Digital Water
&
Internet of Things in Smart Cities

Connected Smart Cities Conference – Digital Water session
Brussels, 12 January 2017

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Emerging Topics and Technology Roadmap for ICT for Water Management - August 2016

Climate change, increased urbanization and increased world population are several of the factors driving global challenges for water management.

This roadmap was finalised by the European Commission in August 2016, with inputs gathered from 20 FP7/H2020 research projects -grouped in the ICT4Water cluster- and taking into account other relevant reports.

https://ec.europa.eu/digital-single-market/en/news/emerging-topics-and-technology-roadmap-ict-water-management-august-2016

Roadmap summary

"...

The activities should contribute to:

1. Development of specifications for interoperability and data sharing across services and infrastructures.

2. Development of system standards for smart cities and communities solutions.

3. Creation of ecosystems of "Platforms for Connected Smart Objects", integrating the future generations of smart devices (i.e. sensors) and network technologies and other evolving ICT advances.

4. Initiatives on data ownership, free flow of data and on a European Cloud.

..."

Horizon 2020 Work Programme 2018-2020 preparation ongoing

The Communication "Digitising European Industry", of April 2016, has proposed investing in this timeframe in cross-cutting integration platforms. In this context we will be looking at the reports from this conference also having this future research and innovation needs perspective in mind.

Are there justified needs to prioritize the Digital Water domain, especially as related to the Internet of Things, in the Horizon 2020 Research & Innovation Programme's Work Programme 2018-2020? If yes:

What is the baseline of current front-runners' experiences?

What will still be achieved before the WP2018-2020 period?

What should be achieved in the WP2018-2020 period and why?

The new IoT Unit: DG CONNECT, E4

To define & implement the EU's policy, research, standardisation, adoption and take up strategy for IoT and the new business models stemming from it, ensuring the competitiveness of the European industry

Internet of Things action plan - 3 pillars

1) **Single market for IoT:**
   IoT devices and services should be able to connect seamlessly and on a plug-and-play basis anywhere in the European Union (EU)

2) **Thriving IoT ecosystem:**
   Open platforms used across vertical silos will help developer communities to innovate. As a kick-start, IoT deployments in selected lead markets will be supported

3) **Human-centred IoT:**
   Respect of European values, empowering people along with machines and businesses, high standards for protection of personal data and security, notably through a "Trusted IoT label"

Internet of Things action plan

The action measures for IoT are listed in the following communications:

- **Communication "Digitising European Industry – Reaping the full benefits of a Digital Single Market"**

- **Communication "Priorities for ICT Standardisation for the Digital Single Market"**

- **DSM Strategy: under the free flow of data initiative**

Objectives grouped under 3 headings

1. Partnerships for leadership in digital technologies, value chains and platforms.
2. Boosting EU's digital innovation capacities through Standardisation.
3. Providing the appropriate regulatory framework conditions.

New priority areas focus on an IoT liability framework, building trust in IoT, and the promotion of an interoperable numbering space.

Next steps

In the context of the DEI strategy
- ➤ IoT implementation plan over the next 2 years
- ➤ Research activities in H2020
- ➤ Management of the IoT Focus Area LSPs
- ➤ Alliance for IoT Innovation (AIOTI)

DEI Roundtable Working Group (WG2) on "Strengthening competitiveness in digital technologies value chains and platforms"
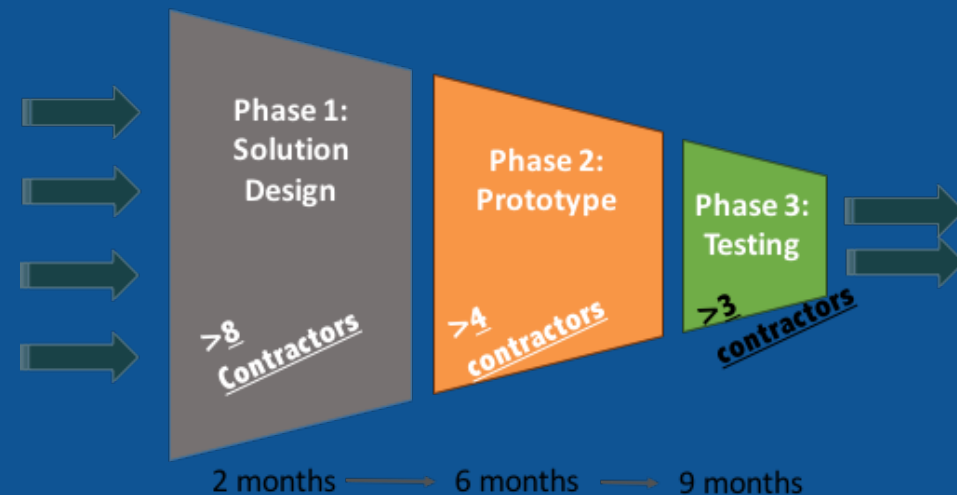
- Experimentation-as-a-Service facility
  - "Co-creating smart cities of the future"
- Building cities' necessary capacity to co-create, test and experiment in live settings.
  - Supports pre-commercial procurement.
- Invites local job creation by SMEs, connected to a global market.
  - Open call mechanism for enrichment and diversity.
- Provides comprehensive suite of tools for co-creation
  - Strong emphasis on inclusion, security, privacy.
- 7.2m€ EC funding, FIRE+, 15 partners, 42 months.
  - 1.8m€ for open calls (up to 60,000€)

- Pre-Commercial Procurement (PCP) Competition
  - Helsinki, Antwerp, and Copenhagen as large scale Internet of Everything labs
- CHALLENGE: "To design, prototype and pilot a platform capable of linking cities' IoT infrastructure in order to allow for new IoE scalable products and services"
- 4m€ EC funding, ICT-36-2015, 6 partners, 48 months
  - **3 m€ for PCP call (up to 1 m€ per contractor)**
- Phase 1 Open Call for Tenders to be published in January 2017

Phase 1: Solution Design — >8 Contractors — 2 months

Phase 2: Prototype — >4 contractors — 6 months

Phase 3: Testing — >3 contractors — 9 months

- IoT Large Scale Pilot for Smart Cities
  - "Creating a global market for IoT-enabled urban services"
- 8 European cities + global (Mexico, US, Korea, Brazil)
- Rapid development of basic applications, scaled and adapted to many cities
  - Community policy suite (governance, overview) and mobility are initial themes chosen by the cities.
- 15m€ EC funding, 35 partners, 33 months
  - Open call to enrich the ecosystems (3m€)

WaterWise Conference & cluster event of current projects

- To follow up on the roadmap with more concrete actions, an action plan will be put in place during the next cluster event of current projects in London during the WaterWise Conference on 8 March

- This will cover mainly the links to current initiatives/legislations in the water domain, the data management, the standardization and interoperability issues.

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