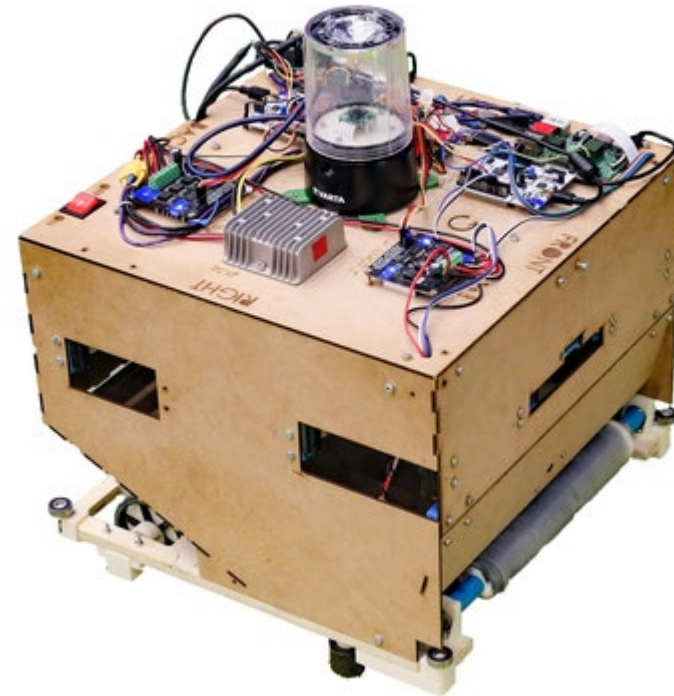# EPFL

Interdisciplinary robot competition

What is it?

- Project based, multi-disciplinary learning
  - Learn crucial skills for your future career
  - See a clear, measurable outcome
  - Compare
- Teams of 3 people, all **from different sections**
- Implemented as optional semester project for all STI master programs (but not limited to STI)
  - Limited seats (6 teams of 3 people)!
- Friendly competition

Why joining?

- Unique **hands-on experience** in complementary fields of engineering
- **Interdisciplinary** team work
- **Project management**, including budget management
- Credits (as for any semester project)
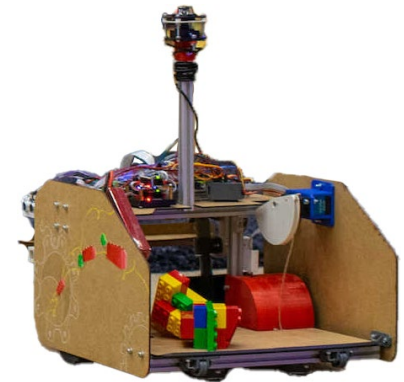- Fun experience
- Fame! And a cool prize

Working in a multidisciplinary team

- Master students → semester project
  - Teams of 3 students from 3 sections (mandatory)
  - Maximum 6 teams in 2024
  - Smaller test arena available during the semester
  - Access to facilities at the SPOT (DLL-PROT)
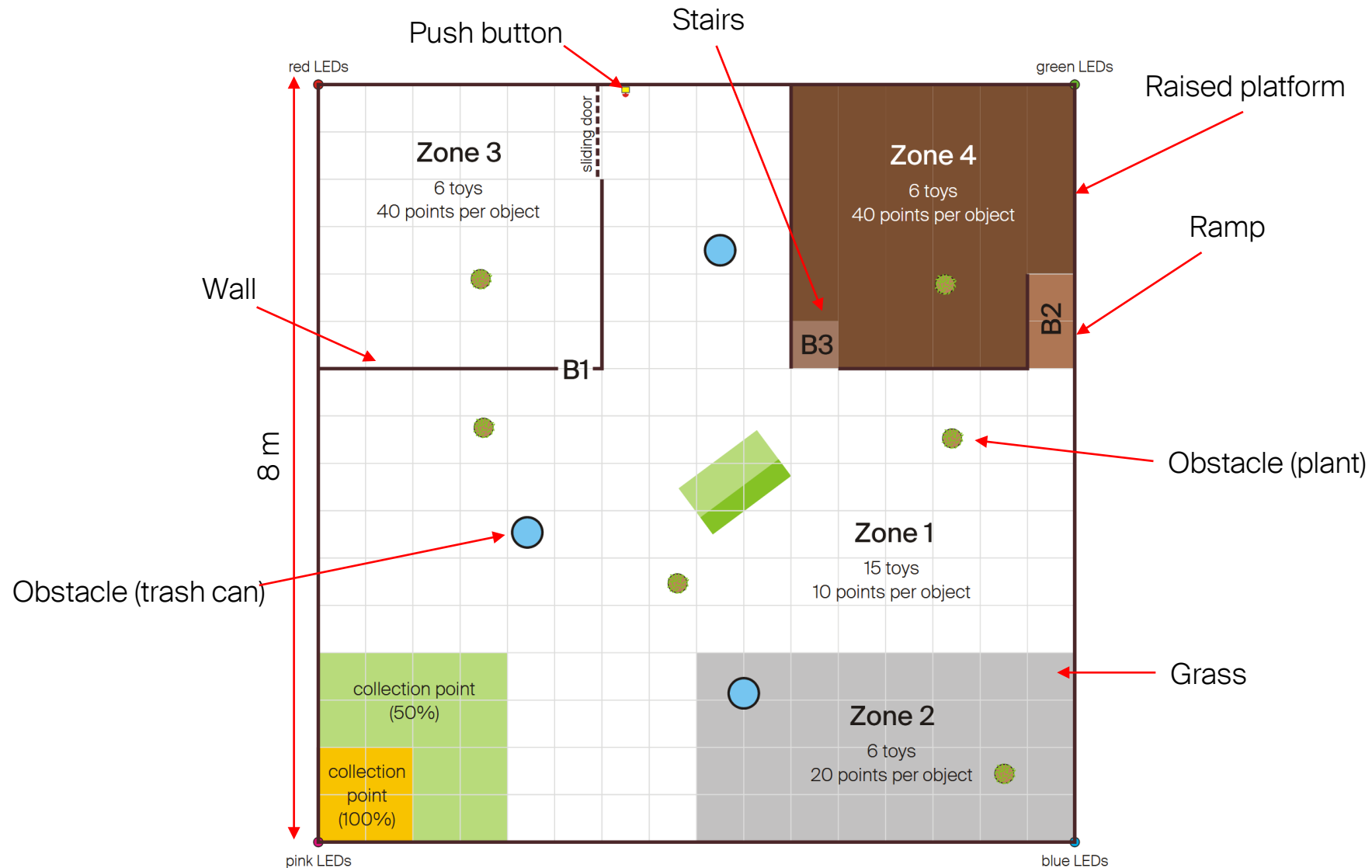 - Access to EPFL professional workshops

Robot competition

AIM Design and control robots that can detect, collect, and bring Duplo-like bricks to a designed place in an arena with diverse types of ground. The robot with the highest performance wins!

WHO? Six teams of three students from 3 different master programs. The competition is done as a semester project (in a team rather than alone).
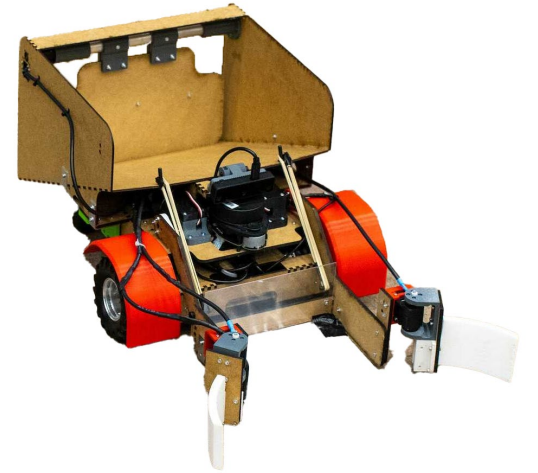

https://robot-competition.epfl.ch/

Example of an arena (8 × 8 m²)

Push button

Stairs

Raised platform

red LEDs

green LEDs

Ramp

Wall

Zone 3
6 toys
40 points per object

sliding door

Zone 4
6 toys
40 points per object

B3

B2

B1

Obstacle (plant)

8 m

Obstacle (trash can)

Zone 1
15 toys
10 points per object

Grass

collection point
(50%)

collection
point
(100%)

Zone 2
6 toys
20 points per object

pink LEDs

blue LEDs

Expertise from different masters

- **Microengineering, robotics**: mechatronics design, systems integration, control, programming
- **Electrical engineering**: PCB design, signal processing, control, programming
- **Mechanical engineering**: mechanical design and optimization, control
- **Material science**: mechanical design, innovative materials, innovative sensor systems
- **Bioengineering**: systems integration, programming
- **Computer Science**: programming, machine vision, algorithms, system integration

Goombot, winner robot 2023

Green Eye, winner robot 2019

Selection and timeline

- Apply as teams or individuals by **Dec. 17**th
- Outcome communicated end of December
- Once accepted, **you must find a someone to replace you, if you withdraw**!
- Selection committee will form teams
- The project takes place during the spring semester
- Teams are required to meet and discuss before the start of the semester!
- Competitions (private & public): **mid-June 2024**

More info

https://robot-competition.epfl.ch/

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