

# CrazyPractical Project

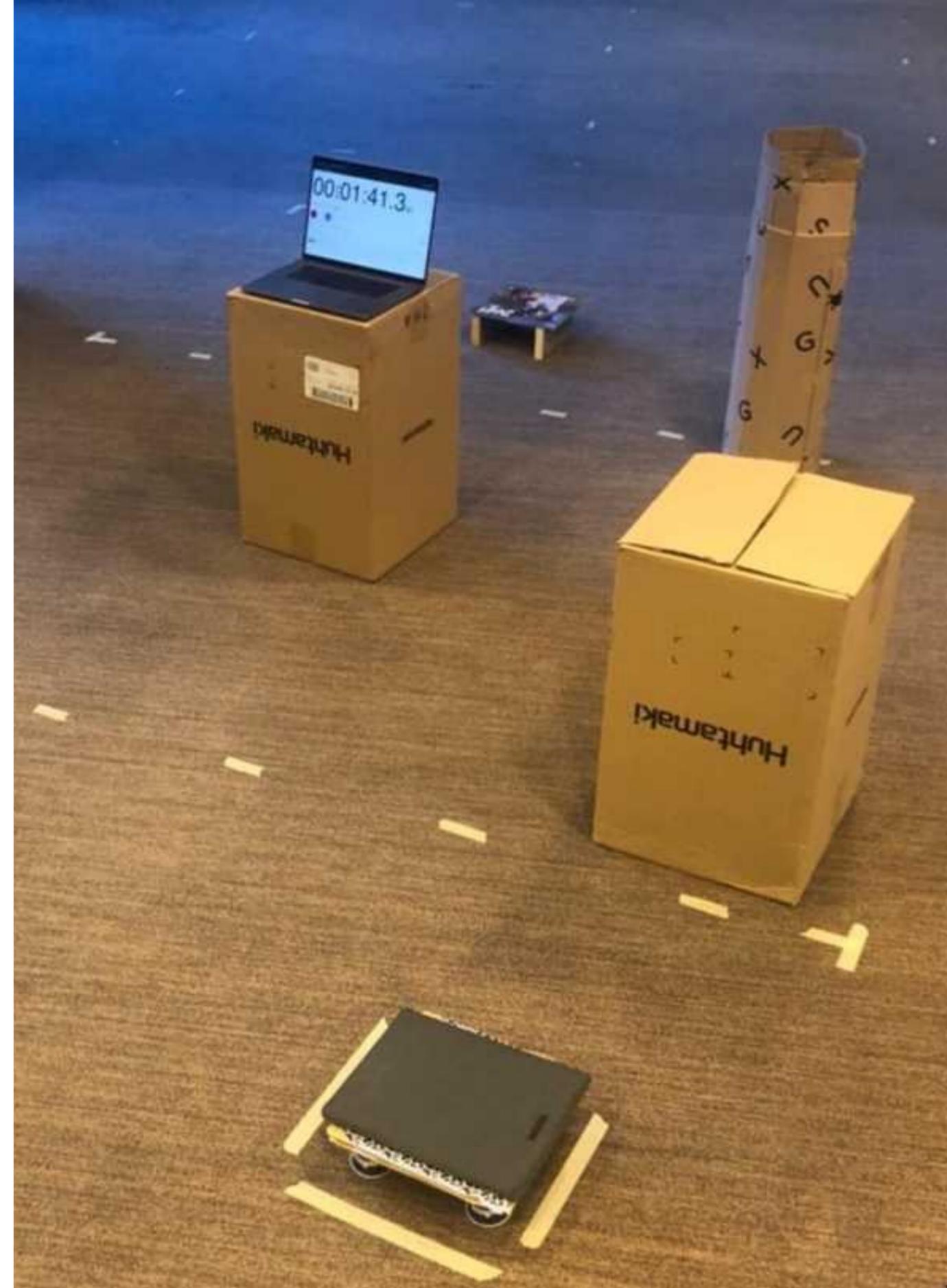
## Group 4

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# Experimental setup

## Environment layout

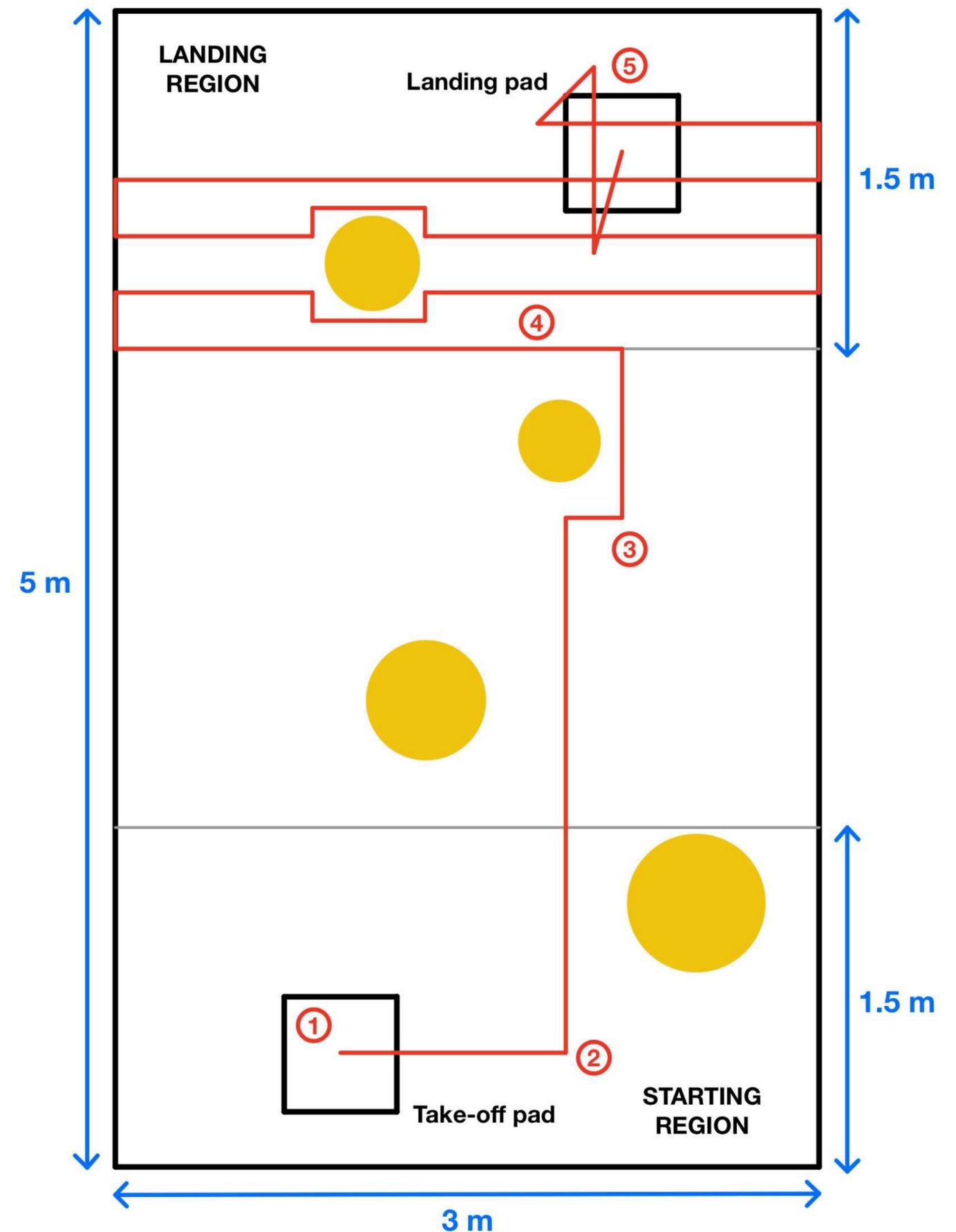
- The test arena has the **same dimensions** of the final arena;
- **Obstacles** were added in the central region and in the landing region;
- The **positions** of the obstacles and pads were **changed** multiple times.



# Strategy

Main steps of the algorithm

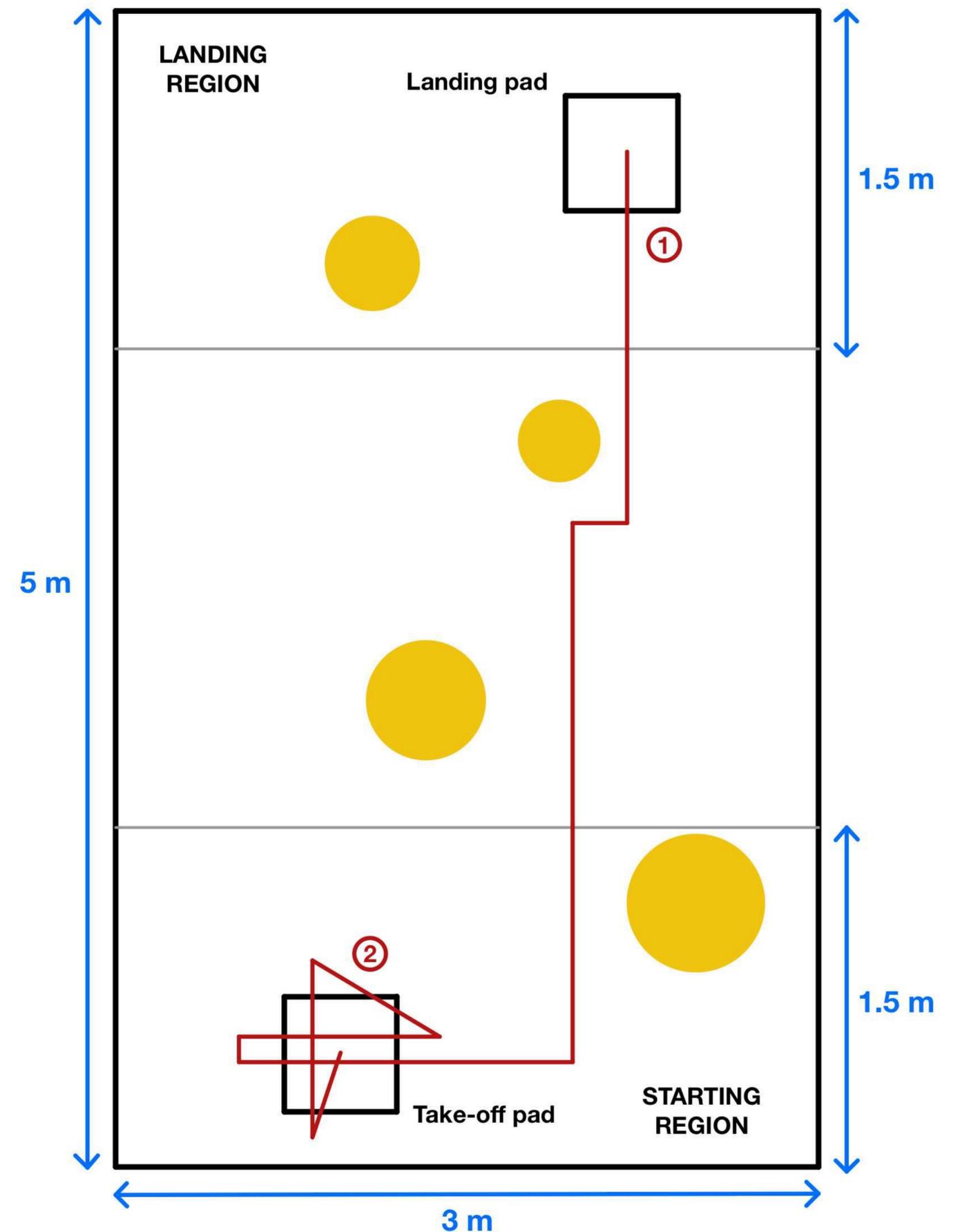
1. **Take-off** from the take-off pad;
2. **Sweep** to find a free path;
3. **Avoid** obstacles;
4. **Sweep** to find the landing pad;
5. **Manoeuvre** to localize the landing pad, and **land**.



# Strategy

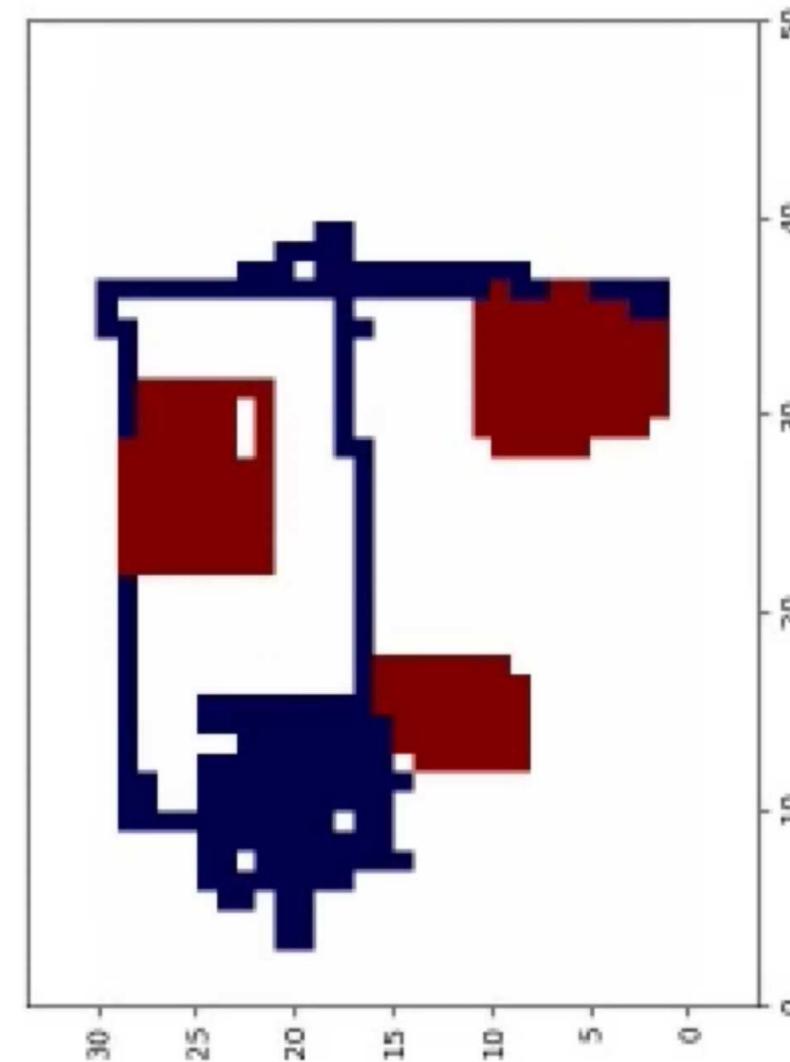
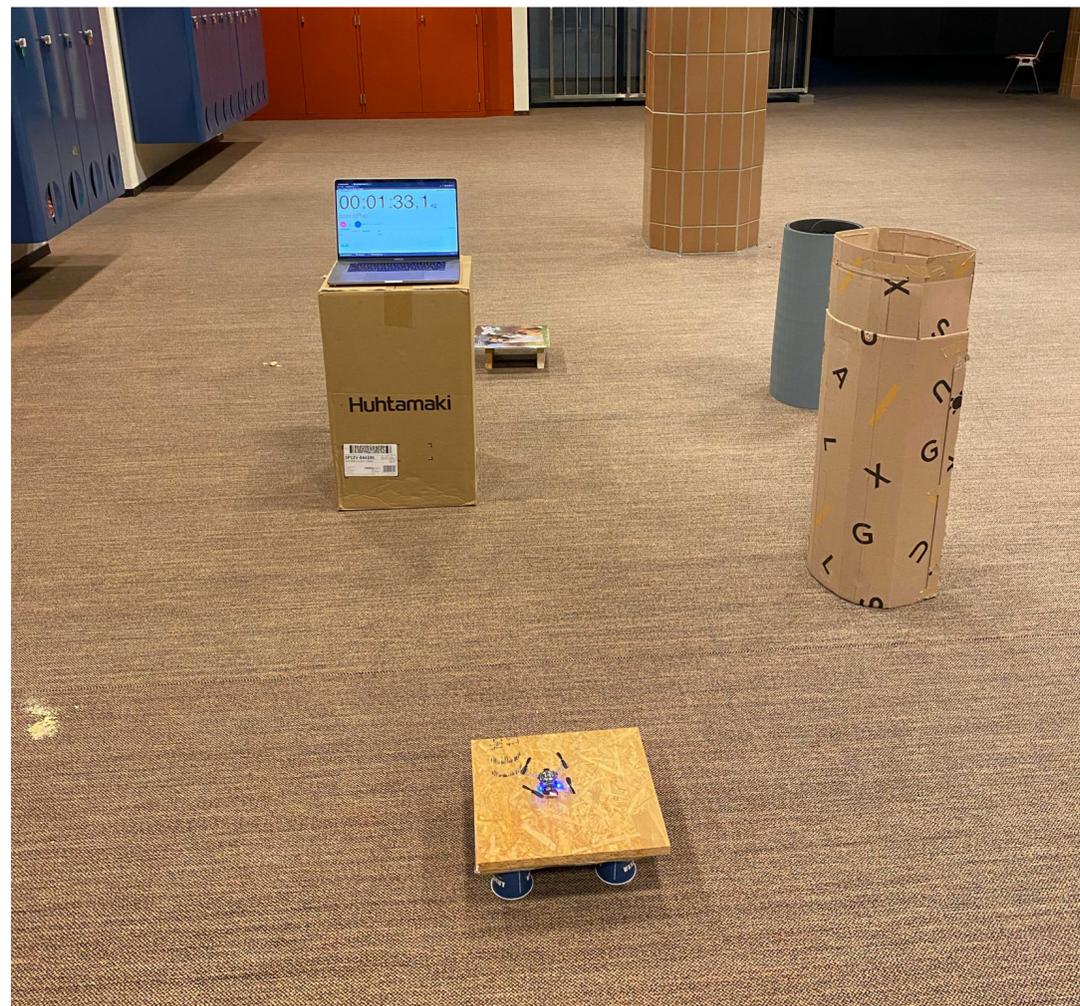
Main steps of the algorithm

1. **Take-off** from the landing pad, and choose an algorithm to **plan the return path** (A\*, forward path, re-discretise a new path);
2. **Manoeuvre** to localize the take-off pad, and **land**.



# Results and Statistical Analysis

Obstacle avoidance	Landing - landing pad	Landing - take-off pad	Time limit respected	Average time taken
10/10 trials	9/10 trials	8/10 trials	8/10 trials	1:51 minutes



Thanks for your attention...  
We are ready for take-off!