

Internet of Things: From R&D to Standardisation The challenge of convergence

Olavi Luotonen - Franck Boissière IoT Week June 2019

European Commission - DG CONNECT

HORIZON 2020

Standards



Fighting acute NIH syndrome



HORIZON 2020



Standards



What for?



HORIZON 2020



IoT Adoption is maturing

(2018 Size and 2018-2022 CAGR)

IOT ADOPTION ACROSS EUROPEAN EUROPEAN IOT SPENDING BY VERTICALS INDUSTRY

(% of companies with more than 10 employees adopting at least one IoT solution in 2018)









EU Multi-Stakeholder Platform on ICT Standardisation (MSP): Advice, Standards Collaboration and Coordination

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IoT in the Rolling Plan on ICT Standardisation

RP2016 Internet of things: the foundations



Action 3 Explore options for trust, privacy and end-to-end security

Action 4 Promote the uptake of IoT standards in public procurement

RP2018 Internet of things: Maturity

- Action 1: complement ongoing gap analysis, gaps in wireless technologies
- Action 2: continue ongoing work in the area of semantic for better data interoperability.
- Action 3: standards that can be used for compliance
 - Action 4: European standard for cyber security compliance and the GDPR regulation.
 - Action 5: development and adoption of International Reference Architecture for IoT



RP 2017 Internet of things: achieving cruising speed

Action 1 IoT landscape and gap analysis

Action 2 Establish some cooperation between SDOs, leverage results and reduce duplication

Action 3 Semantic Interoperability Action 4 High Level Events



RP 2019 Internet of things: Distilling best practices into other domains

 Action 1 complement gap analysis, wireless technologies for industrial automation
 Action 2 SDOs cooperation in the area of semantic for better data interoperability
 Action 3: standards for compliance
 Action 4: standards for cyber security and GDPR compliance.

Action 5: Global Reference Architecture for IoT

The Standardisation Challenges

 Interoperability – essential for a Digital Single Market, with seamless flow of data across sectors and value chains.

European Commission

- Chicken and egg supply- and demand-side are both struggling to define standards at appropriate level.
- Innovation open innovation systems move fast, and the standards processes struggle to keep up.

- Non-technical aspects solutions should be more than technical solutions, and take into account organisational aspects and cross domains issues
- **Policy & Legislation** security and privacy are still a limiting factor.
- Acceptance communities are sceptical, and often with good reason.



 Large Scale Pilots – Innovation & Experimentation in real scale – Open calls.

European Commission

 Focus Area & Project Clusters – Steer Convergence, joint actions chains, build momentum and leverage impact within and between Verticals.

- AIOTI BDVA ECSO ARTEMIS 5
 GPP Stakeholder and industrial engagement in PPP
- Open meetings and workshops consensus building
- Light Steering channel input towards more engagement and policy governance.



Role of European partnerships: the AIOTI example

European Commission



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Smart Mobility

80

Smart

Cities

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Smart Energy

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Smart Manufacturing

WG

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Smart Buildings and Architecture



Role of global partnerships: the OASC example



140 cities in 29 countries

Global network of local networks of cities and communities

Standards-based innovation and procurement across sectors.

OPEN & AGILE SMART CITIES	OR GABLE SMART CITES	OPEN & AGLE SMART CITIES
OR & ARLE SMART CITIES	OPEN & ADILE SMART CITIES	OR GARLE SMART CITIES
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OR & ADLE SMART CITIES	OPEN & AGILE SMART CITIES	OPEN & AGLE SMART CITIES
Peland -	Hungary	Norway
OR GABLE SMART CITIES	OR GADLE SMART CITIES	OR GAGLE SMART CITIES
Greece	Germany	Schwitzenkand

MINIMAL INTEROPERABILITY MECHANISMS (MIMS)

A roadmap based on existing standards and mechanisms, governed by cities, supported by suppliers and infrastructure providers.



SYNCHRONICITY

IoT Large-Scale Pilot on Smart Cities & Communities (15/20m€)

Set up to validate and mature the OASC MIMs at scale.

20 cities, 50 services – running on the same common technical ground.

Catalogue of validated services based on standards.





Scaling from pilots to global market



OASC is set to grow beyond the original frontrunners, and inviting all cities and countries to join.

Key events and moments include:
IoT Week 2019, Aarhus, Denmark, June 17-21
World Economic Forum Super Cities, G20, Osaka, Japan, June
SynchroniCity scale-up conference, Milan, October 2-3
Smart City Expo, Barcelona,

November 19-21

 Finnish EU Presidency, Oulu, December 10-11 *

Connected Smart Cities &
 Communities, Brussels, January 23, 2020

• Cities Forum, Porto, January 31, 2020

A TRUSTED ROADMAP FOR CITIES & COMMUNITIES

The OASC Council of Cities oversees the core elements needed for interoperability across sectors.

It can be easily integrated in procurement for daily operations, as well as for innovation and even early-stage experimentation.

Gives the municipality stability and independence, which unlocks financing as well as innovation capacity.

Shares the risk of moving ahead in the digital transformation of cities & communities with peers in Europe and beyond.

SYNCHRONICITY

SynchroniCity becomes part of the OASC family.

Building a growing catalogue of services and suppliers.

Ensuring try-before-you-buy-style deployment.

Based on the OASC MIM framework, and supported by mixed funding models.

(* https://oascities.org/wp-content/uploads/2019/06/Announcement-FI-Presidency-on-Urban-and-Territorial-Matters-Final.pdf)





What's Next? ... 2019 and beyond

Cross Domain/2019 RP and Beyond :

New technical standards (cross domain)

The next frontier is where ICT standards meet Operational Technology standards

PPPs cooperation and joint activities (data spaces, converged reference architectures, semantic interoperability main streaming)

Dissemination best practices across domains (eg DEI MSP WG)

