FREEWAT
Free and Open Source Software Tools for Water Resource Management
EU HORIZON 2020 Project

European Commission

ict4water.eu

Open Workshop
Fostering inclusive and sustainable economic growth, employment and decent work (SDG#8) through ICT job creation tools for ensuring water security (SDG#6)

September 30th 2016

UNESCO – Room IX

7 Place de Fontenoy - 75007 Paris

Smart Water Projects Funded by the EC, links to sustainable water management developments

EIP Water Online Market Place
Matchmaking for water Innovation
MAR Solutions - Managed Aquifer Recharge Strategies and Actions (AG128)

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USGS science for a changing world

United Nations Educational, Scientific and Cultural Organization
International Hydrological Programme

Taken from: http://stories.undp.org/cultivating-change-in-papua/photos/2990072

ICT for Water Management- EC perspective

Smart technology and ICT related to smart technology is a major current research and investment field internationally

Part of the "**smart city**" grid and initiatives

Smart energy starting first

- Pioneers in smart technology applications for domestic and industrial users
- Legislation related to smart energy meters already exists in some EU countries (e.g. France, UK)

Smart water follows, especially research around **smart water AND energy**, a major research issue for the EC

ICT for Water Management- EC perspective

Links to the Juncker agenda priorities:

1. A new boost for Jobs, Growth and Investment
2. A connected Digital single market
   - Better online access to digital goods and services
   - An Environment where Digital Networks and services can prosper
   - Digital as a driver to growth.
3. A Resilient Energy Union with a forward-looking Climate Change policy
4. A Deeper and Fairer Internal Market with a Strengthened Industrial Base

ICT for Water Management- EC perspective

Part of the H2020 **Digital Perspective for Europe**

Smart technologies:

To increase **water efficiency**

To improve **water management**

To manage **water demand**

To reduce **leakage**

To reduce **energy** for water utilities and households

To increase **end user awareness**

To affect **end user behavioural change**

with (near) **real time** surveillance and feedback

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ICT and Water Management under FP7 and H2020

Targets

- Assets management
- Business models
- Decision support system and monitoring
- End-user awareness
- Geographic Information Systems (GIS), OGC, Sensors
- Modelling, real-time process, knowledge extraction, stream data mining
- Ontologies, semantics, interoperability, standards
- Water regulation

WIDEST

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Centre Tecnològic de Catalunya

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www.ict4water.eu

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The vision:

to establish a thriving and interconnected **ICT for the Water Community** with **the main objective of promoting synergies and knowledge exchange among all actors involved in water sector**.

This vision is twofold:

- in one hand, contribute to advance in the **consolidation of an ICT for the Water Community** that will be better informed, defined and integrated than today;
- on the other hand, will help the **results and outcomes from current research projects improving their exploitation plans and increasing their dissemination potential**.

The target community will be mainly composed by different stakeholders including **Water Authorities, Water Operators, System Integrators, ICT for Water technologies professionals, Policy Makers, and the relevant industry at large**.

Background FP7/H2020: Funding on ICT and Water Management

2011-2012: CIP-ICT-PSP Thematic network
2012-2013: Five (5) Collaborative EU projects
2013-2014: Five (5) more Collaborative EU projects
2015: Five (5) Coordination and Support Actions (CSA)
2016: …

Similar themes and targets: All targeting water authorities/utilities and end users

1st group: Emphasis (rather) on water authorities/utilities

2nd group: Emphasis (rather) on end users and their behavior

3rd group: Horizontal actions, dissemination

4rd group:…

Interdisciplinary approach

Partnerships between ICT equipment providers, Water Domains Experts, software companies and water authorities/utilities, and users

ICT for Smart Water Management Alignment
EC perspective

Smart technologies:

- To **increase water efficiency**
- To **improve water management**
- To **manage water demand**
- To **reduce leakage**
- To **reduce energy** for water utilities and households
- To **Improve coordination** among actors
- To advance in the **Nexus** concept (water-energy-Land)
- To cover **agricultural, urban and industrial** needs
- To increase end **user awareness**
- To affect end user **behavioural change**

PROJECTS

ict4water.eu EIP Water

Ctrl + SWAN

EIP Water Action Group
Pooling resources – Innovating water

Development of the Roadmap " ***Emerging Topics and Technology Roadmap for Information and Communication Technologies for Water Management***" 2014/2015/2016

Actions

- Exchange of information- Common **website**-Contacts
- **Special sessions** in Conferences/Publications
- Common development of **standards and standardisation**
- Common papers
- Links with/participation in Water EIP relevant **action groups**
- **Lots of synergies**

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PROJECTS
WatERP

Physical Representation (Karlsruhe)

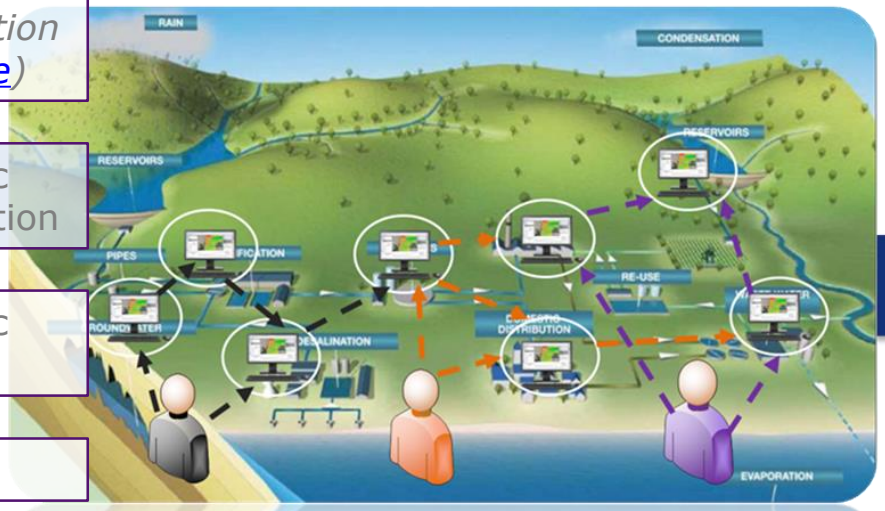
Semantic Representation

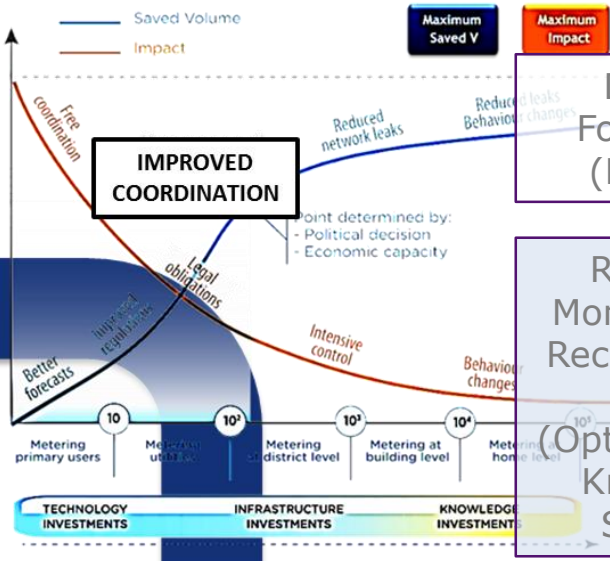
Hydraulic Model

Alerts

DSS / Simulator

Meteorological Forecasting





Demand Forecasting (Patterns)

Real-Time Monitoring vs. Recommendation (Optimization + Knowledge Storage)

AI-Optimization (Water-Energy)

SOA-MAS

8% Water Saving

Scarcity Regions

5% Energy Saving

Abundance Regions

Where water supply meets demand

WatERP

W3C · Semantic Web · WMO · WaterML 2.0 · Interoperability && easy extension of the system · OGC · Jadex · MAS · SOA

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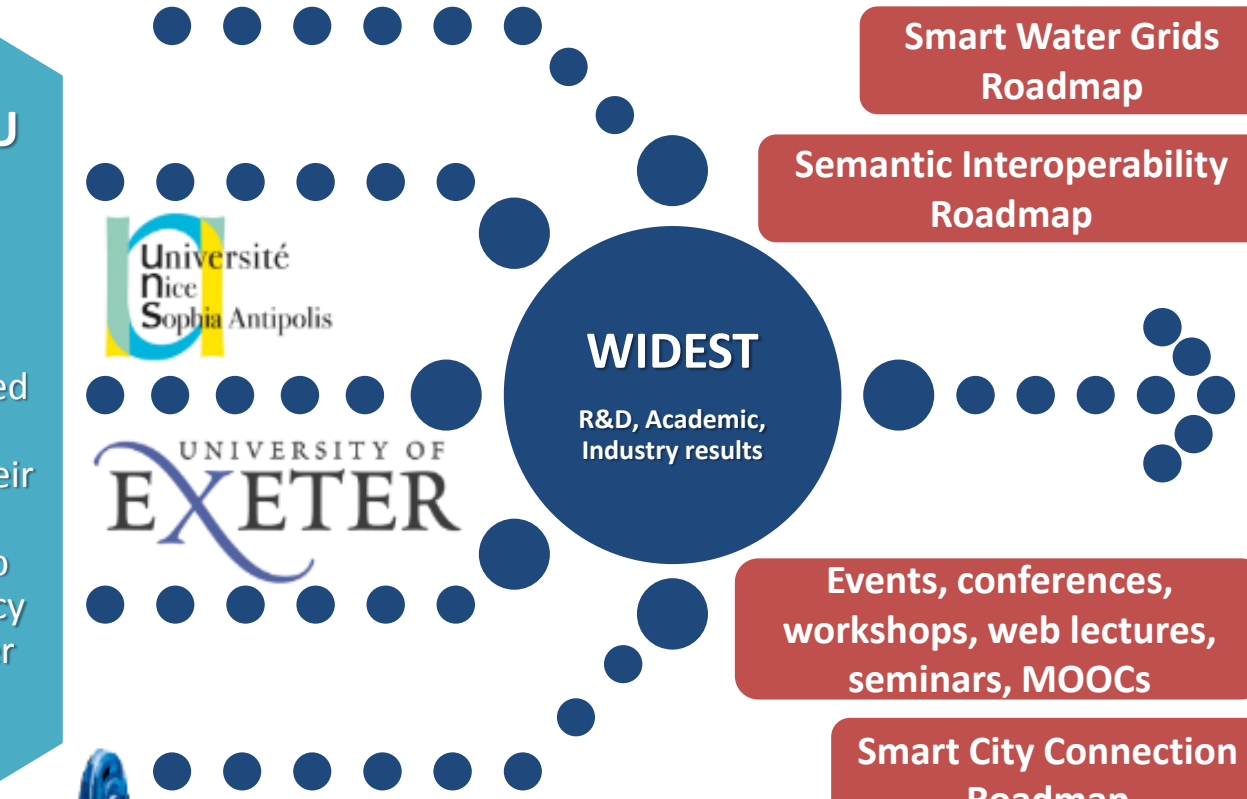
WIDEST

Water Innovation through Dissemination Exploitation of Smart Technologies

H2020-Water4a-2014

WIDEST

RESULTS EU FUNDED ACTIVITIES
promote exploitation of relevant ICT-based tools and platforms and their integration for market, develop appropriate policy briefs, and foster knowledge



- Technology Portfolio
- Smart Water Grids Roadmap
- Semantic Interoperability Roadmap
- Events, conferences, workshops, web lectures, seminars, MOOCs
- Smart City Connection Roadmap
- Products

- Water Authorities
- Final users
- Water Utilities
- Industry
- SMEs
- Policy makers

eurecat Technology Centre of Catalonia
eurecat Centre Tecnològic de Catalunya
WssTP Membrane Technologies Working Group
Université Nice Sophia Antipolis
UNIVERSITY OF EXETER
CETAQUA ANDALUCIA CENTRO TECNOLÓGICO DEL AGUA
IWA the international water association
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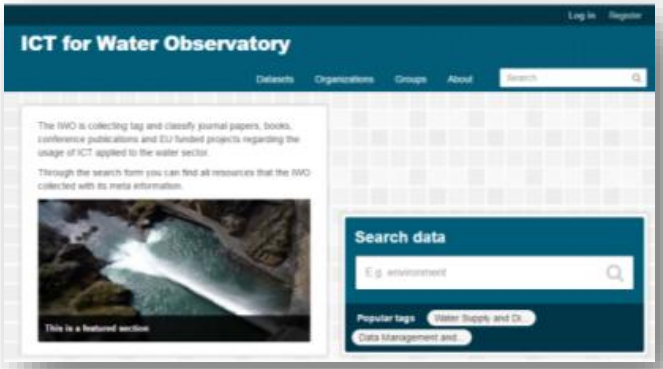

(http://iwo.widest.eu)

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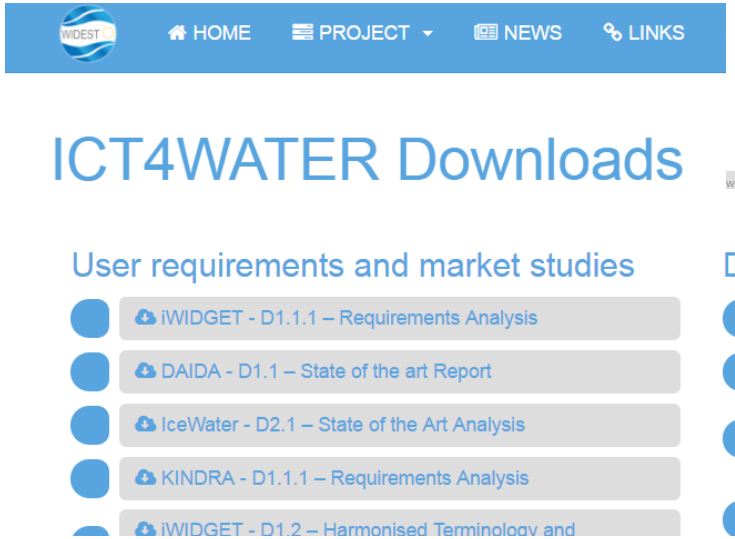

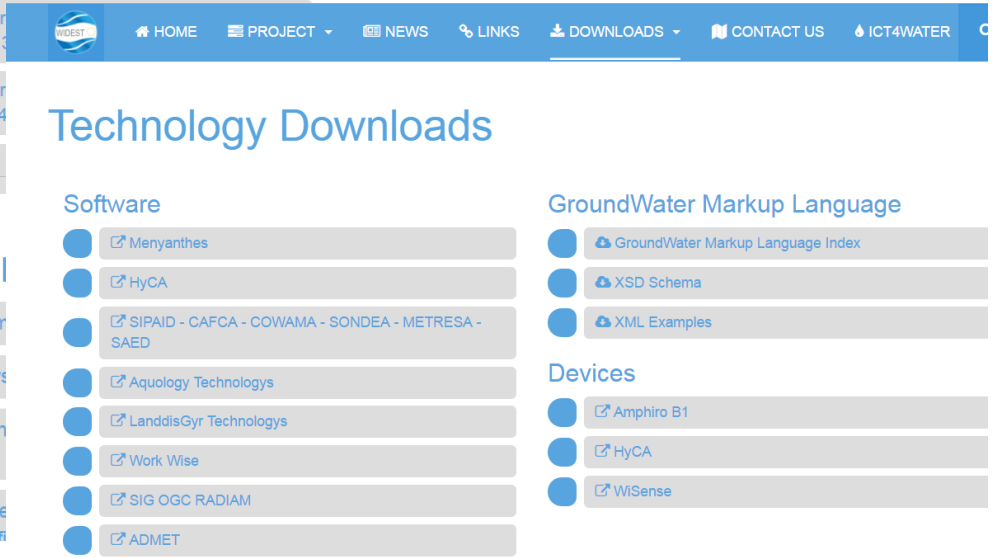

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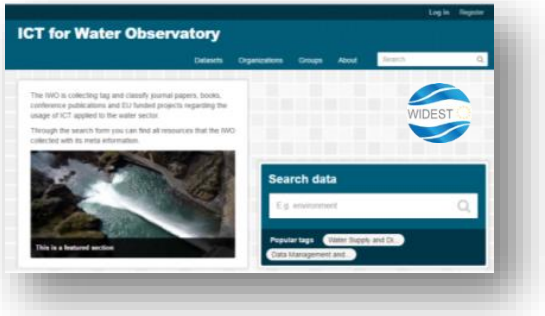
Information Sources



(http://iwo.widest.eu)

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ICT and Water Management Roadmap 2016

2016 Rolling Plan on ICT Standardisation

Recommendations for Standards and Standardisation in the European SMART Water Market

THANK YOU
FOR YOUR ATTENTION

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