

# 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

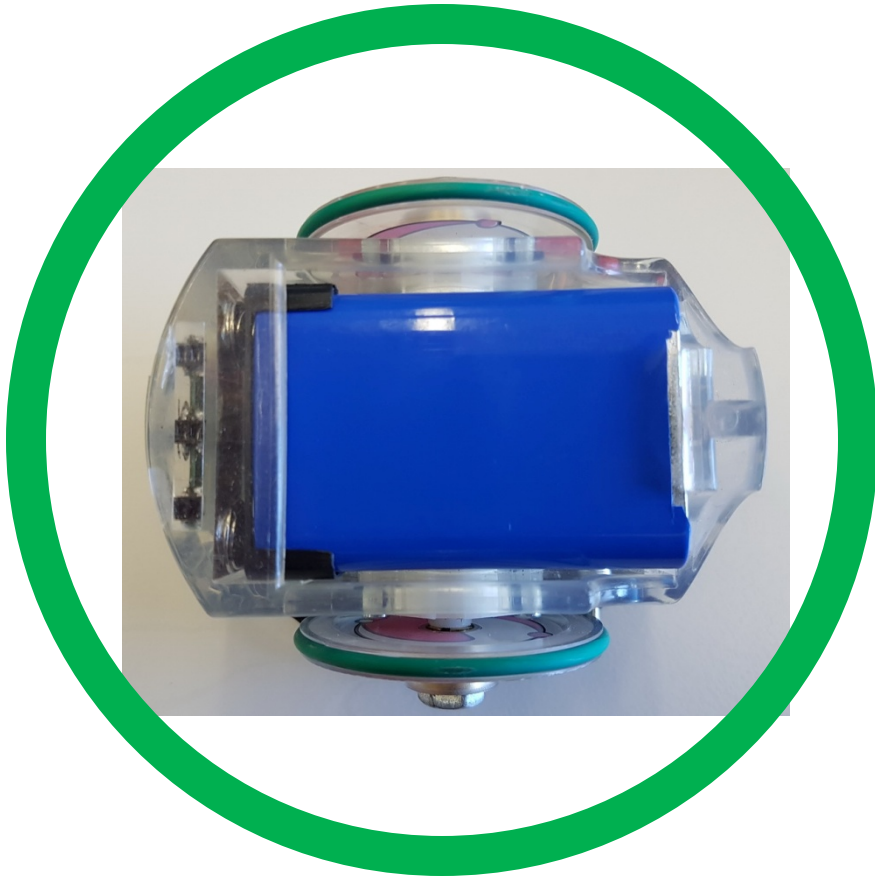
- On a GIT repository
  - download files by executing  
`git clone https://disalgit.epfl.ch/epuck/epuck.git`
- Content of folder `EpuckDevelopmentTree/`
  - e-puck library
  - test programs (not needed in this lab)
- Executables: already installed in GR B0 01 and GR C0 02
  - epuckconnect
  - epuckupload

# Hardware

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



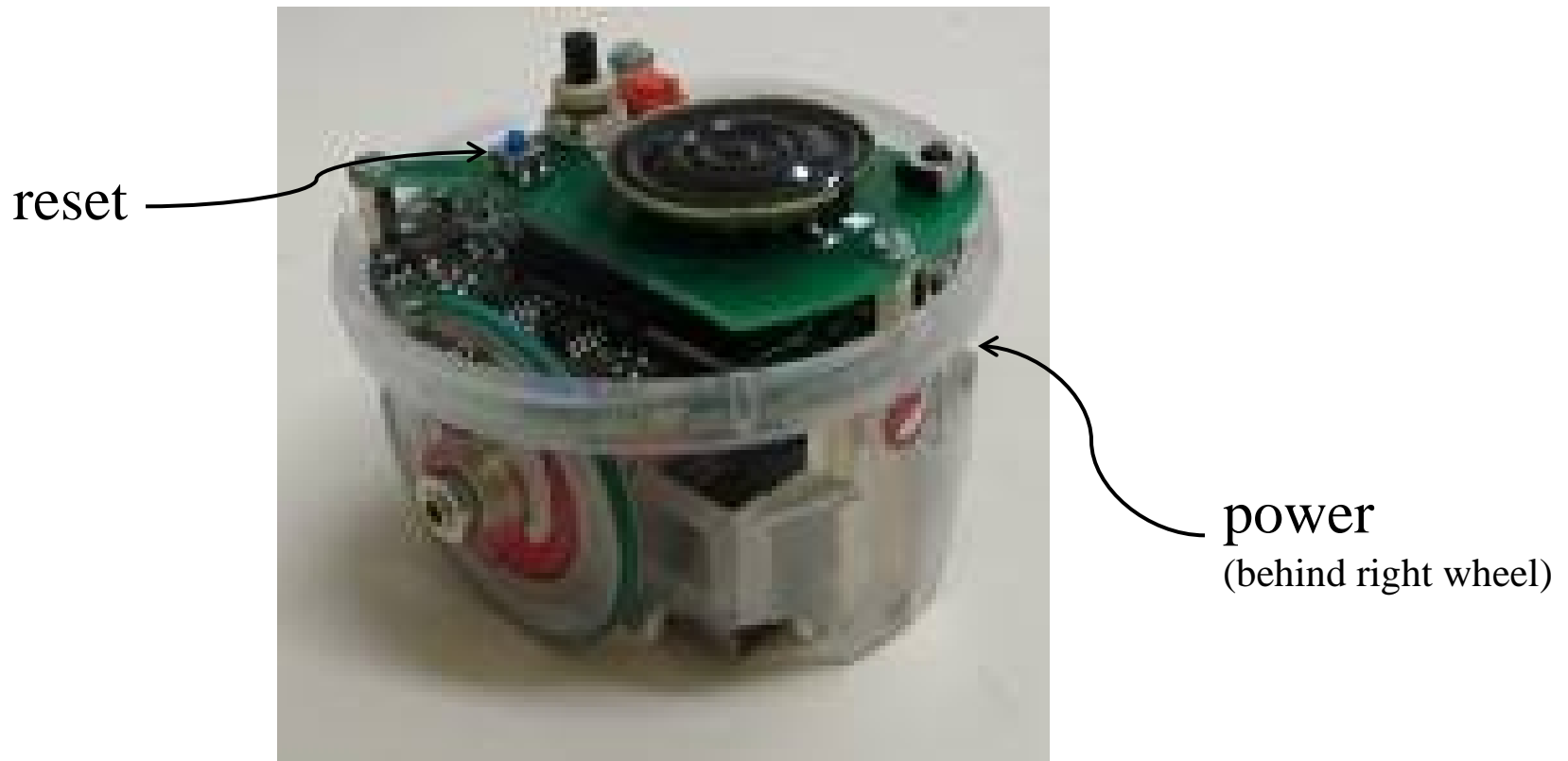
# e-puck: insert battery



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  
`epuckupload -f abc.hex 123`

- 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!