

Lab 3

Distributed Intelligent Systems

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What this lab is about

- Familiarize yourself with the e-puck robot
 - how to program the robot using the e-puck library
 - how to transfer data to and from the robot using serial comm.
- Basic understanding of:
 - e-puck sensors
 - stepper motor
- Implementation: Basic robot control
 - Braitenberg
 - Rule-based
- Robot Navigation:
 - Pure odometry
 - Feature aided odometry

Software

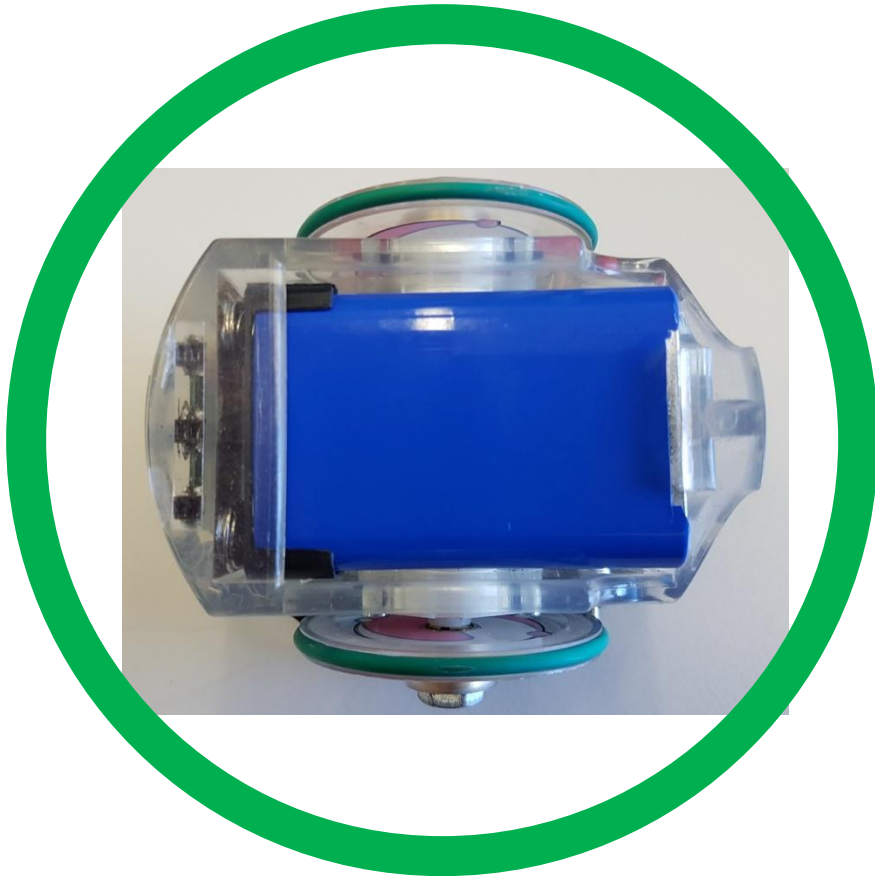
- On a GIT repository
 - download files by executing
`git clone https://disalgit.epfl.ch/epuck/epuck.git`
- Content of folder `EpuckDevelopmentTree/`
 - e-puck library
 - test programs (not needed in this lab)
- Executables: already installed in GR B0 01 and GR C0 02
 - epuckconnect
 - epuckupload

Hardware

- You will receive:
 - 1 e-puck robot
 - 1 Battery
 - 1 USB-Bluetooth dongle
 - 3 walls
 - 6 stands



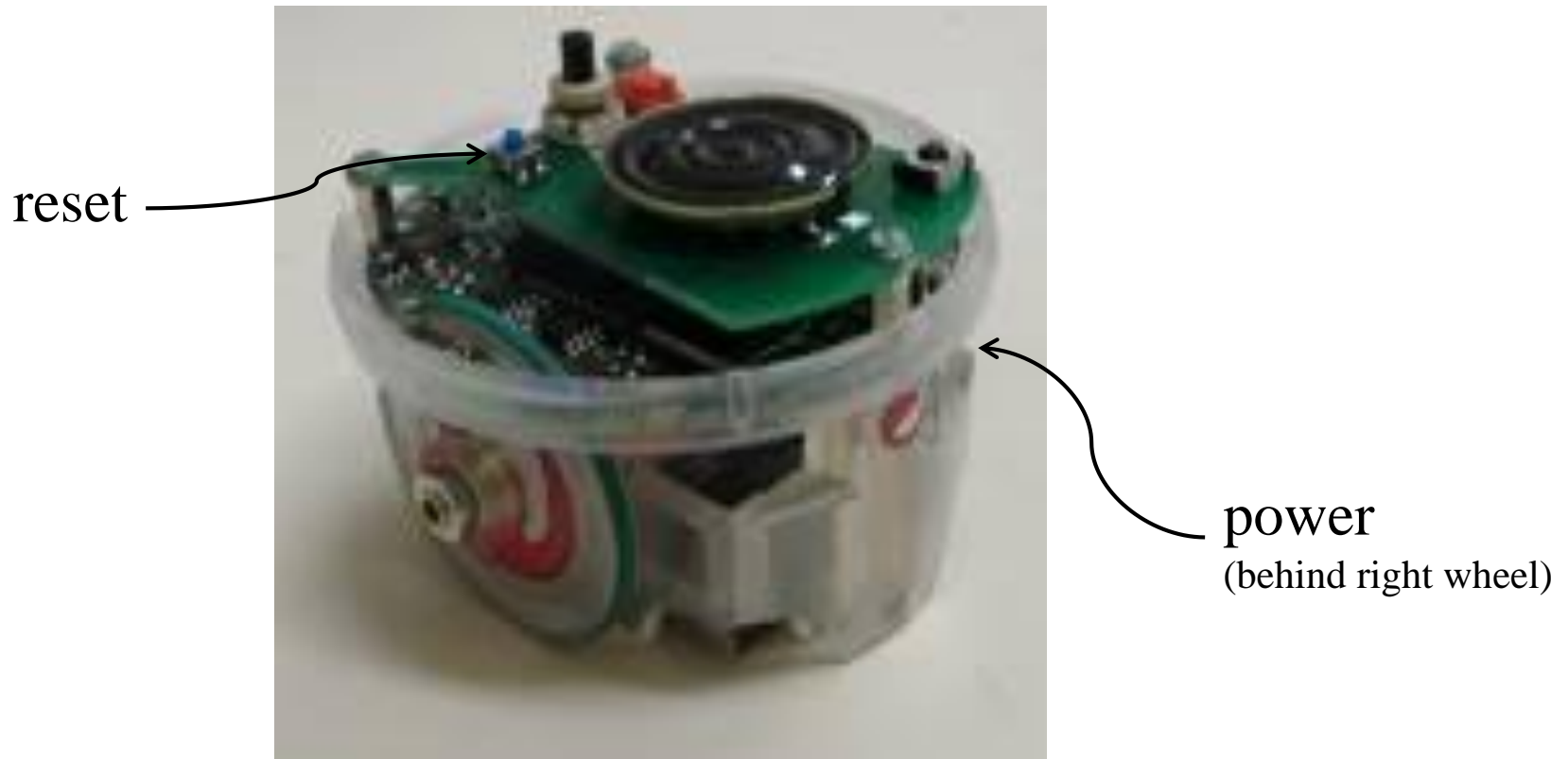
e-puck: insert battery



If you can see the serial number it's wrong

e-puck: Reminder

You will need to use 2 buttons on the robot:



Also: watch for the power (green) and the low-power LED (red)

Programming an e-puck

- Turn on robot, plug USB dongle into computer
- Upload program abc.hex
- Type the following before previous command (in computer room)

```
epuckupload -f abc.hex 123
```

```
ssh localhost
```

- Remember:

Before compiling a C file (abc.c), edit your Makefile:

```
EPUCKLIBROOT=/home/user/mydocs/epuck/EpuckDevelopmentTree/library
```

Bluetooth issues

If you are having problems connecting and/or uploading code, do the following:

- Unplug the USB-Bluetooth dongle
- Plug in the USB-Bluetooth dongle
- Left click on the Bluetooth icon on the top right screen
 - Disable
 - Enable

You cannot upload code while the minicom is used!