DEMOCRATIZING WATER CONSUMPTION MONITORING

SENSE × ANALYZE # KNOW ÷ ACT

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Waterwise
DAIAD is an FP7 project

- Full title: Open Water Management — from droplets of participation to streams of knowledge
- Instrument: STReP
- Objective: ICT-2013.6.3 ICT for water resources management
- GA: 619186
- Duration: 42m (3/2014-8/2017)
Consortium assembled on excellence, multi-disciplinarity, and balanced participation of RTD, SMEs and water stakeholders

**Athena** is an RTD organization and ICT integrator focused on diverse data-intensive research (*Coordinator*)

**Bamberg** has multi-disciplinary research and applied experience in interventions for resource consumption

**Amphiro** is a unique SME with domestic water monitoring products

**Fraunhofer ISI** has theoretical and practical experience in water demand modeling and sustainability

**Waterwise** is a leader on social empowerment for water preservation

**AMAEM** is a water utility with heightened water management challenges
Monitoring energy vs. water
The DAIAD objectives

- Create real-time and detailed water consumption data
  - Leverage Big data assets from Smart Water Meters (benefits heavily questioned, even for energy) and introduce personal water monitoring technologies (decouple metering from monitoring; empower consumers)

- Devise means to manage and extract knowledge
  - Extract value from Big Water Data assets scalable at the city-scale (open research challenge — see BDVA SRIA, critical for Data Economy and Clean-Web); current systems do not scale for highly-detailed, multi-dimensional data (time-series, determinants)

- Create interventions and stimuli that exploit this knowledge
  - Effective real-time and diagnostic interventions that induce sustainable changes in consumption behavior (multimodal, non-intrusive, attention-economy)

- Apply new Big Data, insights, and consumer engagement facilities in WDM
  - Depart from highly aggregated studies to harness detailed Big Data and effectively target individual households (improve understanding, directly and indirectly influence demand)
DAIAD@home

- Turns SWM data into knowledge
- Self-induce water efficiency
- Personalized analysis & recommendations
- Goal-setting, comparisons
- Increase satisfaction, outreach and engagement
- Source for accurate household data
DAIAD@utility

- Complete suite of monitoring, analysis, & consumer interaction services
- Leverages SWM data along with any other available data source (geo, open, surveys)
- Effectively manages and analyzes Big Water data at the city scale
- Extracts detailed insights for customers
- Targeted consumer engagement
- Cloud-based Software as a Service (SaaS)
- Multi-role support (WDM to CEO, marketing)
Shower water meter: amphiro b1

- Fully integrated in DAIAD
- No batteries required (energy-autarkic)
- Bluetooth 4.0 enabled, self-installed
- Open API (I/O, settings)
- Commercially available
DAIAD Pilots and preliminary results

- Alicante, Spain
  - Simulates deployment by a water utility (top-down)
  - DAIAD as a complete demand-side management system
  - 1/3/2016-28/2/2017
  - 102 households, 293 consumers
  - SWM + b1 (1-4)

- St. Albans, UK
  - Simulates uptake by a consumers (bottom-up)
  - DAIAD as an off-the self Cleanweb product
  - 1/3/2016-28/2/2017
  - 47 households, 164 consumers
  - b1 only

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Thank you!