

WatErnomics

WATERNOMICS “Key Ideas” Brochure & Poster

Project Acronym: **Waternomics**
Project Title: **ICT for Water Resource Management**
Project Number: **619660**
Instrument: **Collaborative project**
Thematic Priority: **FP7-ICT-2013.11**

D7.2

Work Package:	WP7	
Due Date:	31/07/2015	
Submission Date:	31/07/2015	
Start Date of Project:	01/02/2014	
Duration of Project:	36 Months	
Organisation Responsible of Deliverable:	IHE	
Version:	0.1	
Status:	Draft	
Author name(s):	Sander Smit	BMC
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	Edward Curry	NUIG
Nature:	<input type="checkbox"/> R – Report <input type="checkbox"/> P – Prototype <input type="checkbox"/> D – Demonstrator <input checked="" type="checkbox"/> O – Other	
Dissemination level:	<input checked="" type="checkbox"/> PU - Public <input type="checkbox"/> CO - Confidential, only for members of the consortium (including the Commission) <input type="checkbox"/> RE - Restricted to a group specified by the consortium (including the Commission Services)	
Project co-funded by the European Commission within the Seventh Framework Programme (2007-2013)		

Revision history			
Version	Date	Modified by	Comments
0.1	09/06/15	Sander Smit	Initial Version of Document
0.2	24/07/15	Sander Smit	Draft for review
Final	29/07/15	Sander Smit	Updated after review comments

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1 Introduction

The goal of Waternomics is to explore how ICT can help households, businesses and municipalities with reducing their consumption and losses of water. The Waternomics project is based on a number of key ideas. In order to facilitate project dissemination, the project has prepared a brochure and poster, describing the key ideas of the project. The Waternomics brochure and poster were written and designed by IHE and BMC and supported by each partner with feedback.

1.1 Brochure and poster

The brochure describes the key ideas in a generic way, avoiding jargon where possible. Target audience for the brochure is twofold:

1. The Waternomics project members. To create a coherent message, the brochure guides project team members in their communication with external stakeholders. By capturing the key ideas and by making them explicit in a brochure, project partners are encouraged to exchange information and spread the ideas and results of the Waternomics project. Furthermore, this brochure will provide guidance in developing the key and supporting messages for specific communication activities, e.g. for specific project results or project milestones.
2. External stakeholders involved in the four pilots. With the brochure, pilot stakeholders like senior managers, water managers, policy makers and other decision makers will be informed about the rationale behind the Waternomics project. The brochure is deliberately designed in such a way that is visually appealing and easy to read and aims to inspire its readers to investigate and implement water efficiency measures in their immediate environment.

The poster shows the global water challenge and Waternomics' idea of how information technology could contribute to resolving this challenge. The poster is targeted at the end-users of the four pilots and the general public in the immediate area around the pilots. The goal of the poster is to raise awareness about the global drinking water problem and to show how technology can be used in resolving this problem. The poster invites the interested reader to obtain further information about the pilot, Waternomics or the ICT4Water cluster by displaying the QR-code and links to the websites.

Appendix A & B show the brochure and poster.

2 Key Ideas

The rationale behind the Waternomics project can be summarised in eight key ideas, being:


1. Next-generation low cost sensors will drive adoption of smart water systems
2. Water managers and end-users need information to make better decisions
3. Linking various data sources is essential to come to meaningful information for water managers and users
4. Communication and quality standards are required for mass adoption of smart water systems
5. Smart water systems increase operational efficiency
6. Smart water systems enable new value added services for water utilities
7. Informed and involved consumers value water more
8. Best practices from the energy sector can be applied in the water domain

Each of these ideas are explained in more detail in the brochure. The poster shows the relations between the key ideas.

Appendix A – Brochure

KEY IDEAS **WatErnomics**

ICT for Smart Water Management
Key Ideas for Utilities, Businesses and Citizens



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The information provided is endorsed by the European Commission within the framework of the Horizon 2020 programme (No. 101018864)

Front page

WatErnomics
KEY IDEAS

Waternomics

WHY
Climate change, increased urbanization and increased world population are several of the factors driving global challenges for water management. In fact, the World Economic Forum has cited 'The Water Supply Crisis' as a major risk to global economic growth and environmental.

HOW
WATERNOMICS, a research project, will develop and introduce ICT as an enabling technology to manage water as a resource, increase end-user conservation awareness with the aim to effect behavioural changes, and to reduce waste through leak detection. In doing so, water, energy will also be conserved (treatment and pumping) and the associated CO₂ emissions reduced.

WHAT
Unique aspects of WATERNOMICS include personalized feedback about end-user water consumption, the development of a methodology for the design and implementation of systematic and standards-based water resource management systems, new sensor hardware developments to make water metering more economic and easier to install, and the introduction of forecasting and fault detection diagnosis in addition to water consumption data.

This brochure is to introduce WATERNOMICS and inform water utilities, corporate business and citizens about the key ideas of WATERNOMICS.

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KEY IDEAS

Next generation low cost smart meters will drive smart water systems

Smart water systems rely on data collected from different sources and sensors. WATERNOMICS has acquired and developed different sensor hardware and software technologies, developed and built new electronics and a software platform for data acquisition and presentation. WATERNOMICS develops an enhanced sensor technology to detect leaks at household level enabling early warning of excess water consumption due to leaks, and an ultrasonic flow meter (patent) for efficient, cost effective and accurate flow measurement.

Water managers and end users need information to make better decisions

The basic function of a smart water system is to collect and link data from different data sources and use this linked data to create and present accessible information to the various end-users. In WATERNOMICS we are designing, developing and implementing a generic 'Water Information Platform' which enables collection of all available data relating with water consumption, network leakage, maintenance and to give them in a more effective and easy to understand way so that users implement 'smarter' water management programs, conduct data analysis of consumption, leak detection and repair and most importantly facilitate communication among stakeholders to raise awareness of source exploration. While the underlying linked data platform will be generic, application manufacturers will ensure tailored and targeted applications addressing specific end-users needs and preferences.

Linking remote data sources is essential to come to meaningful information for water managers and users

In the WATERNOMICS vision, collecting, standardizing, archiving and linking water related data is a key step needed for effective decision making. Linking water usage data with other relevant contextual data sources will improve planning and demand forecasting and will increase user awareness of water consumption and availability.

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KEY IDEAS

Smart water systems increase operational efficiency

Smart water systems collect and integrate data from different data sources and generate useful information by analyzing the collected data to provide different users with key performance indicators based on their need. This will yield increased operational efficiency in the areas of early leakage detection, fraud detection and energy efficiency.

Smart water systems enable new value added services for water utilities

By implementing and operating a smart water system, utilities build up know-how in the areas of technology, data analysis, finance and governance. With this new knowledge and experience, utilities can extend their service portfolio with professional services in the areas of advice and support on maintenance and operations of smart water systems, data analysis services, regulatory and financial restructuring or sensor placement strategy.

Informed and (re)vised consumers value water more

Our research is built on the hypothesis that providing timely and actionable information on water usage and fault detection, in combination with local environmental information such as drought alerts, is necessary to establish changes in water consumption behaviour. The idea is that when people are more aware of the costs and scarcity of water, they will value water more and are more willing to adjust their behaviour. In the WATERNOMICS project, end-users are actively engaged in the development process for the pilot applications. Through interviews, workshops and prototyping, end-users are consulted and involved in the design of the smart water applications.

Communication and quality standards are required for mass adoption of smart water systems

To ensure that the different elements of the water information platform work seamlessly with their supporting infrastructure and reach their full operational potentials, the water information platform uses existing, broadly accepted standards.



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KEY IDEAS

Best practices from the energy sector can be applied in the water domain

WATERNOMICS hypothesis is that the transition towards smart grids in the energy sector contains elements that can be applied for the adoption of smart water systems in the water sector. The introduction of smart meters, end-user involvement, innovative billing, communication standards and analysis of large quantities of consumer data, are all common elements in the energy sector but new to the water sector. To capture and transfer this information, WATERNOMICS introduces a holistic standards-based methodology for water resource management.

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KEY IDEAS

In summary, WATERNOMICS will provide the technology and methodology to provide customized and actionable information on water consumption



The core technology of WATERNOMICS is the WATERNOMICS platform, providing detailed information on water availability, consumption and losses. For this platform, WATERNOMICS develops technologies for novel water meters, novel fault detection and diagnosis system and household leak detection. The platform comes with a new standards-based methodology and sustainable business model, ensuring optimal customer adoption and maximizing business impact. The platform and the proposed implementation methodology will be validated in remote, corporate, domestic and municipal environments.

Partners:



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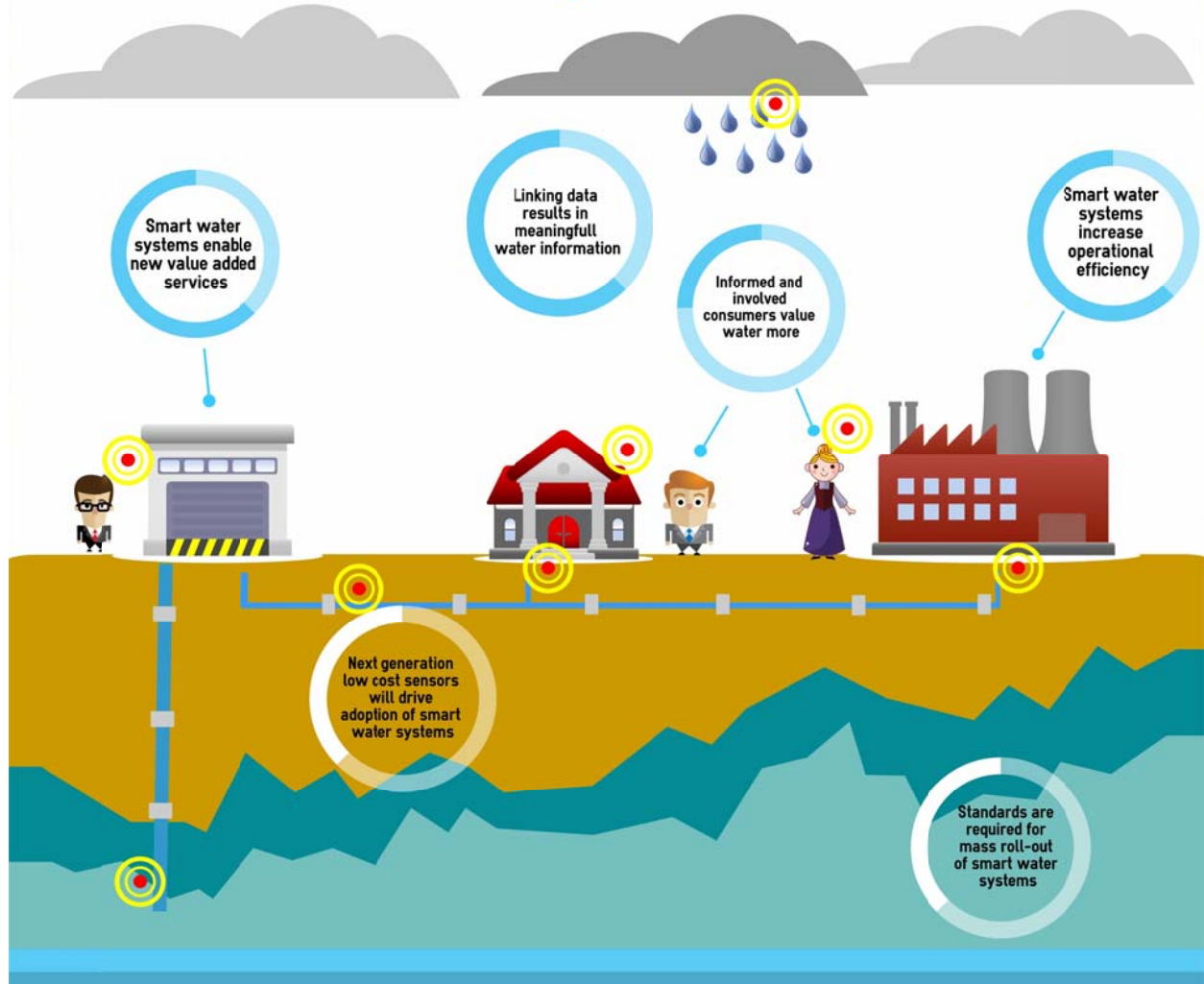
Appendix B - Poster

WatErnomics Smart Water Management

The global water challenge



Smart water systems save water



[@waternomics_eu](https://twitter.com/waternomics_eu)

WWW.WATERNOMICS.EU

ict4water.eu

