iWIDGET

Smart meters; smart water; smart societies.

UNIVERSITY OF EXETER

Centre for Water Systems

SEVENTH FRAMEWORK PROGRAMME

Improved Water efficiency through ICT technologies for integrated supply-Demand side manaGEmenT

UNIVERSITY OF EXETER · LABORATÓRIO NACIONAL DE ENGENHARIA CIVIL · IBM · National Technical University of Athens · ACS · HR Wallingford Working with water · SAP · UPL UTILITY MANAGEMENT & ENERGY CONSULTANTS · waterwise

22 April 2013

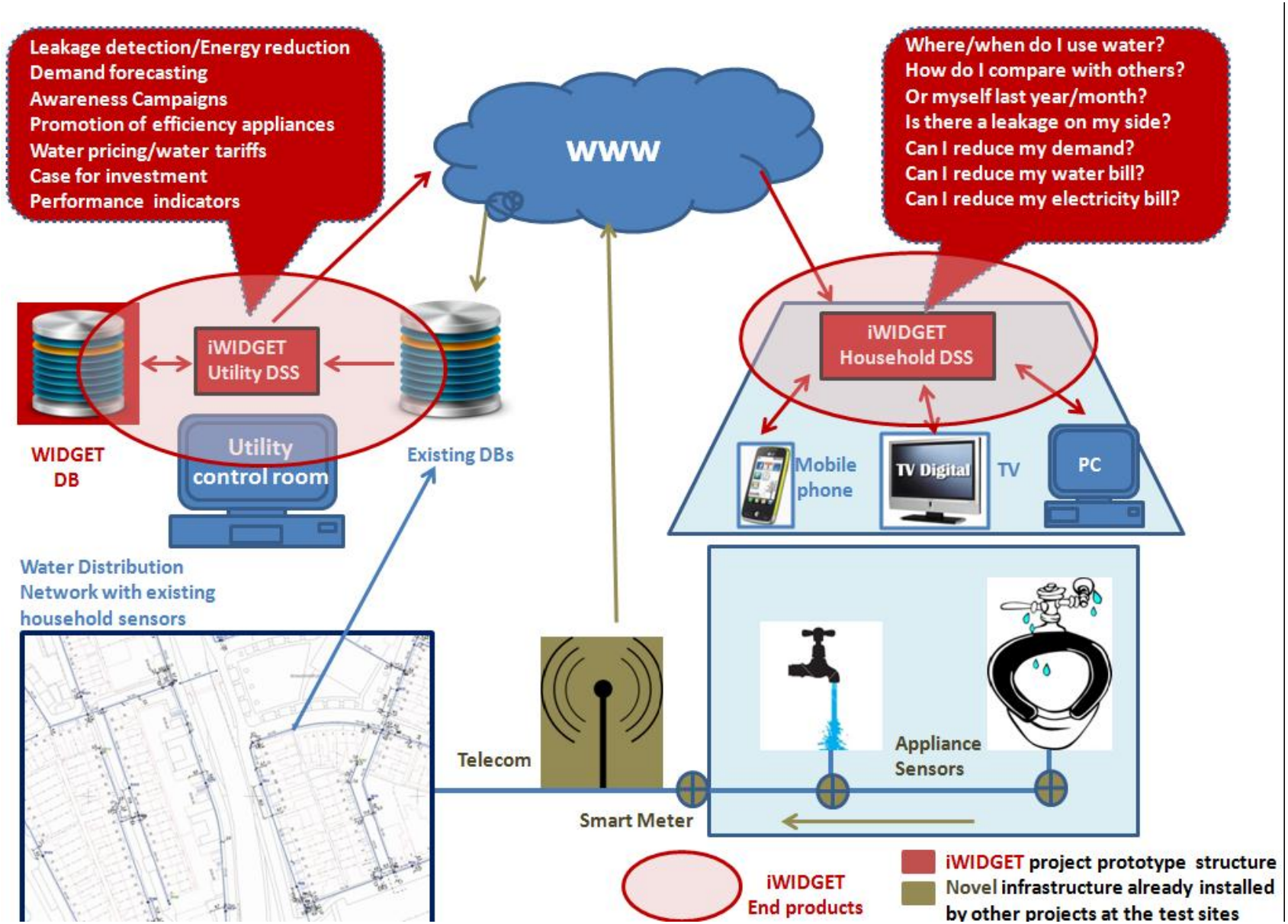
Prof. Dragan Savić, University of Exeter, UK

Introduction

- Collaborative, three year FP7 project (2012-2015)
  - Started Nov 2012.

- The **aim** of iWIDGET is to advance knowledge and understanding about **smart metering** technologies
- in order to develop novel, robust, practical and cost-effective **methodologies and tools** to manage urban water demand in households across Europe

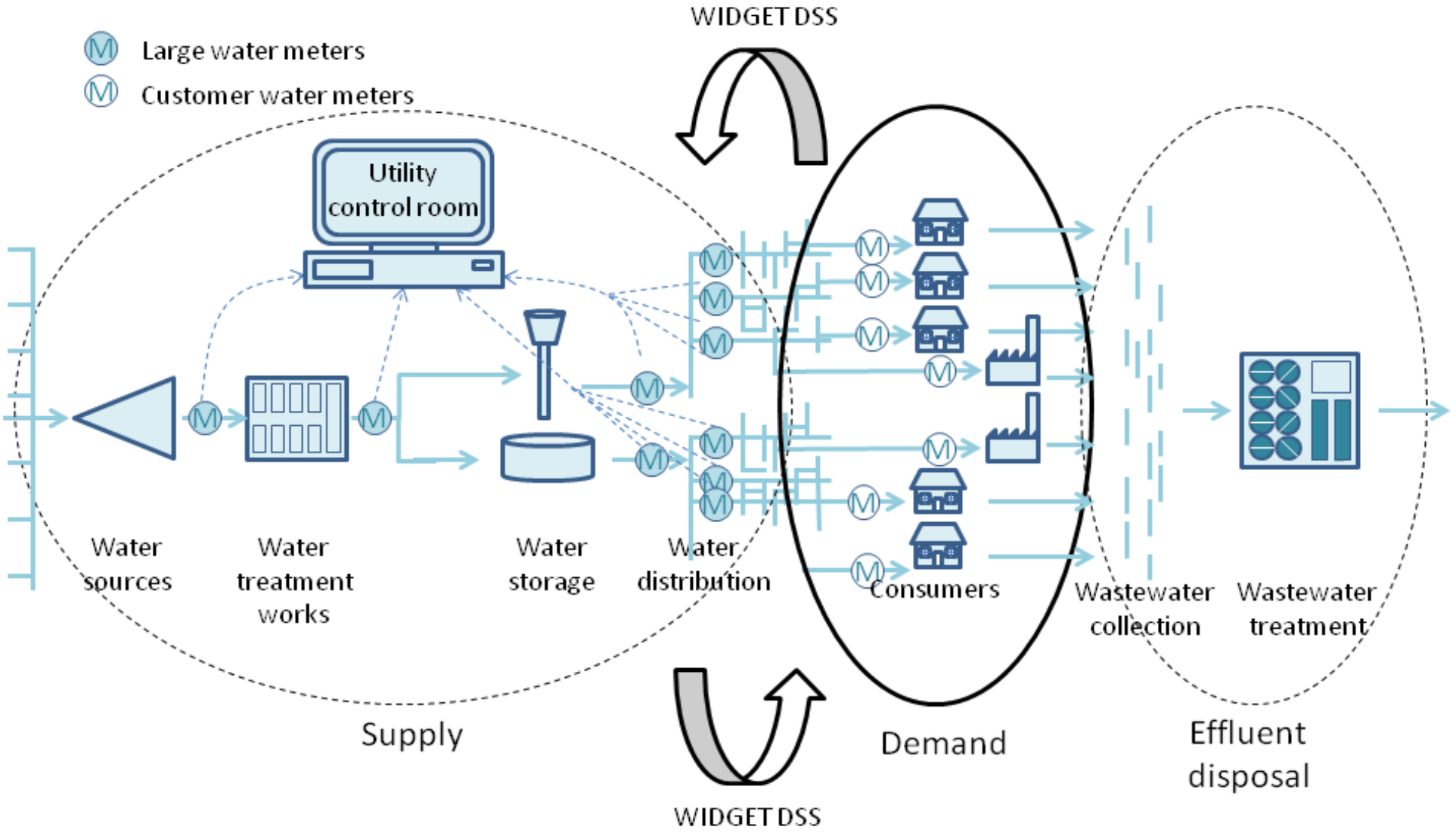
  - by reducing **wastage**
  - by improving **utility understanding of end-user demand**,
  - and by **reducing customer water and energy costs**.


Leakage detection/Energy reduction
Demand forecasting
Awareness Campaigns
Promotion of efficiency appliances
Water pricing/water tariffs
Case for investment
Performance indicators
WWW
Where/when do I use water?
How do I compare with others?
Or myself last year/month?
Is there a leakage on my side?
Can I reduce my demand?
Can I reduce my water bill?
Can I reduce my electricity bill?
iWIDGET Utility DSS
iWIDGET Household DSS
WIDGET DB
Utility control room
Existing DBs
Mobile phone
TV Digital
TV
PC
Water Distribution Network with existing household sensors
Telecom
Smart Meter
Appliance Sensors
iWIDGET End products
iWIDGET project prototype structure
Novel infrastructure already installed by other projects at the test sites

Challenges

The main scientific challenges for iWIDGET are:

- **management** and extraction of useful information from vast amounts of high-resolution **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 for **water utilities and consumers**, applicable in differing local conditions.


WIDGET DSS
Large water meters
Customer water meters
Utility control room
Water sources
Water treatment works
Water storage
Water distribution
Consumers
Wastewater collection
Wastewater treatment
Supply
Demand
Effluent disposal
WIDGET DSS

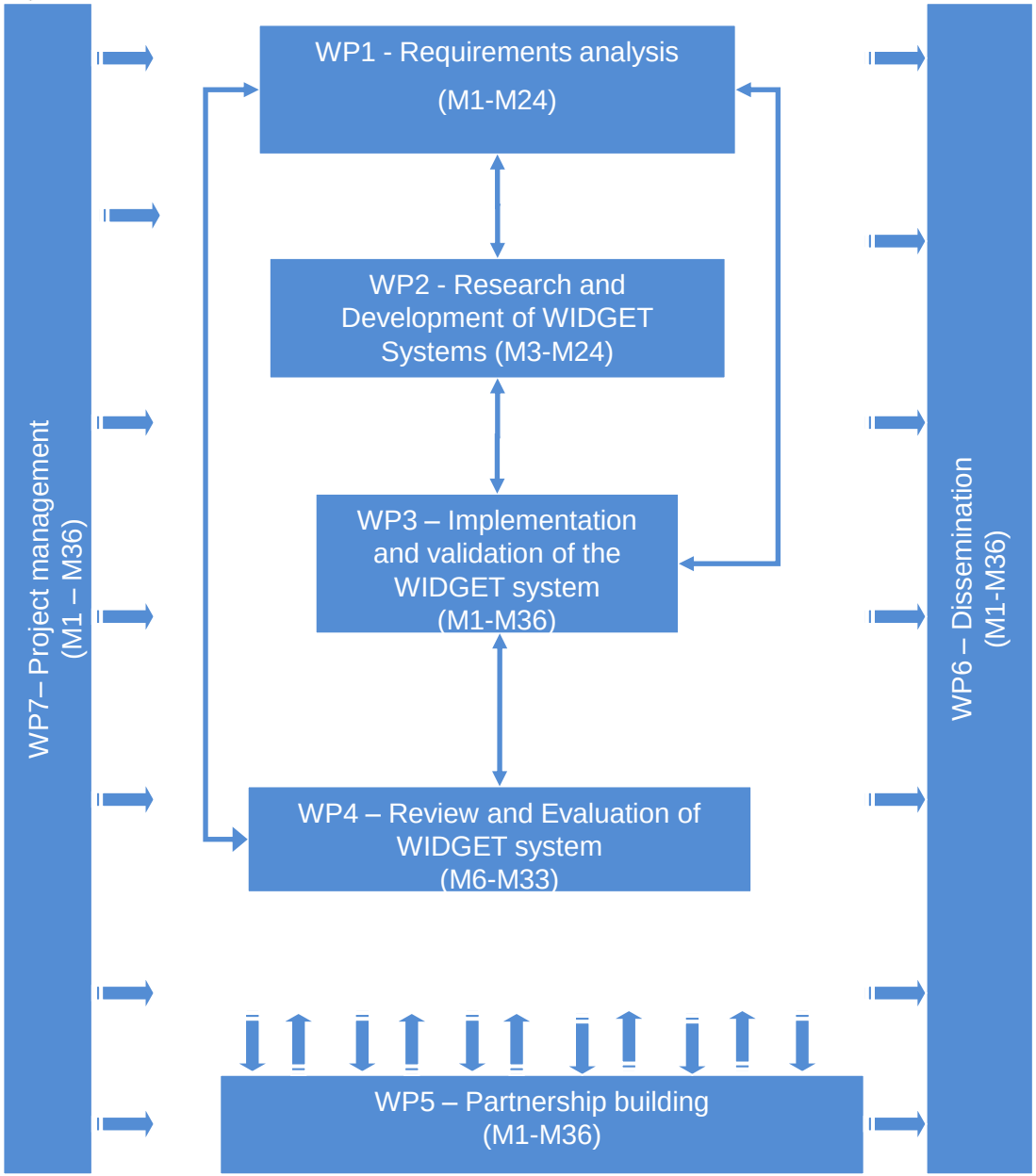
Scientific Targets

iWIDGET will investigate:

1. How best to provide the dynamic accurate **measurement and data transfer of useful information** about end-user water consumption
2. How best to use **consumption data** to improve the operation of utilities and influence end-users to modify their behaviour
3. How to arrive at the best **business model** to convert a promising technology into a useful and cost-effective product
4. How to demonstrate and validate the new methodologies on two **case studies** in Portugal and the UK

Consortium

	Partners	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/Águas de Barcelos	Portugal
9	Waterwise/Southern water	UK


WP1 - Requirements analysis
(M1-M24)
WP2 - Research and Development of WIDGET Systems (M3-M24)
WP3 – Implementation and validation of the WIDGET system (M1-M36)
WP4 – Review and Evaluation of WIDGET system (M6-M33)
WP5 – Partnership building (M1-M36)
WP7– Project management (M1 – M36)
WP6 – Dissemination (M1-M36)

WP Number [53]	WP Title	Type of activity [54]	Lead beneficiary number [55]	Person-months [56]	Start month [57]	End month [58]
WP 1	Requirements analysis	RTD	6	36.50	1	24
WP 2	Research and Development of iWIDGET Systems	RTD	3	107.00	1	24
WP 3	Implementation and validation of the iWIDGET systems	RTD	1	99.00	1	36
WP 4	Review and evaluation of the iWIDGET systems	RTD	4	75.00	12	33
WP 5	Exploitation Planning, and Partnership Building	RTD	7	39.00	1	36
WP 6	Dissemination	MGT	2	25.00	1	36
WP 7	Project Management	MGT	1	22.00	1	36
			Total	403.50		

Towards H2020

iWIDGET (FP7) structured along future trends compatible with H2020:

- Interdisciplinary approach – Working as a team
  - ICT experts (IBM, SAP)
  - Water engineers (UNEXE, NTUA, LNEC)
  - Business experts (SAP, UPL)
  - Psychologists/Social scientists (UNEXE, LNEC, Waterwise)
  - Dissemination/standards experts (HRW)

- Commercial /business aspects
  - Actively integrating water companies within the project
  - Building partnerships during the duration of the project, not after the end
  - Developing business model as part of R&D
  - Acting as pilot project with wider European significance

Towards H2020

iWIDGET (FP7) structured along future trends compatible with H2020:

- Links with the public
  - Consultation with consumers
  - Awareness campaign as a target
  - Public acceptance, public opinion integral part of iWIDGET
  - White papers on smart metering planned for dissemination
  - E-learning training of end-users included

Thank you for your attention!

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