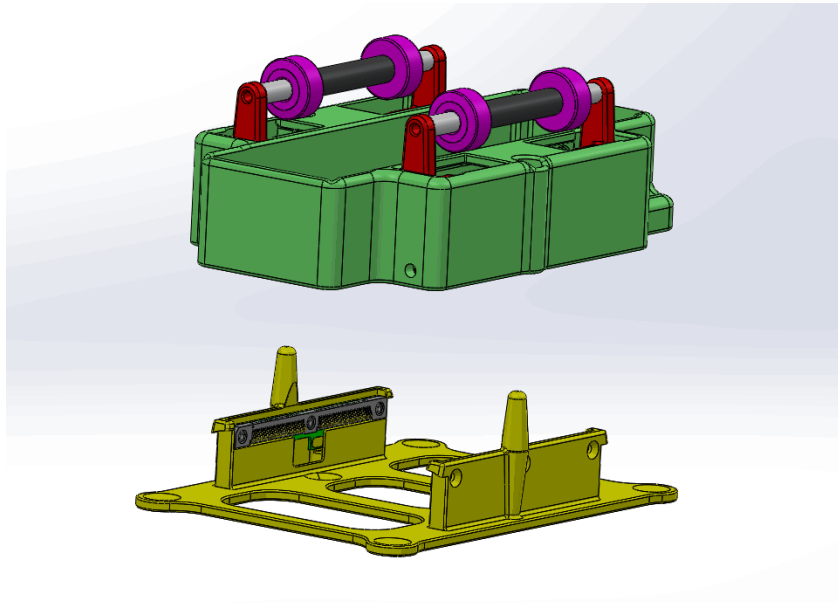
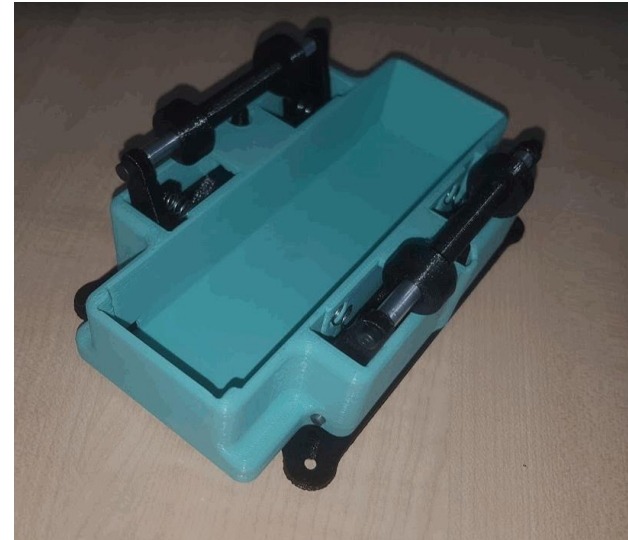
< Reset > 0 LAST: 0.000 AVG: 0.000 MAX: 0.000 18:07:20

# Battery exchange

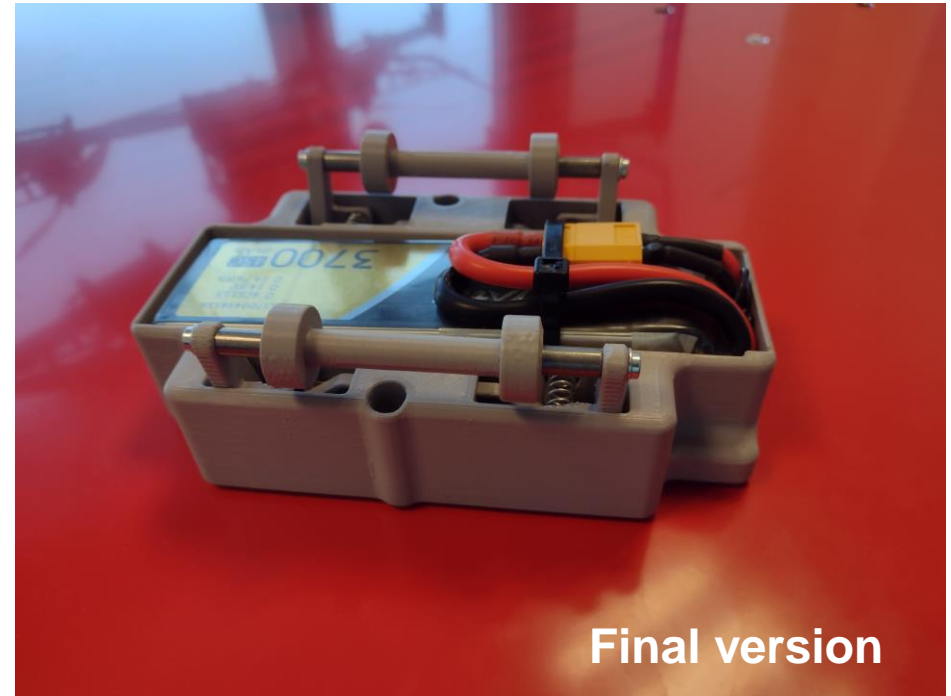
# Battery compartment



Version 1

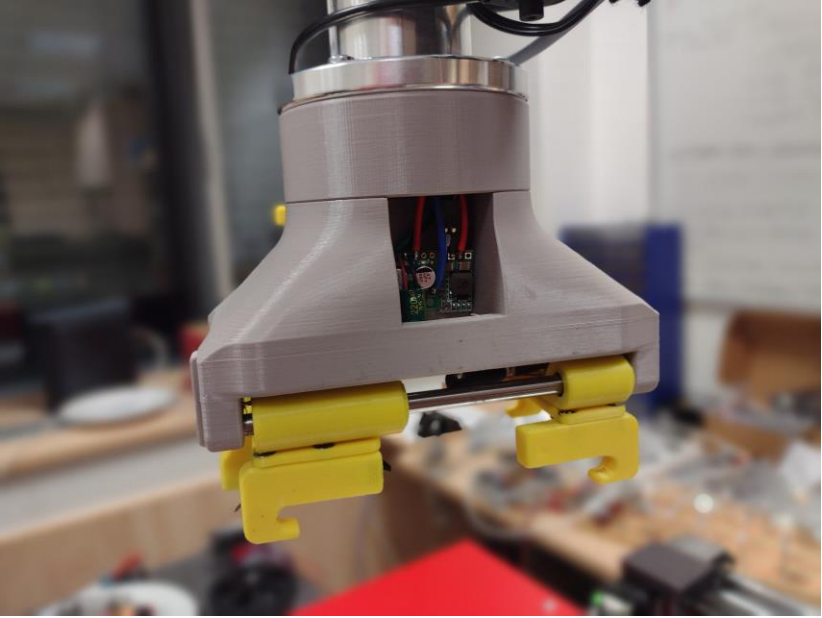
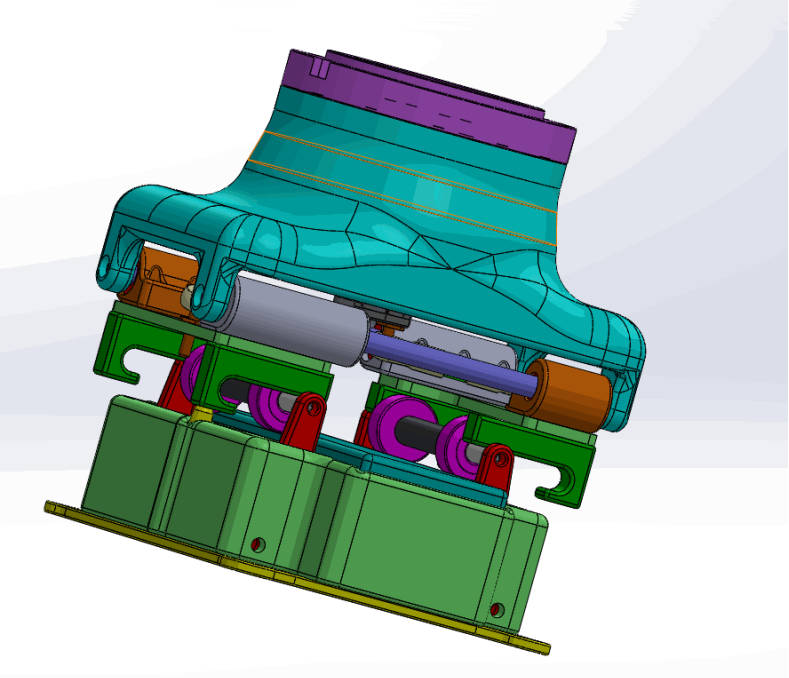
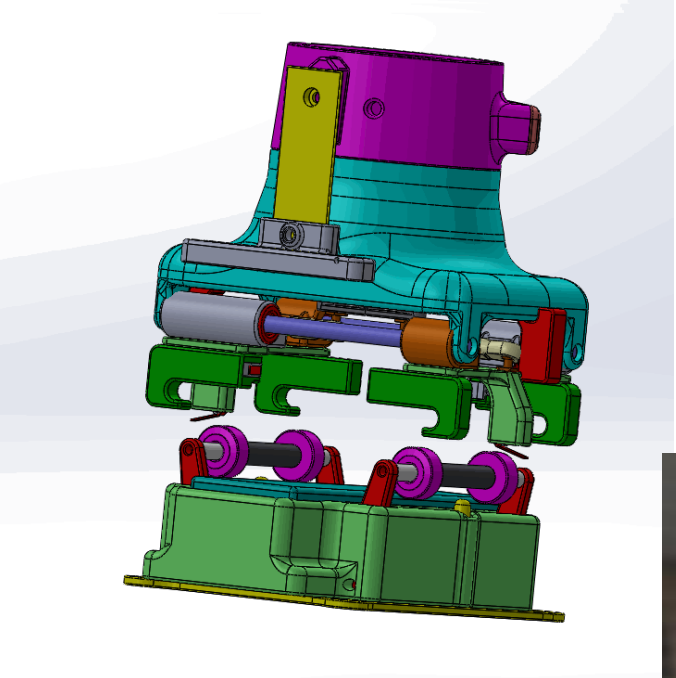


Version 2



Final version

# Gripper

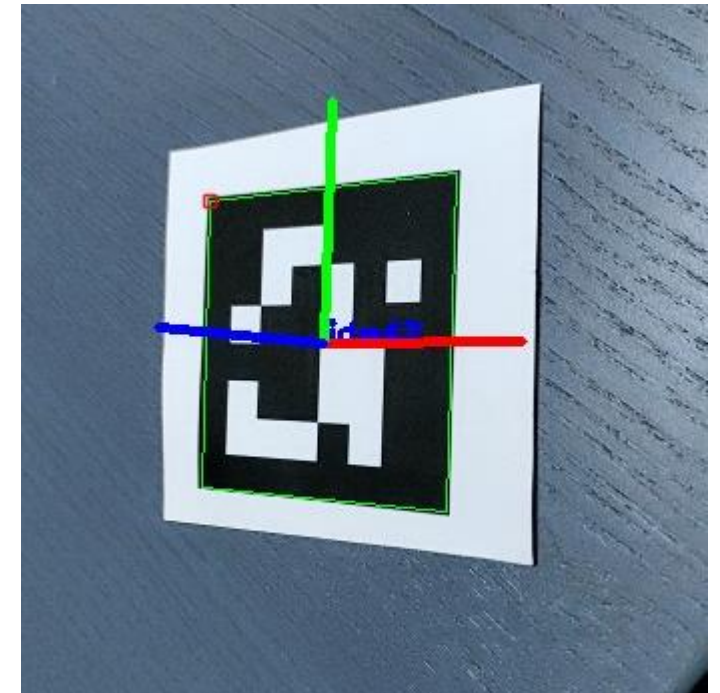
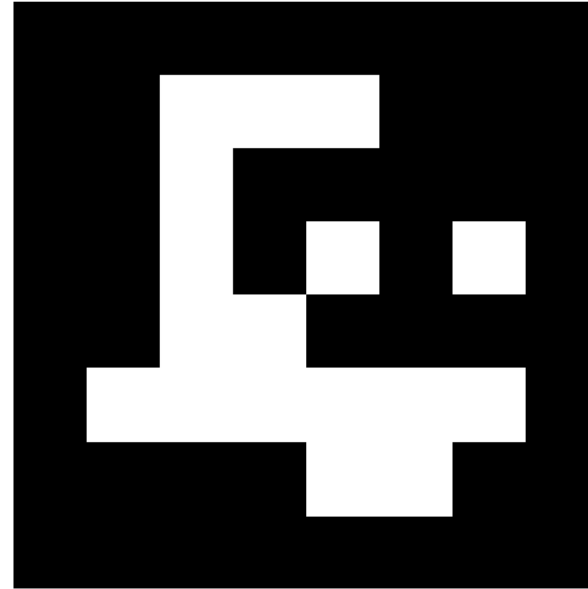


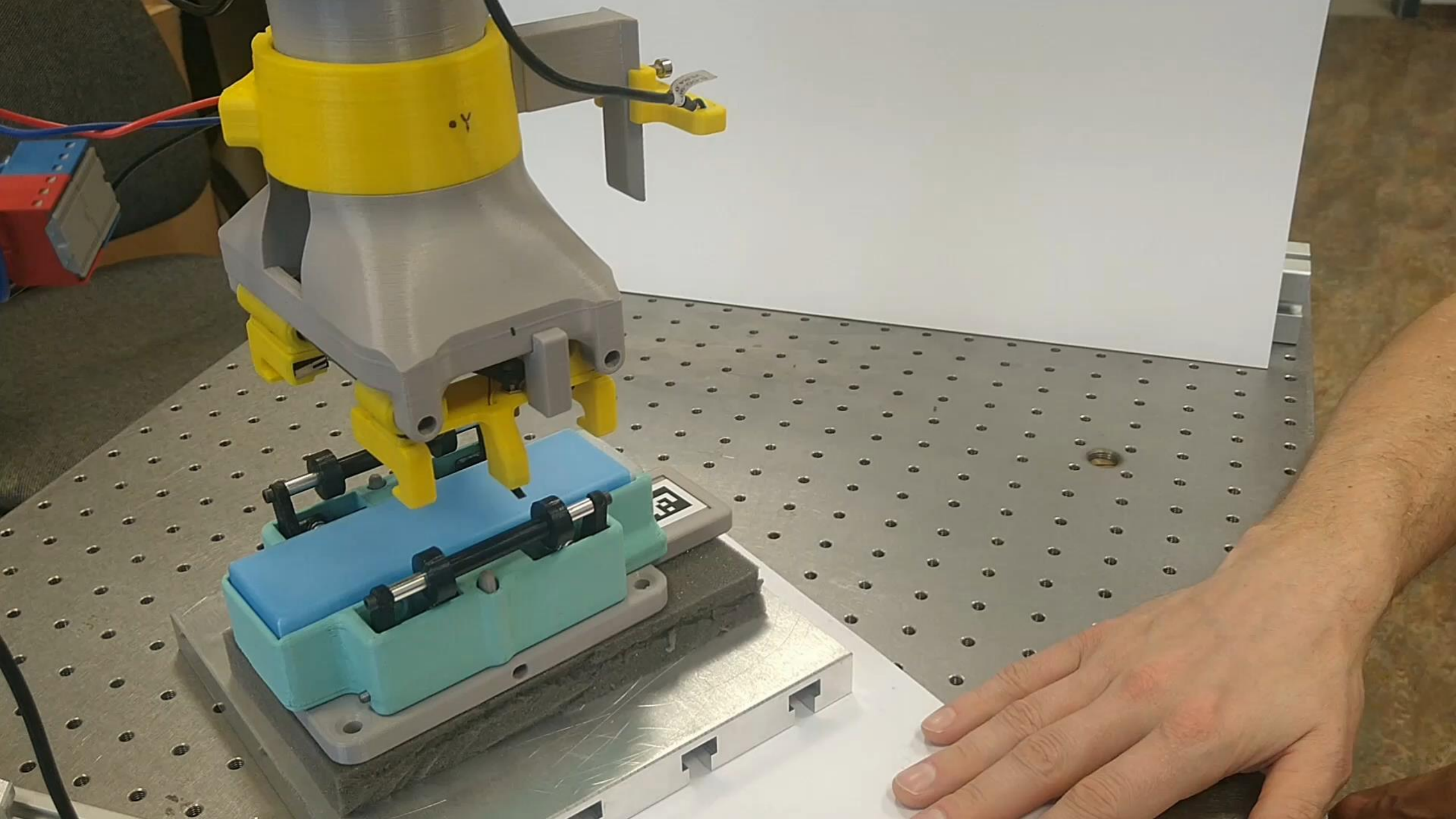
# Gripper testing

## ArUco marker



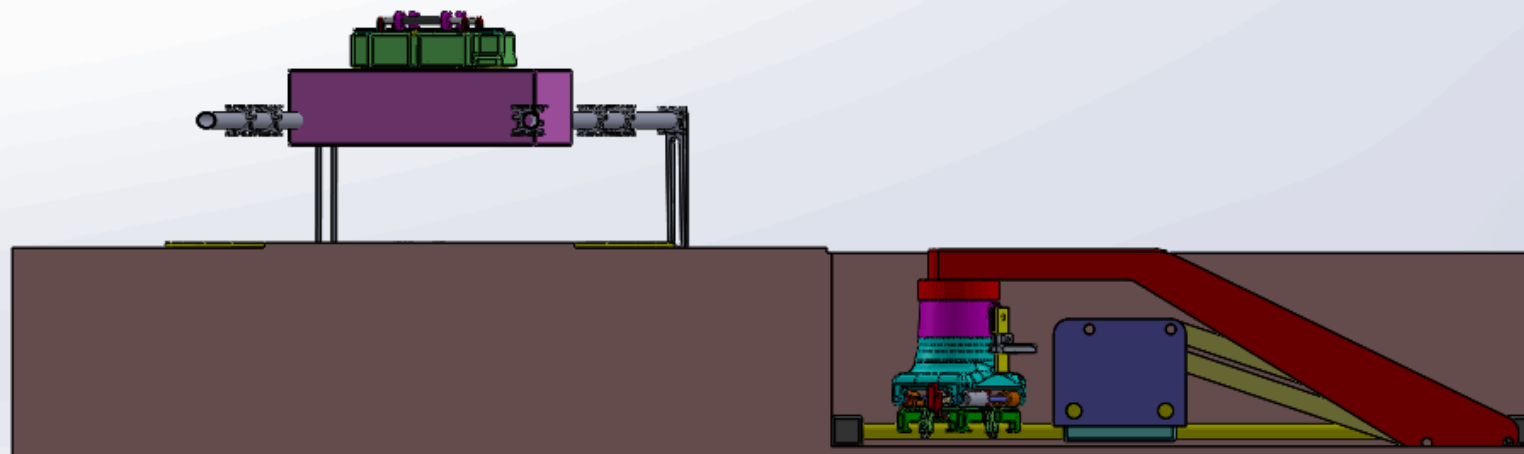
SCHUNK LWA4D

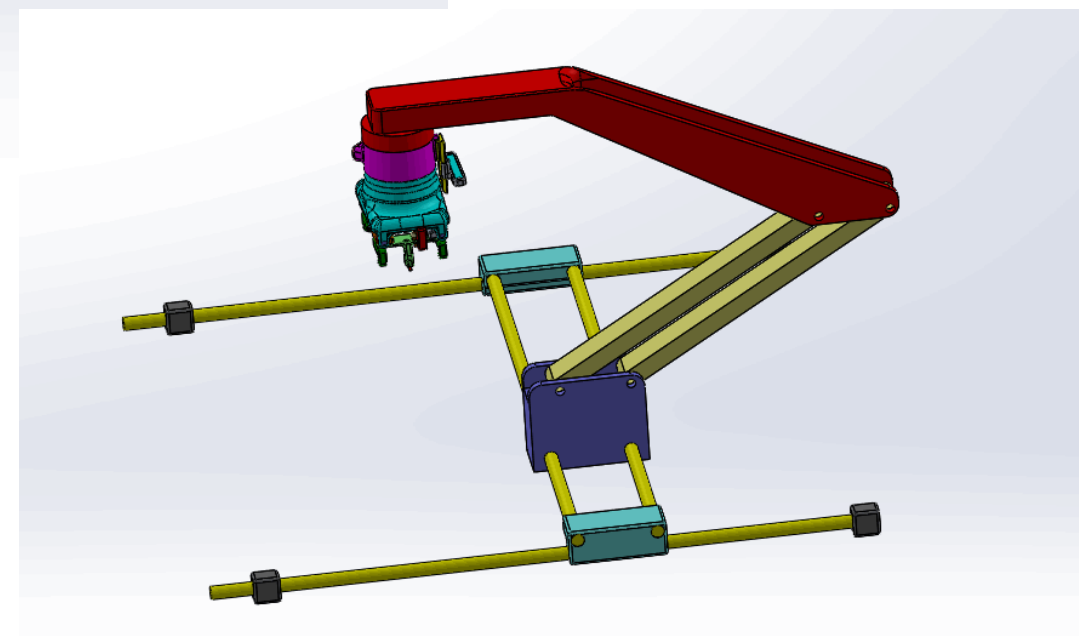
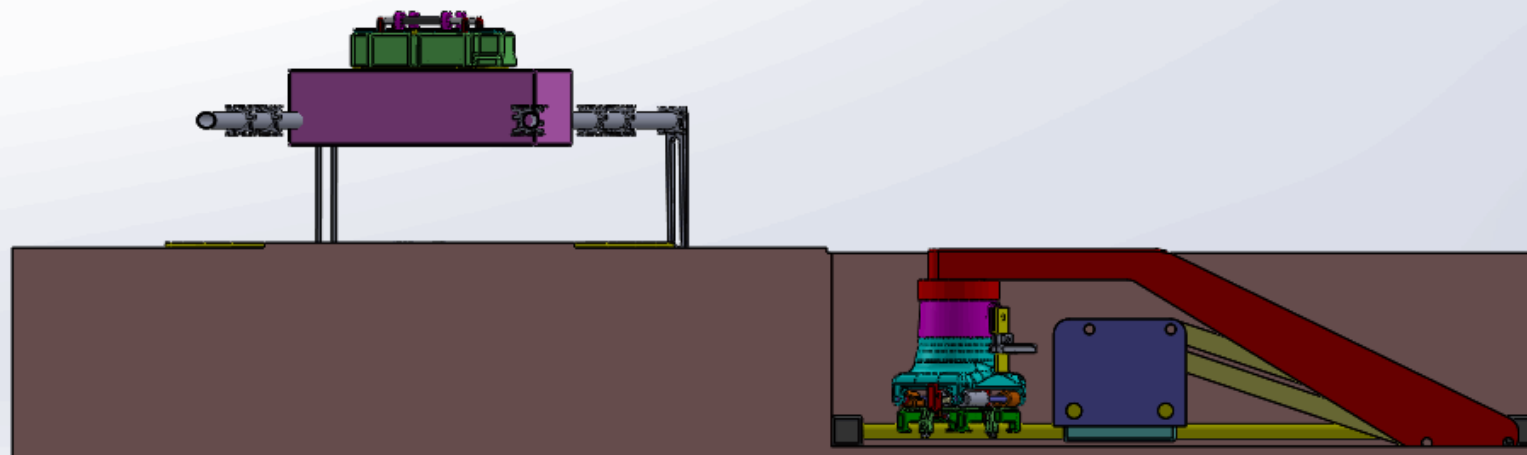


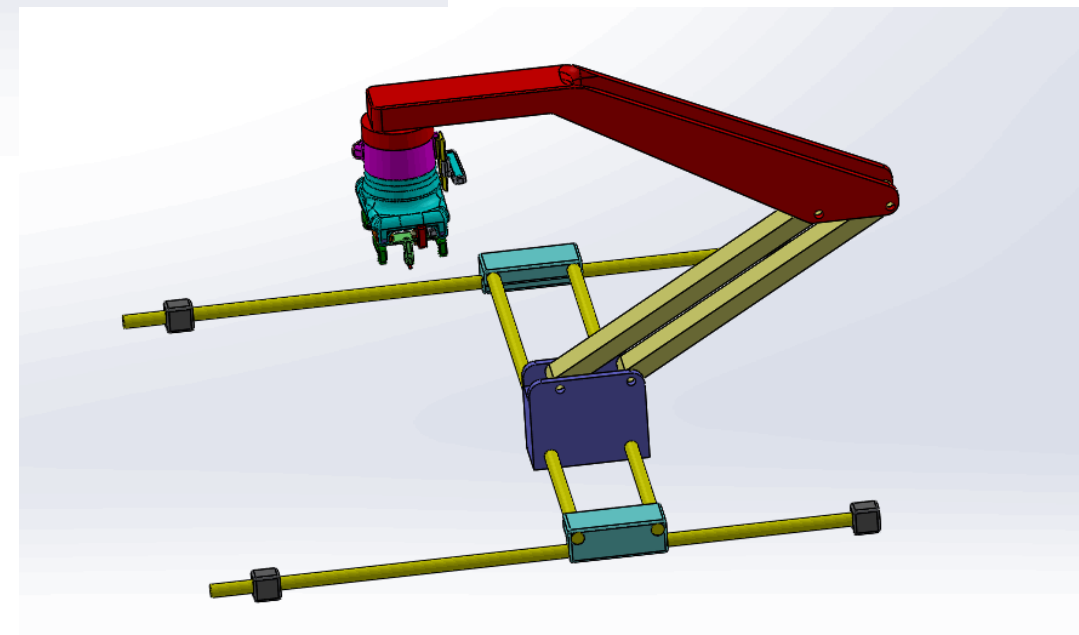
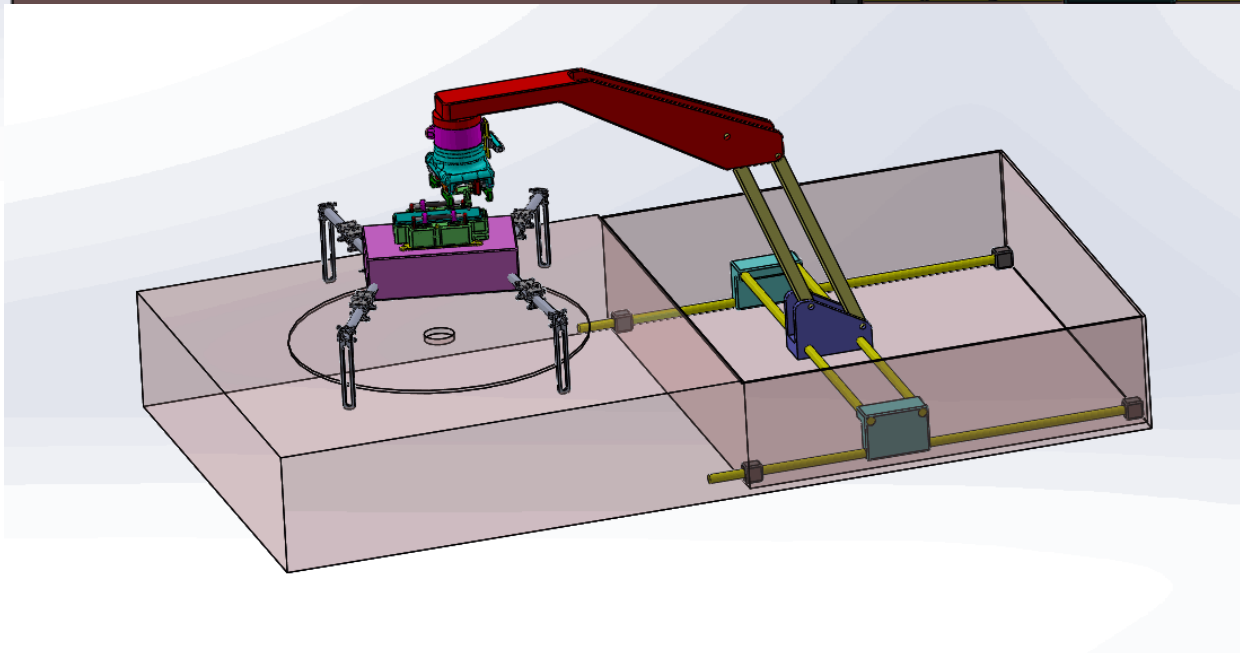
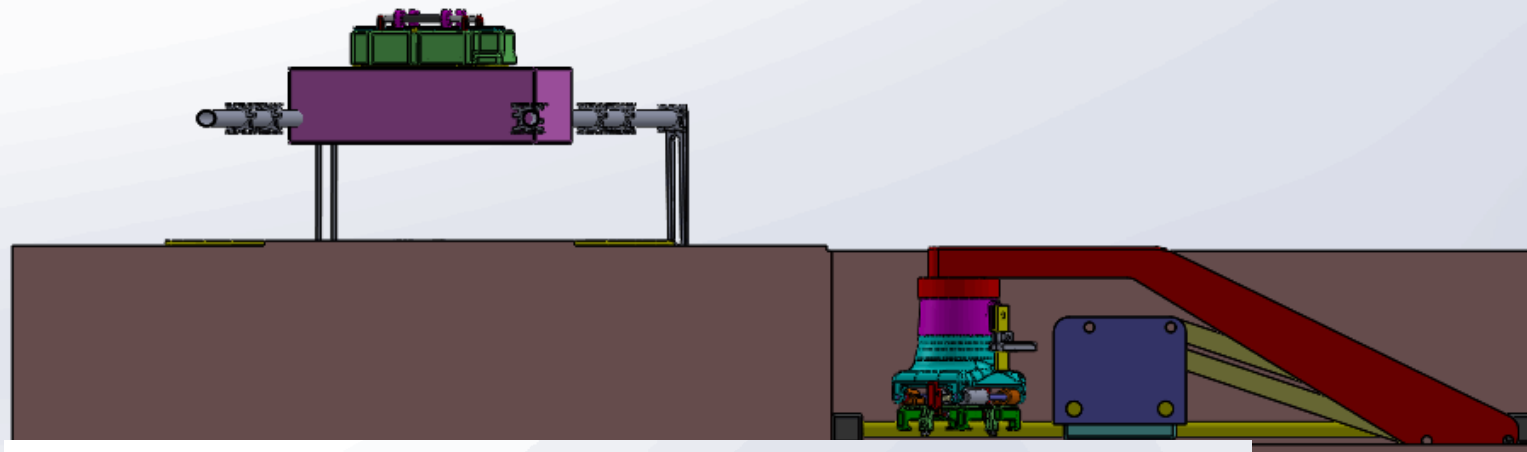


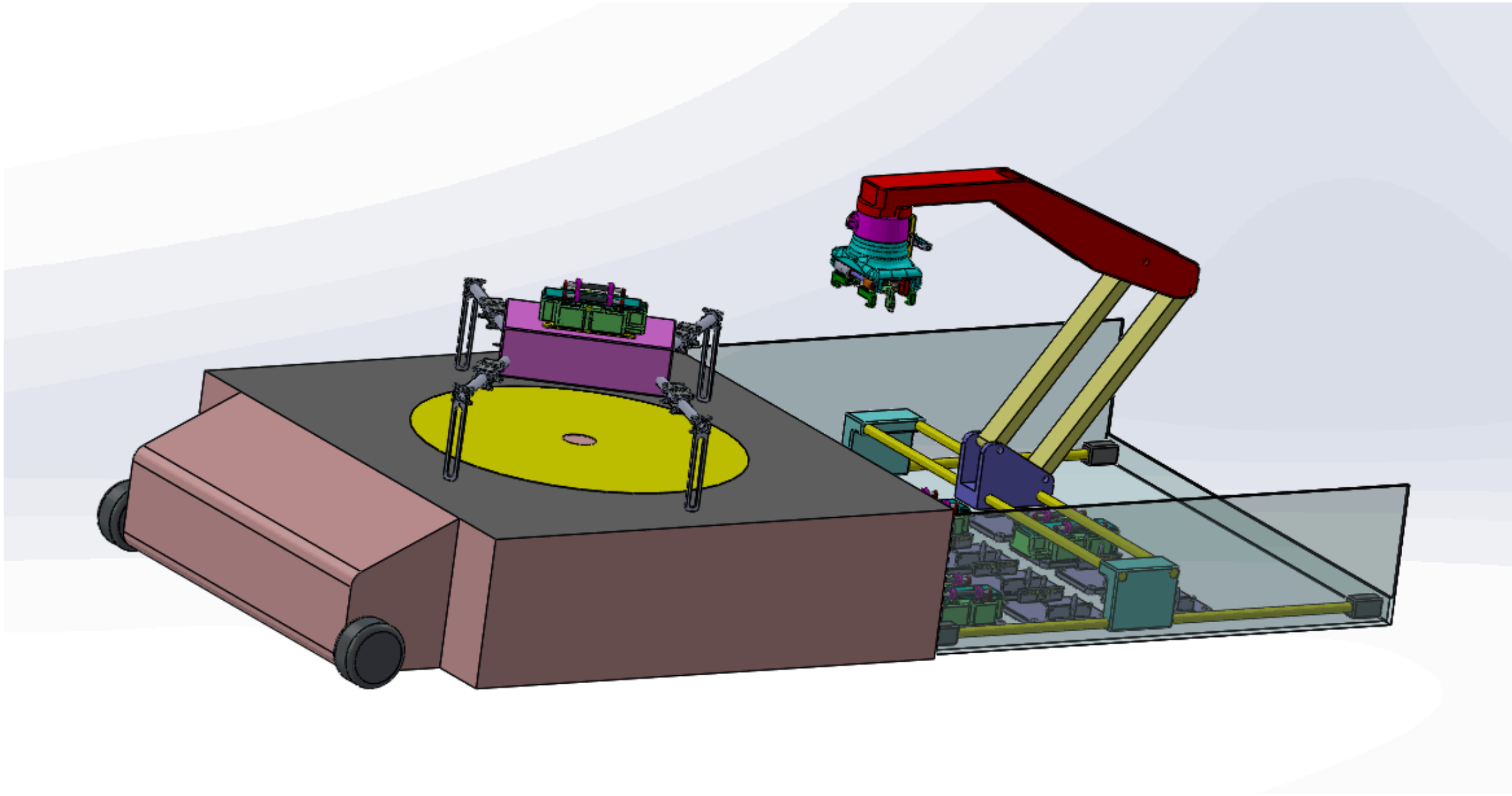


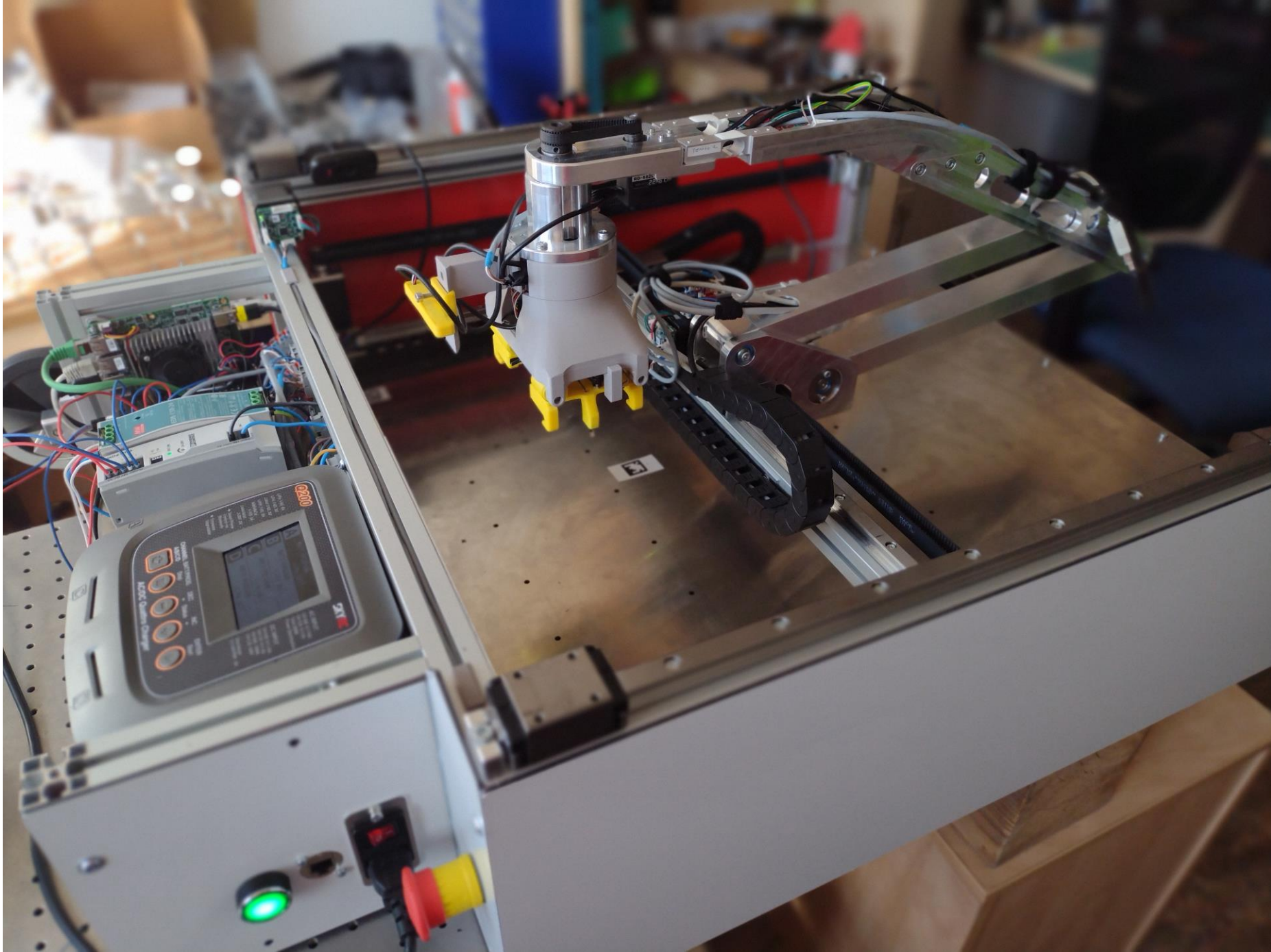
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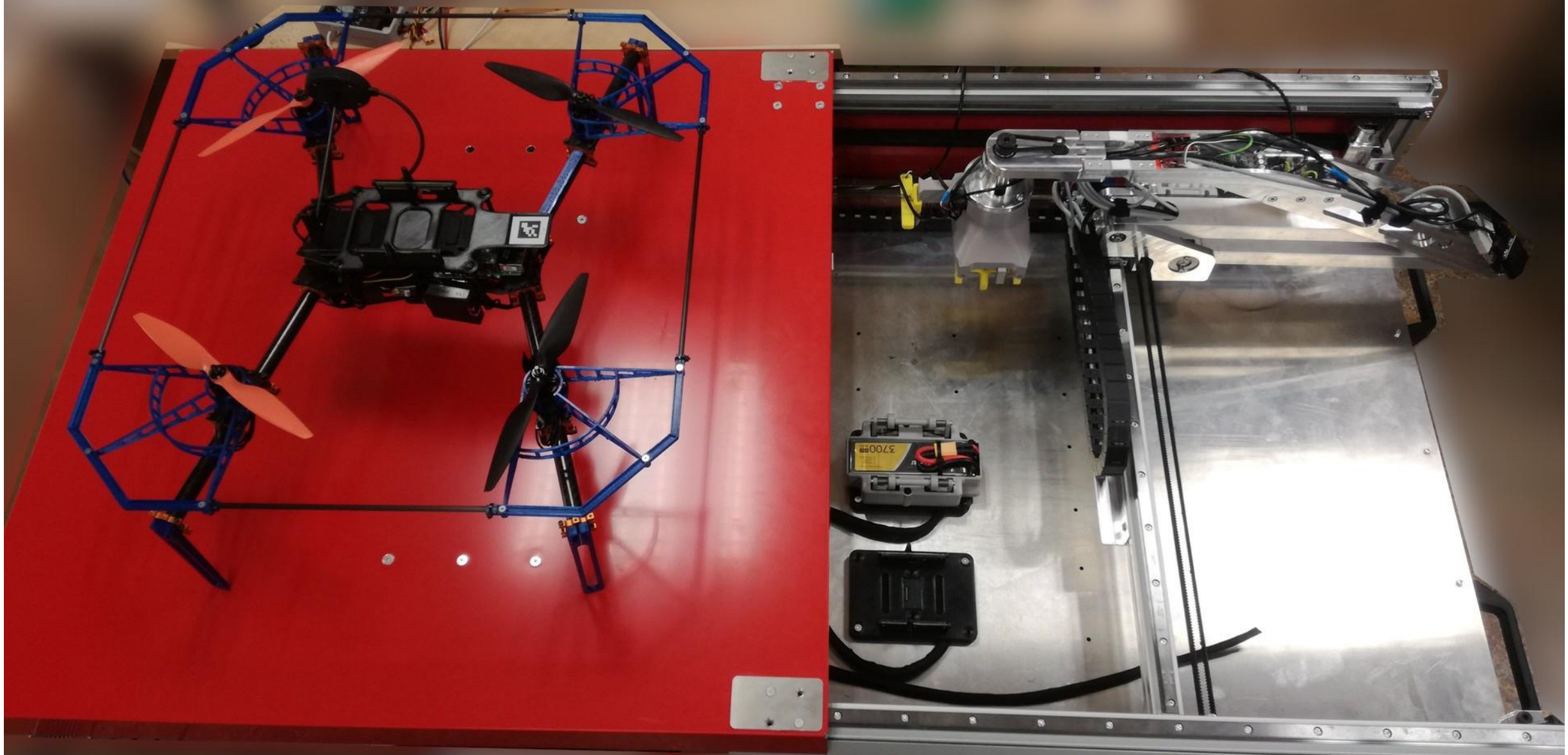


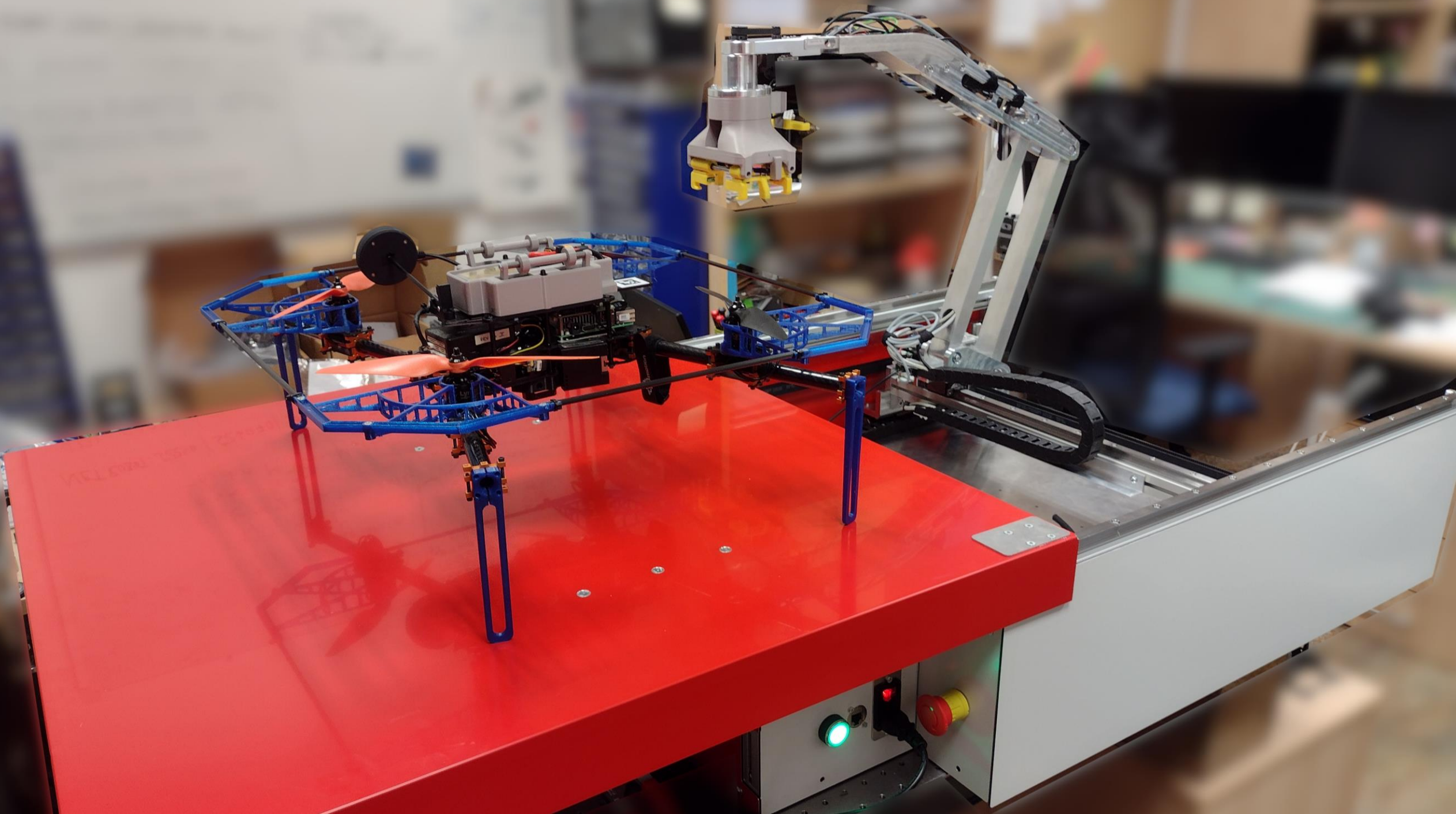














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**ECSEL Joint Undertaking**

Electronic Components and Systems for European Leadership



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V PLZNI

