“ The IoT’s HW fundamentals ”

Le componenti Hardware essenziali dell’IoT

Fabio Bonizzi, CEO Embit

fabio.bonizzi@embit.eu

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History of IoT

1999

In 1999 The Internet of Things term was introduced by Kevin Ashton, executive director of the Auto-ID Center, MIT Lab. During a presentation for P&G, he proposed how RFID tags can be used to manage the said corporation's supply chain so that the location and stock at hand of each item coming out of it can be more easily monitored.

History of IoT

2000

In 2000 LG Electronics presents Internet Fridge, a refrigerator connected to Internet.
Unfortunately for LG, the Internet refrigerator didn't sell well because most people at that time thought it was too expensive for their needs: **they were not ready**.

History of IoT

2011

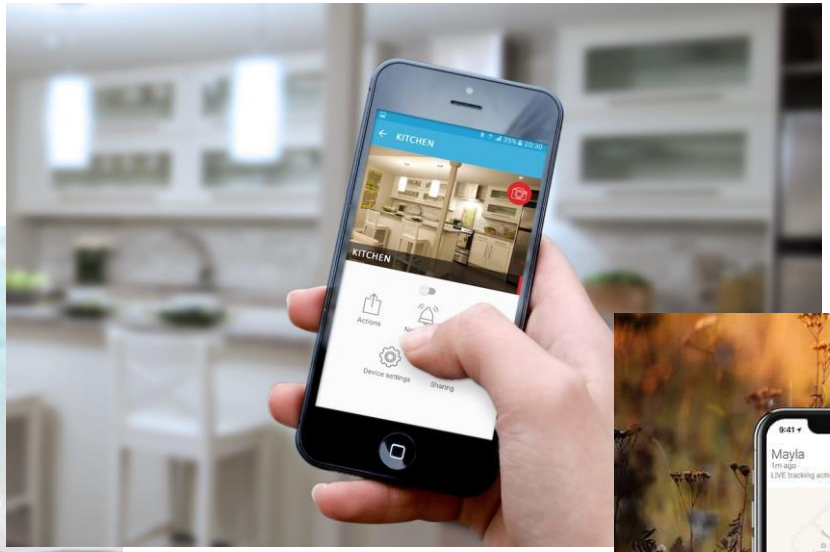
In 2011 Cisco, IBM, Ericsson starting to produce large educational and marketing initiatives on the topic.
Arduino matures and makes the IoT accessible to DIY'ers taking interest in the topic.

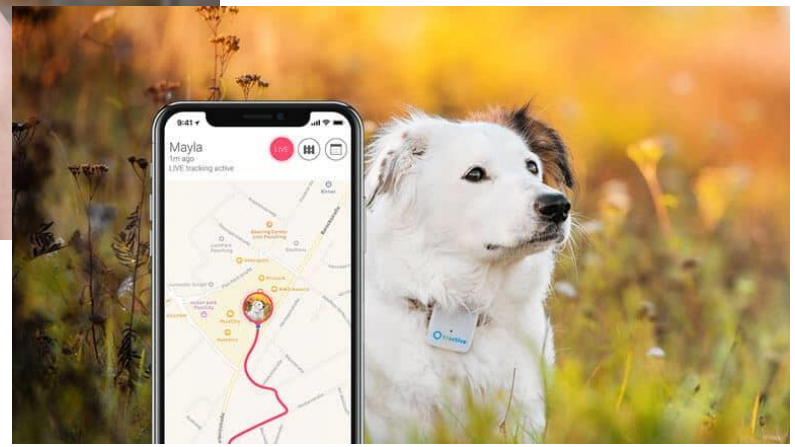
History of IoT

We are living the **IoT**!

History of IoT

Today



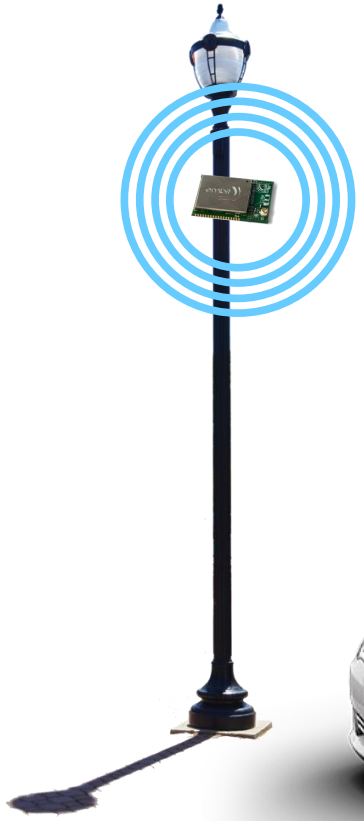


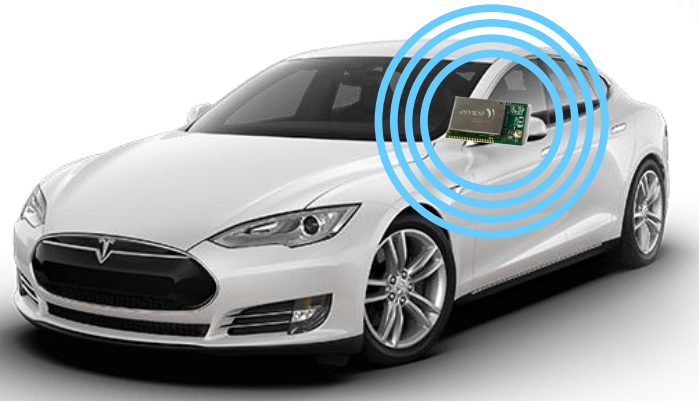
What does IoT mean?

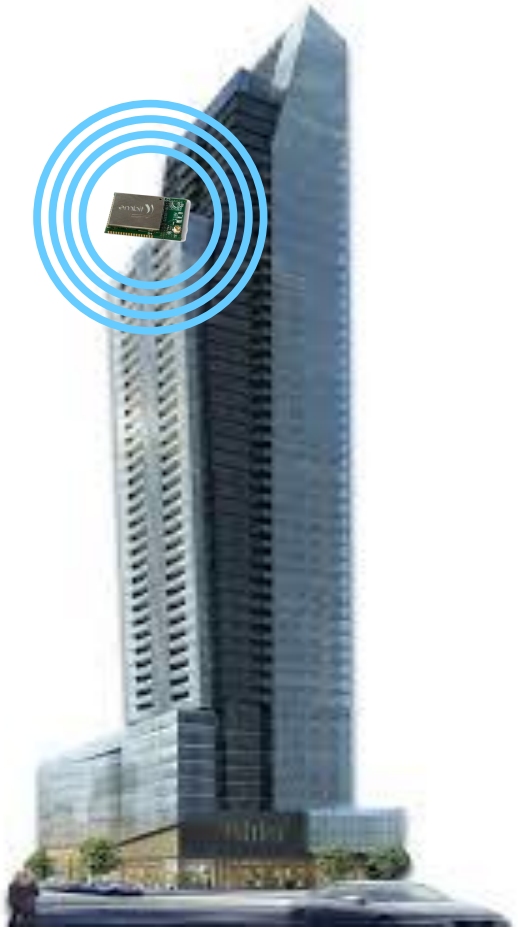
The extension of Internet connectivity into physical devices and everyday objects.

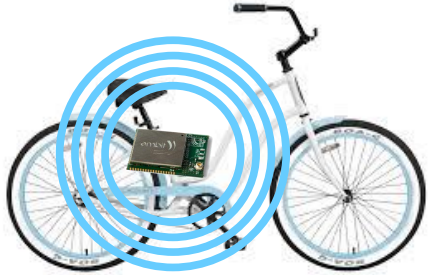
What does IoT mean?

Things acquire data



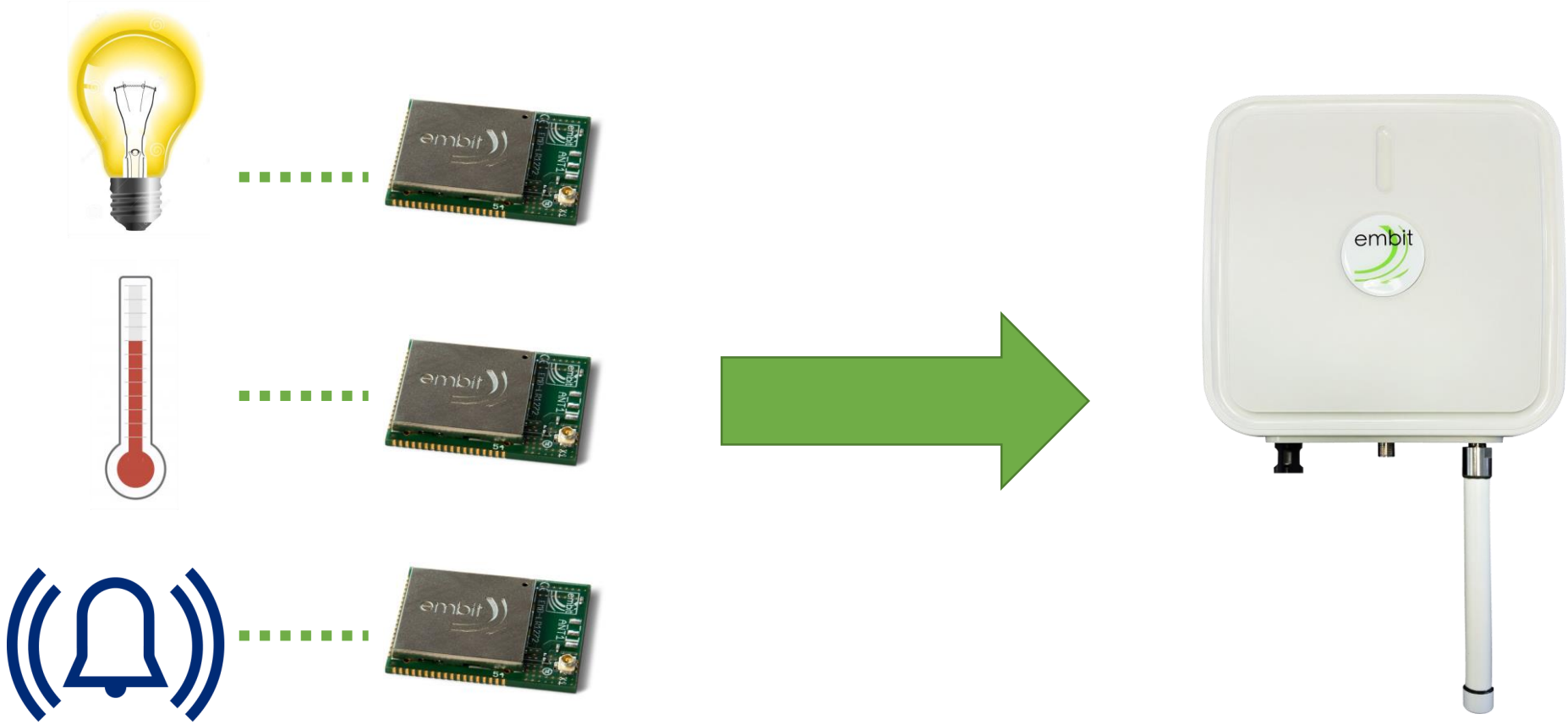






What does IoT mean?

Things send them to a Concentrator



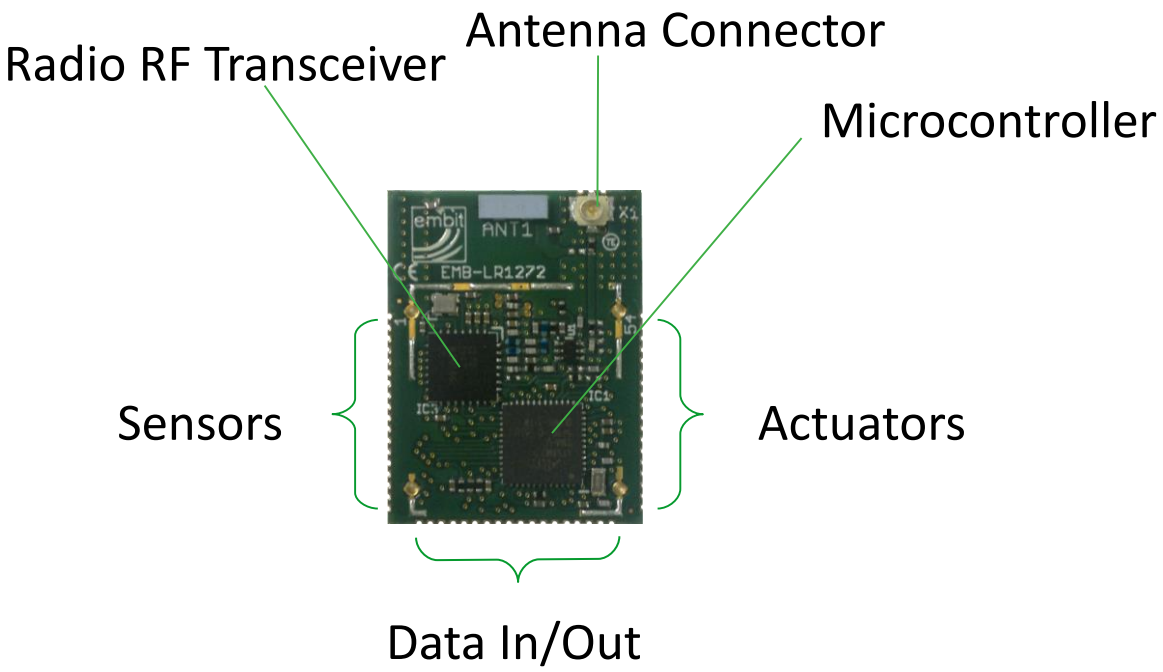
What does IoT mean?

Concentrator forwards Data to the Internet and the Application manages them

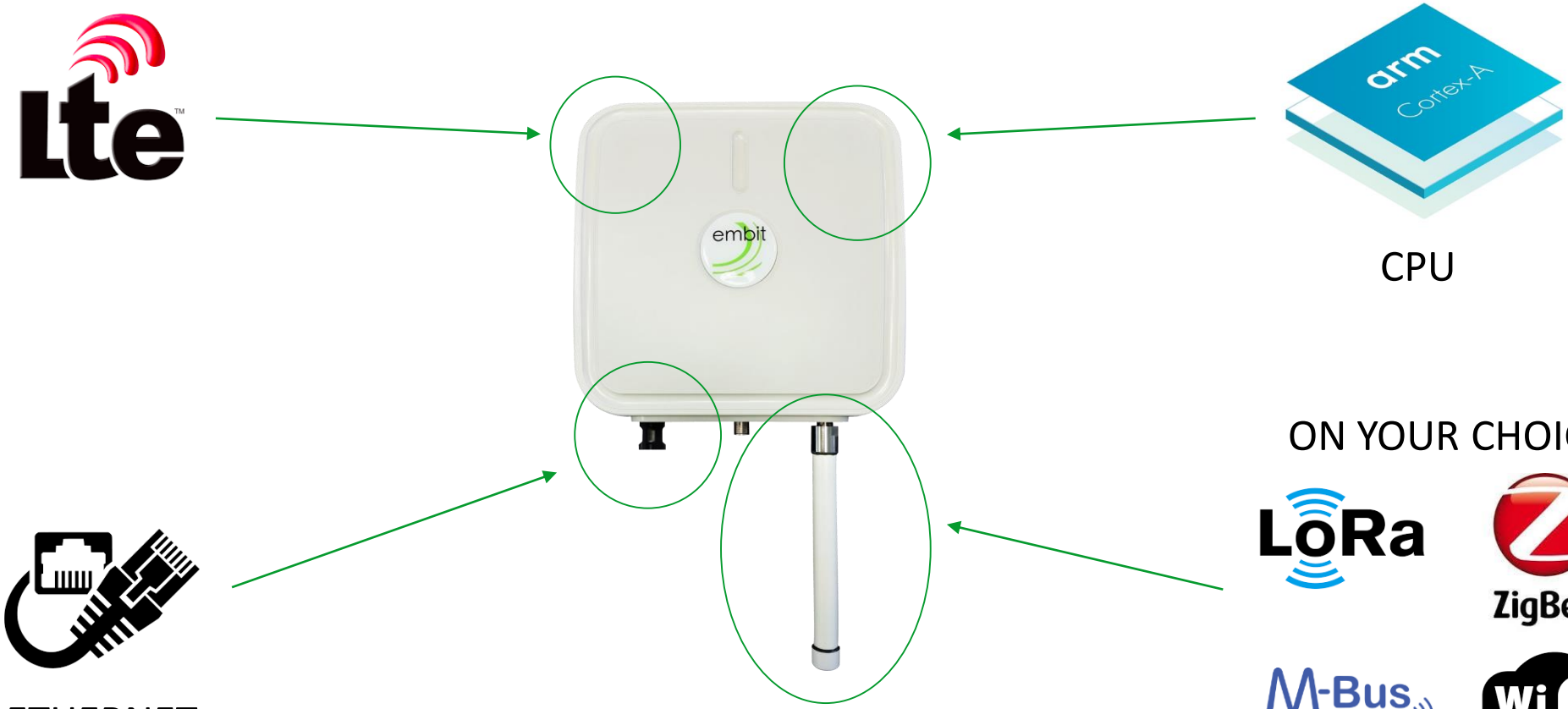
The Internet of Things: what about THINGS?

- EveryThing fetches Data and sends it to the Network, makes an Internet of Things environment
- Thing is composed by:
  - Sensitive part (sensor, actuator, ..)
  - Connecting part

The Fundamentals: End-Device



The Fundamentals: Concentrator



The Internet of Things: what about INTERNET?

- Data are collected by the Concentrator and forwarded to Internet
- The Concentrator is composed by:
  - Connecting part, both to the Things and to the Internet
  - CPU, RAM and Flash able to deal with millions of Things

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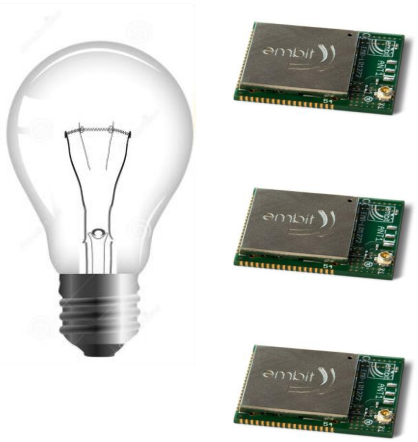
- Internet and Application elaborates Data



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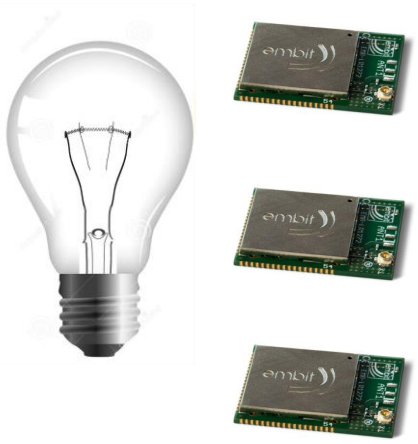

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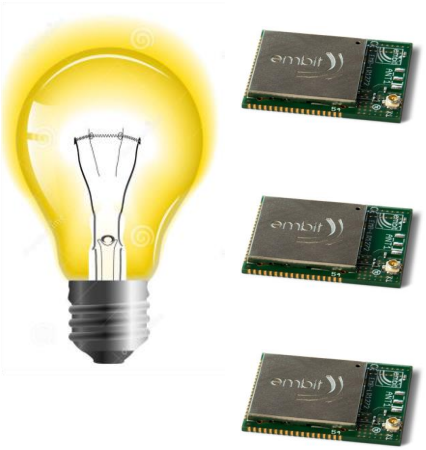
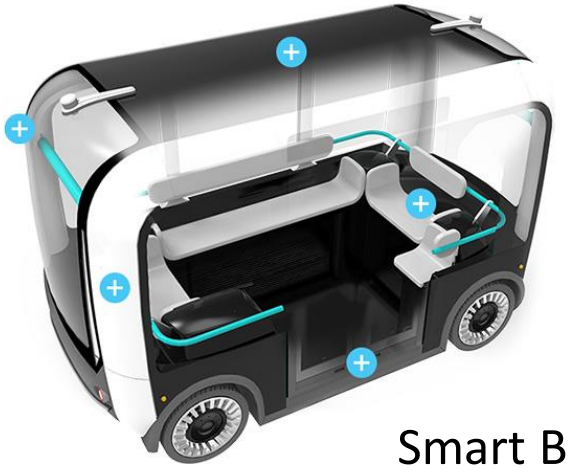



Real Scenario: Smart City

Waste Management

Bike Sharing



Smart Bus

Smart Lighting

Real Scenario: Smart City

Smartphone

Smartwatch

Real Scenario: Smart Home

Personal Assistant

Smart Thermostat

Smart LED

Smart Fridge

Are We Ready?

- Nowadays Technology is ready to live the IoT
- Italian companies are ready to have success in the IoT
- Are we NOW (2019) ready to fulfill the IoT experience?

Thanks for your Attention!

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