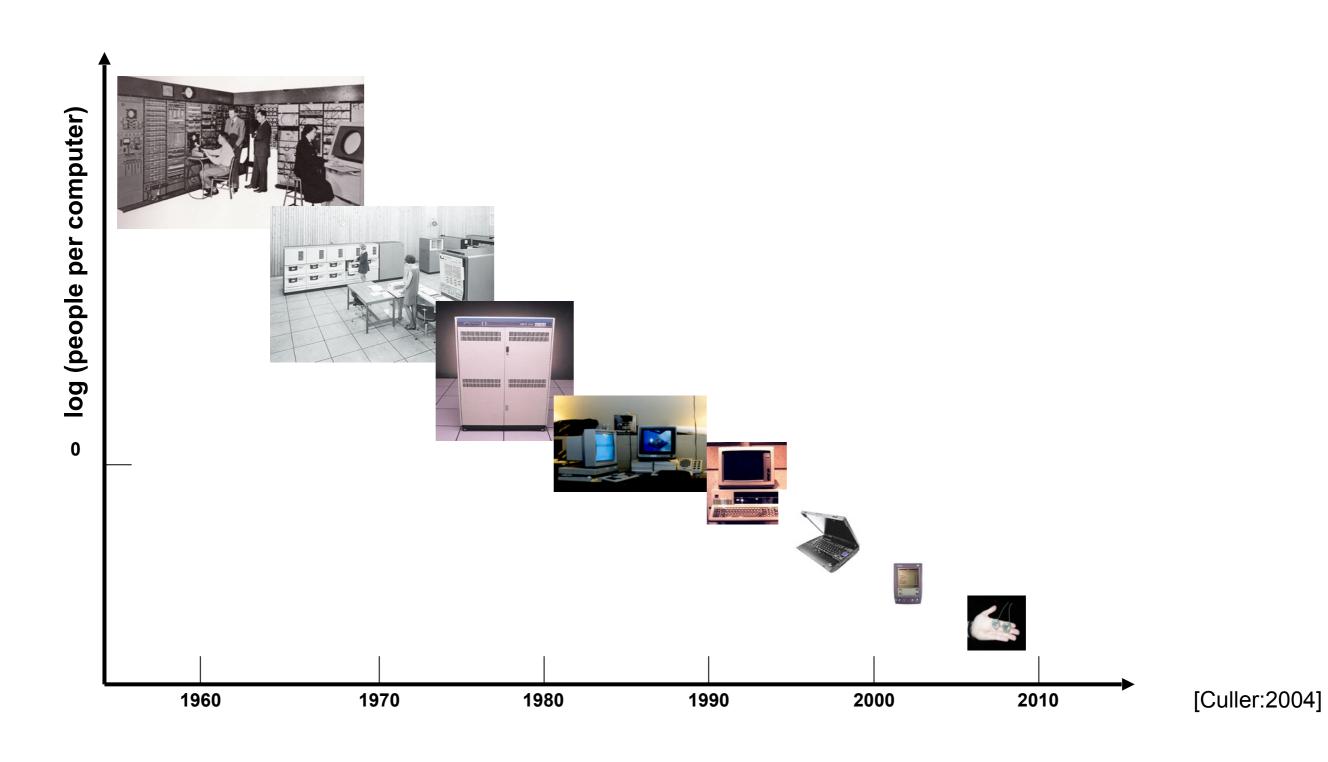


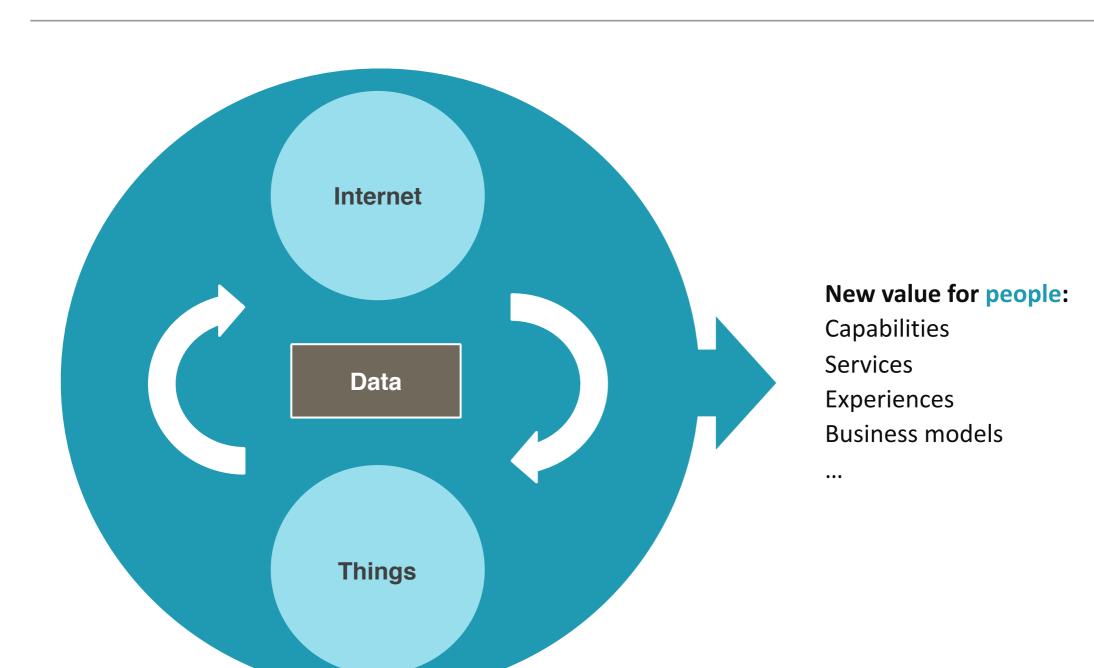
CONNECT THE WORLD

Marco Zennaro, PhD T/ICT4D Laboratory The Abdus Salam International Centre for Theoretical Physics

### Visione



#### Definizione di IoT



#### Storia

"Machine to Machine" (M2M) (~1970s +)



#### **Internet** of Things Beginnings



Carnegie Mellon Internet Coke Machine (1982, 1990)



Trojan Room Coffee Pot (first webcam) (1991)



Internet Toaster (1990)

#### Sviluppo





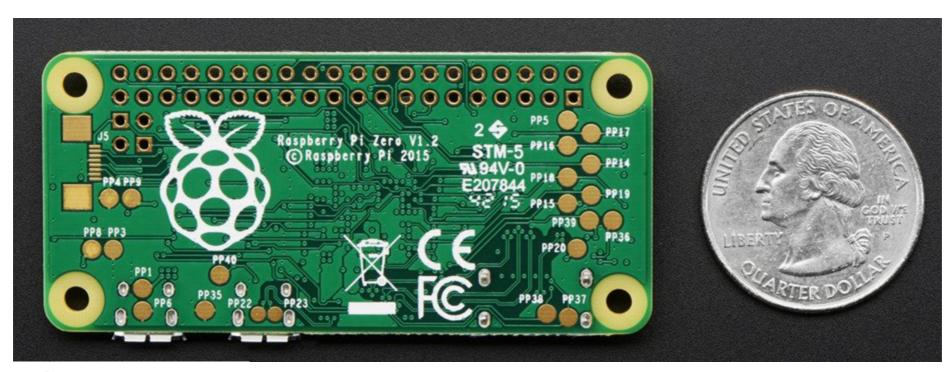








#### Raspberry Pi Zero



Olivetti M24



M	anuf	facturer C	)livetti

Type Personal computer
Release date 1983; 33 years ago

Discontinued 1987

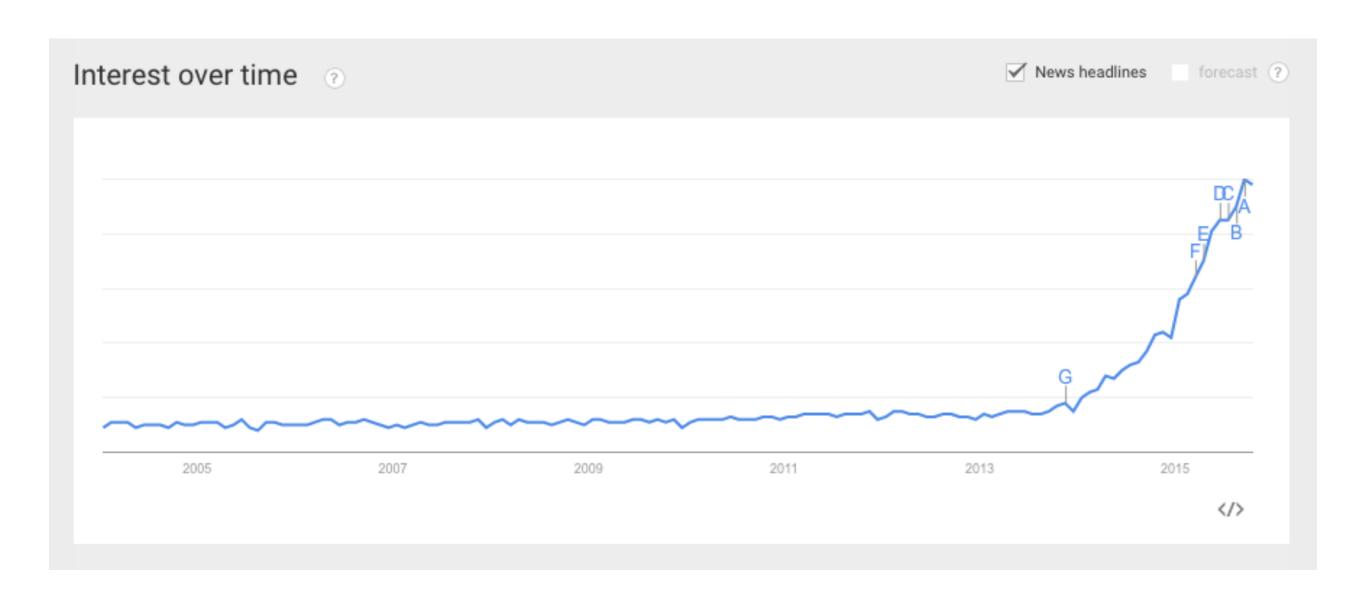
Operating system MS-DOS

CPU Intel 8086 @ 8MHz

Memory 640 kB
Successor Olivetti M240

- A Broadcom BCM2835 application processor
  - 1GHz ARM11 core (40% faster than Raspberry Pi 1)
- 512MB of LPDDR2 SDRAM
- A micro-SD card slot
- A mini-HDMI socket for 1080p60 video output
- Micro-USB sockets for data and power
- An unpopulated 40-pin GPIO header
  - Identical pinout to Model A+/B+/2B
- An unpopulated composite video header
- Our smallest ever form factor, at 65mm x 30mm x 5mm

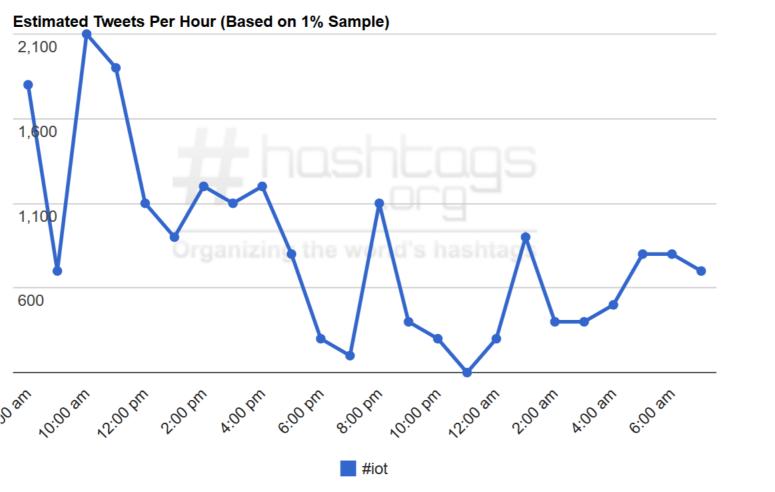
### Google Trends for IoT



#### Twitter #IoT

#### #iot 24-Hour Trend Graph

**Upgrade Analytics** 



Timezone: America/Chicago (UTC/GMT offset: -5)

### Google News for IoT

#### Google's IoT platform to launch this month

Shilpa Phadnis, TNN | May 1, 2015, 12.41 AM IST



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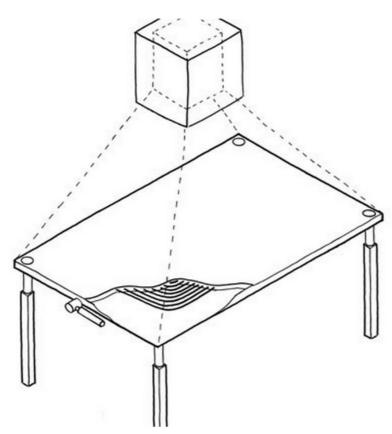


BENGALURU: Search giant Google will unveil a first-of-its-kind internet-of-things (IoT) platform in May, a move that could give a fillip to home automation efforts.

The platform will initially focus on connected kitchens, hooking up things like refrigerators, washing machines and toasters to talk to your phone and with each other.

#### Google News for IoT

# IKEA's Internet of Things plans imagine the networked kitchen



A camera and projector is positioned above the table and induction coils underneath the table surface. Networked together, they allow the system to recognize objects and their movement and to project a display. *Credit: IKEA* 

IKEA is hoping new 'intuitive and unobtrusive' technology will augment the kitchens of the future.

#### **RELATED**



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#### on IDG Answers A

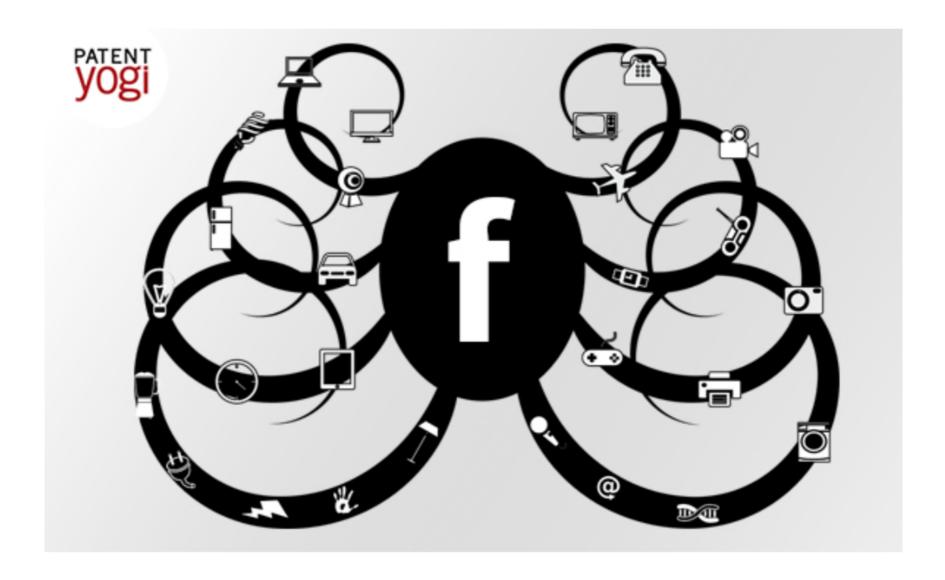
How to remove TouchWiz from my smartphone Samsung Note 3?



### Google News for IoT

#### Facebook wants to be IoT command center

Patent Number - US 20160080389



# Internet + Things + Data

#### Things

I nodi sono limitati in termini di:

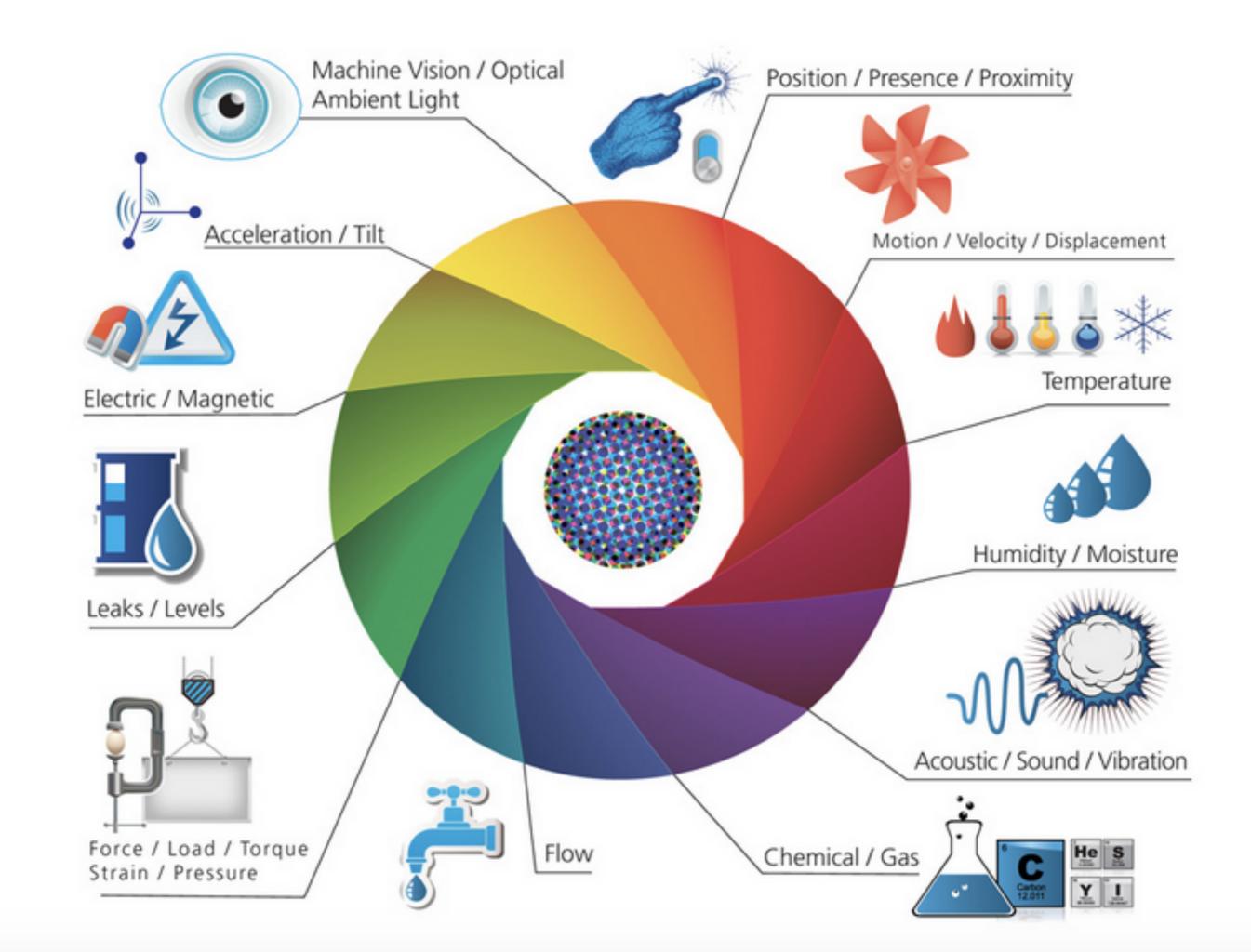
Dimensione

Potenza CPU

Memoria (kilobytes)

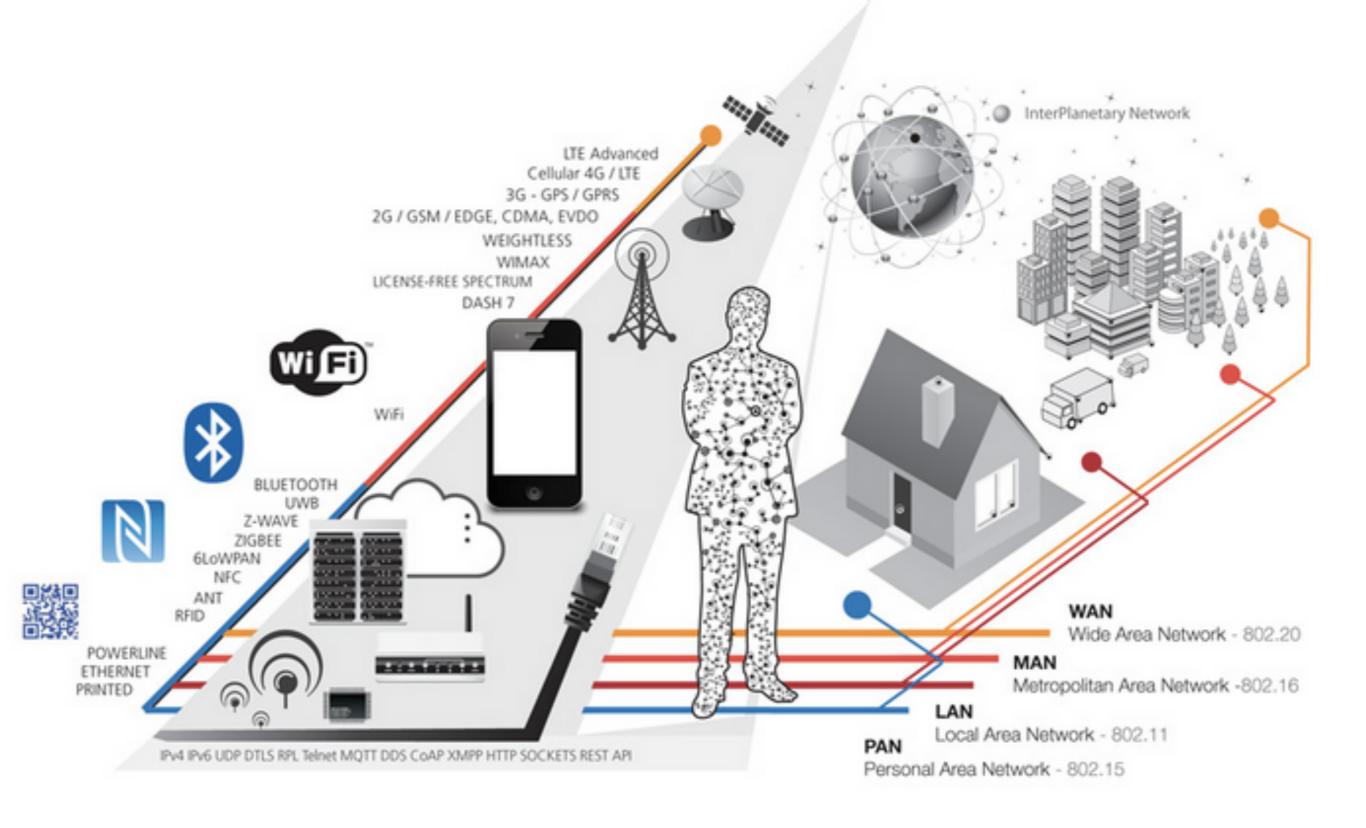
Velocità (250 KB/s)



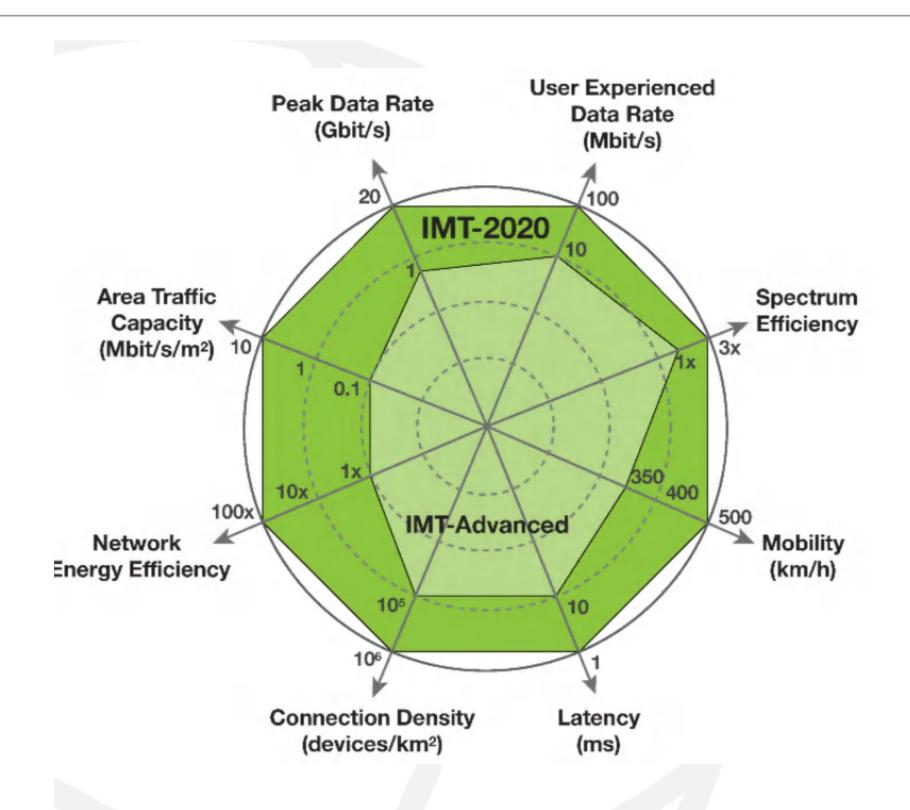


What is IoT?

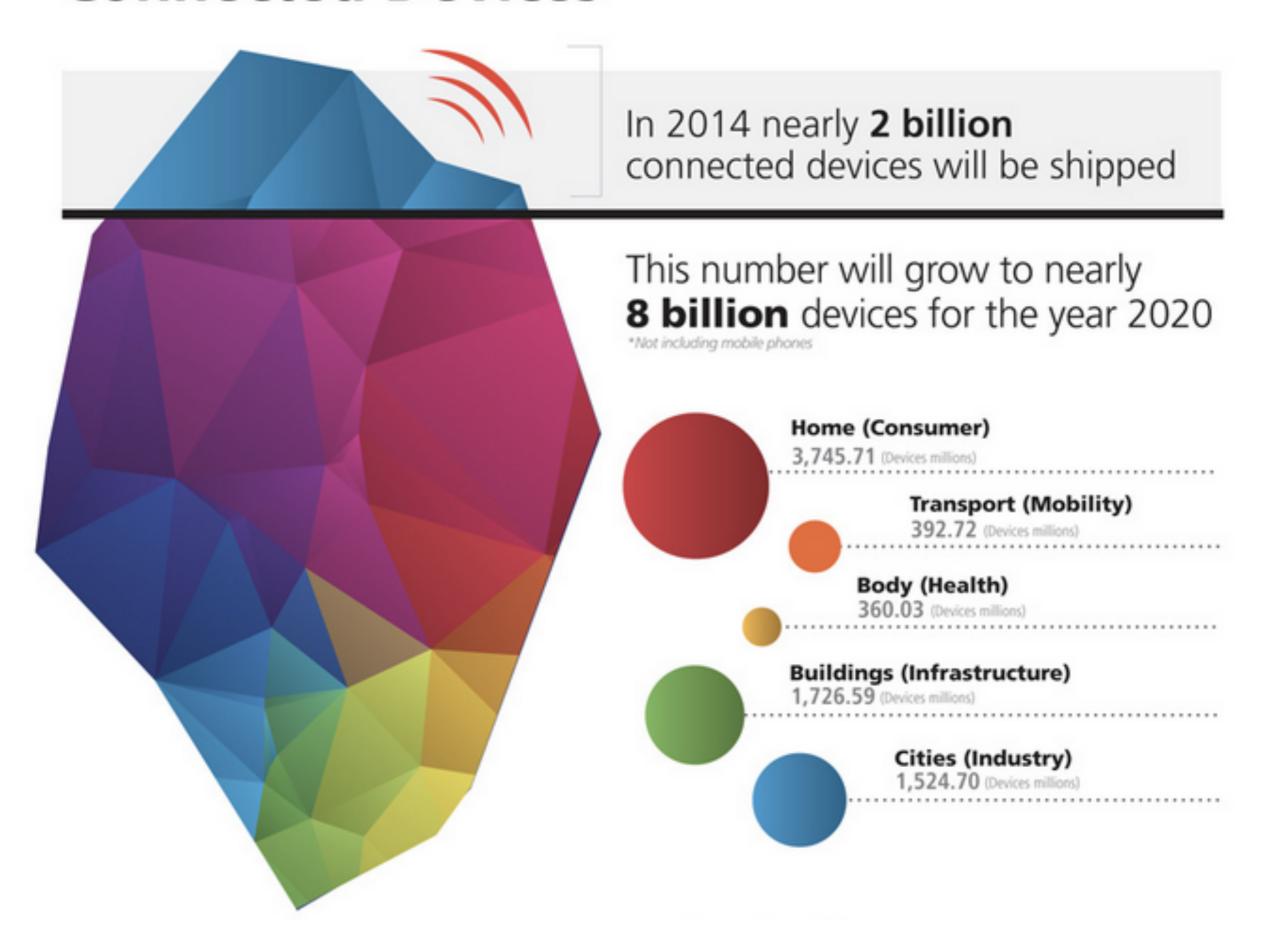
# Internet + Things + Data



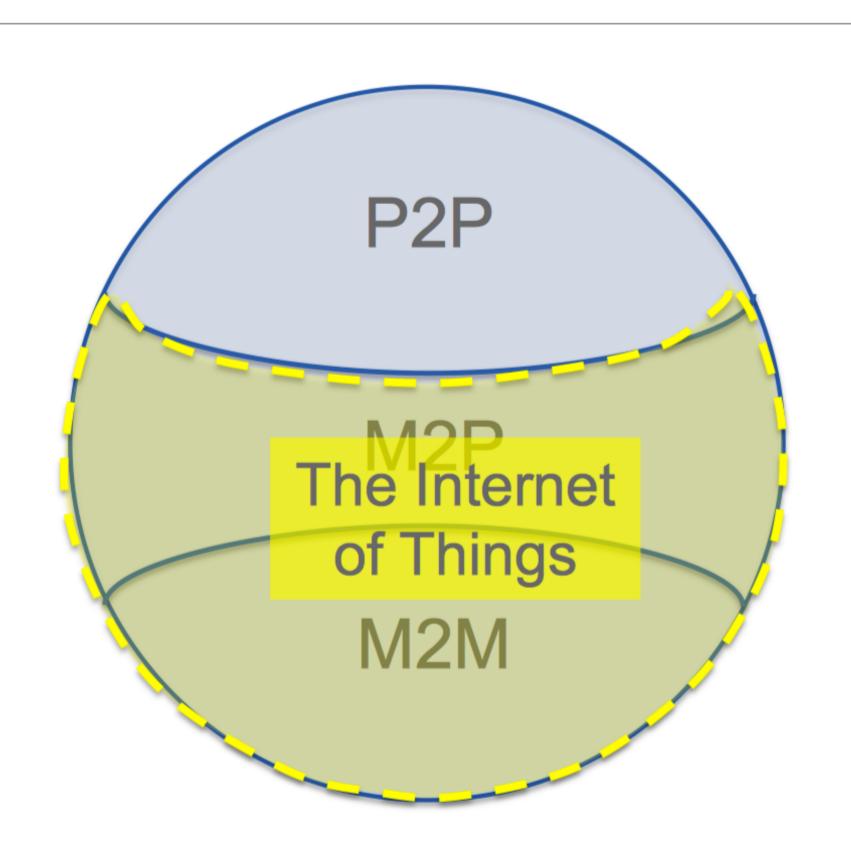
### Tecnologie



#### **Connected Devices**



#### P2P, M2P e M2M



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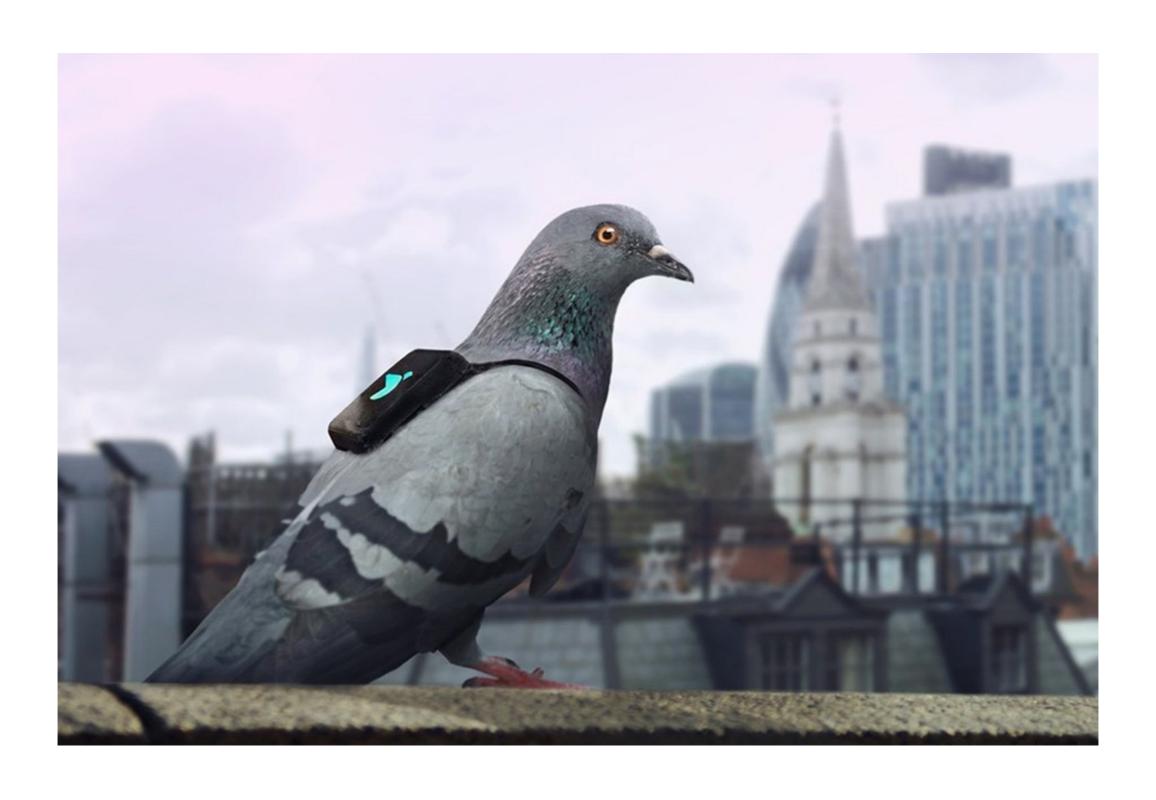




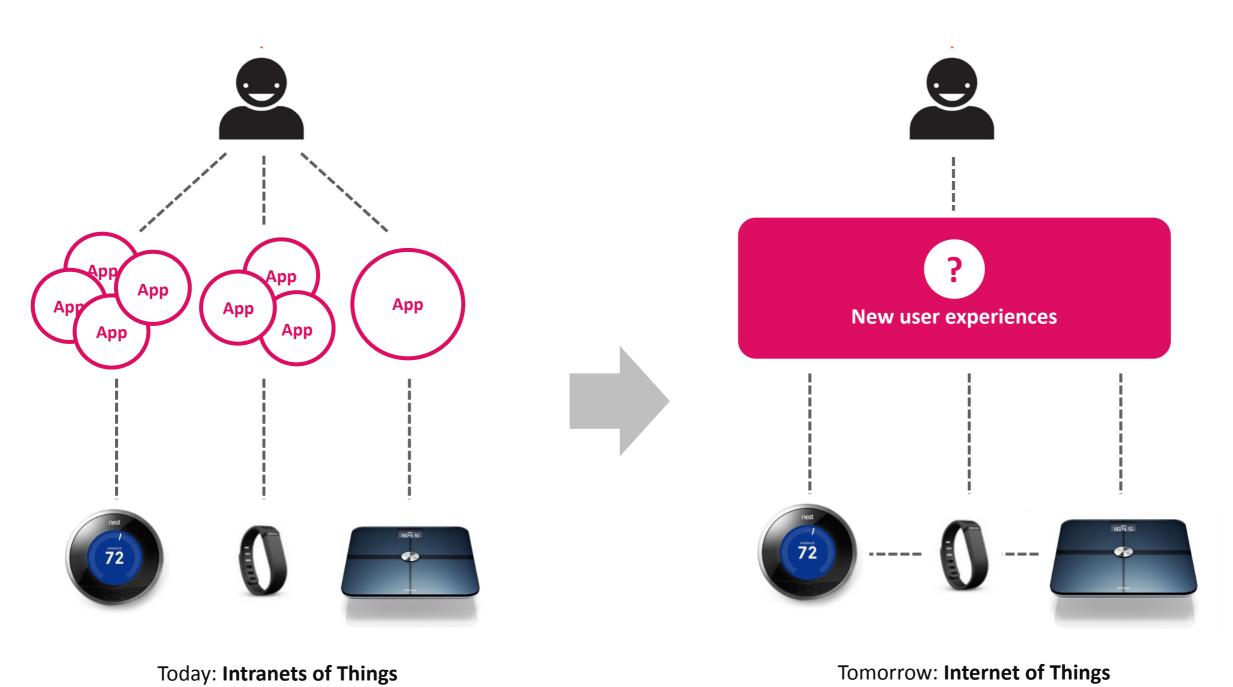








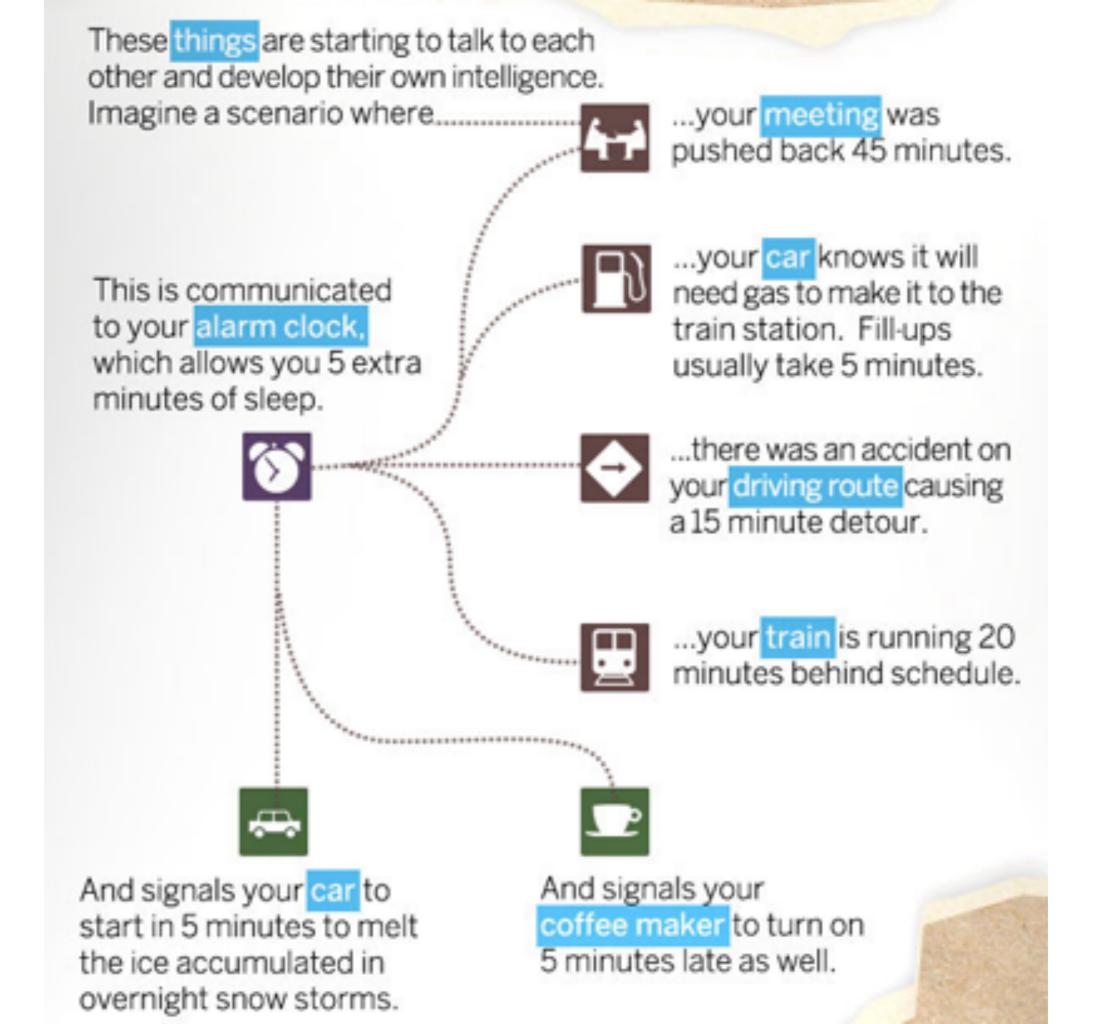




**Connected devices** 

Tomorrow: Internet of Things

**Interconnected devices** 



### IoT e privacy

# Apple Watch knows a heart attack when it sees one

BY EVAN KILLHAM • 4:45 PM, MARCH 14, 2016

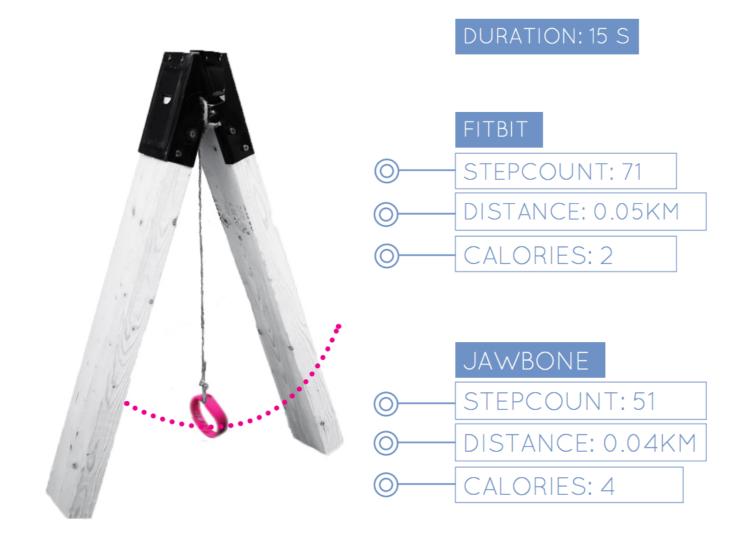




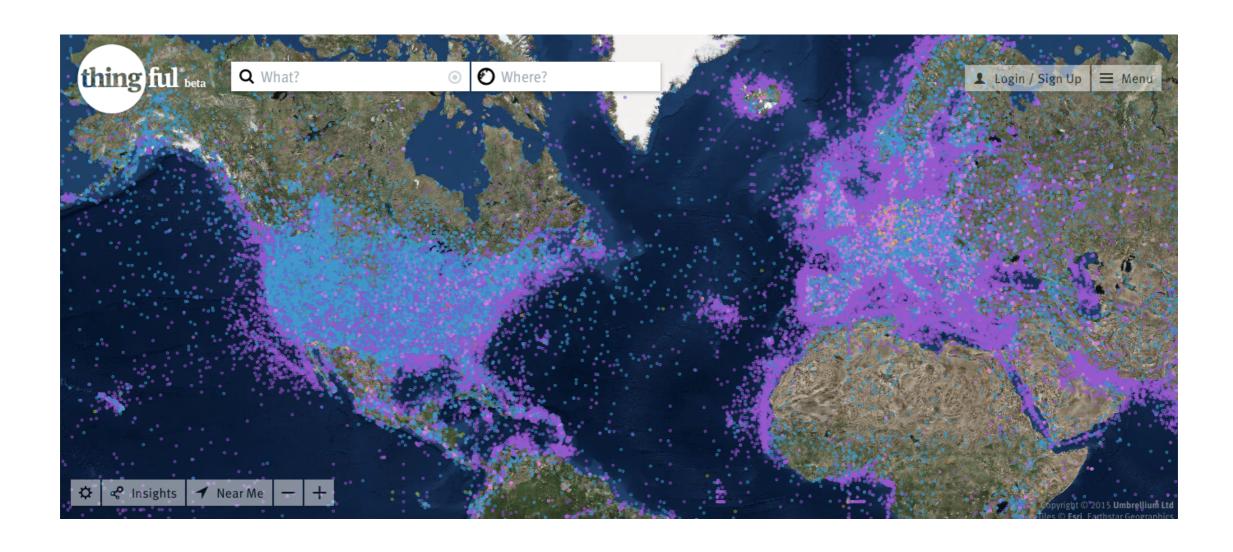


#### IoT e privacy

# ALGORITHM PENDULUM AUDIT: PENDULUM



### IoT e sviluppo



## IoT e sviluppo





# Grazie!