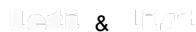




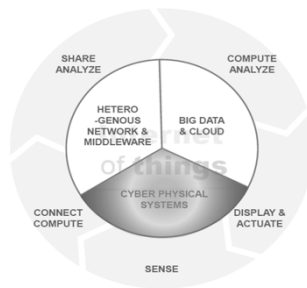
L-IOT™: a flexible platform for IoT autonomous systems : from ultra low power to low power applications

E. Beigné, MPSoC July 2015

www.cea.fr



Smart Devices for IoT



- Devices with some sort of *sensing* mechanism that can *compute* data and *communicate* via the Internet with other smart devices or the cloud, without human interaction
- Autonomous in energy and High security
- One of the top three growth drivers for the semiconductor industry

Challenges (1)

■ A fragmented market

- Lots of attractive applications
- ... No single killer application
- Difficulty in designing a single chip for one application
- Software and Hardware platform to cover each archetype

From « Executive Summary : The Internet of Things – McKinsey&Company



Challenges (2)

■ Security and privacy of user data

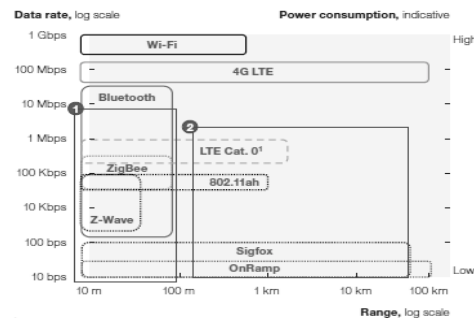
- implement end-to-end security solutions for the entire IoT stack

■ Multiple competing standards

- In any domain : communication standards are a good example

■ Low power consumption and L

- Improvements are mandatory as a difference
- Highly dependant on Application needs

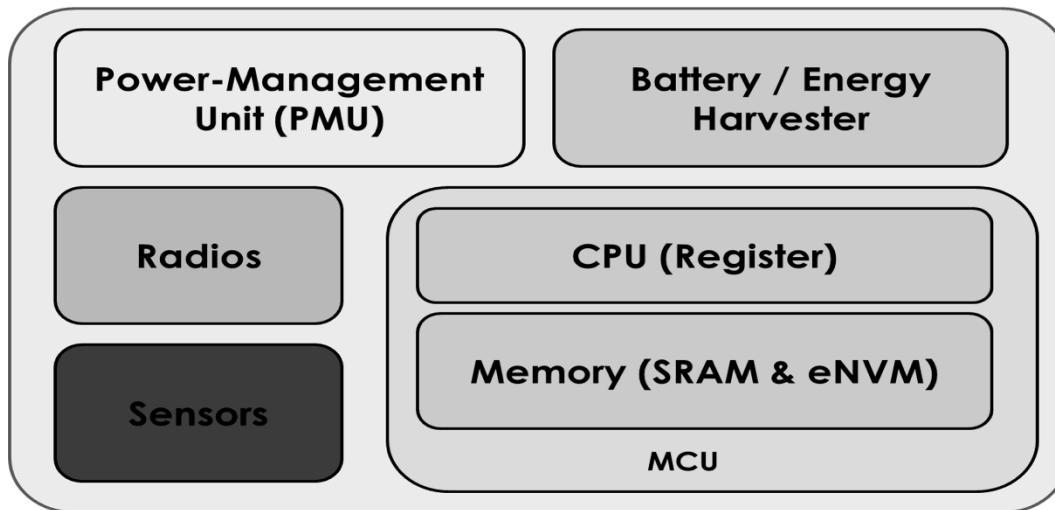


From « Executive Summary : The Internet of Things – McKinsey&Company

¹Preliminary specs. Source: Company websites; expert interviews; GSA and McKinsey IOT collaboration; press research

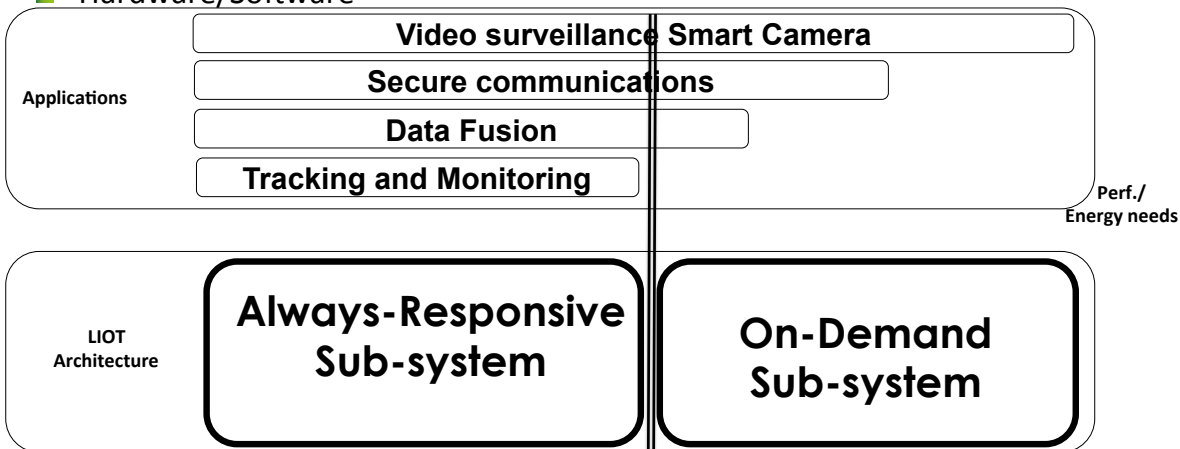
Usual Smart Device Architecture

Connected Sensor Node

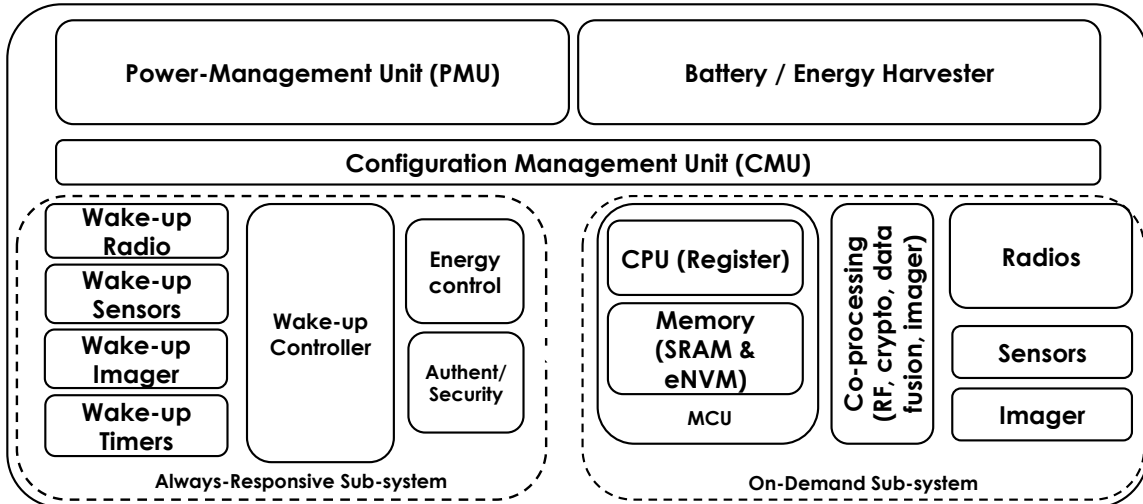


Thèmes abordés : une plateforme flexible

- A flexible platform for a fragmented market
- Low power consumption and adaptive blocks
- Hardware/Software

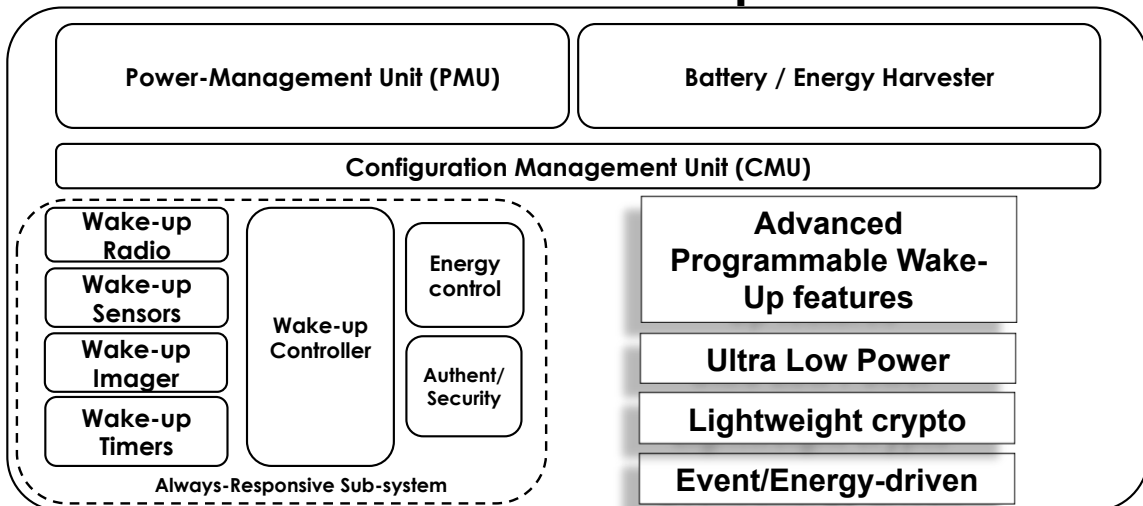


L-iot : A flexible platform



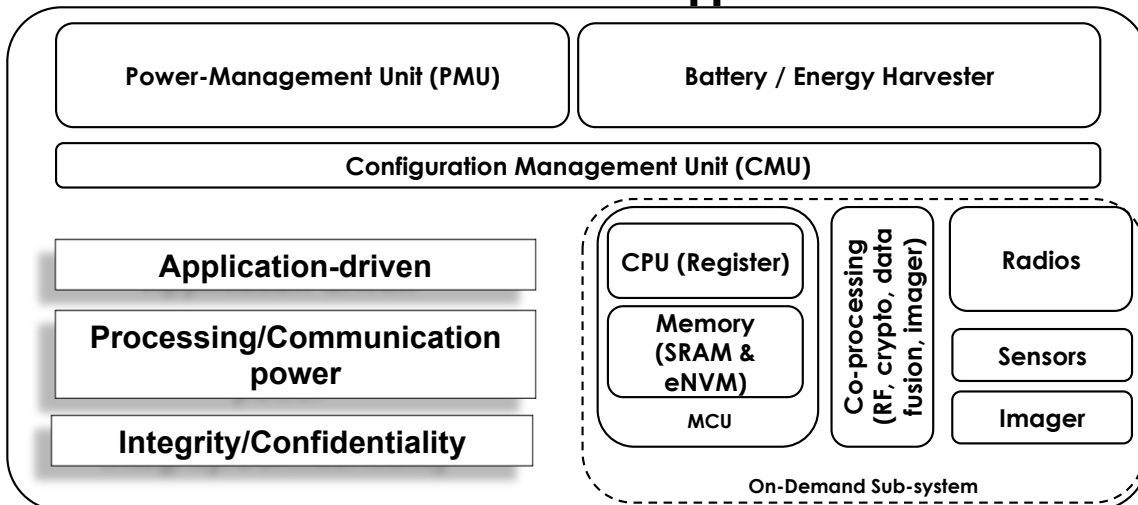
⇒ Adaptive Always-Responsive/On-Demand according to energy levels

Flexible Wake-up / On Demand platform



Flexible Wake-up /On Demand platform

L.iot[™] Applicative



Flexible Wake-up /On Demand platform

L.iot[™] Adaptive

