

iWIDGET

Smart meters
Smart water
Smart societies

Smart Meters, Smart Water, Smart Societies: iWIDGET and the EU perspective

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SEVENTH FRAMEWORK PROGRAMME

10/12/2014

iWIDGET-WATERIDEAS-2014

ICT for Water Management- EC perspective

- **Smart technology and ICT related to smart technology is a major current research and investment field**
- **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: Digital agenda for Europe**

ICT and Water Management- EC perspective



DIGITAL AGENDA FOR EUROPE

A Europe 2020 Initiative

Digital Agenda for Europe > European Commission > Communities



Our Goals

Living online

Growth & Jobs

Science & Technology

Telecoms & the Internet

Content & Media

Digital Me

Digital Me

My Country

Funding Opportunities

Advisors

Communities

ICT4Society

Better Self- and Co- Regulation

Digital Action Day

Futurium

Discussion Forums



ICT and water management

Due to growing population and economy, seasonal climatic conditions have changed, including extreme events as floods and droughts. This affects as a whole the availability of water resources at world level.

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ICT and water efficiency is a key policy issue with potential for new research area that includes decision supporting system for the measurement of water quality and quantity including the recycling and water reuse processes.

This necessitates increased interoperability between water information systems at EU and national levels and efficiency of water resources management.

ICT and 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- EC perspective

- Call for proposals: ICT-2011-6.3 ICT for Efficient Water Resources Management
- Objectives
 - **Integrate** real-time knowledge on demand and supply across water distribution networks and water sources
 - **Partnerships** between ICT equipment providers, software companies and water authorities
- Budget **2 x 15M € (2012 and 2013)**



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EC perspective- Target outcomes

- **ICT-enabled solutions for Integrated Water Resources Management**
- **Innovative demand management systems**
- **Decision support systems (DSS)**
- **Data management technologies (Big data)**
- **Research and Innovative integration**
- **Validation in at least 2 real-time operational environments**
- **Evaluation of anticipated cost/benefits and market prospects**




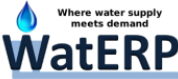






10 sister projects funded: Ict4water cluster



FP7: Funding on ICT and Water Management

- Funding
 - 2012-2013: Five (5) Collaborative EU projects
 - 2013-2014: Five (5) more Collaborative EU projects
- All 10 projects
 - Similar themes, threads and targets
 - All targeting water utilities and end users (customers)
 - Interdisciplinary approach
 - 1st group (2012): Emphasis (rather) on water utilities
 - 2nd group (2013): Emphasis (rather) on end users and their behaviour
- The 10 projects have been “clustered” for coordinated actions and cooperation: **Special sessions and standards/standardisation**

The ict4water cluster : Case Studies

Projects funded in 2012-13		Case studies
EFFINET		Barcelona , Limassol (Cyprus).
ICeWater		Timisoara, Milan
iWIDGET		Barcelos (Portugal), UK, Athens
WatERP		Barcelona, Karlsruhe
UrbanWater		Portugal, Czech republic
Projects funded in 2012-13		
DAIAD		Athens, UK
ISS-EWATUS		Skiathos (Greece), Sosnowiec(Poland)
SmartH2O		London, Locarno (CH)
WATERNOMICS		Poland, Thermi (Greece), Milan
WISDOM		Cardiff (UK), La Spezia (Italy)

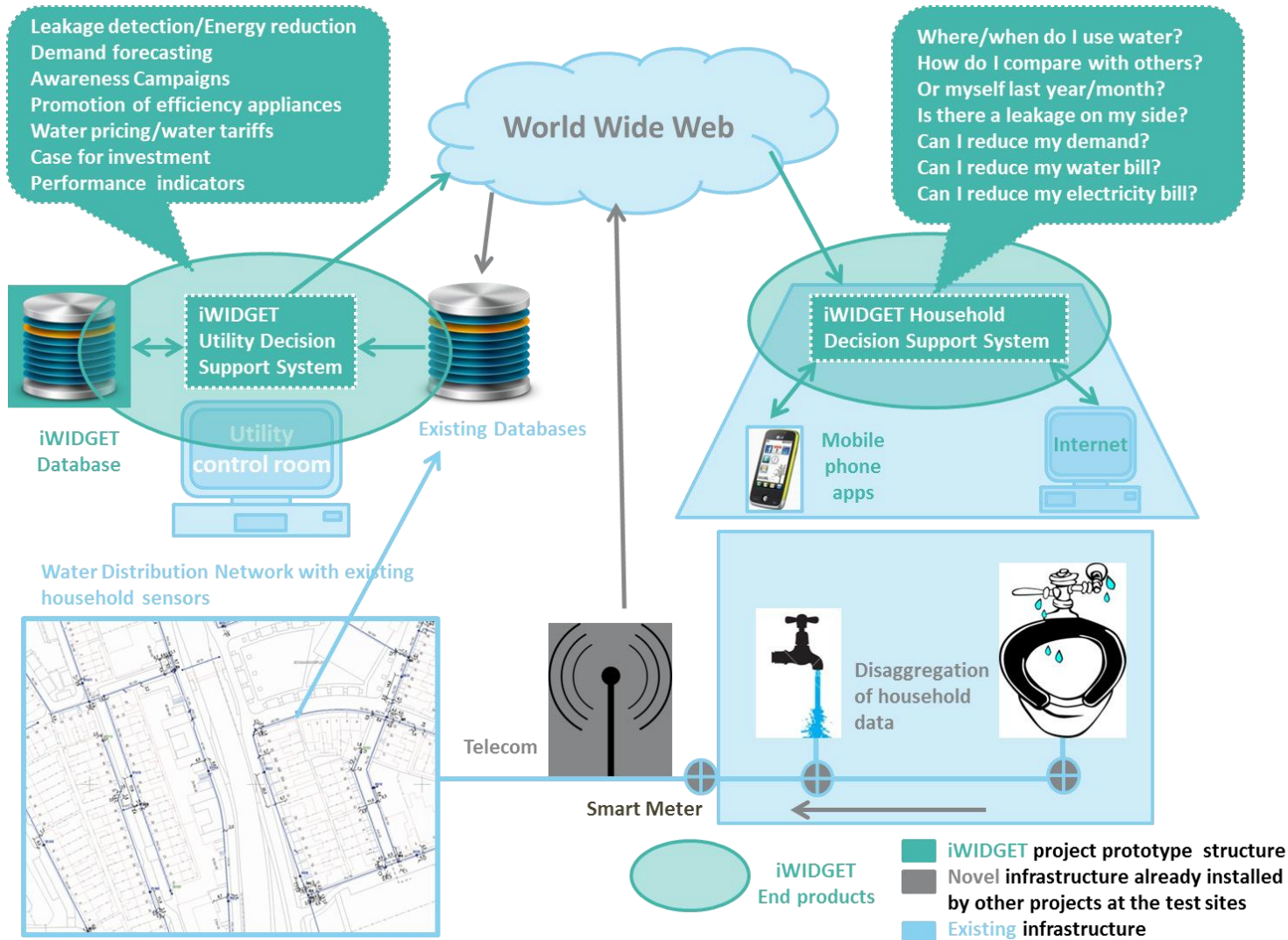
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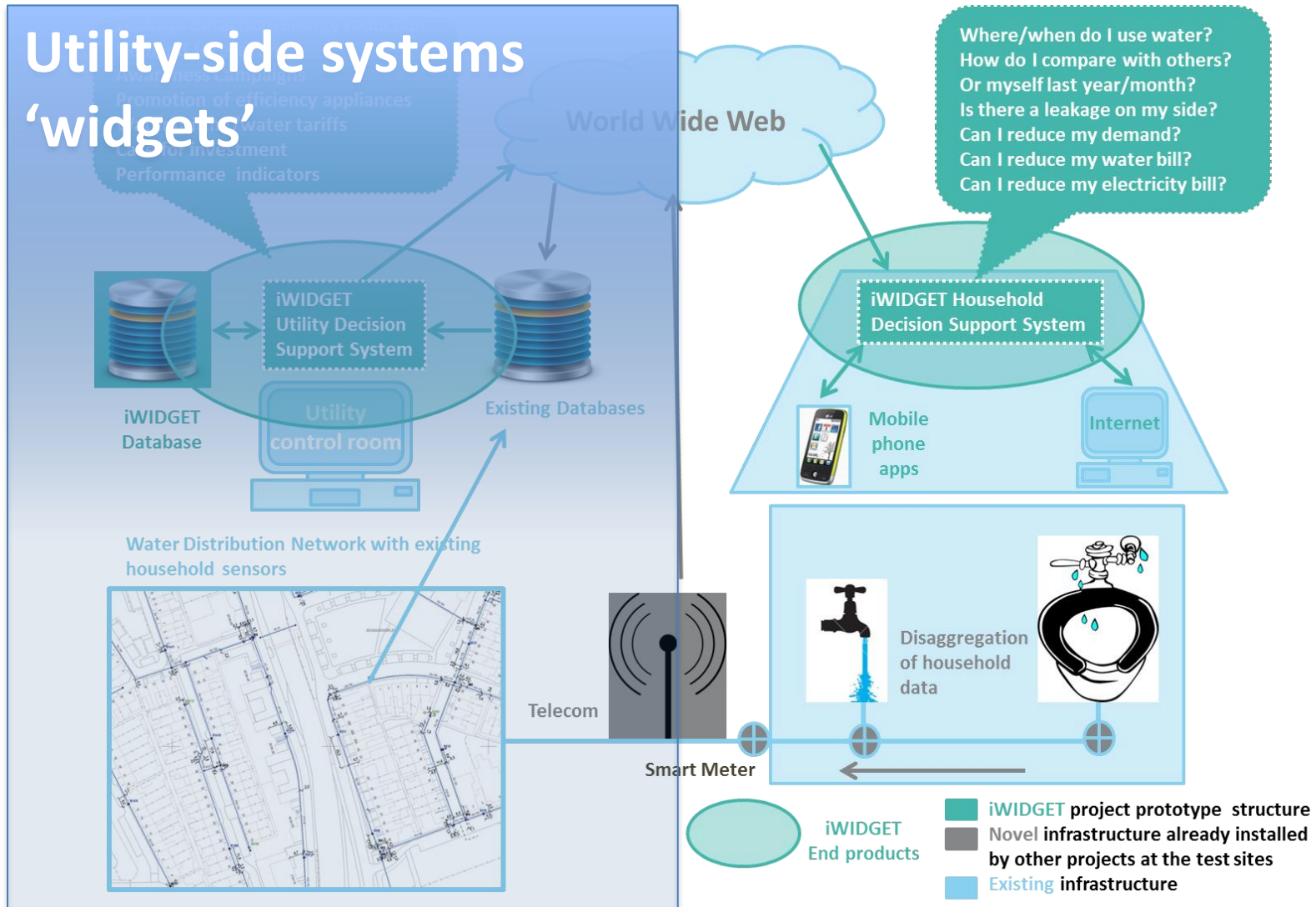
iWIDGET: Smart Meters, Smart Water, Smart Societies

- Collaborative, three year EU FP7 project (2012-2015)
- **Aim:** to advance knowledge and understanding about smart metering technologies (*smart meters, smart water, smart societies*)
- **Main scientific challenges:**
 - management and extraction of useful information from vast amounts of high-resolution *water and energy* consumption data,
 - development of customised intervention and awareness campaigns to influence behavioural change,
 - the integration of iWIDGET concepts into a set of decision-support tools (called “**widgets**”) for *water utilities and consumers*, applicable in differing local conditions.

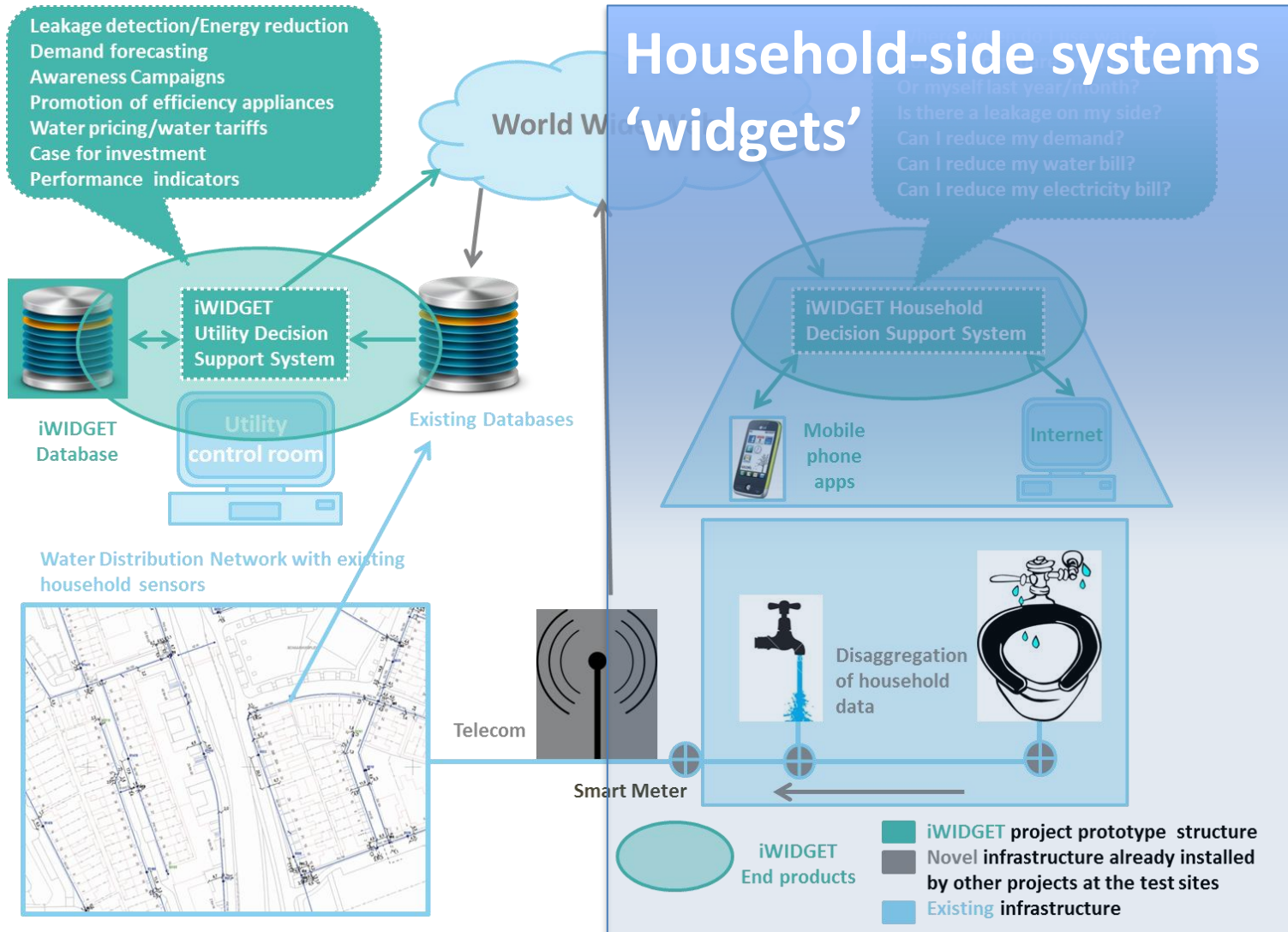
In short...



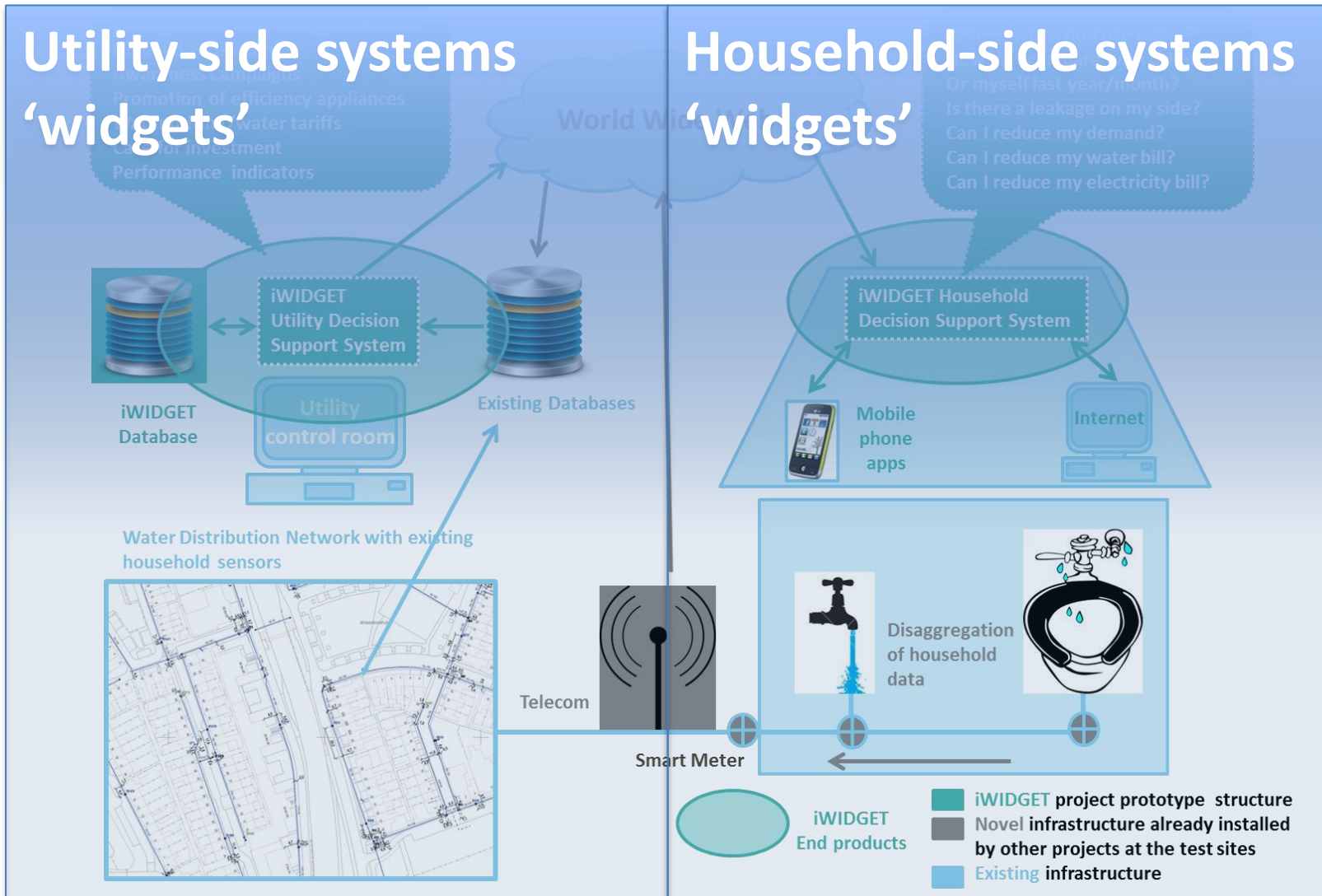
In short...



In short...



The iWIDGET system



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SEVENTH FRAMEWORK
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		Country	
1	University of Exeter (Coordinator)	UK	
2	HR Wallingford	UK	
3	IBM	Ireland	
4	Laboratório Nacional de Engenharia Civil	Portugal	
5	National Technical University of Athens	Greece	
6	SAP AG	Germany/Switzerland	
7	Utility Partnership Limited	UK	
8	AGS (linked to Águas de Barcelos CS)	Portugal	
9	Waterwise (linked to Southern Water CS)	UK	

ICT Experts

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Water Engineering Experts

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Smart Meter Tech Experts

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Links to Water Utilities

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Business Process Experts

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Psychologists/Social scientists

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Dissemination/standards experts

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Case Studies and Targets

Targets:

- How best to provide the **dynamic accurate measurement and data transfer of useful information** about end-user water consumption to the utilities and the customers
- How best to use **consumption data** to improve the operation of utilities and influence end-users to **modify their behaviour**
- How to arrive at the **best business model** to convert a promising technology into a useful and cost-effective product

Case Studies and Targets

Demonstration and validation in **three case studies** in

- **Portugal (Aguas de Barcelos)** – around 400 households/3 DMAs,
- **the UK (Southern Water)**-around 1000 households dispersed along routes in the South East of UK
- **Athens (pilot case study)** – 20 volunteers/ various types of households

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