Welcome

Marco Zennaro, PhD
ICTP

Hello

Marco Zennaro, Research Officer, ICTP

Applied Physics → Telecommunications/ICT4D Lab

Focal Point of the ITU Centre of Excellence in IoT and Big Data and Statistics

Visiting Professor at Kobe Institute of Computing in Kobe, Japan

Have been working in WSN/IoT for 15 years → 60 papers

Hello

Ermanno Pietrosemoli, Researcher, ICTP

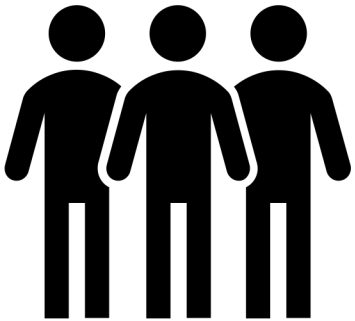
Applied Physics → Telecommunications/ICT4D Lab

2017 Internet Hall of Fame

President ESLARED

World Record Longest WiFi link

You?

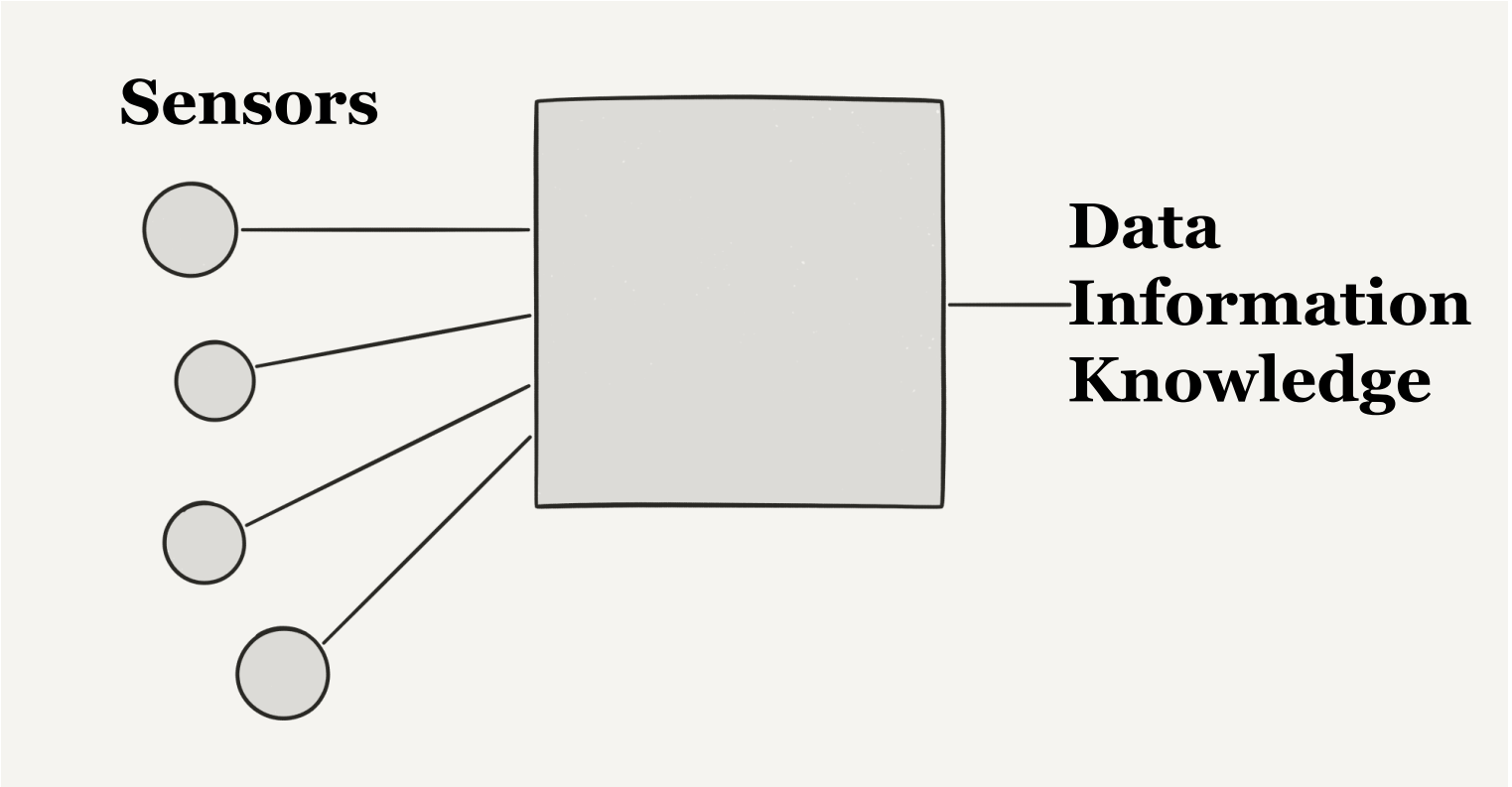


Learning targets

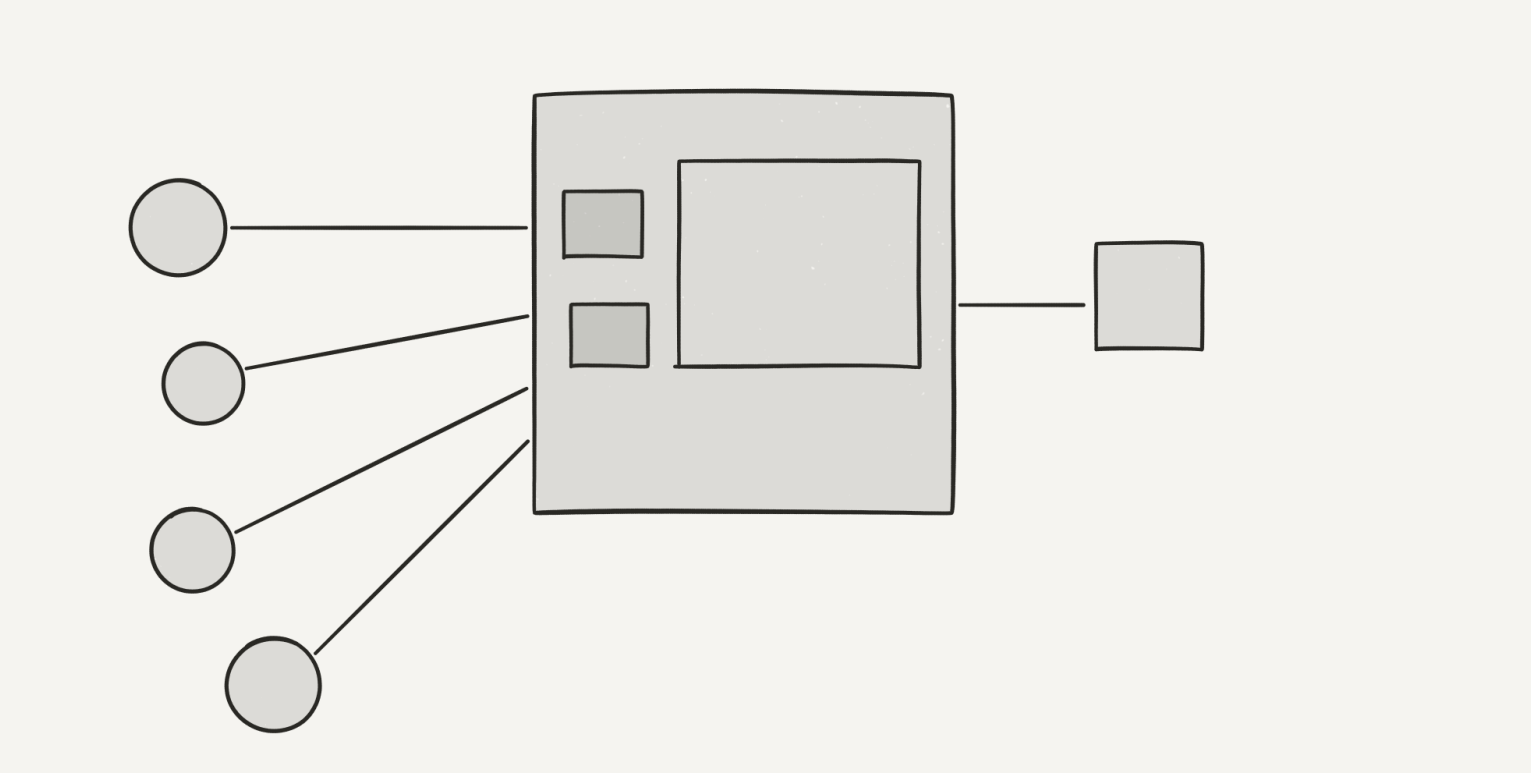
Understanding IoT systems and their fundamental concepts, including the **acquisition**, **transport** and **visualisation** of sensor measurements.

Experimenting with the **software** part, without electronics, of an end-to-end IoT system based on IoT platforms.

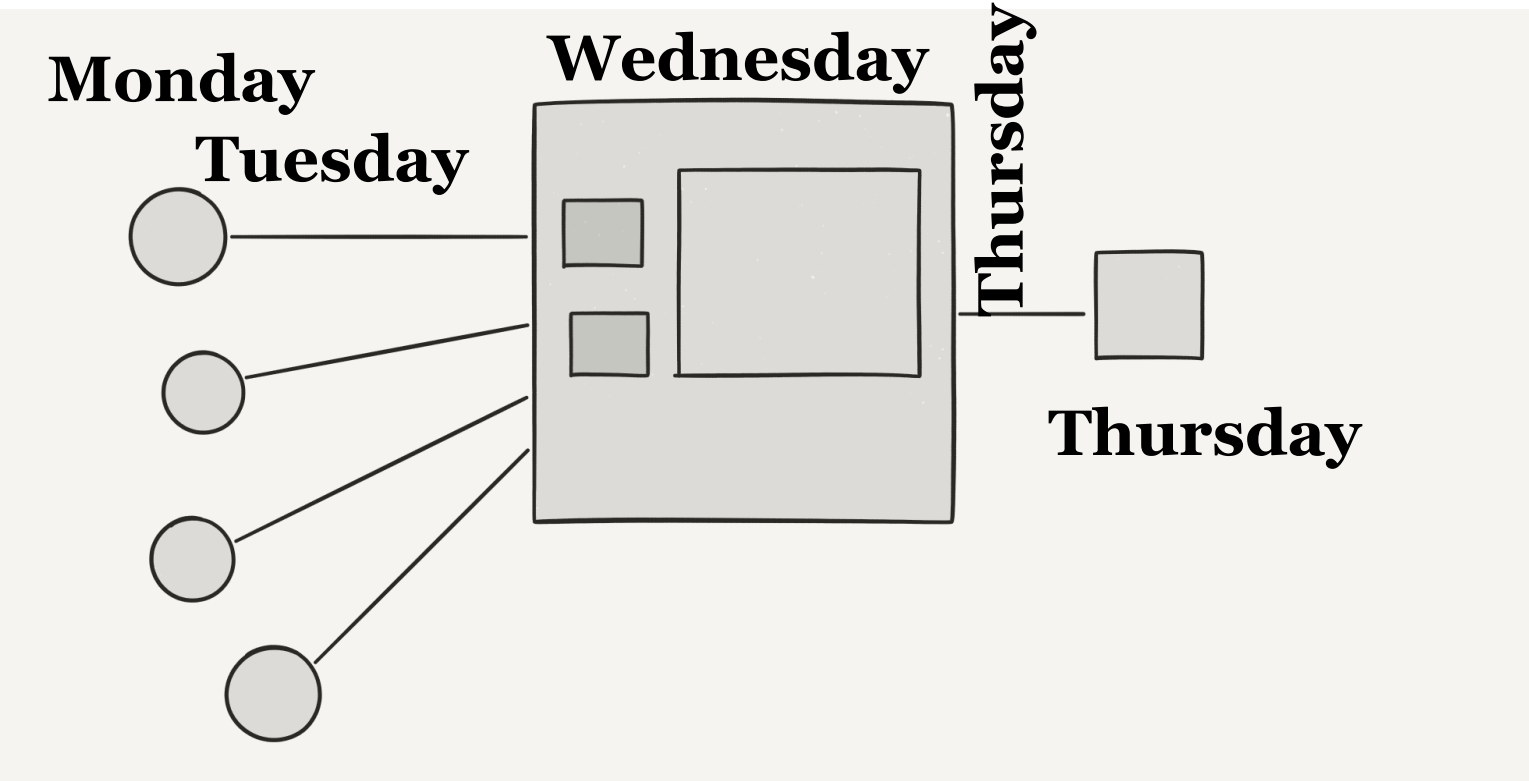
High level view



CS/EE view



Our workshop



Today

Intro to Wireless Solution for IoT

Labs

Intro to micro python; Pycom intro; Atom; Blink

Tuesday

LoRaWAN

Labs

Sensors (acceleration, light, temperature)

Wednesday

Link Budget Calculation

Intro to TTN

Labs

- LoRaWAN examples: sending temperature via TTN
- Ubidots TTN

Thursday

Testing outdoor range

UDC: a data center in Ubuntu

Labs

Installing UDC; Using InfluxDB with Python

Friday

Applications of IoT

Labs

Mapping coverage with TTN

Multiple Choice Evaluation

GitHub

All material (slides, code, examples) will be available on this repository:

https://github.com/marcozennaro/bariloche_2019

Hands-on sessions

"Be excellent to each other", asking / helping is OK.

Google error messages to fix issues.

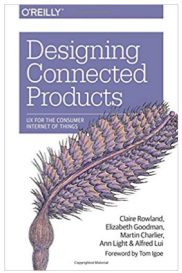
Coping blindly does not lead to new insight.

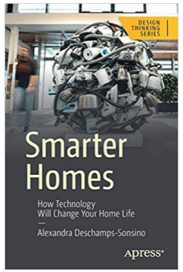
Reading other people's code helps a lot.

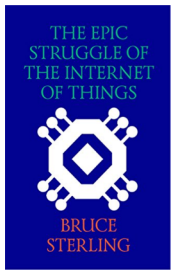
Books on IoT

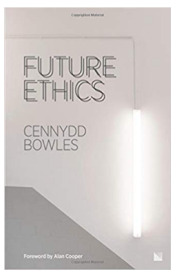
A book is not required for this workshop.

This Wiki has a list of books on a range of topics.









Feedback?

Email me mzennaro@ictp.it