Session 2: IoT and Edge computing: Intelligence moving to the Edge

The role of standardisation and Open Source

Rute C. Sofia, fortiss
Head of Industrial IoT

sofia@fortiss.org
Introducing the fortiss IIoT focus

Decentralised Edge Computing: implementing the Far Edge

On-demand Cross Platform Services

- Service A
- Service B
- Service C
- Service D

Cloud

IP Backbone

Near Edge

Edge/Fog

Far Edge

Customer devices

Space (carrier)

Space (sensing)

On-the-go

Home/Work
The role of Open-source

Industrial IoT Example

Data Capture

Data Communication/Processing

Data processing

Containerized micro-service

Fog/Edge

Cloud

Industrial Plants, shop-floors

Greenfield devices

IoT brownfield devices

Critical applications

Different protocols

Device to device communication

Field gateway

Real-time data processing

Data filtering

Basic analytics

Data visualization

HTTP

Big data processing

Business logic

Data warehousing

...
Challenges for IoT
Blockage of Widespread and Sustainable Adoption

Interoperability
- Vendor silos
- Require a lot of human intervention

Lack of skills
- Closed technology
- Fast technological advancement

Standardisation fragmentation
- Different sectors
- Lack of universal implementations

IoT platforms competitive landscape and database 2020
https://iot-analytics.com/iot-platform-companies-landscape-2020/
Solution

Open-source as enabler of Innovation

Pervasiveness

- Simplification and standardization
- Modular architectures
- Easily portable (e.g., containerized solutions)

Innovation

- Academia and industry work facilitated
- Faster implementation
- Attracts developers

New Business ecosystems

- Transparency /trust (democratization)
- New players
- Faster time to market
The Way Forward
The European IoT HUb - Growing a sustainable and comprehensive ecosystem for Next Generation Internet of Things*

And in cooperation with several other stakeholders in the IoT community ...

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* EU IoT
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