



on the Internet of Things

Software Project

What is the Internet of Things?

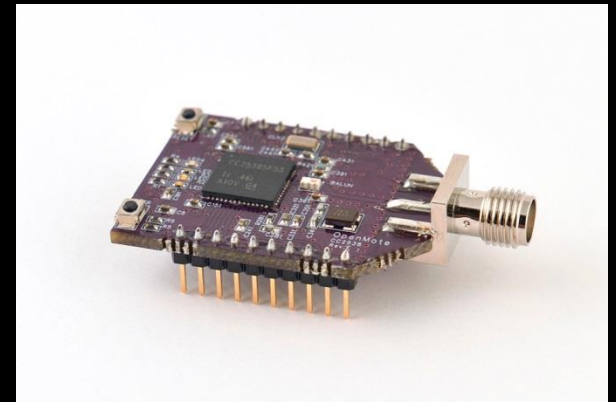
A system in which objects in the physical world can be connected to the Internet by sensors and actuators (coined 1999 by Kevin Ashton)

Key aspects:

- E2E communication via Internet standards
- Machine-to-machine communication
- Embedded devices, often constrained and on battery
- Typically without user interface
- Very large multiplicities, w/o manual maintenance

IoT Applications

- Facility, Building and Home Automation
- SmartCities & SmartGrids
- Personal Sports & Entertainment
- Healthcare and Wellbeing
- Asset Management
- Advanced Metering Infrastructures
- Environmental Monitoring
- Security and Safety
- Industrial Automation



IoT Challenges

The five key issue areas from ISOC:

1. Security
2. Privacy
3. Interoperability and standards
4. Legal, regulatory, and rights
5. Emerging economies and development

No Internet without Open Standards

W3C®



I E T F®



Application

XHTML XDI CBOR RDF
CoAP JSON Telnet
HTTP XMPP

Transport

TCP UDP
TLS/SSL


Network

OSPF RPL DHCP BGP
OLSR IPv6 SLAAC IPv4

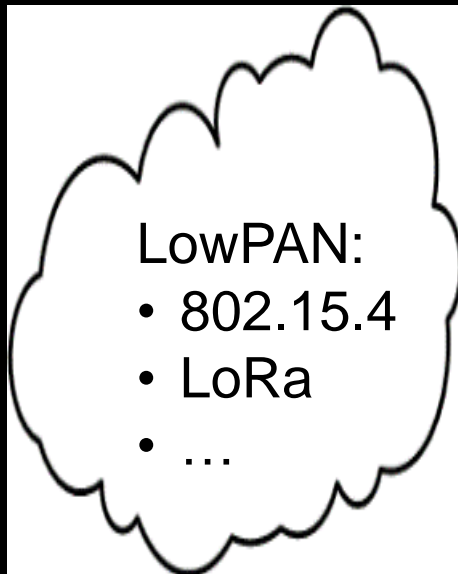
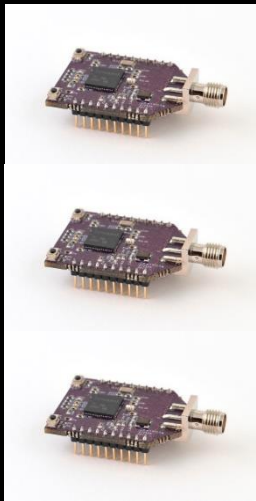
Link

IEEE802.15.4 LoRa BLE
Ethernet

What This Project is About

- Get involved in building the IoT
- Find your team, work out your ideas
- Master IoT technologies and standards
- Collaborate with your team and others
- Build a multi-layered IoT solution
- Help making the world smarter with 

Reference Architecture



Four Milestones

1. Present your project
Share the ideas of you and your group
2. First mock-up demo
Show how it will look like
3. Release candidate I
Show that it can work
4. Final project presentation
Make your results public

Special: 4. November NdW

- Project Groups at Makers Table

