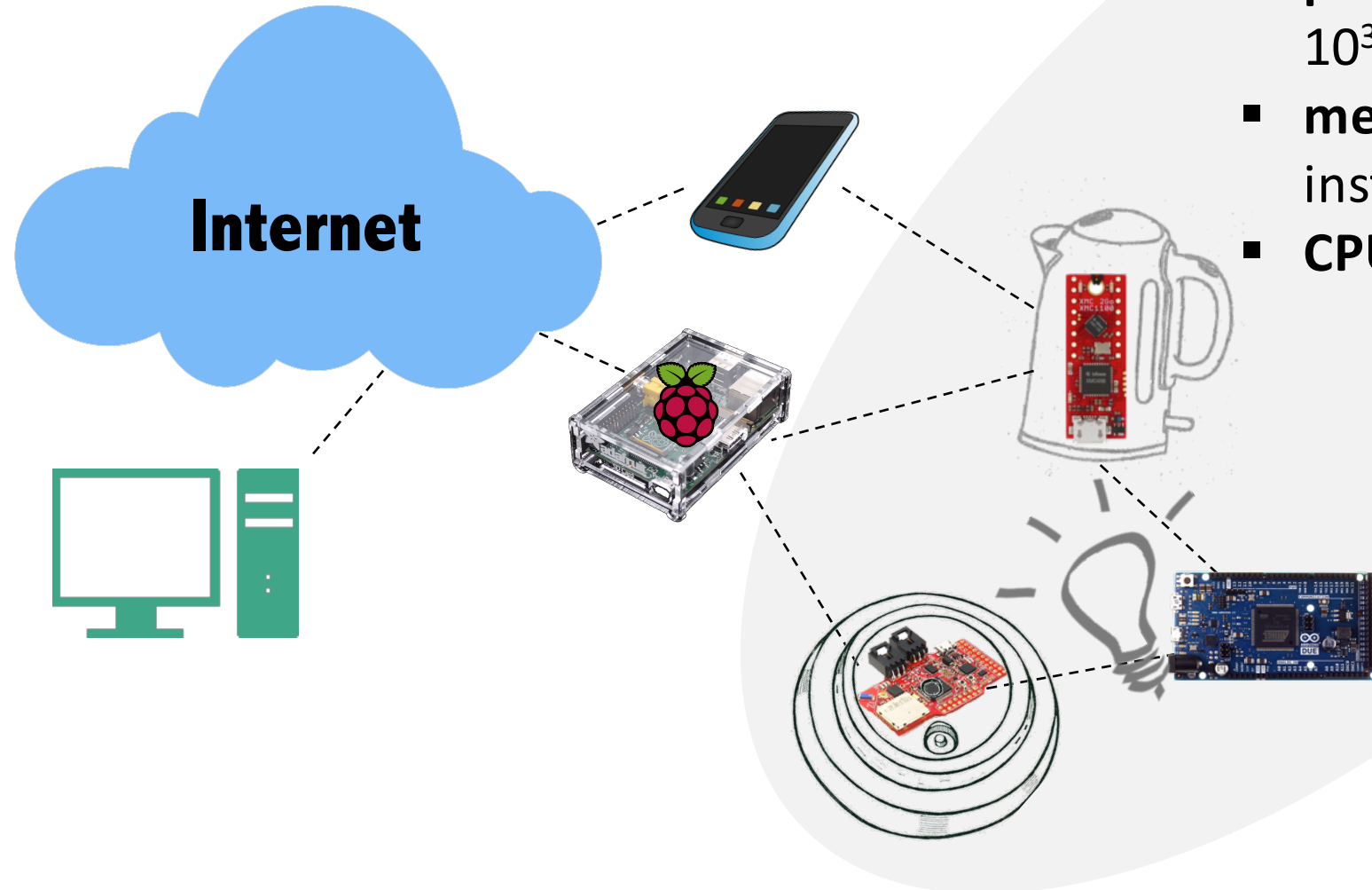# Target = program + connect low-end IoT

- **power** in mW or less, 10^3 less than RaspberryPi
- **memory** in kBytes instead of GBytes
- **CPU** in MHz (vs GHz)

Internet

What is RIOT?

✓ An operating system for IoT devices too small for Linux

✓ A free, open source software platform

✓ A lively community of developers

- Open source
- Free core
- Grassroots governance

Indirect business models

Geopolitical neutrality

RIOT: an Open Source Operating System
for Low-end Embedded Devices in the IoT.
IEEE Internet of Things Journal, 2018.

RIOT's year in numbers, since Summit'17

≈200 contributors worldwide
- ≈25% increase since Summit'17
- From industry, academia, makers

≈130 boards supported
- Since Summit'17: new MCUs (RISC-V, ESP8266), Ikea TRADFRI hack, new sensors…

4000+ commits merged, and 4 releases
- Many new features including: BLE stacks, LoRaMAC, LUA, new crypto components…

Extended continuous integration infrastructure
- HIL testing, nightly builds, enhanced automated test harness…

The IoT since Summit'17

- **IoT hype**: decreases, but IoT is (like Internet) a general purpose technology

- **IoT-related cyber-security vulnerabilities**: concerns widen & deepen...

- **IoT hardware radar**: HW continues to diversify and to evolve quickly!

- **IoT software radar**: high activity, also at Zephyr (Intel) , FreeRTOS (Amazon)...

Food for the Open Mic (or: what's next for RIOT ?)

[…]

Continue beefing up security ?

- Secure software updates (follow-up on SUIT hackathon prototype)
- More crypto building blocks, and formally verified modules?

Enhance the CI ?

- Deploy further HIL in the CI
- Automate more advanced tests

Extend support ?

- Hardware: more boards (ESP32, STM32WB…), radios (STM32WB…), more sensors, actuators
- Network: more protocols (DTLS1.3, 6LoWPAN over BLE, extended LoRaWAN support, TSCH, USB, NB-IoT, WiFi), stacks (OpenWSN…), extended interpreter support (Lua, microPython, Javascript…)

[…]

Enjoy your Summit!