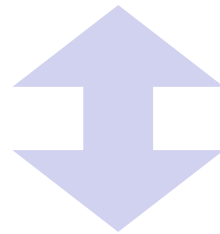# "Action Plan to Digital Single Market" ICT4WATER

ICT4WATER have been assisting the EC to develop the "<u>Emerging Topics and Technology Roadmap for Information and Communication Technologies for Water Management</u>" (2016), which outlines the gaps and future needs of the Sector and has been developed by consultation with the ICT4WATER cluster members and wider industrial/business organisations.

"Action Plan to Digital Single Market" ICT4WATER ACTIONS IDENTIFIED

No.	Activity	Challenges Addresses	ST	MT	LT
1	Development of specifications for **interoperability and data sharing** across services and infrastructures.	Adopting/developing water vocabularies and ontologies and promoting common architecture for **SMART water.** Development of semantics tools to properly contextualize the business processes in the water domain .			
2	Development of system **standards for smart cities and communities** solutions.	Overcoming the absence of impracticability of running field trials by creating a standardised model of water delivery and use comparable in concept to national economic models; Identifying/adopting/developing critical interface Standards Identifying where quality (accuracy, reliability, resilience, etc.) standards are required, especially in relation to attaining the EC's objectives but also in relation to the formation of the market.			
3	Creation of ecosystems of "**Platforms for Connected Smart Objects**".	Harmonising energy and water monitoring practices sufficiently that it becomes practical to demonstrate to users through the metering or billing system how their water use is impacting their energy use, thereby giving water users the incentive to be efficient.			
4	Initiatives on **data ownership, free flow of data**	Users can confidently and easily assemble systems from interconnecting Provide benchmarking tool available to the water sector .			

"Action Plan to Digital Single Market" ICT4WATER ACTIONS IDENTIFIED

No.	Activity	Challenges Addresses	ST	MT	LT
5	The establishment of a **Pan-European standard** on water management systems	Setting up a governance structure, one of whose terms of reference would be the introduction of standards			
6	Development of **Water Audits across EU**.	Increase water efficiency in EU and minimizing waterstress risks, demands accurate, detailed, and periodic Water Audits across EU, emphasizing current and future waterstressed regions To facilitate the integration of different systems			
7	**Water Food Energy Nexus interactions.**	Harmonising energy and water monitoring practices sufficiently that it becomes practical to demonstrate to users through the metering or billing system how their water use is impacting their energy use, hereby giving water users the incentive to be efficient			
	Development of new framework methodology for measuring the **environmental impact of ICT**	Technology changes should end in better applications for customers and citizens in order to benefit their day to day life and contribute to raise the awareness over water constraints			
	Provide a market analysis of a water industry in terms of current and foresight **integration of ICT solutions and systems.**				

"Action Plan to Digital Single Market" OBJECTIVES (1)

Produce an Action Plan which address the lack of standardization and interoperability which, in the fragmented water sector, propose a strategy to shift from pilot scale initiatives to wide market uptake to end up with the creation of a European Digital Market for energy efficient water service. Key interest points to be addressed are:

✓ To **link with the existing legislation** regarding the directives concerned (data management, water…) and all existing initiatives related to water and ICT.

✓ To develop recommendations **for ensuring interoperability and data sharing across services**, fostering the harmonization of water ICT systems and infrastructures.

✓ To enable FAIR principles (Findable, Accessible, Interoperable, and Re-usable) in **data-as-a-service models and paradigms across NEXUS approach**.

✓ To promote Water Data Management services as transversal enablers in Smart Cities and Smart Grids.

✓ To **push for Water Standards** which could help the development of the European Digital Single Market for water.

✓ To foster existing **business models evolution** to uptake new market requirements and opportunities to integrate water data within the business processes.

"Action Plan to Digital Single Market" OBJECTIVES (2)

Holistic approach will have to be provided in the following fields of activities:

- ✓ The delivery of a **market analysis** of the water industry in terms of current and foresight integration of ICT solutions and systems.

- ✓ The drafting of **procurement template(**s) for water utilities to boost the R&D and deployment of innovative solutions (PCP - Pre-Commercial Procurement and PPI - Public Procurement of Innovative solutions).

- ✓ Draft **investment strategies** to help the utilities moving up into a smarter water infrastructure.

- ✓ Provide options of high level water data architectures leading to enhanced data quality, management and integrity solutions (including **Big Data approaches**).

- ✓ To develop and promote water data management methodologies to ensure **data protection, privacy, network access, confidentiality and integrity** of water related information.

"Action Plan to Digital Single Market" Methodology

1. *Understanding of the current **state of the art** (products / services / technologies / business models / success cases…)*

2. *Define the **desired end state***

3. *Conduct a **Gap Analysis** exercise*

4. ***Prioritize** the findings from the Gap Analysis exercise into a series of gap closure strategies (Actions & quick wins & innovative solutions to be supported)*

5. *Discover the **optimum sequence** of actions (recognizing predecessor – successor relationships)*

6. *Develop and **Publish the Action Plan***

"Action Plan to Digital Single Market" Contributions and two way benefits

Action Plan

- Water 1a -1b
- H2020 4a
- FP7
- ICT4Water
- Directives
- Circular Economy
- Nexus
- Water Reuse
- EIP Water
- WssTP
- Big data
- IoT
- Smart Cities – Grids

- **Information collection,** previous work, directives, roadmaps, other action plans, Strategic Innovation and Research Agendas…

- **Iterative process** with key experts (funded projects…), regularly contacts (once a month)

- **Integrated efforts,** linked to other planning and execution processes (circular economy, nexus, etc.) and relevant associations

"Action Plan to Digital Single Market" Activities

Consultation in the framework of the ICT4Water cluster or will take place during conferences/workshops/ other events with key experts from ongoing projects in the area and the expected outputs are:

- ✓ To identify the gaps and propose an action plan of **concrete actions relating to R&D and possible regulation** in the area of ICT and water;

- ✓ To enhance emerging water issues (current and future trends) in terms of **data management, interoperability and standardization including the investigation of the ICT GHG Footprint**;

- ✓ To define **classification/justification of problems and solutions** (WHY/HOW MUCH the highlighted issues are problems or solutions);

- ✓ To identify **cost/benefit** estimates of problems and solutions;

- ✓ To identify synergies between the proposed solutions and with other related sectors (**e.g. circular economy, water reuse, transport, energy and smart cities**);

- ✓ To identify references to ongoing policies to map where the highlighted problems and solutions fit in or not.

"Action Plan to Digital Single Market" Activities

holistic approach will have to be provided in the following fields of activities:

✓ To analysis of the current roadmaps, the deliverables and descriptions of work of the research projects related to ICT and Water;

✓ To Build Synergies in common events and include the outcomes and conclusions

  • Waterwise's conference;

  • **Annual Water Innovation Conference and WSSTP Working Groups (Brussels).**

  • **European Innovation Partnership on Water conference to be held in Porto**;

  • EC meeting in November 2017 in Brussels;

✓ To have regular contact with the relevant bodies/experts internally in the EC and externally to link existing legislation/initiatives as well as the issues of standardization, interoperability and data management;

"Action Plan to Digital Single Market" Planning

Tasks \ Month	1	2	3	4	5	6	7	8	9	10	11	12
State of the art	■	■	■									
Action Plan			■	■	■	■	■	■	■	✓	■	
Synergies (F2F)*			✓	■	■	■	■	■	✓			
Dissemination			✓	■	■	✓	■	■	✓	■	✓	■
Projects contributions			✓	■	✓	■	✓	■	✓	■	■	■

Exchange of information-Experience in common issues

Maximize dissemination & Exploitation Special sessions in Conferences/Publications contact with relevant stakeholders

Common development of **guidelines, strategies, procedures and standards**

Joint papers among projects

Links with/participation in Water (EIP/WssTP/IWA…) and ICT (AIOTI/BDVA…) relevant action groups

New opportunities

CYTO-WATER	MASLOWATEN
iMETland	INTCATCH
SUBSOL	AquaNES
CENTAUR	INCOVER
MOSES	INTEGROIL

"Action Plan to Digital Single Market" Activities

DISCUSSION