FIT IoT-Lab Tutorial

ACM ICN 2017, Berlin

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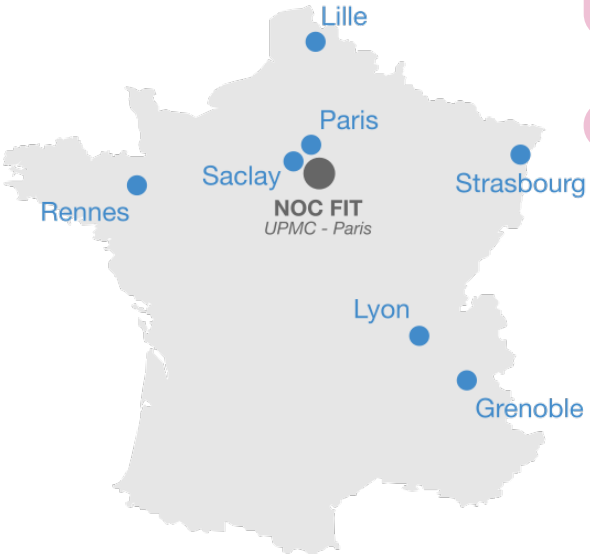
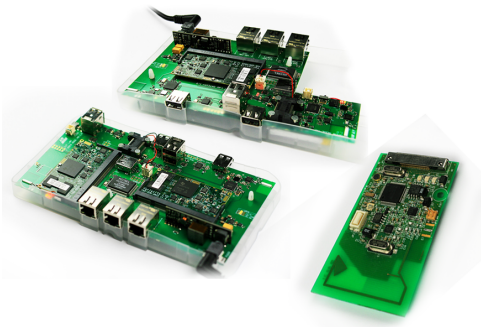
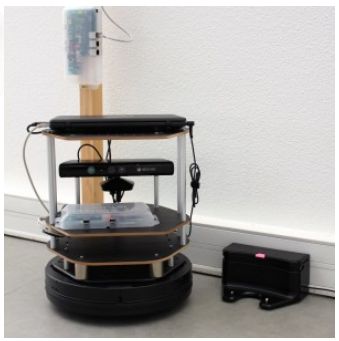
F I T
FUTURE INTERNET
TESTING FACILITY
F I T
WIRELESS
INDOOR WIFI
5G / COGNITIVE RADIO
F I T
IOT-LAB
SENSING
EMBEDDED
MOBILE
F I T
CLOUD
OPEN STACK
YOUR OWN CLOUD
INDOOR WIFI
F I T IN LAB
F I T NC LAB
5G / COGNITIVE RADIO
F I T R2 LAB
F I T CORTEX LAB
SENSING
EMBEDDED
MOBILE
OPEN STACK
F I T OPEN STACK UPMC
F I T OPEN STACK NC LAB
YOUR OWN CLOUD
F I T CLOUD LAB
F I T NOC

FIT
FUTURE INTERNET
TESTING FACILITY

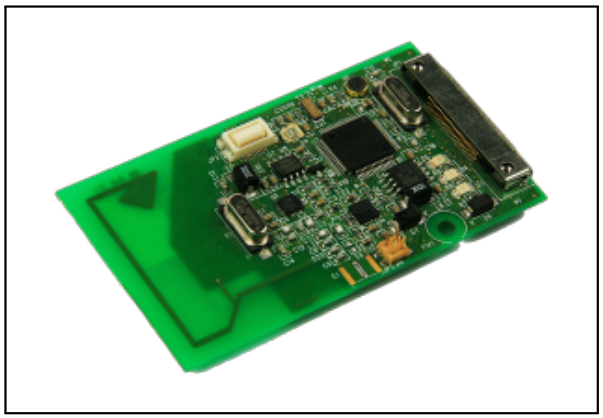
FIT
IOT-LAB
SENSING
EMBEDDED
MOBILE

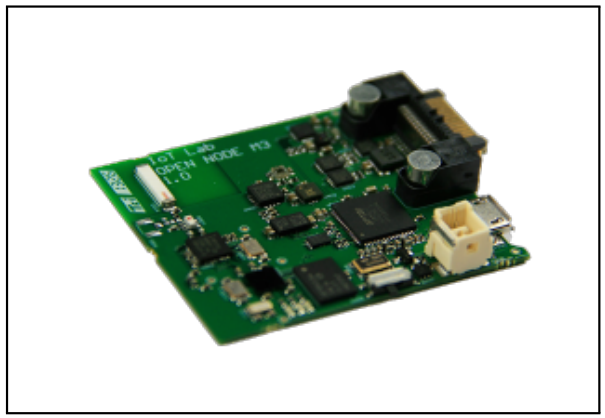


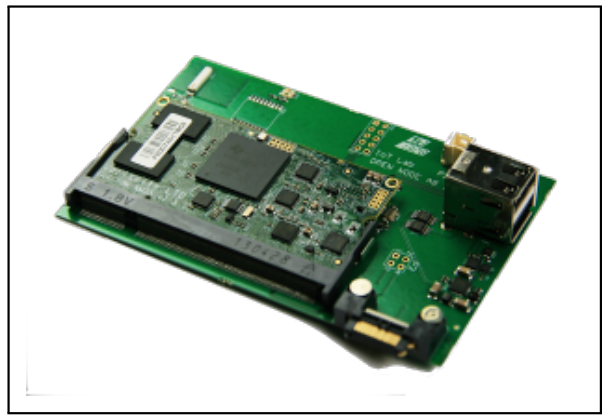




Hardware







WSN430 Node

- MSP430F1611 MCU
- 16-bit
- 48kB Fl. / 10kB R.
- 860 MHz / 2.4 GHz
- Ambient light
- Temperature

M3 Node

- STM32F103REY MCU
- 32-bit
- 512kB Fl. / 64kB R.
- 2.4 GHz 802.15.4
- Ambient light
- Pressure & Temp.
- Accel. / Mag. / Gyro.

A8 Node

- TI SITARA AM3505
- ARM Cortex-A8
- 256MB RAM
- Linux
- M3 co-μcontroller

Deployment

Node	Site							**Total**
	Grenoble	Lille	Saclay	Strasbourg	Rennes	Paris	Lyon	
WSN430 Node (800MhZ)	256	-	-	256	-	-	-	**512**
WSN430 Node (2.4GhZ)	-	256	120	-	256	-	-	**632**
M3 Node	384	320	12	120	-	90	18	**944**
A8 Node	256	-	175	24	-	70	11	**536**

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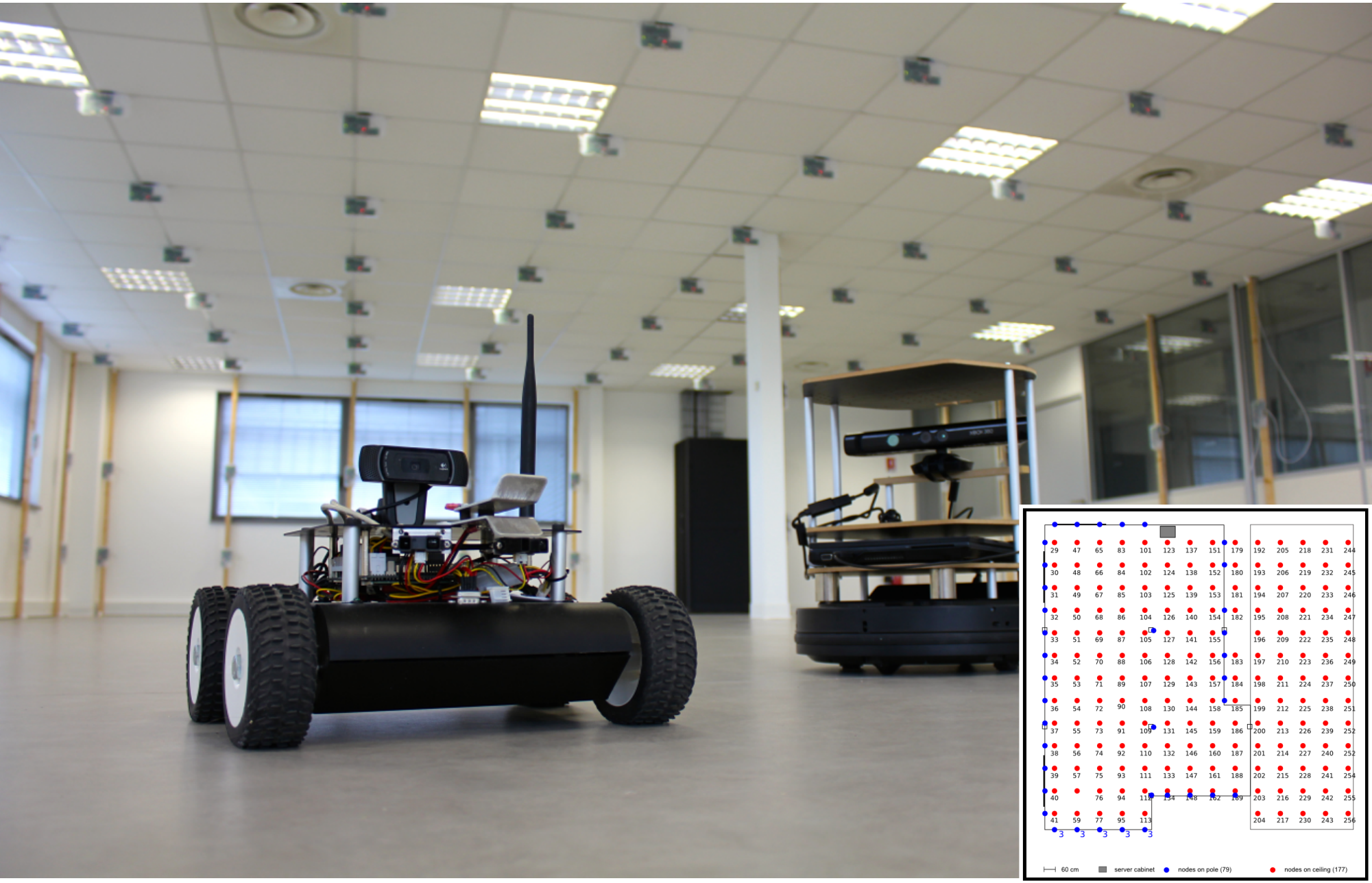
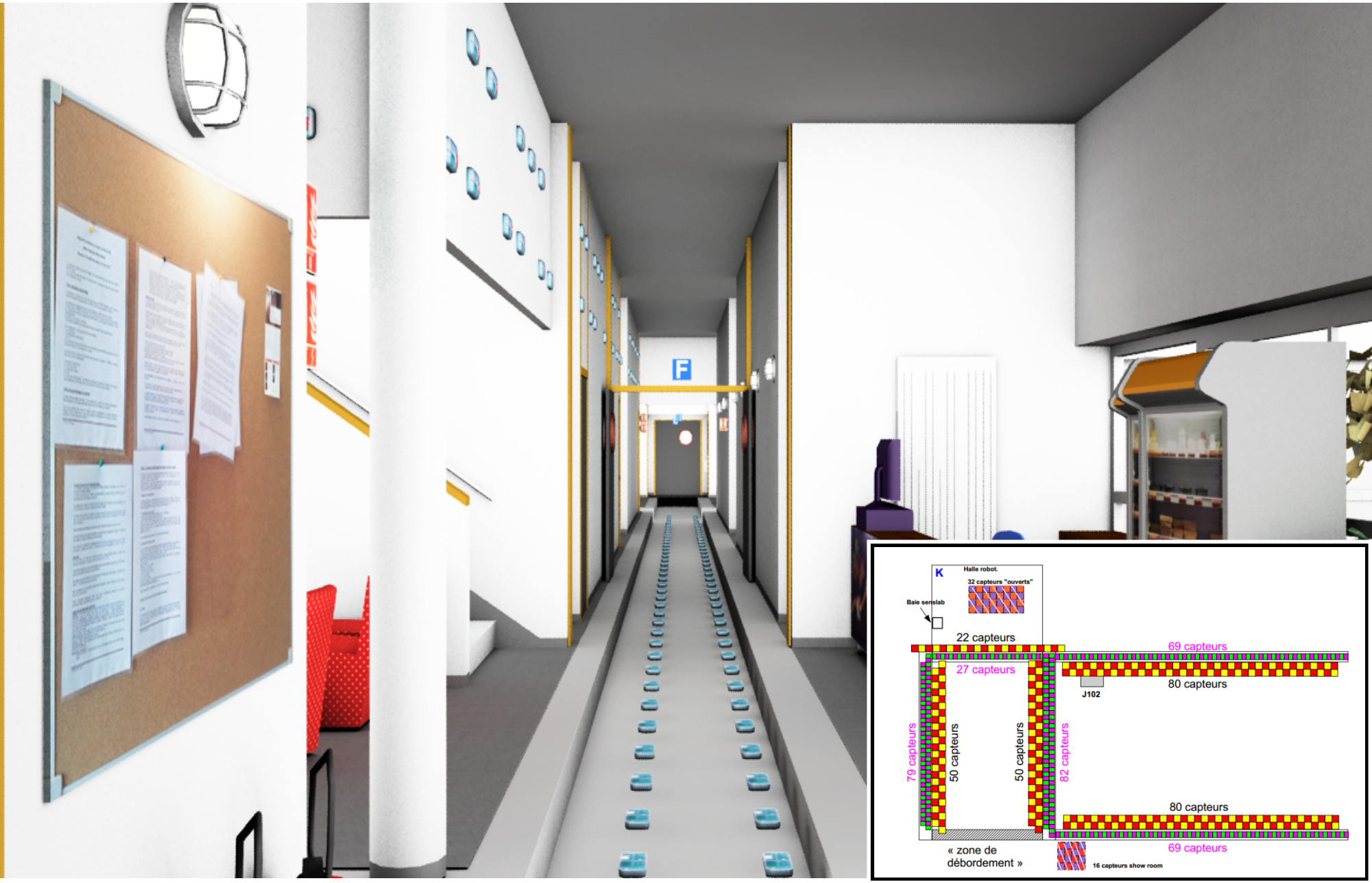
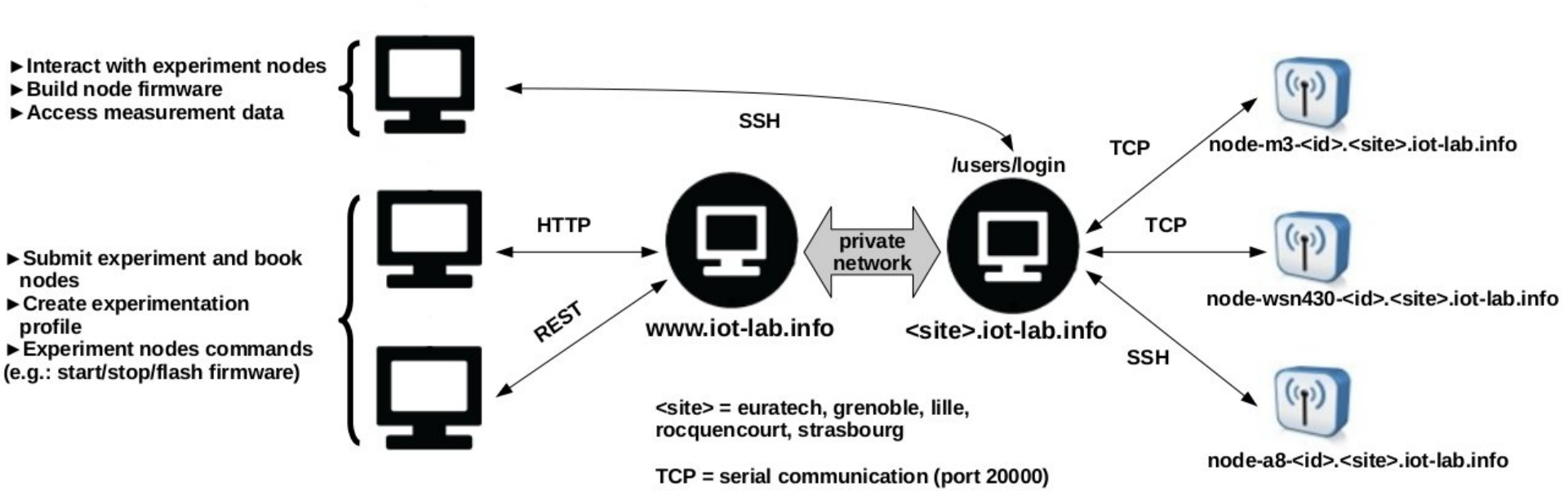
Topology: Lille



Topology: Grenoble



Platform Overview



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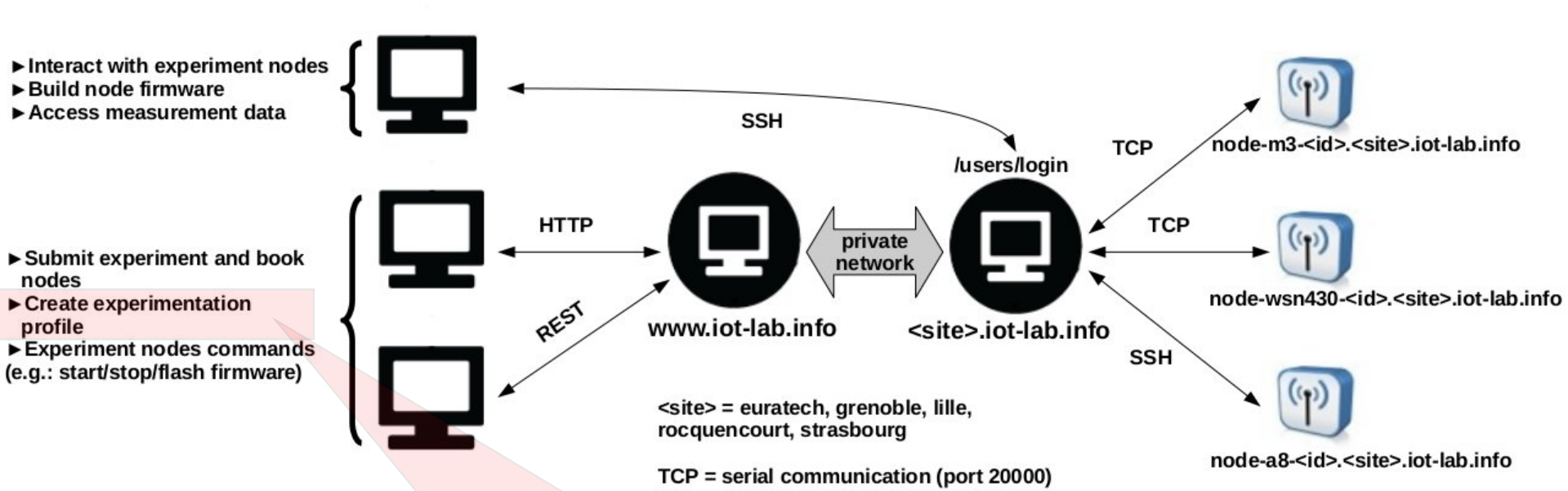


Power Consumption


Radio Sniffing


Radio Monitoring